



AMÉLIORATION DE LA PERFORMANCE ET DÉVELOPPEMENT DE LA PERSONNE

- › Développer et enrichir les modèles théoriques
- › Explorer de nouvelles perspectives
- › Appliquer les savoirs à des domaines sportifs variés

SITE INTERNET : wp.unil.ch/sfps2018

**Congrès International de la Société Française de
Psychologie du Sport**

Du 13 au 15 juin 2018, Lausanne (SUISSE)

Amélioration de la performance et développement de la personne

Nous remercions les organisateurs et sponsors / *We thank the organizers and sponsors*

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**F FONDATION
POUR L'UNIVERSITÉ
DE LAUSANNE**

FNSNF
FONDS NATIONAL SUISSE
DE LA RECHERCHE SCIENTIFIQUE



Lausanne
CAPITALE OLYMPIQUE

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1. Programme général / *General program*

	MARDI 12 JUIN 2018	TUESDAY 12 TH JUNE 2018
16h30 › 19h00	Accueil des participants et remise des badges	Welcome and registration
	MERCREDI 13 JUIN 2018	WEDNESDAY 13 TH JUNE 2018
8h00 › 8h45	Accueil, distribution des badges et café	Welcome, registration and coffee
8h45 › 9h30	Discours d'ouverture	Official speeches
9h30 › 10h30	Conférence inaugurale <i>Conférencier : Prof. Ralf Brand</i>	Inaugural Conference <i>Keynote speaker : Prof. Ralf Brand</i>
10h30 › 11h00	Pause café	Coffee break
11h00 › 12h30	1 ^{ère} session de symposia <i>et/ou</i> communications orales	1 st session of symposia <i>and/or</i> oral communications
12h30 › 13h30	Pause de midi	Lunch break
13h30 › 14h30	Conférence / Conférencier : <i>Prof. Aaron Williamon</i>	Conference / Keynote speaker : <i>Prof. Aaron Williamon</i>
14h45 › 16h15	2 ^{ème} session de symposia <i>et/ou</i> communications orales <i>et/ou</i> ateliers pratiques	2 nd session of symposia <i>and/or</i> oral communications <i>and/or</i> workshops
16h15 › 16h30	Pause café	Coffee break
16h30 › 18h00	3 ^{ème} session de symposia <i>et/ou</i> communications orales <i>et/ou</i> ateliers pratiques	3 rd session of symposia <i>and/or</i> oral communications <i>and/or</i> workshops
18h00 › 19h30	Assemblée générale de la SFPS	SFPS General Assembly
Dès 19h00	Apéritif de bienvenue	Welcome reception

	JEUDI 14 JUIN 2018	THURSDAY 14 TH JUNE 2018
9h00 › 10h00	Conférence / Keynote speaker : <i>Prof. Dave Collins</i>	Conference / Keynote speaker : <i>Prof. Dave Collins</i>
10h00 › 10h30	Pause café	Coffee break
10h30 › 12h00	4 ^{ème} session de symposia <i>et/ou communications orales et/ou ateliers</i>	4 th session of symposia <i>and/or oral communications and/or workshops</i>
12h00 › 13h30	Pause de midi	Lunch break
13h30 › 14h00	Session de posters	Poster session
14h15 › 15h45	5 ^{ème} session de symposia <i>et/ou communications orales et/ou ateliers</i>	5 th session of symposia <i>and/or oral communications and/or workshops</i>
15h45 › 16h15	Pause café	Coffee Break
16h15 › 17h15	Conférence / Keynote Speaker : <i>Prof. José del R. Millán</i>	Conference / Keynote speaker : <i>Prof. José del R. Millán</i>
17h15 › 17h30	Informations concernant le Repas de Gala	Information about the Gala Dinner
À 19h00	Ouchy	Ouchy
	VENDREDI 15 JUIN 2018	FRIDAY 15 TH JUNE 2018
9h00 › 10h00	Conférence / Keynote speaker : <i>Dr. Jérôme Bourbousson</i>	Conference / Keynote speaker : <i>Dr. Jérôme Bourbousson</i>
10h00 › 10h30	Pause café	Coffee break
10h30 › 12h00	6 ^{ème} session de symposia <i>et/ou communications orales et/ou ateliers</i>	6 th session of symposia <i>and/or oral communications and/or workshops</i>
12h00 › 13h30	Pause de midi	Lunch break
13h30 › 14h00	Session de posters	Poster session
14h00 › 15h30	7 ^{ème} session de symposia <i>et/ou communications orales et/ou ateliers</i>	7 th session of symposia <i>and/or oral communications and/or workshops</i>
15h30 › 15h45	Pause café	Coffee Break
15h45 › 16h15	Remise des prix « Jeune chercheur·r·se »	« Young researcher » awards ceremony
16h15 › 17h00	Discours de clôture	Closing Speech

2. Messages de bienvenue / *Welcome messages*



2.1 Message de bienvenue du président de la SFPS

La Société Française de Psychologie du Sport, SFPS, tient sa conférence internationale tous les quatre ans et c'est la première fois que cet événement est organisé hors de France. Nous tenons à remercier Denis Hauw et Roberta Antonini Philippe ainsi que tous les membres du comité scientifique et du comité d'organisation pour leur dévouement. Nous étendons nos remerciements à l'Institut des Sciences du Sport de l'Université de Lausanne (ISSUL) et à l'Université de Lausanne l'UNIL, aux partenaires et aux bénévoles qui permettent et facilitent cet événement scientifique.

Ce congrès international de la SFPS, hébergé hors des frontières françaises, montre l'ambition de la SFPS d'étendre sa mission de diffusion des avancées scientifiques. En effet, depuis sa création, la SFPS cherche à susciter, organiser et diffuser les travaux de recherche en psychologie du sport et en activité physique, notamment par l'organisation de manifestations scientifiques et d'actions de formation. Ce congrès international est ainsi un parfait exemple des actions qui correspondent aux missions de la SFPS, tant par la possibilité de diffuser des résultats de recherches actuelles par les conférences plénières, des communications orales et affichées, que par sa visée de formation dans les ateliers pratiques. Les comités scientifiques et d'organisation proposent aux participants un programme d'ouverture vers certains thèmes qui ne sont pas traditionnellement issus de la psychologie du sport. Les conférenciers invités, chercheurs internationaux, vont pouvoir stimuler les participants du congrès international en présentant des thèmes de recherche parfois bien différents des axes classiques de la psychologie du sport et de l'activité physique. Une telle ouverture est nécessaire à notre champ car elle encourage la vigilance sur les avancées scientifiques connexes. Je souhaite à tous les participants de profiter des conférences, des ateliers et aussi de tous les temps d'échange informels pour progresser dans leur connaissance et dans leur pratique de la psychologie du sport et des activités physiques.

Jean Fournier
Président de la SFPS



2.2 Welcome message from the SFPS president

The French Society of Sport Psychology (FSSP) holds its international conference every four years, and this is the first time that the event has taken place outside France. We wish to thank Denis Hauw, Roberta Antonini Philippe and all the members of the scientific and organising committees for their tremendous work. We would also like to extend our thanks to the University of Lausanne (UNIL) and its Institute of Sport Sciences (ISSUL), to our sponsors and to the volunteers who have made this scientific event possible.

By taking this international conference beyond France's borders, the FSSP is expanding its ambitious mission of spreading scientific knowledge. Indeed, since the FSSP was first established, the Society has sought to inspire, organise and disseminate research in exercise and sport psychology, mainly through the organisation of scientific events and training workshops. This international conference is, therefore, a perfect setting for the FSSP's missions, not only through the knowledge shared in the keynote speeches of plenary sessions, oral presentations and posters but also through the training dispensed in applied workshops.

The scientific and organising committees have prepared a programme that opens up the traditional spectrum of themes involving exercise and sport psychology to a variety of topics not usually associated with these disciplines. Our keynote speakers, renowned researchers from all over the world, will stimulate our conference participants by presenting lines of research that differ significantly from the classic themes in of exercise and sport psychology. Our field needs these broader horizons because they will encourage us to be more open to the scientific breakthroughs in related scientific fields. I hope that all the participants make the most of the lectures and workshops, as well as of their informal exchanges, to improve their knowledge and skills in exercise and sport psychology.

*Jean Fournier
President of the SFPS*

2.3 Message de bienvenue de la Présidente du Comité d'Organisation

Du 13 au 15 juin 2018, la Société Française de Psychologie du Sport (SFPS) tiendra son 6^e Congrès International à l'Université de Lausanne (Suisse) en collaboration avec l'Institut des Sciences du Sport (ISSUL) et le centre de recherche PHASE de l'Institut de Psychologie (IP).

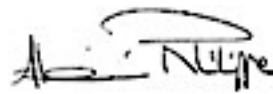
La thématique principale de ce colloque international porte sur la contribution de la psychologie du sport à la double visée associée aux activités physiques, sportives et artistiques : l'amélioration de la performance et le développement de la personne.

D'une part, nous souhaitons considérer l'évolution des connaissances en psychologie du sport qui permettent d'améliorer la performance sportive dans la variété de ses dimensions et quel qu'en soit son niveau. Nous incluons des réflexions portant sur le développement des talents, l'amélioration de l'efficacité des collectifs ou encore la progression ou le perfectionnement de tout type d'habiletés motrices ou sportives à tous les âges de la vie.

D'autre part et parallèlement à cela, nous souhaitons examiner les perspectives actuelles relatives à la construction de bonnes pratiques en sport, c'est-à-dire procurant un effet majorant sur les personnes telles que la santé, l'autonomie ou encore l'éthique et ceci aussi quels qu'en soient les âges et niveaux de performance.

Ce congrès permet aux chercheurs en psychologie du sport de présenter leurs études sous la forme de symposia, communications orales ou affichées. Il est également un lieu de partage d'expériences ou de pratiques professionnelles innovantes sous forme d'ateliers pratiques (ou workshop) en lien avec ces thématiques et spécifiquement dédiés aux psychologues du sport praticiens et aux préparateurs mentaux.

Nous sommes heureux de vous voir toutes et tous sur les rives du bord du lac Léman et nous vous souhaitons de passer un excellent congrès scientifique, riche de connaissances et d'échanges.



Roberta Antonini Philippe,
Présidente du comité d'organisation

2.4 Welcome message from the Organizing Committee of the SFPS Congress

From 13th to 15th June 2018, the French Society of Sport Psychology (FSSP) will hold its 6th International Conference at the University of Lausanne (Switzerland), in collaboration with the University's Institute of Sport Sciences (ISSUL) and its Institute of Psychology's PHASE research centre.

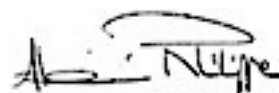
This international symposium's main theme is the contribution of sport psychology to the twin aims associated with so many physical, sporting and artistic activities: improving performance and developing the individual.

On the one hand, we wish to consider the evolution in sport psychology knowledge that enables sporting performances to improve in a variety of dimensions and at whatever level. We include reflections on talent development, improving collective efficiency and even improving and perfecting all kinds of motor and athletic skills at every stage in life.

On the other hand, and in parallel, we wish to examine the current possibilities related to building good sports practices, i.e. providing a beneficial effect on people's health, autonomy or even ethics, at all ages and levels of performance.

The 6th International Conference of the French Society of Sport Psychology will allow researchers in sport psychology to present their work in symposia, in oral presentations and in poster form. It will also provide a space for sharing innovative professional experiences and practices in practical workshops related to these themes and specifically dedicated to practising sport psychologists and mental trainers.

We are happy to welcome you to the shores of Lake Geneva and wish a stimulating scientific conference, rich in new knowledge and exchanges.



*Roberta Antonini Philippe,
Présidente du comité d'organisation*

3. Comités / Committees

3.1 Comité d'organisation / *Organising committee*

Roberta Antonini Philippe, Présidente du comité d'organisation, Maître d'enseignement et de recherche à l'Institut des Sciences du Sport, Faculté des Sciences Sociales et Politiques de l'UNIL

Denis Hauw, Vice-Président du comité d'organisation, Professeur associé à l'Institut des Sciences du Sport, Faculté des Sciences Sociales et Politiques de l'UNIL

Céline Kosirnik, Secrétaire générale du comité d'organisation, Master en psychologie de la santé, Institut de Psychologie, Faculté des Sciences Sociales et Politiques, UNIL.

Vincent Gesbert, Premier assistant en psychologie du sport, Institut des Sciences du Sport, Faculté des Sciences Sociales et Politiques de l'UNIL.

Romain Chasles, Assistant-diplômé en sciences sociales et sport, Institut des Sciences du sport, Faculté des Sciences Sociales et Politiques, UNIL.

Antoine Bréau, Assistant-diplômé, Haute Ecole Pédagogique du canton de Vaud, Unité d'Enseignement et de Recherche en Education Physique et Sportive, Lausanne

3.2 Comité scientifique / *Scientific committee*

Denis Hauw (Président du comité scientifique, Université de Lausanne, CH)	Roberta Antonini Philippe (Vice-Présidente du comité scientifique, Université de Lausanne, CH)
Katharina Albertin (Psychologue, Présidente SASP)	Gilles Kermarrec (Université de Brest, FR)
Marjorie Bernier (Université de Brest, FR)	Lambros Lazuras (Université de Sheffield, UK)
Julie Boiché (Université de Montpellier, FR)	Marc Levêque (Université Orléans, FR)
Julien Bois (Université de Pau, FR)	Olivier Luminet (Université Catholique de Louvain, B)

Cyril Bossard (Université de Brest, FR)	Aine MacNamara (Université du Lancashire, UK)
Geneviève Cabagno (Université de Rennes 2, FR)	Jacques Méard (Haute École Pédagogique, Vaud, CH)
Mickaël Campo (Université de Dijon, FR)	Grégory Ninot (Université de Montpellier, FR)
Karine Corrion (Université de Nice, FR)	Germain Poizat (Université de Genève, CH)
Fabienne D'Arripe-Longueville (Université de Nice, FR)	Géraldine Rix-Lièvre (Université de Clermont-Ferrand, FR)
Fabrice Dosseville (Université de Caen, FR)	Jean-Pierre Rolland (Université de Paris X-Nanterre, FR)
Anne-Marie Elbe (Université de Copenhague, DK)	Marie Santiago (Université de Lausanne, CH)
Jean Fournier (Université de Paris X-Nanterre, FR)	Jacques Saury (Université de Nantes, FR)
Markus Gerber (Université de Bâle, CH)	Andrea Schiavio (Université de Graz, AUT)
Christophe Gernigon (Université de Montpellier, FR)	Ludovic Seifert (Université de Rouen, FR)
Vincent Gesbert (Université de Lausanne, CH)	Roland Seiler (Université de Berne, CH)
Guido Guendolla (Université de Genève, CH)	David Trouilloud (Université de Grenoble Alpes, FR)
Emma Guillet (Université de Lyon 1, FR)	Michel Verger (Université de Clermont-Ferrand, FR)
Ernst-Joachim Hossner (Université de Berne, CH)	Aude Villemain (Université Orléans, FR)
Daniella Joop (Université de Lausanne, CH)	Grégoire Zimmermann (Université de Lausanne, CH)
Sophia Jowett (Université de Loughborough, UK)	Paul Wylleman (Vrije Universiteit Brussel, BE)

4. Informations relatives au congrès / *Conference information*

4.1 Informations pour les communicants / *Information for presenters*

4.1.1 Symposia & communications orales / *Symposia and oral communications*

Les responsables des symposia et communicants qui passent en session orale doivent soumettre leurs communications au secrétariat technique du congrès situé salle 1114 au rez-de-chaussée, en rentrant dans le bâtiment Synathlon, à droite, au plus tard à 9h le jour de leur présentation.

Vous pouvez vérifier le jour, l'horaire et la salle au sein de laquelle vous allez présenter votre travail sur le programme détaillé du congrès.

Symposia leaders and those participants giving oral presentations are requested to submit all of their symposium slides and on-screen presentations to the conference's technical secretariat, which is situated in room 1114 on the ground floor and to the right as you enter the Synathlon building. This should be done no later than 9:00 AM on the day of the presentation.

You can check the day, time and room in which you will be presenting your work in the conference's detailed programme of events and abstracts.

4.1.2 Communications affichées / *Poster presentations*

Les sessions posters auront lieu au premier et deuxième étage du bâtiment Synathlon les jeudi et vendredi en début d'après-midi (13h30-14h). Les posters seront affichés durant l'intégralité du congrès. Le matériel nécessaire pour fixer vos posters (A0 vertical) sera disponible en salle 1114 au rez-de-chaussée. Vous pourrez également déposer des exemplaires de votre communication en format A4 sur des tables hautes.

Les communicants devront présenter leur poster le jour indiqué sur le programme (mini-présentation de 2 minutes) et être disponible pour répondre aux questions.

Poster presentations will take place on the 2nd and 3rd floors of the Synathlon building on Thursday and Friday, at the start of the afternoon (1:30–2:00 PM). Posters will remain on display throughout the conference. Materials will be available for sticking up your posters (A0 vertical) and for displaying A4 take-away copies of your work.

Presenters must present their posters on the day indicated in the programme and should be available to answer any questions.

Poster presentations should last 2 minutes.

4.1.3 Chargement de vos présentations / *Uploading presentations*

Pour les sessions de communications orales, chaque présentation doit être déposée au sein du secrétariat technique. Vous avez la possibilité de déposer cette présentation le jour précédant votre communication ou le jour même en respectant les horaires ci-dessous.

Présentations du mercredi 13 Juin (sessions de communication orale 1,2,3, 4 et 5)

- Mardi 12 Juin : 16h-19h
- Mercredi 13 Juin : 8h-10h

Présentations du jeudi 14 juin (sessions de communication orale 6,7 et 8)

- Mercredi 13 Juin : 10h-16h30
- Jeudi 14 Juin : 8h-10h

Présentations du vendredi 15 juin (sessions de communication orale 9, 10 et 11)

- Jeudi 14 Juin : 10h-16h30
- Vendredi 15 Juin : 8h-9h

Pour les responsables de symposium (chair), vous devez également déposer vos communications au sein du secrétariat technique en respectant les horaires associés au jour de votre présentation.

Présentations du mercredi 13 Juin (symposium 1,2,3 et 4)

- Mardi 12 Juin : 16h-19h
- Mercredi 13 Juin : 8h-10h

Présentations du jeudi 14 Juin (symposium 5, 6 et 7)

- Mercredi 13 Juin : 10h-16h30
- Jeudi 14 Juin : 8h-10h

Présentations du vendredi 15 Juin (symposiums 8 et 9)

- Jeudi 14 Juin : 10h-16h30
- Vendredi 15 Juin : 8h-9h

All presentations to be given during oral presentation sessions must be uploaded by the technical secretariat. Your work can be uploaded on the day of your presentation or the day before it, but please follow the schedule below.

Presentations on Wednesday 13th June (oral presentation sessions 1, 2, 3, 4 and 5)

- *Tuesday 12th June: 4:00 PM–7:00 PM*
- *Wednesday 13th June: 8:00–10:00 AM*
-

Presentations on Thursday 14th June (oral presentation sessions 6, 7 and 8)

- *Wednesday 13th June: 10:00 AM–4:30 PM*
- *Thursday 14th June: 8:00–10:00 AM*

Presentations on Friday 15th June (oral presentation sessions 9, 10 and 11)

- *Thursday 14th June: 10:00 AM–4:30 PM*
- *Friday 15th June: 8:00–9:00 AM*

Symposia chairs should also have any slides or presentations which they wish to give uploaded by the technical secretariat. Please follow the schedule below.

Presentations on Wednesday 13th June (symposia 1, 2, 3 and 4)

- Tuesday 12th June: 4:00 PM–7:00 PM
- Wednesday 13th June: 8:00–10:00 AM

Presentations on Thursday 14th June (symposia 5, 6 and 7)

- Wednesday 13th June: 10:00 AM–4:30 PM
- Thursday 14th June: 8:00–10:00 AM

Presentations on Friday 15th June (symposia 8 and 9)

- Thursday 14th June: 10:00 AM–4:30 PM
- Friday 15th June: 8:00–9:00 AM

4.2 Informations pour tous les participants / *Information for participants*

4.2.1 Boissons et repas / *Food and beverages*

Pauses café / *Coffee breaks*

Les pauses café auront lieu au rez-de-chaussée entre le hall principal et l'espace devant l'auditoire 1216.

Coffee breaks will take place on the ground floor between the main conference hall and opposite auditorium 1216.

Déjeuner / *Lunch*

À l'accueil, vous recevrez un sac comprenant entre 1 à 3 bons repas selon votre inscription (3 journées du congrès ou option 1 jour). Ce bon repas de midi, d'une valeur de 15 CHF, vous permettra de choisir un menu et une boisson à la Cafétéria de l'Unithèque. Ce bâtiment se situe à 3-5 minutes à pied du Synathlon (voir plan ci-dessous). Vous pouvez consulter les menus en allant sur la page suivante : <https://www2.unil.ch/menus/menu/aujourd'hui/2/>

At the reception desk, you will receive a conference bag containing between 1 and 3 meal tickets, depending on the number of days which you have registered for (the entire 3-day conference or 1-day options). Each meal ticket, worth CHF 15, allows you to choose a beverage and one of a range of set menus at the Unithèque's cafeteria. The Unithèque building is situated at 3–5 minutes' walk from the Synathlon building (see the map below). You can consult the list of set menus on the following web page: <https://www2.unil.ch/menus/menu/aujourd'hui/2/>



4.2.2 Repas de gala / Gala dinner

La participation au repas de gala est comprise dans le tarif d'inscription pour les 3 journées du congrès. Un buffet dînatoire prendra place lors d'une croisière sur un bateau de la CGN (compagnie générale de navigation sur le Lac Léman) le jeudi 14 juin de 19H à 23H. Grâce aux paysages spectaculaires du Léman, vous pourrez ainsi profiter d'un cadre magnifique pour échanger sur vos pratiques respectives.

Nous vous demandons d'être au plus tard à 18h50 en bas du restaurant Le Lacustre à côté des locaux de la CGN situé sur les quais à Ouchy (voir plan ci-dessous). L'embarquement se fera à 19H précise.

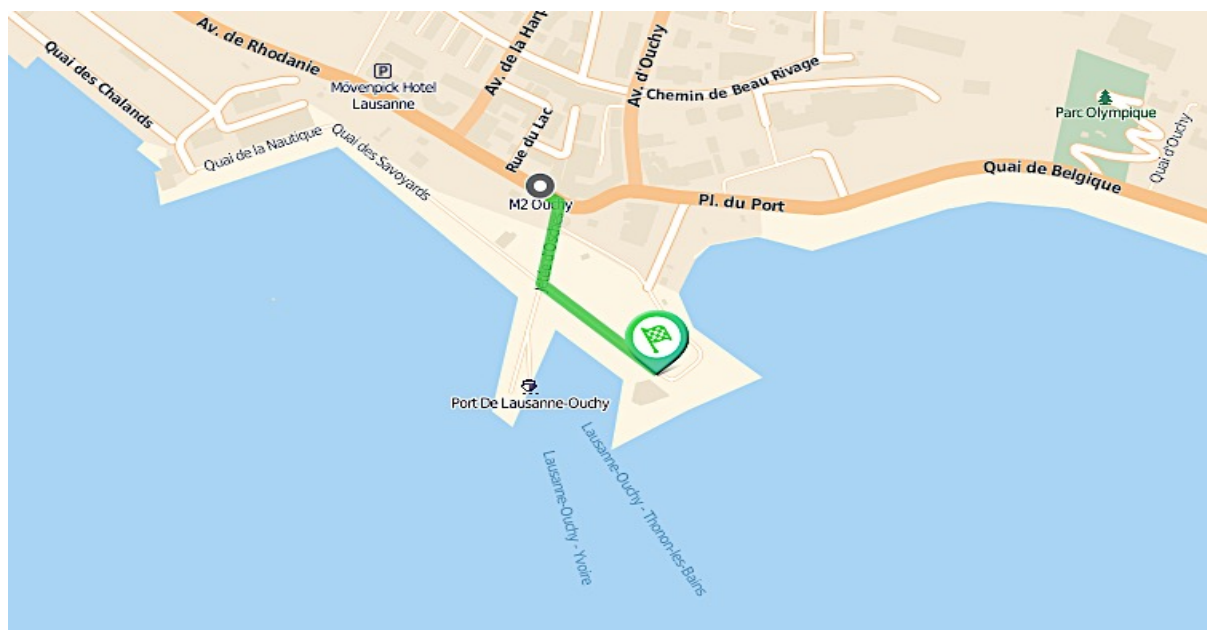
Adresse : Port d'Ouchy-Lausanne, 1006 Lausanne
Metro M2 (Terminus Ouchy-Olympique) – 2 minutes de marche

Participation in the conference's gala dinner is included in the registration fee for the full three days of the conference. The buffet-style gala dinner will take place on one of the boats of the CGN (Compagnie générale de navigation) as its cruises Lake Geneva on Thursday 14th June, from 19h00 to 23h00. Surrounded by the spectacular landscapes of the lake, we hope that you will be able to enjoy the magnificent setting and exchange practices with your colleagues.

We kindly request that you gather outside the Le Lacustre restaurant, which is next to the CGN offices situated on the quay in Ouchy (see the map below), at no later than 18h50. Boarding will take place at 19h00 precisely.

Address: Port d'Ouchy-Lausanne, 1006 Lausanne

Metro M2 (Ouchy-Olympique lakeside terminus station) – 2 minutes' walk



4.2.3 Service bagagerie / Luggage service

Une salle sera disponible pour déposer vos bagages chaque jour du congrès de 8h à 10h. Cette salle sera située au rez-de-chaussée du bâtiment Synathlon. Veuillez-vous adresser à l'accueil pour déposer et/ou récupérer vos bagages. Cette salle ne sera accessible qu'aux membres de l'accueil.

A luggage storage room will be made available to conference participants, opening each morning of the conference from 8h00 to 10h00. The room is situated on the ground floor of the Synathlon building. Please contact the staff at the reception desk when you wish to drop off or pick up your luggage. Only reception desk staff have access to the luggage room.

4.2.4 Synathlon et ses salles de conférence / Synathlon and its conference rooms

Comment venir au Synathlon ? / How to come to Synathlon ?

- Depuis le metro M1 – arrêt Unil-Chamberonne / From the M1 metro stop – Unil-Chamberonne



Salles de conférence / Location of rooms

- Auditoire 1216 au rez-de-chaussée / *Ground floor* (211 places)
- Salle 2212 au 1^{er} étage / *1st floor* (50 places)
- Salle 2218 au 1^{er} étage / *1st floor* (50 places)
- Salle 2420 au 1^{er} étage / *1st floor* (50 places)
- Salle AISTS – 1222 au rez-de-chaussée / *Ground floor* (50 place)

4.2.5 Numéros d'urgence / Emergency phone numbers

Police	117
Ponpiers	118
Urgence santé	144

5. Programme détaillé / *Detailed program*

5.1 Présentation des conférenciers / *Keynote speakers*

- **Jérôme Bourbousson**, Maître de Conférences-HDR, Université de Nantes, FR :
Team Cognition in Sport: Insights into how Teamwork is Achieved in Naturalistic Settings
- **Ralf Brand**, Head of Sport and Exercise Psychology, University of Potsdam, DE :
Why so rational? Expanding theoretical horizons in exercise motivation research
- **Dave Collins**, Chair and Director, Institute of Coaching and Performance, University of Central Lancashire, UK : *The Goldilocks approach to Talent Development – making your TDE ‘just right’*
- **José Del Rio Millan**, Defitech Chair, École Polytechnique Fédérale de Lausanne, CH : *Brain-computer interfaces and sport*
- **Aaron Williamon**, Professor of Performance Science, Royal College of Music, London, UK : *Fit to perform? Investigating musicians’ health and wellbeing*

5.2 Présentation des ateliers pratiques / *Workshops presentation*

- **Katharina Albertin** (Psychologist, President of the Swiss Association of Sport Psychology, CH) : *Coaching the parents of young elite athletes*
- **Catia Beni** (Psychologue spécialiste en neuropsychologie FSP, CH) : *Commotions cérébrales dans le sport*
- **Daniel Birrer** (Office Fédéral du Sport, Macolin, CH) : *Overtraining as maladjustment: Diagnosis and treatment under a psychological perspective*
- **Mickael Campo** (Université de Dijon, FR) : *Dynamiques de groupes en sport collectif*
- **Greg Décamps** (Université de Bordeaux, FR) : *Troubles des conduites alimentaires et de l'image du corps chez les sportifs*
- **Julie Doron** (INSEP, FR) : *Intégrer l'entraînement mental dans le parcours de formation des athlètes de haut niveau*
- **Jean Fournier** (Université Paris Nanterre, FR) : *Pleine conscience pour la performance*
- **Marc Levêque** (Université Orléans, FR) : *Lecture clinique et compréhension de la dynamique du sportif*

- **Olivier Schmid** (Université de Berne, CH) : *Au-delà du sport d'élite : Perspectives de consultations en psychologie de l'exercice*
- **Paul Wylleman** (Vrije Universiteit Brussel, BE) : *Soutien psychologique aux athlètes Olympiques*

5.3 Programme 3 jours / 3 days program

Horaires		Mercredi 13 juin			
8h00 - 8h45	Accueil et distribution des badges (Hall Synathlon)				
8h45 - 9h30	Discours d'ouverture (Auditoire 1216)				
9h30 - 10h30	Keynote 1. Why so rational ? Expanding theoretical horizons in exercise motivation research (Auditoire 1216)				
10h30 - 11h00	Pause café				
11h00 - 12h30	Symposium 1. Barriers to physical activity in vulnerable populations: Characteristics and mechanisms at play (auditoire 1216)	Symposium 2. Developing the person: A realist synthesis of training and supervision in applied sport psychology (salle 1222)	Session CO1. Aspects cognitifs de la performance (salle 2212)	Session CO2. Outils psychométriques en psychologie du sport (salle 2218)	
12h30 - 13h30	Pause de midi				
13h30 - 14h30	Keynote 2. Fit to perform? Investigating musicians' health and wellbeing (auditoire 1216)				
14h45 - 15h30	Atelier Pratique 1. Pleine conscience pour la performance (auditoire 1216)	Atelier Pratique 2. Coaching the parents of young elite athletes (salle 1222)	Symposium 3. Counselling athletes through transitional challenges (salle 2212)	Session CO 3. Prise en charge holistique du sportif (salle 2218)	
15h30 - 16h15					
16h15 - 16h30	Pause café				
16h30 - 17h15	Atelier Pratique 3. Intégrer l'entraînement mental dans le parcours de formation des athlètes de haut niveau (auditoire 1216)	Atelier Pratique 4. Commotions cérébrales dans le sport (salle 1222)	Symposium 4. Psychologie de la performance chez les artistes (salle 2212)	Session CO4. Dimension sociale en psychologie du sport (salle 2218)	Session CO5. Approche phénoménologique en psychologie du sport (salle 2420)
17h15 - 18h00					
18h00 - 19h30	Assemblée générale SFPS (auditoire 1216)				
Dès 19h	Apéritif dinatoire				

Horaires		Jeudi 14 juin			
9h00 - 10h00	Keynote 3. The Goldilocks approach to Talent Development – making your TDE ‘just right’ (auditoire 1216)				
10h - 10h30	Pause café				
10h30 - 11h15	Atelier Pratique 5. Overtraining as maladjustment: Diagnosis and treatment under a psychological perspective (salle 1222)	Atelier Pratique 6. Troubles des conduites alimentaires et de l'image du corps chez les sportifs (auditoire 1216)	Symposium 5. Dual career athletes support: research-based and applied views (salle 2212)	Symposium 6. Understanding team performance using an enactive approach (salle 2218)	Session CO6. Psychologie de la santé (salle 2420)
11h15 - 12h00					
12h00 - 13h30	Pause de midi				
13h30 - 14h00	Session poster				
14h15 - 15h00	Atelier pratique 7. Soutien psychologique aux athlètes Olympiques (auditoire 1216)	Symposium 7. Neuroenhancement in sport psychology (salle 1222)	Session CO7. Psychologie de l'éducation physique et sportive (salle 2218)	Session CO8. Psychologie de la performance collective (1) (salle 2212)	
15h00 - 15h45					
15h45 - 16h15	Pause café				
16h15 - 17h15	Keynote 4. Brain-computer interfaces and sport (auditoire 1216)				
18h50 - 23h00	Soirée de Gala- Départ port d'Ouchy-Lausanne				

Horaires		Vendredi 15 juin			
9h00 - 10h00	Keynote 5. Team Cognition in sport: Insights into how teamwork is achieved in naturalistic settings (auditoire 1216)				
10h - 10h30	Pause café				
10h30 - 11h15	Atelier Pratique 8. Dynamiques de groupes en sport collectif (auditoire 1216)	Atelier Pratique 9. Schmid, O. Au-delà du sport d'élite : Perspectives de consultations en psychologie de l'exercice (salle 1222)	Symposium 8. Antécédents et conséquences de la motivation en contexte sportif, scolaire ou de santé (salle 2212)	Session CO9. Psychologie de la performance collective (2) (salle 2218)	Session CO10. Outils et techniques mentales (salle 2420)
11h15 - 12h00					
12h00 - 13h30	Pause de midi				
13h30 - 14h00	Session poster				
14h00 - 14h45	Atelier Pratique 10. Lecture clinique et compréhension de la dynamique du sportif (auditoire 1216)		Symposium 9. Emotion and emotional intelligence in sport settings (salle 2212)	Session CO 11. La psychologie du sport en Suisse (salle 2218)	
14h45 - 15h30					
15h30 - 15h45	Pause café				
15h45 - 16h15	Prix jeunes chercheur·se·s (auditoire 1216)				
16h15 - 17h00	Discours de clôture (auditoire 1216)				

9H30-10H30 Auditoire 1216	Keynote 1. Why so rational? Expanding theoretical horizons in exercise motivation research Ralf Brand, Head of Sport and Exercise Psychology, University of Potsdam, DE
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Why so rational? Expanding theoretical horizons in exercise motivation research**Abstract**

Research in exercise psychology seems to have approached the issue of exercise motivation from a narrow meta-theoretical perspective: The most popular theoretical approaches (e.g., the theory of planned behavior, social cognitive theory and self-determination theory) focus on how people reflect on their thoughts and feelings in order to reach desired goals. This perspective, however, likely exaggerates their capacity and willingness to make rational decisions. Alternative approaches, especially those emphasizing the role of affect, offer models that treat human action as partly intuitive and impulsive, but have been largely neglected. The presentation will show that and how well-tried behavioral approaches to exercise motivation (e.g. the one's mentioned above) can be embedded within a broader dual-process account of human thinking, feeling and behavior. Affective-Reflective Theory (ART) of physical inactivity and exercise will be used as an example. This new theory emphasizes the importance of automatic positive and negative associations for subsequent physical inactivity or exercise, and it suggests that automatic processes are the basis from which more complex affective and cognitive operations (e. g., weighing beliefs and values, action planning) can arise to influence behavior in some, certainly not all, situations. Not least, it is the aim of this presentation to support the notion that future research in exercise psychology should be concerned with more domain-specific aspects of automatic-reflective process interaction and contribute to psychological theory on exercise motivation in a more distinctive way.

11H-12H30
Auditoire
1216

Symposium 1. Barriers to physical activity in vulnerable populations: Characteristics and mechanisms at play
(Chair: d'Arripe Longueville, F., & Chalabaev, A., Université de Nice & Université de Grenoble)

- Cheval, B., Courvoisier, D., Cullati, S. (Université de Genève) & Boisgontier, M. (Université de Leuven): Effect of early- and adult-life socioeconomic circumstances on the risk of physical inactivity in older age
- D'Arripe Longueville, F. (Université de Nice): Psychological barriers to physical activity in vulnerable populations: the role of self-perceptions and stereotypes
- Chalabaev, A. (Université de Grenoble): Putting individual motivations into the societal context: The influence of social stereotypes in the physical activity domain
- Forestier, C., Chalabaev, A., Heuzé, J.P., Gauchet, A., Allenet, B., & Sarrazin, P. (Université de Grenoble): Articulating impulsive tendencies with the self-control model of Hofmann to better understand health behaviors
- Chevance, G. (Université de Montpellier): A meta-analysis of the associations between implicit processes and physical activity: preliminary results

**Barriers to Physical Activity in Vulnerable Populations:
Characteristics and Mechanisms at Play**

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Abstract

Physical inactivity is among the top risk factors for global disease burden and accounts for 9% of all deaths worldwide. Conversely, meeting sufficient levels of physical activity can be beneficial for health, especially in people who present vulnerabilities (e.g., chronic diseases, age-related decline). Although several meta-analyses have reported the benefits of physical activity for older people and people with chronic diseases (e.g., Kyu et al., 2016), the physical activity level of those people generally does not meet recommendations. Efforts to better identify reasons of non-participation and the mechanisms underlying physical activity behaviour in these publics are needed. One question that deserves particular attention is whether there are determinants of physical activity that are specific to these populations. The objective of this symposium is to identify the range of barriers to physical activity participation in vulnerable people, and to review the plurality of mechanisms at play. Boris Cheval will first provide evidence about the role of socioeconomic circumstances in physical inactivity of older people. Fabienne d'Arripe-Longueville will focus on psychological barriers and will present a review of studies highlighting the role of physical self-perceptions and of stereotypes related to physical activity in vulnerable people. Aïna

Chalabaev will propose a model articulating the dominant socio-cognitive approach of behavior change with recent research on stereotypes. Cyril Forestier will propose a model articulating impulsive tendencies and self-control to predict healthy and unhealthy behaviors on a cardiac population.

Finally, Guillaume Chevance will present a meta-analysis of associations between implicit processes and physical activity.

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Effect of Early- and Adult-Life Socioeconomic Circumstances on the Risk of Physical Inactivity in Older Age

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Key Words: Physical Activity, Sedentary Behaviors, Temptations, Automatic Goal Activation

Introduction

Physical inactivity has been identified as one of the major risk factors for mortality. Each year physical inactivity is responsible for more for more than 5 million deaths worldwide (Lee et al., 2012). To reduce mortality risk, daily physical activity (PA) is recommended by public health, in particular in older age. Facilitators and barriers to physical activity in older people may originate in early-life, with disadvantaged early-life socioeconomic circumstances (SEC) associated with low levels of physical activity in adult life (Elhakeem et al., 2015). However, the very few studies investigating this link rely on cross-sectional approaches, short follow-up data, and/or crude assessments of early-life SEC. Thus, solid evidence supporting the impact of early-life SEC on physical inactivity trajectories with ageing is still lacking.

The current study (Cheval et al., 2018) sought to determine whether individuals who experienced disadvantageous early-life SEC show higher risk of physical inactivity in older age and, if so, whether this association is mediated by adult-life SEC.

Method

This study used the Survey of Health Ageing and Retirement in Europe (SHARE), a 10-year population-based cohort study with repeated measurements in 5 waves, every 2 years between 2004 and 2013. Self-reported physical inactivity (waves 1, 2, 4, and 5), household income (waves 1, 2, 4, and 5), educational attainment (wave of the first measurement occasion), and early-life SEC (wave 3) were collected. Confounder-adjusted logistic mixed-effect models were used to examine the associations between early-life SEC and risk of physical inactivity over ageing.

Results

In the 22,846 adults aged 50 to 96 years included in the analyses (63,845 observations; 12,711 women), the risk of physical inactivity was increased for women with the most

disadvantaged early-life socioeconomic circumstances (odds ratio [OR] = 1.49, 95% confidence interval [CI] = 1.20 to 1.86) (see Figure 1). With ageing, the risk of physical inactivity increased for both sexes and was strongest for those with the most disadvantaged early-life socioeconomic circumstances (OR = 1.04, CI = 1.02 to 1.06 for women; OR = 1.02, CI = 1.00 to 1.05 for men), with the former effect being more robust than the latter one. The association between early-life socioeconomic circumstances and physical inactivity was mediated by adult-life socioeconomic circumstances, with education being the strongest mediator.

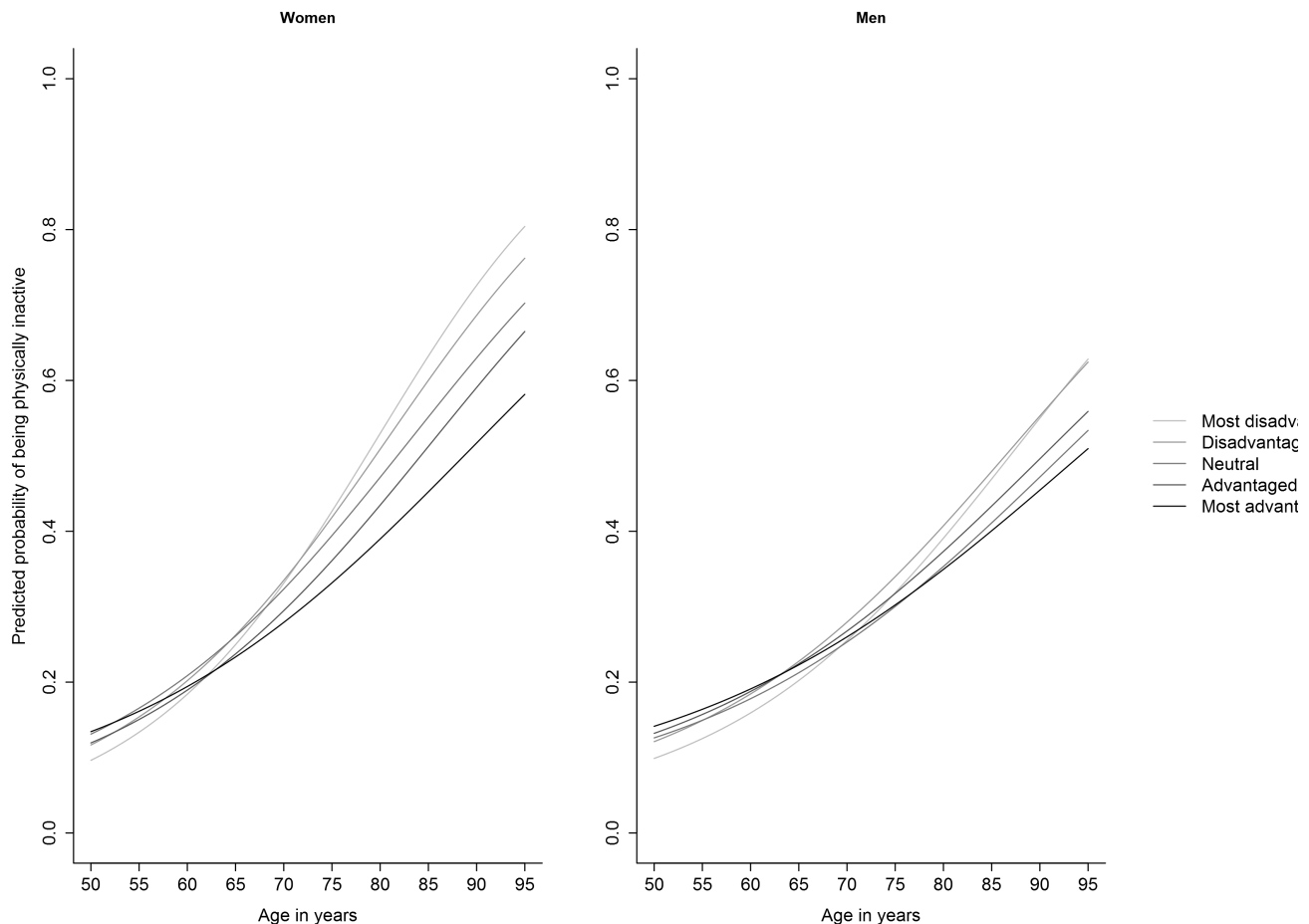


Figure 1. Predicted probability of risk of physical inactivity across age depending on early-life socioeconomic circumstances (SEC).

Discussion

This study shows that early-life SEC predicted higher risk of physical inactivity in older ages, but that socioeconomic trajectories over the life course can fully compensate an unfavourable life start. These findings suggest that efforts to prevent physical inactivity in older ages should consider the key role played by life course socioeconomic trajectories that may either facilitate or prevent engagement to physical activity.

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Psychological Barriers to Physical Activity in Vulnerable Populations: the Role of Self-Perceptions and Stereotypes

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Key words: Physical Activity; Motivation; Self-Perceptions; Attitudes; Stereotype Embodiment

Introduction

Among the reasons for non-participation of vulnerable people in regular physical activity (PA), different types of barriers related to physical (e.g., pain and discomfort), psychological (e.g., apathy), and environmental factors (e.g., access difficulties) have been identified (e.g., Franco et al., 2015). Several reviews of qualitative research have provided a better understanding of vulnerable people's experiences, beliefs and attitudes towards participation in physical activities. Yet these studies were mainly exploratory and not theoretically grounded. To enhance strategies promoting an active lifestyle it is necessary to identify barriers to physical activity that are common or specific across different contexts, and determine the underpinning psychological mechanisms.

This presentation focuses on psychological barriers to PA in different populations with frailty or chronic diseases (i.e., cancer; HIV; cystic fibrosis; bariatric surgery). The characteristics of psychological barriers are reviewed and the role of self-perceptions and stereotypes in the lack of engagement in PA in these populations is highlighted.

Method

The results of two types of studies were reviewed: (a) three qualitative studies exploring older people and patients' psychological barriers to PA using semi-structured interviews (e.g., Falzon et al., 2012; Filleul et al., 2018; Hayotte et al., 2017); and (b) three studies developing and validating specific tools to measure psychological barriers in vulnerable people (e.g., Chalabaev et al., 2013; Falzon et al., 2014; Gray et al., 2016). The characteristics of psychological barriers reported in each study were analyzed through thematic content analysis.

Results

The analysis allowed to identify several invariant characteristics of psychological barriers and some specificities. Invariant characteristics referred to (a) lack of motivation or interest (e.g., PA not a priority and not part of the culture; (b) lack of perceived physical capacities; (c) perceived risks of PA (e.g., risk of injury; risk of aggravation of the disease). Specificities referred to characteristics of each disease including (a) physical limitations related to treatment side effects (people with cancer); (b) risk of contamination (people living with HIV); (c) social physical anxiety related to weight loss (patients who undertook bariatric surgery); (c) fear of breathlessness (patients with cystic fibrosis).

Discussion

Some psychological barriers to PA in vulnerable people such as "lack of motivation or interest" are similar to those of the general population, while others seem to be more related to vulnerable populations' characteristics (e.g., lack of physical self-perceptions; perceived

risks of PA). These psychological barriers are consistent with the constructs of attitudes and perceived behavioral control of the Theory of planned behavior (Ajzen, 1991), and support the self-efficacy theory (Bandura, 1997). They also seem to reflect stereotypes about diseases as non-compatible with PA. It can be hypothesized that these stereotypes are internalized and affect PA engagement through physical self-perceptions (Emile et al., 2014; Levy, 2009).

To conclude these findings highlight the consistently predominant role of self-perceptions and stereotypes related to PA in vulnerable people while providing support both to sociocognitive theories of health behaviors and to the stereotype embodiment theory (Levy, 2009).

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Putting Individual Motivations into the Societal Context: The influence of Social Stereotypes in the Physical Activity Domain

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Keywords: Stereotypes, Physical Activity, Stereotype Internalization, Social Identity Threat.

Introduction

This communication proposes an articulation between the socio-cognitive approach of behavior change with recent research on stereotypes. It is based on the observation that most research in sport psychology investigates the determinants of physical activity at the individual level. Indeed, socio-cognitive models such as the *Health Action Process Approach* (e.g., Schwarzer, 2008) consider that engaging in physical activity depends on one's intention and perception of capability to do so, as well as on attitudes and beliefs about the target behavior. Yet, physical activity is a complex phenomenon. Behaviors depend on individual motivations, but also on contextual determinants, at the interpersonal (e.g., social support), environmental (e.g., community design), political (e.g., national physical activity plans), and global (e.g., cultural norms) levels.

One may argue that socio-cognitive models take into account these contextual factors, by considering that their influence is completely mediated by individual cognitions and motivations (e.g., Ajzen, 2011). If this assertion were true, these models would be sufficient *per se* to explain behavior. However, there is evidence that contextual factors explain additional variance in behavior once individual cognitions are taken into account. For example, intention and self-efficacy have been shown to mediate only partially the relationships between contextual variables and physical activity (Sniehotta et al., 2013). This suggests that this socio-cognitive approach is not sufficient to explain behavior and highlights the necessity to adopt a broader perspective by investigating how contextual factors affect physical activity. We propose to articulate this approach with research on stereotypes.

Prominent stereotypes in physical activity include beliefs such as “females lack physical abilities”, “older adults are fragile”, or “overweight people are too lazy to be physically active”. A growing body of research indicates that these stereotypes may significantly impact physical activity through different psychological mechanisms, notably self-perceptions (“stereotype internalization” pathway) and stress-related responses (“social identity threat” pathway). We argue that this literature may complement the socio-cognitive approach and enrich our understanding of physical activity determinants.

Research on stereotype internalization considers that a portion of an individual's self-concept derives from perceived membership in a social group. In turn, the self serves as a mediator between stereotypes and physical activity. This perspective is illustrated by research on Eccles et al.'s *expectancy-value model* (1983), *stereotype embodiment theory* (Levy, 2009), and the *weight bias internalization approach* (e.g., Pearl et al., 2015). This work indicates that stereotypes may act as a barrier to physical activity by negatively predicting females' perceived competence in sports, older adults' self-perceptions of aging, or overweight individuals' self-esteem. The stereotype internalization approach directly articulates with socio-cognitive models of behavior change. Indeed, it is in line with the idea that contextual factors affect behaviors through the mediational role of the individual cognitions identified in socio-cognitive models, notably the perception of the capability to perform the behavior.

In contrast, research on social identity threat suggests that other mechanisms than the ones proposed by socio-cognitive models may be involved in the impact of stereotypes on behavior. This approach considers that stereotypes may trigger concerns about being devalued or negatively treated based on one's group membership. *Stereotype threat theory* (Steele, 1997) and the *weight-based social-identity threat model* (Hunger et al., 2015) are examples of models that adopt this perspective. This literature suggests that stereotypes may act as a barrier to physical activity through stress-related responses, including negative thoughts and emotions, avoidance motivation, or performance monitoring. This aversive state may disrupt immediate performance and, in the long run, lead people to avoid the stereotyped domain. Interestingly, research indicates that such processes concern individuals who have not internalized the stereotypes. This phenomenon could explain why

intention and self-efficacy have been shown to mediate only partially the relationships between contextual variables and physical activity (Sniehotta et al., 2013). This literature reinforces the necessity to adopt a broader perspective of behavior change, by taking into account social identity-related processes. With this in mind, the concept of social stereotypes appears as particularly relevant to bridge macro-level and micro-level determinants of physical activity.

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Articulating Impulsive Tendencies with the Self-Control Model of Hofmann to Better Understand Health Behaviors

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Key words: Behavior Change, Self-Control Model, Impulsive Tendencies, Health Behaviors, Experience Sampling Method.

Introduction

According to the WHO, 3 of every 4 heart diseases could be prevented thanks to healthy behavior adoption such as physical activity, healthy diet or not smoking. However, most people have difficulties to follow public health guidelines (e.g., Ford, Zhao, Tsai, & Li, 2011). Socio-cognitive models (e.g., HAPA, Schwarzer, Lippke, & Luszczynska 2011) have been successful in identifying the key determinants of behavioral intention (e.g., self-efficacy), but they present some limitations. Indeed, intentions do not systematically

translate into behavior change, a phenomenon known as the “intention-behavior gap”. Moreover, these models focus on explicit processes while implicit processes also predict health behaviors (Sheeran, Gollwitzer & Bargh, 2013). The recent self-control model of Hofmann and colleagues (Hofmann, Friese & Wiers, 2011; Hofmann, Baumeister, Förster, & Vohs, 2012) is promising to address these limitations. This model is composed of four components: desire, conflict, resistance and self-control capacity. The model considers that when a conflict is detected between a particular desire (e.g., to rest on the couch watching TV) and a long-term goal (e.g., to increase one’s physical fitness), self-control effort increase to override the conflict. Whether the individual succeeds in resisting temptations notably depends on his/her self-control capacity. This model is promising to better understand behavior change but its validation is still at early stages. One question that deserves particular attention is whether the model is applicable only to behaviors that need to be inhibited (unhealthy behaviors) or also to behaviors that need to be activated (healthy behaviors). Moreover, the role of desires at the implicit level remain unclear.

Method

Based on Hofmann et al. (2012), experience sampling method was used in this study. This longitudinal methodology allows assessment of psychological variables in daily life settings, thus limiting the retrospective bias. During 7 days, questions assessing state self-control capacity, explicit desire, conflict and resistance randomly appeared 7 times per day on participants’ smartphones. During this week, participants also wore an accelerometer to objectively assess physical and sedentary activities, completed a daily diary to assess their diet and smoking behavior, and a pill organizer MEMS to assess medication adherence. To assess desire at the implicit level, impulsive approach tendencies toward behaviors were measured based on the Manikin task (Krieglmeyer & Deutsch, 2011) at baseline. Trait self-control capacity was also assessed at baseline with the Brief self-control scale (Tangney, Baumeister et Boone, 2004). Following Goetz, Bieg & Hall (2016), 30 participants were recruited and divided into 2 groups. 15 participants were cardiac patients recruited from a cardiac rehabilitation center, with a history of unhealthy behaviors, and 15 control participants were students from a Sports Sciences Department with a history of healthy behaviors.

Results

Two results are expected: (1) the self-control components of Hofmann’s model will differentially predict behaviors to approach and behaviors to avoid; more particularly, while self-control capacity should predict both types of behaviors, the role of desire, conflict and resistance should concern only behaviors to avoid; (2) desires at the explicit and implicit level will both moderate the relation between resistance and behaviors.

Discussion

Results of this study will have two principal benefits. First, they will allow us to better understand how the self-control model works in real context and its influence on both healthy and unhealthy behaviors. Next, by considering different behaviors, this study could allow us to identify variables common to all of them and, in future studies, built and test interventions on these behaviors in order to generate multiple health behaviors change.

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A Meta-Analysis of the Associations between Implicit Processes and Physical Activity: Preliminary Results

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Key words: Automatic Processes, Dual-Processes Theory, Non-Conscious Processes, Exercise

Introduction

Practicing 150 min of moderate-to-vigorous intensity physical activity (PA) a week has been associated with the prevention of numerous chronic health diseases. Nonetheless, most people do not meet these recommendations, ranging from 68% within 18–39-year old to 88% within 60–79-year olds based on accelerometer-derived PA. Therefore, identifying the psychological determinants implicated in this behavior is crucial to develop more effective PA promotion programs.

At the individual level, health-related behaviors can be influenced by both explicit and implicit processes. Theoretically, implicit and explicit processes differ according to their automaticity features. Activation of implicit processes is less conscious, intentional, controllable and more cognitively efficient compared to explicit processes. Amongst the different implicit processes (i.e., affective, cognitive and motivational), affective processes have received a large attention in the PA literature (Cheval et al., 2016). Affective implicit processes are characterized as automatic affective reactions resulting from the particular associations that are activated automatically when one encounters a relevant stimulus; this concept have been mainly studied through the concept of implicit attitudes, and few studies have been interested in the concept of impulsive approach-avoidance tendencies. Recent reviews of the literature have indicated that, quite consistently across studies, more favorable implicit affective processes toward PA were associated with higher levels of self-reported PA, and PA measured with accelerometers (Schinkoeth & Antoniewicz, 2017; Cheval et al., 2016). Despite these first evidences, no studies yet have quantitatively

synthesized the relationships between implicit affective processes and PA. Based on published systematic reviews (Schinkoeth & Antoniewicz, 2017; Cheval et al., 2016), the present study proposed a meta-analysis of the correlations available in the literature between implicit affective processes and PA.

Method

Studies selection criterion: studies were included in the meta-analyses based on previous systematic reviews (Schinkoeth & Antoniewicz, 2017; Cheval et al., 2016), and completed with personal data and more recent studies ($N = 3$). To be included a correlation between affective implicit processes (i.e., implicit attitudes, impulsive approach-avoidance tendencies) and PA was required. Only continuous PA measures were included (e.g., number of step/week; number of minutes per week based on self-reported and accelerometers measures).

Statistical analyses: Pearson's r was used as effect size (for one study, β coefficient was included instead the r), and Fisher's r -to- z transformation was performed. Random-effects models were conducted due to the expected heterogeneity of studies. Estimate effect size can be interpreted as 0.20, 0.50, 0.80, representing small, medium, and large effect sizes. Heterogeneity was quantified with the I^2 statistic ranging from 0% to 100% (small: < 25%; moderate: 25 to 50%; large > 50%).

Results

Studies characteristics: A total of 12 individual studies were included (i.e., see Figure 1 below), sample sizes of included studies varied from 201 to 54. Among these studies, 6 were performed among students, 4 among middle age and older adults living with chronic diseases, and 2 among adults from the general population. Physical activity was measured with self-reported questionnaires in 6 studies, with accelerometers in 4 studies, and with pedometers in 2 studies.

Association between implicit processes and PA: The meta-analysis indicates significant relationship between implicit processes and physical activity ($r = .16$; 95% CI [.08, .24], $p < .001$). Forest plots are presented in Figure 1. Heterogeneity among studies was moderate ($I^2 = 44\%$), and a publication bias was identified (Kendall's Tau = .44, $p = .046$).

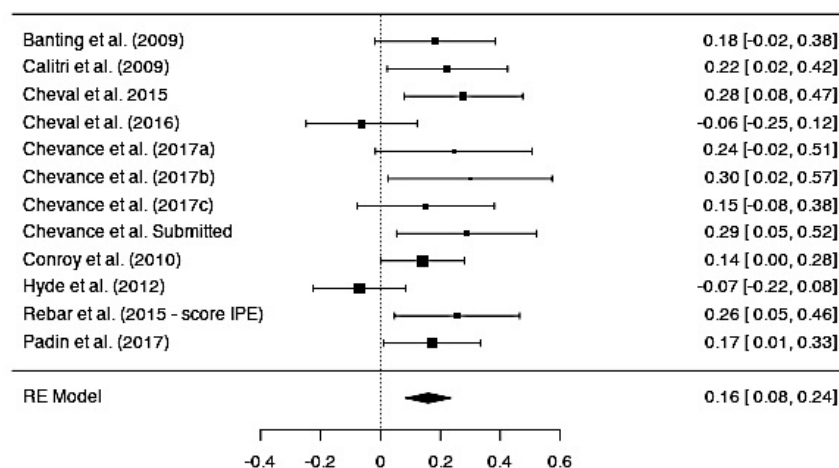


Figure 1. Heterogeneity among studies was moderate ($I^2 = 44\%$).

Discussion

This meta-analysis summarizes the available correlations between implicit affective processes and PA. To our knowledge, this is the first meta-analyse to address this question. The findings highlight that implicit affective processes are significantly associated with PA with small effect size. Hence, people who reported more favorable automatic evaluations of PA (i.e., implicit attitudes in favor of PA or higher approach tendencies toward PA) tend to

present higher levels of PA. This result confirms the assumption of contemporary health behaviors change models indicating that PA could be regulated through implicit processes. Nonetheless, this preliminary analysis should be completed with (i) a specific systematic review of the correlations available, (ii) an analysis of raw (i.e., unstandardized) implicit processes and PA scores to avoid statistical bias, and (iii) moderator analyses.

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11H-12H30 **Symposium 2. Developing the person: A realist synthesis of training and supervision in applied sport psychology**
Salle 1222 (Chair: Eubank, M., & Tod, T., Liverpool John Moores University)

- McEwan, H.E. (University of the West of Scotland) & Tod, D. (Liverpool John Moores University): A bioecological model underpinning sport psychologist training and development
- Tod, D., Wadsworth, N., Dam, S., Anderson, R., & Eubank, M. (Liverpool John Moores University): The evidence underpinning sport psychologist training and development: A realist synthesis
- Eubank, M., Wadsworth, N., Dam, S., Anderson, R., & Tod, D. (Liverpool John Moores University): Key considerations underpinning sport psychologist training and development
- Lafferty, M., (University of Chester) & Eubank, M. (Liverpool John Moores University): Key implications underpinning sport psychologist training and supervision

Developing the Person: A Realist Synthesis of Training and Supervision in Applied Sport Psychology

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Abstract

Within the last 25 years research has begun to pay attention to the applied sport *psychologist*, with early studies focused on stakeholders' perceptions of effective practitioners' characteristics, and, more recently, their personal qualities in applied practice settings (e.g., Chandler et al., 2016). However, much less is known about practitioners, and how best to train them, compared with the tools they use. This knowledge imbalance has potential to lead to an overemphasis in practitioner education on the interventions consultants deploy at the expense of a focus on their development as practitioners, potentially compromising overall training effectiveness. Current research has examined practitioner development issues, such as developmental journeys, practitioner identity and philosophy, supervision, and reflective practice (Tod et al., 2017). Aspects of this work document ways in which graduates believe training has underprepared them for professional situations they have encountered (McEwan et al., 2015). The need for professional development research also comes at a time when several countries are developing or reviewing their training provision. For the field of sport psychology to advance as a credible applied scientific profession, there is a need to ensure that practitioners have been well trained and mentored. Decisions about training and supervision need to have a base built on scientific evidence, yet there is a vacuum in our knowledge about the context, processes, and outcomes associated with optimal sport psychology training.

This symposium documents an ongoing UK project aimed at furnishing the discipline with knowledge to help inform current training practice and inform quality supervision. The

results of the project contribute not only to the UK's reputation as a leading provider of high-quality sport psychology research and education but also allow the dissemination of best practice internationally. In the first communication, Dr. Hayley McEwan presents an original theoretical framework for sport psychology training and development based on Bronfenbrenner and Morris' (2006) Bio-ecological model, proposing that practitioner development occurs within a multitude of nested, related systems where maturation is crystallised by transactions between individuals and their environments. Following this, Dr. David Tod presents the use of a realist synthesis (a relatively new and novel iterative approach to systematic reviewing) as the project methodology. Dr Tod describes the use of stakeholder focus groups to comment on the proposed theoretical framework, followed by a systematic and theoretically targeted search of sport, clinical, counselling psychology and education based training and supervision literature to evaluate and modify the framework. Subsequently, Dr. Martin Eubank describes and interprets the key 'process chain' related findings to emerge from the realist synthesis. Finally, Professor Moira Lafferty discusses the implications for applied sport psychology education, training and supervision.

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A Bioecological Model Underpinning Sport Psychologist Training and Development

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Key words: Career Development, Ecological Systems Theory, Training, Development.

Development as a sport psychologist is not limited to the training years. Most studies, however, on sport psychologist professional development have focused on the early years. We aimed to explore the professional development of UK sport psychologists during, and after training in two consecutive studies. In the first study, we were guided by counsellor development theory (Rønnestad and Skovholt, 2012) to explore developmental themes in trainee sport psychologists (TSPs) during their 2-year training programmes. Themes of professional development generated from the study of TSPs then guided the second study to examine changes and influences experienced during the careers of experienced sport psychologists (ESPs). In this research, we present empirical evidence of the change process across the sport psychologist career span and synthesis the factors influencing development into a working model.

In the first study we employed a longitudinal qualitative design. Nine TSPs participated in three interviews each during their 2-year training programmes. TSPs were enrolled on the Qualification in Sport and Exercise Psychology (QSEP): the supervised practice-based

training programme provided by the British Psychological Society (BPS) equivalent to doctoral level training. Interviews with TSPs aimed to explore participants' perceived changes and development each year and the interview guide was based on the professional development literature.

In the second study, five ESPs were interviewed twice regarding their professional development. ESPs were Health and Care Professions Council (HCPC) registered psychologists and their consulting experience ranged from 15-25 years.

All data were analysed according to Patton's (2002) guidelines including data preparation, description, and interpretation. In data preparation, the first author transcribed the interviews verbatim and then repeatedly read the transcripts whilst listening to the digital recordings of the interviews. During data description, the contents of the transcripts were thematically analysed to identify patterns and themes. This process was conducted after each interview to allow the initial formation of the classification system. First, participants' responses were placed into broad themes, each with a label reflecting the content. Subsequent analysis involved assigning and reassigning individual text units to subthemes within the broader themes. Themes were revised and renamed and data was reassigned, where appropriate, to new themes and subthemes throughout data description to ensure the research questions were answered. Throughout data interpretation, the classification system was reviewed in reference to established theory to identify the relationship between findings in the current studies and previous work. In keeping with Krane, Andersen, and Streat (1997), data analysis involved both deductive and inductive procedures.

Enduring processes of interaction in the immediate environment (e.g., relationships with clients, peer interactions, personal therapy) were the drivers of professional development. For example, trainees were exposed to, and experienced other professional philosophies different from their own by engaging in personal therapy (this was not mandatory to their training award). Findings revealed the reciprocal nature of interaction processes whereby participants influenced the social and environmental context in return. For example, both TSPs and ESPs changed their environments to assist with their development (e.g., by seeking out and engaging with multiple supervisors and therapists, and by delivering services in non-sport environments). Both TSPs and ESPs in this study were active in changing personally as well as changing the environment to allow them to work in ways that best represented who they were as practitioners (e.g., developing communication skills).

Collectively, results from the two studies indicate the broad finding that participants consistently demonstrated influencing, and being influenced by the environment. This finding, regarding how people develop, is reflective of a bioecological perspective developed by Bronfenbrenner and Morris (2006). We have synthesised findings from this research into a working model of sport psychologist development based on a bioecological approach. This model allows us to understand how the four components of process-person-context-time (PPCT), as suggested by Bronfenbrenner and Morris (2006), mutually influence development. For example, participants discussed how the people (e.g., clients and supervisors), the environments (e.g., specific sports and organisations) and the time spent with each (e.g., short and long term relationships, intensive training camps) helped to shape their development. In turn, participants changed their environments (e.g., selected supervisors and client groups) to allow them to be authentic.

In our working model we propose that development occurs within a multitude of nested, related systems where maturation is crystallised by transactions between individuals and their environments. The micro- (e.g., relationships with clients), meso- (e.g., group supervision), exo- (e.g., HCPC), and macrosystems (e.g., socio-cultural ideologies) presented in the model constitute the relationships participants had with each system.

The model demonstrates the different levels (i.e., micro-, meso-, exo-, macrosystem), of the environment that can influence practitioner maturation, and the interplay between the culture of training and development. For example, cultural values (macrosystem) in society may affect micro-level practices, such as how psychological services are delivered (e.g.,

practitioners may deliver services that are characterised by Western culture where they define the problem quickly and offer a solution through an evidence-based framework). Individual training and development practices are also influenced by the professional body (i.e., BPS) housed in the exosystem. The professional body outlines the standards of training (e.g., number of hours of client contact) and the individual can influence how they achieve the standards. This process was another example of how participants could play an active role in influencing the systems more distal to them. For example, individual's micro-level practices (e.g., the creation of peer networks, and engagement with personal therapy) could influence how the professional body, at the exosystem level, deliver training (e.g., facilitation of group supervision).

An ecological systems approach facilitated an examination of the entire multilevel system of sport psychologists. The model provided an analysis of the development of sport psychologists as a phenomenon of proximal processes and their interactions with personal attributes, ecological settings, and dimensions of time. The model proposed may serve as a reference point to follow the process of developing future sport psychologists, and progress the development of current practitioners.

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The Evidence Underpinning Sport Psychologist Training and Development: A Realist Synthesis

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Key words: Sport Psychologist, Training, Development, Supervision.

Training to become a sport psychologist involves considerable effort over several years that typically starts at the postgraduate level and extends into an individual's early career as an autonomous practitioner (Eubank & Tod, 2018). More broadly, the person's professional development is evolutionary, cyclical, and extends across the entire occupational lifespan (Tod, Hutter, & Eubank, 2017). Training involves a range of stakeholders (e.g., students, educators, supervisors, professional organisations, athletes, sporting bodies, family members), whose influences come in and out of focus overtime, and occurs within a dynamic, complex social and cultural milieu (Tod, Andersen, & Marchant, 2011). Sport psychologist training does not represent a discrete, simple, or single intervention that is assessable by individual studies, be they descriptive, experimental, qualitative, or quantitative.

Scientific understanding of sport psychologist training and development arises from the amalgamation of many individual studies of various designs. Given the heterogeneity of the research evidence, established linear and aggregative systematic review procedures, such as

those prescribed by the Cochrane Collaboration, are inadequate to provide an integrated and useful understanding of sport psychologist professional development. Alternative and innovative review methods are needed to synthesize existing knowledge, with the realist synthesis being one such theory driven approach. A realist synthesis is a review method suited to complex, social interventions, which provides an analysis of how and why they do, or do not, work in particular contexts or settings (Pawson, Greenhalgh, Harvey, & Walshe, 2004). The realist synthesis is underpinned by the view that complex and social interventions are based on a programme theory that describes the participants' actions and interactions. Further, interventions consist of nonlinear process chains that involve context, mechanisms, and outputs. These process chains are embedded within social and cultural environments. Interventions are seldom, if ever, replicated exactly across contexts. Instead, they are adapted and prone to modification at each site, because they represent open systems and include people who respond to micro and macro feedback loops (Pawson et al., 2004). These characteristics of programme theories describe well sport psychologist training and supervision interventions and educational pathways. It makes little sense to ask if sport psychologist training and supervision works. Instead, the relevant question is "what works for whom, in what circumstances, in what respects, and how?" (Pawson et al., 2004, p. v).

The purpose of the current review, using realist synthesis methodology, was to assess the evidence underpinning sport psychologist training and development to buttress implications for education pathways and supervision models. The method consisted of four stages. First, in the initial stage we undertook a scoping review to identify formal keywords and databases to be used in subsequent stages. As part of the scoping review, we undertook two focus groups to include the perceptions of stakeholders, including practitioners, students, educators, supervisors, and professional body representatives. The aim of the scoping review was to undertake a careful examination of the theoretical basis of applied sport psychology training. The focus was to map out in broad terms the conceptual and theoretical territory, not to assess the empirical evidence. In the second stage, we then undertook the first formal search and evidence appraisal to "populate" the theoretical framework with empirical findings. We used the theoretical framework to guide the location, integration, and comparison of the sport psychology empirical evidence. In the third stage, having exhausted the sport psychology literature, we engaged in an iterative purposive process in which we examined literature in related fields, such as clinical psychology, counselling, and education, to evaluate the gaps in the theoretical framework. The iterative searches were completed upon theoretical saturation. It would not be desirable or feasible to attempt to build a "census" of all the evidence. The process within and between each stage was iterative with a constant process of 'going back and forth' as new evidence emerged. Regular contact with stakeholders was maintained to help ensure that the project team's thinking remained grounded in applied practice.

The purpose of the current presentation is to build on the previous one, which described the programme theory that was the focus of the current realist synthesis review. Specially, the current presentation describes the review method used in the project. Results from the realist review will be presented in the subsequent symposium presentations (they are not presented in this presentation). Specifically in this presentation, we first discuss the need to review the current literature to assess the evidence on sport psychologist training and development. We then outline in detail the method the reviewers followed in applying a realist synthesis protocol to the sport psychologist training and supervision literature. Third, we set the scene for the subsequent presentations in which (a) the major findings of the project will be described and interpreted, and (b) the implications for students, educators, supervisors, and professional bodies are suggested.

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Key Considerations Underpinning Sport Psychologist Training and Development

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Practitioner training and development research in Sport Psychology has begun to pay much more attention to the applied sport *psychologist*. This attention includes data based research on practitioners personal qualities and practitioner identity in applied practice settings (e.g., Chandler et al., 2016), their developmental journeys (e.g., McEwan et al., 2016), and supervision (e.g., Hutter et al., 2015). Reflective accounts on practitioner methods and philosophy (e.g., Lindsay et al., 2007) and opinion pieces on professional training and development (e.g., Eubank et al., 2013; Tod et al., 2017) have also been helpful in extending the training and development literature in the discipline. At a time when the number of trainee sport psychologists is increasing and the territory of the Sport Psychologist's work is evolving, it is ever more important to ensure that practitioners have been well trained and mentored. Yet, current knowledge about training and development in applied sport psychology is fragmented, and much less is known about how best to train practitioners compared with the tools and techniques they use. This knowledge imbalance has potential to lead to an overemphasis in education and training on the interventions sport psychologists deploy at the expense of a focus on their development as practitioners, underpreparing them for professional practice situations they encounter and potentially compromising overall training effectiveness.

Furthermore, decisions about how best to train and supervise sport psychologists requires a base built on scientific evidence. Currently, a comprehensive theoretical framework that can guide both research and practice in the training and development of sport psychologists, both in the UK and internationally, is lacking. More specifically, there is a vacuum in knowledge about the context, processes, and outcomes associated with optimal sport psychology training and supervision. In addition to the data based research, reflective accounts and opinion pieces within the sport psychology discipline, investigating other training and development frameworks in allied helping professionals, such as clinical and counselling psychology, education, and social work, can help to refine, revise and consolidate a theoretical framework for sport psychology training and development.

The current presentation discusses the key findings that emerged from the realist synthesis protocol of this project and how they inform the proposed theoretical framework of sport psychologist training and development. Specifically, the presentation will outline in detail the process chains, and the context, mechanisms and outcomes they involve, that appear central to a more advanced and enhanced theoretical framework. Based on the focus groups and literature reviews conducted, both within and outside of the domain of sport psychology, there are a number of key 'process chain' considerations for sport psychology training and development. Firstly, there is a key context relating to supervised work

experience and the nature, scope and diversity of Sport Psychology practice settings. The outcome of this process chain is a need for improvement in the trainee's ability to adapt services to client, achieved through the mechanism of providing greater insight into service delivery during the training period. This also implicates a need to understand sport environments and their culture / sub-culture. A second process chain relates to the context of social interaction with peers and stakeholders in sport settings. The outcome of this process chain is a need for trainees to have better communication skills in a professional sport environment, and the training mechanism to achieve this lies in helping the trainee to learn how to interact with people more effectively. Thirdly, in identifying a 'traumatic events' context, improvements in the trainee's ability to get to understand their client's perspective, and how the trainee reacts to it, produces a practitioner with greater tolerance and empathy. A primary mechanism involves the non-judgemental use of reflective practice underpinned by mindful acceptance. A fourth related process chain associates with the context of personal therapy. For the trainee, this generates better self-understanding, and results in greater tolerance and empathy and an improved ability to adapt their services to clients. Informal mechanisms play out in the personal therapy process chain because this strategy is typically not mandated in training. Finally, there is an important context relating to supervision. This involves trainee-supervisor exchanges that discuss the development of professional practice philosophy to generate a better understanding of the trainee's personal core beliefs and values and their congruence with, and better understanding of, their theoretical approach. The outcome of this is to establish firm grounding for the trainee's consultancy process, and improve the key elements of their practice, such as needs analysis, case formulation, choosing intervention and evaluating its impact and their own effectiveness in practice.

The findings of the realist synthesis support a research underpinned theoretical framework for sport psychologist training and development, which accommodates practitioner growth across the career-span and provides detailed guidance about supervision methods and developmental tasks applicable to phased development, including the key training phase (e.g., Rønnestad and Skovholt, 2012). The presentation sets the scene for the final presentation, which discusses the implications for educators, supervisors, and professional bodies engaged in the training and development of sport psychologists.

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Key Implications Underpinning Sport Psychologist Training and Supervision

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Key words: Sport Psychologist, Training, Development, Supervision

As sport psychology training continues to develop and evolve, leading to increased professionalization, there remains a need for research to contribute, shape and inform future applied practice training development. The key considerations emerging from the realist synthesis inform a revised bio-ecological theoretical framework for sport psychologist training and development. This presentation discusses the key research implications for practitioner development, and the applied implications for educators, supervisors, and professional bodies engaged in the training and development of sport psychologists.

Critically, a symbiotic relationship should exist between educators, supervisors, assessors and all involved in the corpus of training programme development to ensure that changes to the training pathway reflect the needs of all stakeholders (Hutter et al., 2015, 2016). This will ensure that training pathways are developed to be cognisant of the needs of the trainee practitioner, supervisor, and service user with flexibility to allow growth and development, and importantly individualisation of training plans. With practice underpinned by a professional philosophy, emerging from and built upon a person's core values and assumptions it is imperative that supervision affords the trainee space and socratic dialogue to develop an understanding of self and self-in-practice, and supports individuation over time to produce a confident and competent, but authentic and independent practitioner. This would suggest that formalised training routes and training experiences should combine to not only assess competence but also preparedness of the neophyte practitioner for the challenges, both personal and professional, of working in the continually changing landscape of the sporting arena. Furthermore, this also implies that training should continue post qualification, and that newly qualified sport psychologists should continue actively seeking supervisory support. In turn, supervisors need to continue to develop supervisory skills that aid them in supervising beyond qualification (Eubank & Hudson, 2013). When examining concepts underpinning training and supervision it is also important to recognise and acknowledge the benefits of informal supervision and peer supervision and the contribution of these to the development of the practitioner. Importantly, both peer and group supervision can present 'safe spaces' for the sharing of experiences, discussions about personal doubts, anxieties and challenges, where there is realisation that practice in the field presents, at times, an 'ugly reality' not captured in prior formal learning experiences, discussion groups or from a text book (Tod, Eubank, & Andersen, 2014).

From a research perspective, the presentation will discuss a number of key implications underpinning sport psychology training and supervision. Firstly, longitudinal studies that examine the process of development, including investigation of the interplay between the context, mechanisms and outcomes of training and development within a bio-ecological framework, are advocated. Adoption of longitudinal studies will chart changes and developments in the trainee's approach to practice, and thus better inform the training programme through analysis of both the proximal processes and ecological settings. This would, for example, draw out information pertinent to the role and benefits of group and peer supervision, and present an evidence-based approach for best-practice recommendations. Furthermore, as interpersonal relations are key to successful training and development, further specific lines of inquiry regarding proximal processes would likely

contribute to understanding. For example, the role of peer relationships in graduate education has not been widely researched. Further research may contribute to understanding how peer relationships function among trainee sport psychologists, and across different cohorts. Longitudinal investigations would also contribute to understanding of how peer relationships change during and after training. Secondly, ethnographic qualitative studies that allow rich description of how process chains operate at the individual level would harness the benefits of engaging with ethnographic approaches that enable understanding of context, culture and process chains at the individual level to be more fully developed, and contribute to our understanding of the individual within the process. Further research implications include i) experimental research that examines specific process chains central to training and development rather than attempting to evaluate broad programmes of training, ii) better tracking of graduate outcomes within education and training provision and iii) investigations of the incidence and content / scope of personal therapy used by trainee sport psychologists.

In terms of applied implications, the presentation will discuss a number of key considerations that appear central to effective training and supervision, and how our findings can inform both the short and long-term development of active training activity for both supervisors and practitioners. Firstly, there is a clear mandate to better recognise the cultural and political macro factors that influence trainee development. Can trainees examine the specific factors related to their culture that influence the way they operate? Can they understand differences between their own culture and another, and explain cultural differences? There is a second mandate for the role of personal therapy in training. While there is evidence of trainees' who already engage with this form of support, adoption of personal therapy may be a further mandate that represents an optimal therapeutic process in education and training settings. A further suggestion is to treat development as an apprenticeship, and consider structuring training around an apprenticeship based model e.g., cognitive apprenticeship (Martindale & Collins, 2013). Finally having a CPD programme that involves regular demonstration of development beyond workshop attendance, and includes, for example, case presentations, recorded sessions with supporting case analysis by the trainee and supervisor commentary ongoing peer support and dialogue represents an important consideration for ongoing life-long practitioner development.

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- Robin, N., Collado, A., Sinnapah, S., (Université des Antilles), Rosnet, E., (Université de Reims), Hue, O., & Coudevylle, G. (Université des Antilles) : The influence of Tropical Climate on Affective States, Cognitive Tasks, and Aiming Accuracy Performance in Young International Fencers
- Coudevylle, G., (Université des Antilles), Popa-Roch, M., (Université de Strasbourg), Sinnapah, S., Hue, O., & Robin, N. (Université des Antilles) : Impact of Tropical Climate on Affect and Selective Attention
- Gorgulu, R., (University of Uludag), Cooke, A., & Woodman, T. (University of Bangor): Ironie effects of performance in an externally paced task: The moderating effect of task instruction under pressure
- Abdollahipour, R., (University of Olomouc), Land, W., (University of Texas), Cereser, A. (Federal University of Pelotas), Psotta, R. (University of Olomouc) & Chiviacowsky, S. (Federal University of Pelotas): External focus of attention enhances motor performance in visually impaired individuals

The influence of Tropical Climate on Affective States, Cognitive Tasks, and Aiming Accuracy Performance in Young International Fencers

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Keywords: Fencing, cognitive task, aiming accuracy, tropical environment, affective states.

Introduction

Fencing is an Olympic sport that requires a combination of speed, power, accuracy, as well as cognitive processes such as attention, vigilance, visual perception, and reaction time (Hijazi, 2013). It is practiced all over the world and competitions are sometimes held in Tropical Climate (TC). Thermal environment is one of the most important indoor environmental factors that affect human mental and motor performances (Kosonen & Tan, 2004). Heat stress is associated with decreased performance across multiple cognitive tasks (Gaoua, 2012). As the level of environmental stress increases (e.g., in TC: Hot and wet climatic environment), attentional resources are progressively drained. Robin, Coudevylle, Hue, & Sinnapah (2017) suggested that TC imposes a supplementary constraint in terms of cognitive resources. The authors also suggested that thermal stress could induce a central fatigue that decreases the participant's motivation particularly when performing highly cognition demanding attention tasks, as in fencing. Finally, motor and cognitive

performances are dependent on psychological factors as affective states assessed through questionnaires such as PANAS (Positive and Negative Affect Schedule; Watson, Clark, & Tellegen, 1988). Positive affects (PA), that is how an individual feels enthusiastic, active and alert, are conceptualized as a continuum ranging from an optimal state of concentration, pleasure, and energy in commitment to a state of lethargy and sadness. Negative affects (NA) are assimilated to unpleasant involvement and include feelings of anger, guilt, fear, disgust and nervousness. This study evaluated the impact of a TC on cognitive performance, affects, and aiming fencing task performances. The use of cognitive tasks as simple and choice reaction time, stroop tests as well as vigilance tasks should permit to evaluate the influence of TC on fencer's cognitive performances. As evoked by Gaoua (2012), vigilance should be negatively affected by TC. Moreover, in accordance with Qian et al. (2015) who proposed that heat stress has a potential fatigue-enhancing effect, it is hypothesized that TC (comparatively to Air Conditioning: AC) should increase NA, feeling of fatigue, and decrease PA. Finally, given that precision in fencing implies mental process (e.g., attention, vigilance and concentration) that can be negatively influenced by TC, the prediction is that fencer's aiming accuracy performance would be lower in TC than in AC.

Method

Eleven young international fencers, from the pole France Antilles-Guyane, participated in the study (3 women, 8 men, $M_{\text{age}} = 16.1$ years, $SD = 1.66$). This experiment was realized in a rectangular fencing gymnasium (9×25 -meters). The participants performed two repeated measures sessions in AC (M temperature = 21.4°C , and hygrometry = 43.5% rH) and in TC (M temperature = 27.6°C , and hygrometry = 67.8% rH), corresponding to the conditions usually encountered, in a randomized order. During each session, the participants fulfilled questionnaires evaluating affective states (PANAS), and fatigue (7-point scales ranging respectively from 1 'not at all tired' to 7 'totally tired'). Then they realized cognitive tasks (i.e., simple and choice reaction time: 30 trials; vigilance: 15 trials; and attention: French version of the Victoria Stroop Test, tasks). Finally, the fencers performed motor aiming (3 blocks of 5 trials), toward a classical round target (20-centimeters in diameter), composed of ten 1-centimeter concentric circles, with protective clothing, mask and sword (i.e., épée or foil). During each trial, fencers had to start at the beginning of a fencing strip (that measures 14-meters) and had to make round-trips between studs before reaching, as precisely as possible, the target localized at the opposite extremity of the fencing track. After a trial, participants had 10-seconds to go back to the starting lane in order to realize the next trials of the block. For each trial, the amplitude and direction errors were measured and Absolute Error (AE), and Variable Error (VE) were computed.

Results

The Student t tests did not reveal any significant difference between climate condition concerning simple reaction time, choice reaction time, stroop, vigilance tasks or fatigue ($ps > .05$). Fencers revealed lower PA scores in TC than in AC ($p < .05$), however there was no significant difference in NA between climate conditions. The ANOVAs computed on AE and VE for amplitude revealed a significant main effect of the climate condition, and the post-hoc Newman-Keuls tests revealed that the athletes showed higher AE and VE errors in TC than in AC ($ps < .05$). The ANOVAs computed on AE and VE for direction did not reveal any significant main effect of the climate condition.

Discussion

The results of the current study didn't reveal any deleterious effect of TC on the simple and choice reaction time, and stroop tasks performances. These results are consistent with those of Gaoua (2012) who showed that simple and choice reaction time performances were not affected by heat stress. The absence of significant difference between climate conditions, on mental cognitive tasks, led us to consider task difficulty. For example, Robin et al. (2017) didn't observe any significant main effect of climate condition (AC vs. TC) in a mental

rotation task, with acclimatized and good imagers participants whereas poor imagers performance's was negatively affected by TC. We may envisage that the cognitive tasks used in the current study were not enough complex, for international fencers. The main result showed that TC decreased motor accuracy performance in athletes. This result could be explained by the decrease of PA that can induce less willing to exert effort in the task. Further research will be realized in order to evaluate if other factors as self-handicapping strategies or motivation could explain the deleterious influence of TC and if the use of cooling techniques would be useful to limit the negative influence of this hot and humid climate on motor performance. Finally, it is suggested to “maître d’arme” (i.e., fencing coach) to favor the training in AC in order keep good affective states and performance fencer’s accuracy, excepted for an upcoming competition in TC that would require a period of acclimation.

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Impact of Tropical Climate on Affect and Selective Attention

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Key words : Environment, Concentration, Attention, Affective States.

Introduction

The tropical climate (TC), where temperatures can exceed 31°C and relative humidity (rH) exceeds 70%, can be considered an environmental stressor (see Hue, 2001; Robin, Coudeville, Hue, & Sinnapah, 2017). Accordingly, Kosonen and Tan (2004) suggested that the thermal environment (including heat and humidity) is one of the most important environmental factors affecting human performance. However, little is currently known about the impact of TC on attention and affect. Regarding affect, Robin and Coudeville (under review) found an impact of TC on positive affect (PA) but not on negative affect (NA). Regarding attention, Chase et al. (2003) suggested that the discomfort induced by the hot climate provoked a cognitive cost and that the participants need to use more cognitive resources to remain focused on the attention task (i.e., dual-task performance). Thus, the

purpose of this study was to determine whether TC has an influence on PA, NA and selective attention. We hypothesized that the combination of heat and high level of rH would be a stressful factor impacting these psychological aspects of the individual's functioning. We expected that PA would be lower and NA higher in TC compared with neutral climate (NC) and that the selective attention score would be lower in TC than in NC.

Method

Thirty-two physical education students (27 men $M_{\text{age}} = 19.8$ years; $SD = 1.44$ and 5 women $M_{\text{age}} = 21.2$ years; $SD = 1.48$) volunteered for this study gave written consent before participating. The experiment was conducted during a regularly scheduled class. Each participant took part to two experimental conditions. In the TC condition, the ambient temperature was $30.8^{\circ}\text{C}^{\pm 1.2}$ and the humidity was $70.1\%^{\pm 2.1}$. This environment was maintained by electric heating and kettle systems. In the NC condition, the ambient temperature was $22.5^{\circ}\text{C}^{\pm 2.8}$ and the humidity was $47.6\%^{\pm 2.1}$ and obtained by air conditioning system. Participants rested in a seated position for 30 min. before starting the cognitive assessments and completed the PANAS and the d2 Test of Attention. Affect was assessed using the French version of the PANAS (Gaudreau, Sanchez, & Blondin, 2006). The PA grouped 10 items (i.e., interested, excited, strong, enthusiastic, proud, attentive, alert, inspired, determined and active) and the NA grouped 10 items (i.e., distressed, upset, guilty, scared, irritable, hostile, nervous, ashamed, jittery and affraid) on a 5-point scale (from 1 "very slightly" to 5 "very much"). We used four d2T-based (Brickenkamp & Zillmer, 1998) measures of attention as dependent variables (i.e., processing speed, inattention, impulsivity, concentration performance).

Results

The ANOVA for PA revealed a main effect of the climate [$F(1, 30) = 7.391, p < .05$]. Participants thus had lower overall PA in TC than in NC. The analysis of the NA showed no main effect of the climate ($p > .05$). The ANOVAs for processing speed, inattention and concentration performance revealed a main effect of the climate [$F(1, 30) = 4.326, p < .05$; $F(1, 30) = 4.487, p < .05$; and $F(1, 30) = 4.751, p < .05$, respectively]. Participants had a lower score in TC than in NC. Analysis of the impulsivity scores did not show any main effect of climate ($p > .05$).

Discussion

Consistent with our predictions, TC had a negative impact on PA. Participants had lower PA in TC than in NC. However, the effects of the two climate conditions on NA showed no significant effects. Our results contrast with those of Gaoua, Grantham, Racinais and Massoui (2012), who reported no difference in PA between heat condition but higher NA in a hot environment (50°C) than in a neutral condition, but they agree with those of Robin and Coudeville (under review) who found an impact of TC on PA but not on NA. It is fairly easy to understand that TC would have a negative influence on the scores for the attentive and excited sub-scales; it also seems reasonable that this climate would not have a negative effect on the scared, nervous and shame scores, particularly in these acclimatized participants. In line with our predictions, the results showed that the participants had lower selective attention scores in TC than in NC (except for impulsivity). Our results contrast with those reported by Gaoua et al. (2012), who did not find that attention was impaired by the heat climate but are in line with those obtained by Chase et al. (2003), who tested dual-task performance (i.e., shared attention as opposed to selective attention). These authors suggested that the discomfort induced by the hot climate provoked a cognitive cost and that the participants therefore used more cognitive resources to remain focused on the attention task. These results are important because no study, to our knowledge, has yet shown the deleterious effects of TC on selective attention. Cognitive psychologists have indicated that humans have limited cognitive capacities to cope with the multiple external stimuli constantly competing for the limited conscious access (Gaoua, 2010). It seems that the

combination of heat and high relative humidity imposes a cognitive load and therefore can negatively impact cognitive performance.

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Ironic Effects of Performance in an Externally Paced Task: The Moderating Effect of Task Instruction under Pressure

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Key words: Anxiety, Ironic Error, Reactive Task, Instruction.

Introduction

Wegner's (1994) theory of ironic processes of mental control predicts that, when anxious, one's performance will break down in a precisely counter-intentional manner. To date this theory has received comparatively scant attention in the anxiety and motor performance literature. The experiments reported in this paper were designed to be the first to examine Wegner's (1994) theory of ironic processes of mental control as an explanation for anxiety-

induced counter-intentional errors during reactive motor performance. They were also designed to provide the first test examination of theory-driven interventions aimed at reducing the incidence of ironic errors.

Method

We present five novel tests of Wegner's (1994) theory in an externally paced task under conditions of low and high anxiety. In Experiments 1 ($N=53$ [32 men, 21 women] $M_{age}=19.62$, $SD=2.09$; 47), 2 ($N=40$ [21 men, 19 women] $M_{age}=22.65$, $SD=6.3$) and 4 ($N=24$ [17 men, 7 women] $M_{age}=25.58$, $SD=4.52$), we conduct the first specific examinations of the incidence of ironic error using a reactive motor task. In Experiments 3 ($N=41$ [24 men, 17 women] $M_{age}=22.63$, $SD=3.92$) and 5 ($N=23$ [16 men, 7 women] $M_{age}=23.43$, $SD=3.62$), we provide the first tests of whether task instruction moderates the incidence of ironic errors.

We adopted a two condition (low-anxiety; high-anxiety) within-subject design; all participants completed a reactive motor task (Figure 1). Their task was to react to a series of three primary colour balls as each ball rolled down the chute. Specifically, using a table tennis bat held in their dominant hand, participants either stopped the ball (i.e., they held the bat firm against the end of the chute) or they allowed the ball to continue its trajectory off the end of the chute to the ground (i.e., they moved the bat away from the chute end). We told participants, *"every ball you stop will go into a prize bucket, the red ball will score you plus five points and the blue ball will score you minus five points. Obviously you should be very careful not to stop blue balls! Please try to score as many points as possible"*. Participants responded to 45 balls (15 blue, 15 red and 15 yellow) in both low-anxiety and high-anxiety conditions. These instructions were designed to create a target ball, a non-target (ironic error) ball, and a non-target (non-error) ball. The instructions were modified between participants to ensure that each ball colour had an equal turn over the course of the experiments.

We measured anxiety using the Mental Readiness Form-3 (MRF-3; Krane, 1994) alongside objective psychophysiological indices of arousal and anxiety, namely heart rate and heart rate variability (SDNN and r-MSSD) and muscle activity in the dominant forearm. The psychophysiological measures were obtained continuously throughout the experiment. Perceived mental effort was also measured using the Rating Scale for Mental Effort (RSME; Zijlstra, 1993).

Results

We conducted paired-samples t -tests to examine the effectiveness of our anxiety manipulation, and repeated measures ANOVA to examine the effects of anxiety on performance across all experiments. The results of univariate tests are reported, with the Greenhouse-Geisser correction procedure applied for analyses that violated the sphericity of variance assumption. In accord with Wegner's (1994) theory, in Experiment 1, results yielded a significant Condition $\times$ Ball interaction, $F(1, 52) = 27.02$, $p < .001$, $\eta_p^2 = .34$. In Experiment 2, results revealed no significant main effect for anxiety, $F(1, 39) = 1.80$, $p = .19$, $\eta_p^2 = .04$, a significant main effect for ball $F(2, 78) = 34.54$, $p < .001$, $\eta_p^2 = .47$, and a significant condition $\times$ ball interaction, $F(2, 78) = 10.03$, $p < .001$, $\eta_p^2 = .20$. In Experiment 3, results revealed no significant main effect for anxiety, $F(1, 40) = 1.33$, $p = .25$, $\eta_p^2 = .03$, a significant main effect for balls, $F(2, 80) = 50.08$, $p < .001$, $\eta_p^2 = .55$, and no significant anxiety $\times$ ball interaction $F(2, 80) = 0.29$, $p = .75$, $\eta_p^2 = .01$. In Experiment 4, Results revealed no significant main effect for anxiety $F(1, 23) = .44$, $p = .51$, $\eta_p^2 = .01$, a significant effect for balls, $F(2, 46) = 41.26$, $p < .001$, $\eta_p^2 = .64$, and a significant anxiety $\times$ ball interaction $F(2, 46) = 10.32$, $p = .001$, $\eta_p^2 = .31$, $\epsilon = .68$. In Experiment 5, results revealed no significant main effect for anxiety, $F(1, 22) = .12$, $p = .72$, $\eta_p^2 = .006$, a significant main effect for ball, $F(2, 44) = 38.87$, $p < .001$, $\eta_p^2 = .63$, $\epsilon = .69$, and no significant anxiety $\times$ ball interaction $F(2, 44) = 1.71$, $p = .19$, $\eta_p^2 = .07$. To sum, Experiments 1, 2 and 4 revealed that anxiety increased the number of ironic errors. Importantly, in Experiments 3 and 5, we

provide the first evidence that instructional interventions can reduce the incidence of anxiety-induced ironic performance errors in reactive motor tasks.

Discussion

In support of Wegner's (1994) theory, in Experiment 1, results demonstrate that participants made significantly more ironic errors when anxious. To our knowledge, this is the first evidence to support ironic processes theory as an explanation for performance breakdown under anxiety during reactive motor tasks. The results of Experiments 2 and 4 confirmed these findings and – by the addition of a third ball colour (Experiment 2) and an additional type of error (Experiment 4) – revealed that any ironic performance errors could not be accounted for simply by an indiscriminate anxiety-induced performance decline (Woodman, Barlow and Gorgulu, 2015).

Crucially, the results of Experiments 3 and 5 offer a solution to the ironic performance problem. Specifically, by reframing task instruction in order to burden the monitoring process (one of the two parts of ironic process theory; e.g., operating process) with the more time-intensive action-based search, the anxiety-induced increase in ironic errors observed in Experiments 1, 2 and 4 was eradicated in Experiment 3 and 5. Collectively, these results represent the first evidence to support Wegner's (1994) ironic processes theory in reactive motor tasks, and the first to offer a practical and theoretically-driven solution to limit the troublesome ironic error. The key applied implication of our finding is that the instructions we issue to ourselves and others should be framed to ensure that the operating process always has an easier search than the monitor.

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External Focus of Attention Enhances Motor Performance in Visually Impaired Individuals

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Key words: Attentional Focus, Discrete Skills, Visual Impairment, Motor Performance, Soccer.

Introduction

Ample empirical evidence has demonstrated the advantages of an external relative to internal focus of attention for enhancing motor performance and learning across diverse tasks and populations (see Wulf, 2013). Due to the close relationship between vision and

attention, some studies have investigated the possible meditative role that visual information plays in accounting for the advantages of an external versus internal focus of attention in healthy participants. These studies have demonstrated that vision does not mediate the advantages of external over internal focus of attention in a variety of discrete motor actions such as golf putting (Land, Tenenbaum, Ward, & Marquardt, 2013), dart throwing (Sherwood, Lohse, & Healy, 2014), and jumping (Abdollahipour, Psotta, & Land, 2016). However, research has yet to examine whether this finding holds true for discrete tasks with individuals who have a major visual impairment. Therefore, the purpose of the present study was to determine whether external focus can aid performance in individuals with severe visual impairment. Based on previous research, we predicted that an external focus of attention would still significantly benefit performance compared to an internal focus of attention in individuals with a severe visual impairment.

Method

Participants ($N = 24$; mean age = 46.58 ± 10.53 years) who did not have previous experience with the task were recruited for this study. A mask was used to cover participant's eyes to eliminate any possibility of receiving visual information, and to make the degree of visual impairment consistent across all individuals. The task required participants to kick a leather soccer ball (circumference: 69 cm; weight: 440 g) with their dominant foot toward a target from a distance of 7 meters. The target area consisted of a colored square (measuring 50 cm wide and 50 cm high) attached to a wall with the base touching the ground. Two other zones with the same-sized dimensions were drawn, to the left and right of the target. 2 points were awarded if the ball hit the central colored zone. One point was granted if the ball hit one of the lateral zones. 0 points were given if the ball did not hit any zone. Participants performed 10 trials in each of the three attentional conditions: internal focus (i.e., concentration on the foot), external focus (i.e., concentration on the ball), and control (no instructions). The order of the conditions was counterbalanced across participants. Knowledge of results (i.e., score and direction of the kick) were provided after each trial.

Results

The results of Wilcoxon signed rank test indicated that kicking accuracy during the external focus condition was better than the internal focus condition ($Z = -3.289$, $p < .001$, $r = 0.475$). Furthermore, kicks during the control condition were better than during the internal focus condition ($Z = -2.434$, $p = .013$, $r = 0.351$). There was no significant difference between the external focus and control conditions ($Z = -1.452$, $p = .149$, $r = 0.209$).

Discussion

The findings of the present study show that the advantages of an external compared to an internal focus of attention can be generalized to individuals with visual impairments for enhancing performance on a kicking task. Furthermore, these findings are consistent with previous studies and substantiates the independency of external focus benefits from vision (Abdollahipour et al., 2016; Land et al., 2013; Sherwood et al., 2014). The present study showed the benefits of external focus of attention in individuals who have severe visual impairment. Importantly, these results suggest that providing appropriate external focus instructions for individuals with visual impairments who typically do not use vision or have limited access to visual information might be more useful than internal focus instructions for enhancing motor performance of discrete motor actions.

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- Zuber, C., & Conzelmann, A. (University of Bern): Development and initial validation of the "Achievement motivated behavior in individual sports – AMBIS-I – observation grid"
- Leprince, C., (INSEP), d'Arripe-Longueville, F., Corrion, K., (Université de Nice) & Doron, J. (INSEP): The communal coping strategies inventory for competitive team sports (CCICTS) : development and preliminary validation
- Belley-Ranger, E., Carbonneau, H., & Trudeau, F. (Université du Québec à Trois-Rivières): Développement et validation d'un outil de la prise de risque en activités physiques et sportives chez les jeunes entre 14 et 24 ans
- Gesbert, V., Crettaz von Roten, F., & Hauw, D. (Université de Lausanne): Validation en langue française du "Psychological characteristics of developing excellence questionnaire" (PCDEQ)
- Chaba, L., (Université de Nice, HEP Vaud), d'Arripe-Longueville, F., (Université de Nice), Lentillon-Kaestner, V., (HEP Vaud) & Mériaux-Scoffier, S. (Université de Nice): French adaptation and validation of the drive for muscularity scale in male athletes (DMS-FR)

Development and Initial Validation of the German "Achievement-Motivated Behavior in Individual Sports – AMBIS-I – Observation Grid"

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Key words: Achievement Motivation, Psychology, Talent, Test Construction

Introduction

The high importance of psychological variables for the successful development of a promising young athlete into a successful top athlete is pointed out in talent research. Achievement motivation seems to play an exceptionally important role for talent development and subsequent success (e.g. Zuber et al., 2015). Also in sporting practice, the importance of motivational characteristics is highly valued (Jokuschies et al., 2017). Unfortunately, in real selection decisions – in contrast to scientific research – the diagnostics of achievement motivation is associated with some serious problems. While self-report questionnaires are susceptible to social desirability, coach ratings fail because the achievement motive is not directly observable. Therefore, this research project aims to construct and check a tool for the reliable, valid and economic assessment of the directly observable achievement-motivated behavior in sports (AMBIS).

To reach this goal, we build on the Act-Frequency Approach that relies on the construct definitions elaborated by psychological laypersons and is executed in three consecutive steps (Buss & Craik, 1983). In a first step (item construction), coaches have been asked about manifest achievement motivated behavior in concrete situations. In the subsequent step (content validity), these items have been judged by other coaches and sport psychologists with regard to their prototypicality for the construct to be examined. In the third step (test construction and validation), which is described below, the final version of the observation grid was constructed and then checked for reliability, factorial validity and predictive criterion validity.

Method

For the construction and validation step, 67 coaches (1st or 2nd education level in Switzerland; 19 women, 28.4%, $M_{age} = 41.88 \pm 11.96$ years) rated 278 athletes on 49 items (5-point scale). As the items were constructed in German, only German-speaking coaches were included in the sample. These items have been constructed in step 1 and then judged as content valid in step 2. At t_2 (about 3 months later), 46 coaches (16 women, 35%, $M_{age} = 42.95 \pm 11.67$ years) conducted their second ratings of 176 athletes. Exploratory structural equation modeling (ESEM) was chosen for item elimination and testing the factorial validity. The ESEM models were estimated using the robust maximum likelihood (MLR) estimator method with oblique geomin rotation (Myers et al., 2017). For the evaluation of the models, we followed the recommendations of Schermelleh-Engel et al. (2003). To test the generalizability of the results, the model was cross-validated with the data from t_2 . Squared multiple correlations (SMC) were computed to estimate the reliability of the items. For estimating the reliability of the factors, we calculated the composite reliability (CR) (Bagozzi & Yi, 2012), the average variance extracted (AVE) (Fornell & Larcker, 1981) and the test-retest reliability. To check the discriminant validity of the tool, the Fornell-Larcker Criterion was computed. As performance criterion, the Swiss Olympic (Talent) Card (SOTC) was used one year after data collection. The cards were awarded by the national federations as a distinction of previously demonstrated performance in competitions, and existing potential for future successes.

Results

In a first step, we removed 24 items that could not be answered by 12% to 42% of the coaches. Then, incremental items were removed that featured main loadings $\leq .50$, communalities $\leq .40$, high cross loadings or content redundancy. After multiple phases of ESEM modeling and item removal, a 3-factor model with 12 items with an excellent fit (CFI = .99, TLI = .97, RMSEA = .04) and finally comprehensible factors emerged as the best model. The cross-validation check of the 12-item solution provided worse fit to the data. Therefore two additional items were removed resulting in an excellent match of the estimated to observed data to t_1 (CFI = 1.0, TLI = 1.0, RMSEA = .01) as well as to t_2 (CFI = .99, TLI = .97, RMSEA = .05). Factor loadings on the main factors are between .50 and .74 for all items. Nine of ten items show good communalities $> .40$. Factors one and two exhibit good factor reliabilities with CR = .79 and DEV $> .50$. Only factor three shows reliability coefficients that lie below the desired thresholds at t_1 . With CR = .68 and DEV = .49 they lie in the cross validation t_2 a bit higher and only just below the desired threshold values of .70 and .50. All factors meet the Fornell-Larcker criterion. The test-retest reliability is $r_{tt} > .70$ for all three factors and thus within an acceptable range for a comparatively long period with 3.2 ± 0.72 months. All three factors can differentiate with small to middle effects ($.22 < f < .29$) between the three performance groups determined by the SOTC.

Discussion

The German observation grid for achievement motivated behavior in individual sports (AMBIS-I) consists of 10 items that form the three factors proactivity (e.g. “He/she stayed after training to continue practicing”), ambition (e.g. “He/she has shown that he/she is not

satisfied with the 2nd place”) and commitment (e.g. “In high demanding exercises, he/she worked until exhaustion.”). The items were constructed by coaches and assessed as content valid. AMBIS-I is based on observable behavior and could alleviate the mentioned problems of talent selection in sports (e.g. social desirability). The first results on the quality criteria are promising in this respect: The three factors of AMBIS-I show reasonable to good reliability coefficients and can be clearly separated from each other. Both construct and criterion validity should be further scrutinized in future. By involving the coaches as the future users in the process of test construction, we expect an increased acceptance in practice and an increased validity of the constructed procedures in the sense of “the best predictor of future behavior is past behavior” (e.g. Buss & Craik, 1983). Since the sample includes only coaches from individual sports, it must further be checked whether the items of AMBIS-I are also suitable for team sports.

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The Communal Coping Strategies Inventory for Competitive Team Sports (CCICTS): development and preliminary validation

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Key words: Stress, Communal Coping, Interpersonal Approach, Team Sports, Validation

Introduction

Although the ability of teammates to cope together is a key aspect of collective performance, consideration of the interpersonal dimension of stress and coping is relatively recent in sport contexts (Tamminen & Gaudreau, 2014). Communal coping represents a novel perspective through which to examine athletes’ collective efforts (i.e., communal coping strategies) to deal with shared stressors in a team or group context (Lyons, Mickelson, Sullivan, & Coyne, 1998). While many scales exist to assess individual coping strategies in sport, there are currently no tools to assess the communal coping strategies used by team sport athletes. Therefore, the objective of this study was to develop and validate a questionnaire assessing communal coping strategies in teams (i.e., the Communal Coping Strategies Inventory for Competitive Team Sports - CCICTS).

Method

First, based on the results of a first exploratory qualitative study of the communal coping dimensions and strategies used by team sport athletes (Leprince, d'Arripe-Longueville, & Doron, 2017), an initial pool of 69 items was created. These items were administrated to 25 athletes and 10 coaches from different team sports to assess the clarity and the applicability of each item in their respective team sports. Secondly, the factorial structure was tested with a four-stage sequential confirmatory factor analysis (Gaudreau & Blondin, 2002): (1) single-subscale analysis, (2) scale-pairing analysis, (3) functional dimensions of coping models analysis and (4) full-factorial model analysis. Finally, the internal consistency was examined and the convergent validity was tested through associations with other questionnaires measuring similar constructs such as emotions (PANAS-D; Nicolas, Martinent, & Campo, 2014), individual coping strategies (ISCCS; Gaudreau & Blondin, 2002) and task and social cohesion (QAG; Heuzé & Fontayne, 2002). A total of 371 undergraduate students in Sport Sciences (males = 281, females = 90; $M_{age} = 19.6$, $SD_{age} = 1.6$) involved in different team sports answered the different questionnaires.

Results

Confirmatory Factor Analysis (CFA) resulted in a satisfactory model ($\chi^2(881) = 1783.2$; CFI=.92; TLI=.91; RMSEA=.05) composed of 41 items, grouped into 12 communal coping strategies, that loaded onto four factors namely: problem-focused communal efforts (F1), relationship-focused coping (F2), communal management of emotions (F3), and communal goal withdrawal (F4) (see Figure. 1). Cronbach's alpha coefficients were respectively .94, .90, .81 and .84 for the four factors, indicating high internal consistency.

Concerning the convergent validity, factors 1, 2 and 3 of the CCICTS were respectively significantly related to positive emotions ($r_1=.43^{**}$; $r_2=.40^{**}$; $r_3=.30^{**}$), to individual task oriented coping ($r_1=.43^{**}$; $r_2=.41^{**}$; $r_3=.36^{**}$), to task cohesion ($r_1=.49^{**}$; $r_2=.45^{**}$; $r_3=.23^{**}$) and to social cohesion ($r_1=.29^{**}$; $r_2=.36^{**}$; $r_3=.25^{**}$). The factor 4 correlated positively with negative emotions ($r_4=.23^{**}$), individual disengagement oriented coping ($r_4=.41^{**}$), and negatively with task cohesion ($r_4=-.41^{**}$) and social cohesion ($r_4=-.20^{**}$).

Discussion

The results of the four-stage sequential confirmatory factor analysis enabled to obtain a satisfactory model, composed of 12 communal coping strategies that loaded onto four factors (see Figure.1). Some of these four factors (F1, F3, F4) share similarities with dimensions of coping previously highlighted in the literature of individual coping, while the factor "Relationship-focused coping" (F2) appears as a new specific dimension of communal coping in the sport context. Convergent validity shows congruent links with the individual coping literature. Thus, the communal coping factors linked with the task (F1, F2, F3) are positively related to positive affects, to individual task oriented coping and to cohesion, while the "Withdrawal factor" (F4) is related to negative emotions, individual disengagement oriented coping and negatively correlated with cohesion. All of these psychometric qualities make it possible to consider the use of the CCICTS for future research, notably to examine the antecedents and the consequences of communal coping in teams.

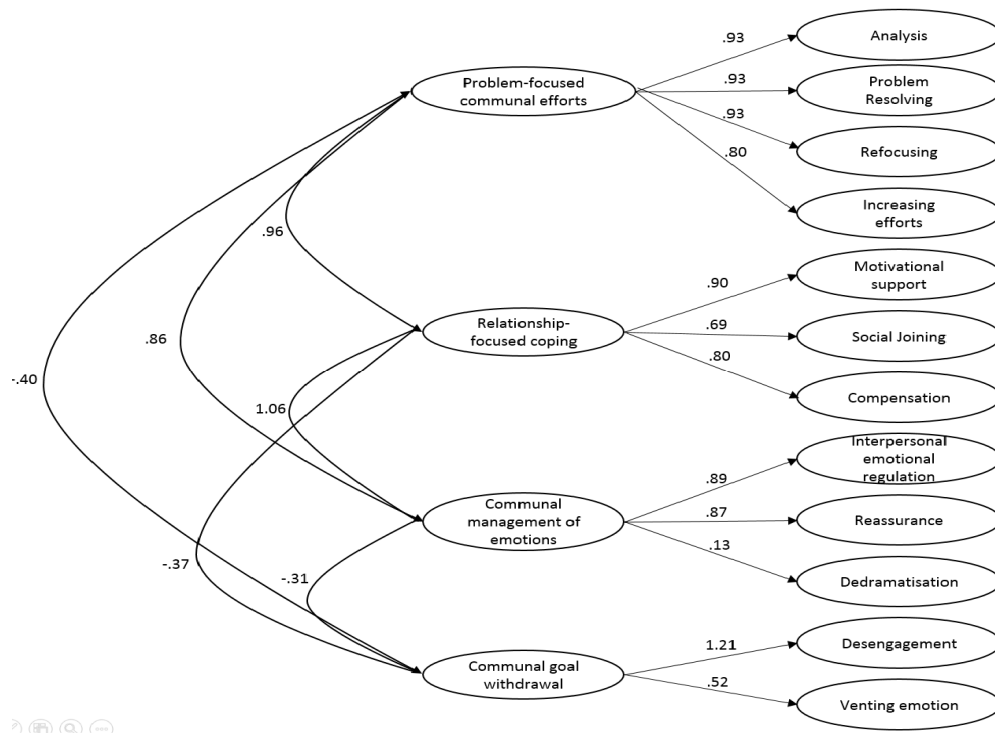


Figure 1. Summary of the Confirmatory Factor Analysis Results for the CCICTS with its 4 dimensions and 12 communal coping strategies.

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Développement et Validation d'un Outil de la Prise de Risque en Activités Physiques et Sportives chez les Jeunes entre 14 et 24 ans

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Mots clés : Prise de Risque, Sport, Loisir, Adolescence, Jeunes Adultes

Introduction

La pratique d'activités récréatives et sportives comporte de nombreux bienfaits pour tous les individus de la société tant sur le plan de la santé physique que de la santé mentale. En revanche, la pratique sportive comporte des risques de blessures sportives. De nombreux facteurs peuvent mener à une blessure sportive notamment la prise de risque. Les adolescents et les jeunes adultes sont particulièrement touchés par les blessures sportives d'une part (Hamel & Tremblay, 2012) et par la prise de risque d'autre part (Paquette, 2014). Plusieurs facteurs endogènes (recherche de sensations, perception du risque, aspects psychoaffectifs, consommation et âge) et exogènes (influence sociale, facteur récréatif et sportif, équipement de protection et environnement physique) composent la prise de risque (Belley-Ranger, Carbonneau & Trudeau, 2016). La présente étude consiste au développement et à la validation d'un outil de mesure de la prise de risque récréative et sportive chez les adolescents et les jeunes adultes entre 14 et 24 ans.

Méthode

La méthodologie abordée dans cette étude suit les étapes de développement et de validation d'un questionnaire (De Vellis, 2012). Au nombre de 8, ces étapes permettent de guider le chercheur dans un processus systématique : 1) mise de l'avant du phénomène à mesurer, 2) création d'un bassin d'items, 3) choix de l'outil de mesure, 4) évaluation des items par une enquête d'experts, 5) Inclusion des items à retenir, 6) prétest, 7) analyses psychométriques de l'outil de mesure et 8) optimisation de la longueur de l'outil de mesure. La validation de l'outil s'est réalisée en trois collectes de données à savoir une enquête d'experts, deux groupes de discussion, et un prétest.

Le développement de l'outil de mesure a été réalisé en amont (étapes 1-3) à partir d'une étude qualitative de 45 entrevues. La validité de contenu soit les étapes 4 et 5 a été vérifiée via une enquête Delphi auprès d'experts ($n = 7$) des milieux universitaire (activité physique et psychologie), scolaire et communautaire et, de deux groupes de discussion focalisée ($n = 12$) auprès d'étudiants adolescents et jeunes adultes. L'étape du prétest (étape 6) s'est réalisée auprès de 496 personnes dont 121 personnes ont participé au test-retest. Les analyses psychométriques (étape 7) consistent à mesurer la fidélité via les indices de consistance interne des dimensions de la prise de risque et la validité de construit avec des échelles de recherches de sensations, la consommation pour améliorer les performances sportives et les blessures survenues dans les 12 derniers mois. S'ensuit l'optimisation de l'échelle soit le choix des items à retenir dans l'outil. Les items ont été retenus sur la base de l'analyse des résultats de la consistance interne (Alpha de Cronbach).

Résultats

La première collecte de données soit l'enquête Delphi a débuté avec un questionnaire initial comprenant 55 items se regroupant sous 8 facteurs et 12 questions sociodémographiques. Les rondes de l'enquête Delphi n'ont pas généré de nouveaux facteurs de prises de risque par rapport au questionnaire initial. Toutefois, cette démarche de consultation a mené à l'ajout de 8 items aux facteurs que contenait déjà le questionnaire. Trois rondes d'analyses

ont permis de conclure avec un niveau d'accord satisfaisant entre les experts. Ainsi, le questionnaire final compte donc une question de départ et 63 items répartis en huit facteurs de prise de risque auxquels s'ajoutent 13 questions sociodémographiques.

La seconde collecte de données consiste en deux groupes de discussion. Le premier groupe de discussion a eu lieu avec des jeunes entre 14 et 17 ans ($n = 7$), alors que le second a rassemblé des jeunes entre 18 et 23 ans ($n = 5$). Le témoignage des participants requiert certaines modifications: changement dans l'échelle de Likert, changement d'échelle de consommation, et retrait d'une échelle de la recherche de sensations.

La troisième collecte de données soit le prétest a collecté les réponses au questionnaire de 496 participants au premier temps de mesure et 121 d'entre eux, au deuxième temps de mesure. Au premier temps de mesure, l'échantillon est composé de 56,1% ($n = 274$) de femmes tandis qu'au deuxième temps de mesure, les femmes représentent 76,2% ($n = 93$) de l'échantillon. Concernant l'âge, les participants sont âgés entre 14 et 24 ans soit au premier temps de mesure ($M = 18,77$) et au deuxième temps de mesure ($M = 19,13$). L'outil final de la prise de risque est composé de 10 dimensions et de 53 items : environnement physique, influence des médias, équipement de protection, influence sociale, culture sportive, rôle de l'entraîneur, attentes, préparation individuelle, perception des risques et perceptions des blessures. Les indices de fidélité (indices de consistance interne allant de 0,56 à 0,87) et de validité de construit (corrélations entre la prise de risque récréative et sportive et deux échelles de recherches de sensations et une échelle de consommation allant de ,261 à ,372, $p < 0,001$) affichent des valeurs satisfaisantes.

Discussion

Le processus de développement et de validation d'un outil de la prise de risque récréative et sportive montre des résultats prometteurs. La démarche méthodologique campée sur les étapes proposées par DeVellis (2012) soutient la recherche. L'enquête Delphi et les groupes de discussion permettent la validation de contenu alors que le prétest assure une bonne fidélité (consistance interne) et d'une validité de construit. La prochaine étape consiste aux analyses factorielles exploratoires et confirmatoires avec un échantillon de 3500 participants.

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Validation en Langue Française du "Psychological Characteristics of Developing Excellence Questionnaire" (PCDEQ)

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Introduction

Le développement et l'accompagnement des talents constituent une préoccupation importante pour de nombreuses organisations et clubs sportifs à travers le monde (e.g., Rees et al., 2016). Pour différents modèles théoriques (e.g., Davids, Shuttleworth, Araujo, & Güllich, 2017), le développement des talents repose sur l'interaction entre plusieurs facteurs de la performance comme les caractéristiques propres de la personne (de type anthropométrique, physiologique, génétique et psychologique), celles liées à l'environnement (soutien social, lieu de vie, programme de soutien), et celles rattachées aux spécifications de l'entraînement et à la compétition (quantification des volumes d'entraînement et de compétition, caractérisation des formes de pratiques). Parmi les facteurs psychologiques, le rôle joué par les habiletés psychologiques dans l'exploitation des potentialités d'un individu apparaît comme fondamental (e.g., Collins, Macnamara & McCarthy, 2016). En conséquence, ces auteurs proposent d'intégrer de manière systématique l'acquisition et le développement d'habiletés psychologiques au sein de ces programmes de formation en outillant les athlètes de ces habiletés pour profiter au mieux des opportunités de développement. Cette posture rend toutefois indispensable pour les psychologues du sport l'acquisition d'un outil permettant de suivre l'évolution et l'exploitation de ces habiletés au cours du développement des athlètes afin de leur fournir des feedbacks spécifiques et réguliers.

Dans le contexte international des recherches sur le développement des talents, Macnamara & Collins (2011) ont construit et validé un questionnaire orienté sur l'évaluation des caractéristiques psychologiques de l'excellence en développement (PCDEQ). Ce questionnaire est composé de 59 items avec une structure factorielle à six facteurs (soutien de l'entraîneur pour des performances à long-terme, imagerie, coping, engagement dans une pratique de qualité, évaluation et travail sur des points faibles, soutien de son entourage). A notre connaissance, il n'existe pas de travaux qui aient utilisé cet outil en français. Pourtant, le français est la langue officielle de 274 millions de personnes vivant dans 29 pays selon l'organisation internationale de la francophonie (rapport 2014). L'objectif de cette étude était donc de traduire et de valider la version française du PCDEQ afin dans un premier temps de proposer un outil d'évaluation du niveau de développement des caractéristiques psychologiques des talents sportifs chez les athlètes francophones puis dans un second temps de pouvoir diffuser et partager des résultats au sein de la communauté scientifique internationale.

Méthode

Les 59 items du PCDEQ ont été traduits en français et retraduits en langue originale puis évalués par un spécialiste de psychologie du sport. Cette version du questionnaire a été ensuite pré-testée par une population cible de sportifs âgés entre 13 et 22 ans et pratiquant leur sport à différents niveaux de compétition. Il leur a été demandé d'évaluer la clarté des items. Tous les items recevant des évaluations moyennes ou faibles ont été modifiés. Le questionnaire modifié a été de nouveau retraduit en anglais. Finalement, le premier et troisième auteur ont comparé les questionnaires dans les deux langues et ont décidé de la version finale en français. Le questionnaire a ensuite été administré à une population de 309 sportifs recrutés au sein de clubs de différents sports en Suisse romande (gymnastique, handball, ski, etc). L'âge des sportifs varie entre 12 et 28 ans ($M = 16.57$, $ET = 2.86$). Cette

taille échantillonale est suffisante pour entreprendre une validation de la version française du PCDEQ (de Vellis, 2003). Cette validation s'est faite sur la base des outils psychométriques classiques : statistiques descriptives, indices alpha Cronbach pour la consistance interne, des analyses factorielles confirmatoires (AFC) avec les critères standards des indices de la qualité d'ajustement du modèle (Hu et Bentler, 1999), coefficients de corrélation intraclasse et t-tests appariés pour la fidélité.

Résultats

L'ajustement du modèle à six facteurs de Macnamara & Collins (2011) est considéré comme acceptable par la plupart des indices standards de l'AFC une fois introduit 4 liens supplémentaires suggérés par les indices de modification. Précisément, l'AFC obtient $\chi^2/df = 1.81$ (< 2 donc excellent), RMSEA = .051 ($< .06$ donc excellent), SRMR = .072 ($< .08$ donc excellent), CFI = .815 ($> .8$ donc acceptable) et TLI = .806. La consistance interne, selon le coefficient alpha de Cronbach, est satisfaisante pour tous les facteurs : selon les règles empiriques, le premier facteur est excellent, le second est très bon, le troisième, quatrième et cinquième sont satisfaisants alors que le dernier est minimalement acceptable. Les analyses test-retest indiquent une stabilité temporelle, que ce soit au niveau des corrélations intra-classes (pour les facteurs 1 et 4 fidélité bonne, à savoir corrélation entre .75 et .9, pour les autres facteurs fidélité modérée, à savoir corrélation entre .5 et .75) et des t-test appariés ($p > .05$).

Discussion

Les résultats de l'auto-évaluation réalisée par notre échantillon de sportifs Suisse utilisant cette traduction française du PCDEQ se caractérisent par des indicateurs statistiques satisfaisants permettant de confirmer l'équivalence des données collectées en langue française et anglaise. Cette version française du PCDEQ constitue un outil valide pour évaluer le développement chez des sportifs talentueux des six facteurs psychologiques déterminants pour profiter des environnements d'apprentissage à ce niveau de performance. Les facteurs 1 à 4 (i.e., soutien pour des performances à long-terme, imagerie, coping, engagement de qualité) présentent des valeurs qui permettent d'estimer que leur évaluation est perçue d'une façon équivalente suivant les deux contextes culturels. On note cependant que les facteurs 5 et 6 (i.e., évaluation et travail sur des points faibles, soutien de son entourage) présentent des valeurs limites suggérant des différences dans l'évaluation de ces dimensions psychologiques. Si ces différences peuvent être imputées à des perceptions liées à l'effort, ou à l'importance du sport et au succès, on peut aussi supposer que les différences d'organisation du sport élite en Suisse et en Angleterre puissent affecter la perception de ces deux dimensions. Une réflexion sur la construction d'une version courte de ce questionnaire à des fins de suivi dans le processus de développement des athlètes talentueux nous semble également utile.

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French Adaptation and Validation of the Drive for Muscularity Scale in Male Athletes (DMS-FR)

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Key words: Eating Disorders; Drive for Muscularity; Male Athletes; Male Body Image; Validation

Introduction

Muscle dysmorphia (MD) has been described as a variant of body dysmorphic disorder involving an intense preoccupation with one's perceived lack of muscle size (Pope, Phillips, & Olivardia, 2000). MD is characterized by a pursuit of hypermesomorphism and obsessive behaviors regarding nutrition (Mitchell et al., 2017). This pathology is particularly prevalent among male athletes (Pope, Phillips, & Olivardia, 2000). Drive for muscularity (DM) is an individual difference variable formulated to account for variations in the desire to achieve an idealized muscular physique (e.g., McCreary & Sasse, 2000). Several questionnaires have been developed to measure DM or the associated constructs but the most extensively used is the Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000). The DMS has been translated into several languages and certain limitations have been identified (e.g., Morrison, Morrison, & McCann, 2006): (a) the first version of the DMS was not theoretically driven and the conceptual composition of the two subscales could be strengthened, and (b) translational studies have not all examined fit of the higher-order dimensionality of DMS scores.

The purpose of this study was to adapt and validate a more reliable French measure of the DMS following the steps recommended by Vallerand (1989) and Myers et al. (2014).

Method

A preliminary version of the Drive for Muscularity Scale in French Version (DMS-FR) was first developed according to the usual recommendations (Beaton et al., 2000). In study 1, a principal component analysis (PCA) with *promax* rotation was performed to tested the distribution of the 11 items of the preliminary version, using SPSSStatistics. A total of 243 male athletes practicing mostly bodybuilding or strength training were recruited ($n = 114$ in study 1 and $n = 129$ in study 2).

In study 2, the distribution of the items was examined and confirmed with a series of structural hypothetical modelisation according to the four steps of Myers et al. (2014). In both studies, the items of the questionnaires were completed on a Likert scale ranging from 1 (not at all) to 6 (absolutely). Temporal stability was examined through test-retest reliability over a four week-period. Concurrent validity was tested through correlations with a proximal construct: The Male Body Dissatisfaction Scale (MBDS; Ochner et al., 2009).

Results

The preliminary version of the DSM-FR was built following a committee validation process. Clarity assessment on the 6-point Likert scale led to very satisfactory results ($M = 5.6$; $SD = .43$). The preliminary DMS-FR was composed of 11 items and two subscales: muscularity behavior (six items) and body dissatisfaction muscularity (five items). A two-factor solution accounting for 69.2% of the common variance was found in study 1. The muscularity behavior subscale was composed of four items: "I wish that I were more muscular"; "I think that my arms are not muscular enough"; "I think that my chest is not muscular enough"; "I think that my legs are not muscular enough". The body dissatisfaction muscularity subscale was composed of six items: "I feel guilty if I miss a weight training session"; "I use protein or energy supplements"; "I drink weight gain or protein shakes"; "I try to consume as many calories as I can in a day"; "I consume foods that can help me gain muscle"; "I think about taking anabolic steroids". One item loading on the wrong factor was also removed (i.e., "I lift weights to build up muscle"). The ten remaining items all showed item-total factorial loadings greater than .40 in PCA. In study 2, the analysis using a bi-factor model revealed that this 10-item model presented the most satisfactory fit indices (the chi square (χ^2), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA): $\chi^2(36) = 36.8$; $p < .001$; TLI = .99; CFI = .99; RMSEA = .02. The Cronbach's alphas showed satisfactory internal consistencies with .86 for the global scale, .87 for the body dissatisfaction muscularity subscale and .88 for the muscularity behavior subscale. The DMS-FR demonstrated adequate test-retest reliability ($r = .86$, $p < .05$), and the total score was positively related to the score on the MBDS: $r = .36$ ($p < .01$).

Discussion

This study showed that the DMS-FR is a reliable and valid instrument that should lead to greater understanding of the drive for muscularity among French-speaking male athletes. The factorial analysis allowed us to retain a bi-factor model with one factor for body dissatisfaction muscularity (four items), one factor for muscularity behavior (five items), and one general factor for drive for muscularity (nine items).

These results suggest that in future studies it will be possible to consider a general score of Drive for Muscularity and/or specific scores for each subscale (i.e., body dissatisfaction muscularity and muscularity behavior).

However, several limitations of the current series of studies must be taken into account while interpreting these findings: (a) the data of studies 1 and 2 were collected online, which may have limited participation to those with access to a computer, smartphone, and/or stable internet connection; (b) the results are limited to the specific characteristics of the participants in terms of level of expertise, competitive engagement and age; and (c) research approaches based on self-report measures have the well-known potential for social desirability bias. The DMS-FR should be helpful for dietitians and other health professionals involved in the diagnosis of eating disorders. This scale should also encourage researchers to examine the antecedents, consequences, and correlates of DM in French-speaking male athletes.

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13H30-14H30	Keynote 2. Fit to perform? Investigating musicians' health and wellbeing
Auditoire	
1216	Aaron Williamon, Professor of Performance Science, Royal College of Music, London

Fit to perform? Investigating musicians' health and wellbeing

Abstract

Few pursuits are as dynamic and enjoyable as making music. Physical and mental wellbeing can shape how musicians pursue their art and the pleasure they take from it. The results of recent research, however, suggest that pain and ill health are widespread among musicians and that healthy approaches to training and working in music are far from uniform throughout the profession. Musical Impact, a Conservatoires UK project funded by the UK's Arts and Humanities Research Council, set out to generate new knowledge of the physical and mental demands of music making, to gain insight into chronic and acute health problems experienced by musicians and their impact over time, and to examine effective strategies for health promotion. The research was divided across three core strands: (1) Fit to Perform, a longitudinal study of physical and mental fitness for performance, (2) Making Music, an investigation of the physical and mental demands of practising and performing and (3) Better Practice, a study of health promotion in music education and the profession. This presentation focuses on Fit to Perform and, in particular, the results of a large-scale study (n=483) of advanced music students' perceptions and attitudes towards health, as well as indicators of their health-related fitness.

The results show that music students have higher levels of wellbeing and lower fatigue than comparable samples outside of music. However, they also reveal potentially harmful perceptions, attitudes and behaviours toward health. Specifically, engagement in health responsibility and stress management was low, which along with high perfectionistic strivings, limited use of coping strategies, poor sleep quality, and low self-rated health, paints a troubling picture both for the musicians and for those who support their training. The findings point to the need for more (and more effective) health education and promotion initiatives within music education; in particular, musicians should be better equipped with mental skills to cope with constant pressure to excel and high stress levels. In part, this calls for musicians themselves to engage in healthier lifestyles, take greater responsibility for their own health, and be aware of and act upon health information in order to achieve and sustain successful practice and performance. For that to happen, however, music educators, administrators and policy makers must play an active role in providing supportive environments where health and wellbeing is considered integral to expert music training.

Présentation

Importer la pleine conscience (mindfulness) dans la psychologie du sport est un défi. En dépit d'une augmentation des publications scientifiques qui montrent des effets prometteurs de la pleine conscience sur la performance sportive (Gardner & Moore, 2012; Bernier, Thienot, Codron, & Fournier, 2009; Bernier, Thienot, Pelosse, & Fournier, 2014; Thienot, Dimmock, Jackson, Grove, Bernier, Fournier, 2014) les adaptations restent rares. Généralement, la pleine conscience est utilisée sans visée opératoire et permet (outre les bénéfices thérapeutiques) d'améliorer le bien-être. Nous désirons dans cet atelier partager et discuter le protocole d'intervention par étapes 'Pleine Conscience pour la Performance' (PCP) qui a pour but d'améliorer l'attention dans les situations à enjeu – ce qui diffère des utilisations classiques de la pleine conscience. Nous avons développé le protocole PCP dans le milieu du sport de haut niveau pour des disciplines aussi diverses que le judo, l'escrime, le taekwondo, le tir, le patinage artistique, la natation ou le golf. Les étapes décrites dans l'atelier sont l'entraînement à la lucidité, à l'acceptation et à la concentration. Les participants à l'atelier pourront se familiariser avec un exercice pour chaque étape et apprendre à évaluer la pleine conscience avec un outil conçu pour le sport. L'atelier se déroule en trois temps pour présenter les concepts, expérimenter les outils et discuter entre pairs.

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Introduction

Current studies (Dorsch, King, Dunn, Osai, & Tulane, S., 2017; Knight, Berrow & Harwood, 2017) show that parent behavior is strongly related to young athlete's outcome like developmental experiences and sport performance; and they point out that i.a. investing in an improved quality of relation between parents and athlete is very fruitful and effective. In this workshop we focus especially on two aspects: the (multidimensional) stage of development of an athlete and on the quality of parent-athlete relationship. A central assignment is to analyze the family dynamic to possibly improve their relationships among each other and consequently enhance the athlete's motivation and self-confidence or lower their frustration, exposure on pressure or expectations. In doing so the age/developmental stage is always to consider. Central questions as a sport psychology consultant are, how to develop a trustful relation to young athletes/clients and their families, how to organize the collaboration for a fruitful assignment in terms of the athlete's performance and of the contribution to a better quality of the relation between the athlete and their parent(s).

Procedure

Along concrete cases of young athletes we discuss how and what kind of constructive relations can be built, how sport psychologists can recognize key-aspects of the development stages (Oerter & Dreher, 2002) and what role the self-determination theory comes into account during an assignment. This also contains the quality of the relationship in sport-families and how to enhance or nudge them during a sport psychology consultation with the objective of a better relationship, communication improvement and/or an optimized sport performance of an athlete.

A further objective of the workshop is to point out possible problem areas, such as: What is a "typical" relationship between athletes and their parents? What are "healthy" behavior patterns between parents and their competitive athletes? Which psychological stumbling blocks are typical for elite athletes in their childhood/youth?

Two central models give a solid theoretical orientation:

1. The model of parenting and career transitions of elite athletes (Wyllemann, Alfermann & Lavallee, 2004). This approach is a developmental model on transitions faced by athletes at athletic, individual, psychosocial, and academic/vocational level. At the level of interventions, analysis suggests that the focus on interventions has shifted from the use of traditional approaches to cope with the possible difficult experience of the termination of the athletic career, to that of career transitions and athlete life skill programs aimed at providing support and education to athletes making athletic and non-athletic transitions and
2. The self-determination theory (Deci & Ryan, 2000) which says that the needs for competence, autonomy and relatedness can be seen as basic psychological needs of human beings which leads ideally (if fulfilled) to a stronger self-determination and as a result to a better self-confidence respectively an optimized motivational force.

As practitioners we have come to know that in family constellations – especially in the first meetings with the athletes and their parent(s) – we can observe a lot of (verbal and non-verbal) information about the quality of relationship between parents and their children in terms of a) satisfied psychological needs and b) developmentally (in-)appropriate parent behavior. This verbal and non-verbal information helps us to evolve priorities in consulting the athletes and advising and coaching their parents.

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- Kegelaers, J., & Wylleman, P. (University of Brussels): How can coaches foster resilience in elite athletes?
- Blijlevens, S., (University of Brussels and Groningen), Wylleman, P., (University of Brussels), Elferink-Gemser, M., (University of Groningen), Kayan Bool, M., (NOC*NSF) & Visscher, C. (University of Groningen): The American dream: preparing Dutch talented baseball players for their transition to the USA
- De Brandt, K., & Wylleman, P. (University of Brussels): Balancing elite sport and education: how can practitioners evaluate student-athletes' dual career competencies?
- Defruyt, S., Wylleman, P., (University of Brussels), Torregrossa, M., (University of Barcelona), Stambulova, N., (University of Halmstad) & Schipper van Veldhoven, N. (University of Windesheim): The development and implementation of education modules for dual career support providers
- Smismans, S., Wylleman, P., Defruyt, S., & De Brandt, K. (University of Brussels): Competences required by (former) elite athletes considering (future) employment and employability

Counselling Athletes through Transitional Challenges: A Holistic Perspective

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Abstract

Throughout their careers, elite athletes not only need to develop themselves athletically, but they are simultaneously confronted with psychological, psychosocial, academic/vocational, or financial developmental demands as well (Wylleman & Rosier, 2016). Development on these domains, generally, does not occur in a smooth continuous manner, but is rather characterised by a sequence of predictable (i.e., normative) or unpredictable (i.e., non-normative) transitions. Furthermore, development is concurrent, reciprocal and interactive, meaning that transitional demands on one domain can impact athletes' functioning on the other domains as well.

Successfully overcoming transitional demands can provide impetus for further development. However, failure to do so can lead to mental struggles, stagnation in development and even retirement out of sports (Alfermann & Stambulova, 2007). Both coaches and practitioners should, therefore, assist athletes in preparing for and coping with the transitional challenges they encounter (Wylleman, Rosier, De Brandt, & De Knop, 2017). This symposium will present research on five applied practices to help athletes successfully overcome different developmental challenges. The introduction, briefly presenting the outline of the Holistic Athletic Career model, will be followed by Jolan Kegelaers (Vrije Universiteit Brussel),

who will explore how coaches can develop psychological resilience in their athletes during day-to-day training. In the following presentation, Suzan Blijlevens (Rijksuniversiteit Groningen) will outline how Dutch baseball players can be prepared to make the transition to playing in the USA, by stimulating the required psychological characteristics and skills in advance. The following two presentations will focus on one specific challenging career transition: starting a dual-career “elite sport and higher education” pathway. Koen De Brandt (Vrije Universiteit Brussel) will focus on the evaluation of competencies that student-athletes require to cope with the multi-level demands of their dual career. Following this presentation, Simon Defruyt (Vrije Universiteit Brussel) will describe the development process and evaluation of three education modules for dual career support providers. Finally, Sofie Smismans (Vrije Universiteit Brussel) will explore the establishment of a competence framework for (former) elite athletes, in order to enhance their employment and employability.

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How Can Coaches Foster Resilience in Elite Athletes?

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Key words: Adversity, Challenge, Coaching, Planned Disruptions, Positive Adaptation.

Introduction

It is recognised that athletes are potentially exposed to a variety of stressors (Hanton, Fletcher, & Coughlan, 2005) and are required to successfully navigate sometimes very challenging career transitions (Wylleman & Rosier, 2016). Psychological resilience, defined as the process of mobilizing protective factors in order to reach or maintain a positive outcome, despite exposure to stress or adversity, has therefore gradually been gaining interest in sport psychology. Research has mainly focussed on identifying the protective qualities that help resilient athletes overcome challenges and adversity (e.g., Fletcher & Sarkar, 2012), however, there remains a lack of knowledge on how these qualities should be developed. Evidence suggests that coaches, through day-to-day interactions, can have a positive influence on the development of resilience in their athletes (White & Bennie, 2015).

Thus, the purpose of this study was to examine how coaches can foster resilience. More specifically, we were interested in the coaching behaviours that can develop resilience both proactively (i.e., before the occurrence of the adversity) and reactively (i.e., during or after the adversity) in a daily training context.

Method

After obtaining institutional ethical approval, participants were selected using purposeful criterion sampling. In total, semi-structured interviews were conducted with four elite level coaches (mean age = 40.67; all males), four elite athletes (mean age = 21.25; all males), and two sport psychologists (mean age = 44; 1 female). All participants were active in individual sports (i.e., swimming, gymnastics, judo, or tennis). The interviews were transcribed verbatim and analysed using thematic analysis (Braun, Clarke, & Terry, 2014).

Results

Analysis identified several processes through which coaches might be able to foster resilience within a daily training context. These included a positive coach-athlete relationship (i.e., mutual trust; critical yet supportive), leave room for personal development (i.e., exploring personal interests; strengthen social support channels), create a motivational training climate (i.e., adapt training context to keep athlete optimally motivated), emphasise the process and a learning attitude (i.e., frame setbacks within the bigger picture; use every learning opportunity), create 'what-if scenarios' (i.e., develop action plans for specific setbacks), and the use of planned disruptions (i.e., deliberately create challenges or stressors within a controlled environment).

Discussion

In addition to promoting the development of resilient qualities (cf. Fletcher & Sarkar, 2012) and promoting a holistic personal development (cf. Wylleman & Rosier, 2016), coaches might also prepare athletes for specific challenges and setbacks through the use of what-if scenarios and planned disruptions. It has already been suggested that strategic and periodic use of challenges is an important driving force for talent development (Collins, Macnamara, & McCarthy, 2016). This study provides insight into how such challenges can develop athletes' capacity to deal with real-life stressors. Furthermore, it provides some applied examples of how such planned disruptions can be set up within a daily training context.

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The American Dream: Preparing Dutch Talented Baseball Players for their Transition to the USA

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Key words: Transitional Challenges; Psychological Characteristics; Psychological Skills; Holistic Athletic Career Model; Elite Baseball

Introduction

Playing in the Major League of baseball in the United States of America (USA) is the biggest dream of most talented baseball players in the Netherlands. To realise this dream, Dutch baseball players have to handle a lot of challenges in different domains of development, for example at a psychological, psychosocial, educational, and financial level (Wylleman & Rosier, 2016). A major transition in the career of Dutch talented baseball players is the actual transition to the United States (KNBSB, 2016).

The performance climate of baseball in the USA is different from the performance climate in Dutch baseball. Therefore, the challenges baseball players are confronted with before their transition to the USA might be different than after their transition. Recent research of Collins, MacNamara, and McCarthy (2016) suggests that differences between levels of performance relate more to what performers bring to the challenges than what they experience. So, in order to prepare talented baseball players for their transition, they need to be taught psychological characteristics to effectively deal with the transitional challenges.

It remains the question though which psychological characteristics and skills are needed to deal with the challenges of transition to the USA. Therefore, the purpose of this study was twofold. First, to explore the challenges baseball players are confronted with *before* and *after* the transition to the USA and second to identify the psychological characteristics and skills they require to successfully deal with the challenges of transition to the USA.

Method

After receiving institutional ethics approval, in-depth interviews were used to explore the challenges baseball players are confronted with during training, competition, and their daily life in different stages of their athletic career and to identify what psychological characteristics they need to deal with the challenges of their athletic career. Participants were 16 top-level male baseball players, between 13 to 24 years old (M = 17.8 years, SD = 3.1 years). Participants were divided into four groups, according to the stage of their athletic development: more than 1 year before transition, 1 year before transition, 1 year after transition, and more than 1 year after transition. Thematic data-analysis was used to draw relevant themes and categories from the data (Braun, Clarke, & Terry, 2014).

Results

Analysis identified that the challenges baseball players are confronted with during training and competition, are of a similar nature *before* and *after* their transition to the USA (e.g. working in small steps to your goal, persevere when something does not work out, dealing with disappointing results). However, baseball players *after* the transition emphasize an increase in challenges in their daily life (e.g. the way you present yourself, the monotonous life, to be able to deliver high performance every day). Further, baseball players who made the transition to the USA feel that they are the only one responsible for their performance development. Subsequently, they need to possess strong psychological characteristics and skills to effectively deal with those challenges and to show the corresponding behaviours fully independently.

Discussion

From an applied perspective, this study provides professionals the knowledge of which psychological characteristics and skills need to be taught in order to prepare talented Dutch baseball players for their transition to the USA. Hence, they can actively stimulate the development of these psychological characteristics by teaching the psychological skills that enhance these characteristics.

Several researchers (e.g. Savage, Collins & Cruickshank, 2017; Collins et al., 2016) stress the need to proactively and intentionally develop supporting mechanisms in advance of young athletes' inevitable challenges. To enhance the psychological characteristics, performers should be given opportunities to handle appropriate and progressively demanding stressors and be encouraged to engage with these challenges, using debriefs to aid reflection and learning (Sarkar & Fletcher, 2016). This study provides insight in the challenges that can be artificial added to the Dutch context.

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Balancing Elite Sport and Education:

How can Practitioners Evaluate Student-Athletes' Dual Career Competencies?

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Key words: Dual Career Competency Questionnaire, Holistic development, Erasmus+, Gold in Education and Elite Sport

Introduction

Research has shown that a majority of athletes advance their elite sporting careers while attending university or university college (De Bosscher, De Knop, & Vertonghen, 2016). Athletes' engagement in this dual career (DC) 'elite sport and higher education' pathway carries many potential benefits, including increased chances of employability and financial security, developing multiple personal identities, reduced life stress, positive socialization effects, better retirement planning, and prolonged athletic careers (e.g., Aquilina, 2013). To achieve these benefits, student-athletes need to effectively progress in their DC pathway, during which they are not only confronted with athletic and academic demands but also face

concurrently (and possible conflicting) demands at the psychological, psychosocial, and financial levels of development (Wylleman & Rosier, 2016). In order to overcome these multi-level demands, the importance of student-athletes' effective competencies (e.g., time management, resilience, career planning) has been emphasized (Stambulova, Engström, Franck, Linnér, & Lindahl, 2015). While qualitative research on athletes' DC identified a range of competencies athletes require to effectively cope with the multi-level demands of their DC 'elite sport and higher education' pathway (Brown et al., 2015; MacNamara & Collins, 2010), few have further investigated these competencies using quantitative research methods. Specifically, no valid and reliable instrument was available that examines athletes' wide range of competencies across different nations, sports, and DC systems. In response, the Dual Career Competency Questionnaire for Athletes (DCCQ-A) was developed and used as part of the Erasmus+ Sport project "Gold in Education and Elite Sport". The objectives of this presentation are: (1) to explain how student-athletes' competencies are evaluated using the DCCQ-A, (2) to highlight the main findings obtained with the DCCQ-A in European student-athletes, and (3) to provide examples of how the (results of the) DCCQ-A can be used in practice.

Method

With institutional ethics approval, 859 17-to-26-year-old elite student-athletes (mean age = 21.4, SD = 2.2; 52% female) from nine European countries completed the DCCQ-A, which consisted of two parts. In the first part, participants evaluated their perceived importance and possession of 38 DC competencies (e.g., coping with stress in sport and study) on a 5-point Likert scale. In the second part, participants were presented seven challenging DC scenarios that represented a holistic perspective on demands across different levels of student-athletes' development (e.g., an exam coinciding with an important competition, combining sport and studies with social life, relocating for sport or study). Participants were asked for each scenario: (1) if they already experienced the scenario, (2) how well they had coped with the scenario, and (3) to select the five competencies from the list of 38 that they perceived most important for successful coping with the scenarios. SPSS 23.0 was used to analyse the collected data. In addition, exploratory structural equation modelling was performed in Mplus 7.0 to investigate the factor structure of the DCCQ-A.

Results

Findings revealed that the competencies of student-athletes could be structured in four higher-order DC competency factors: (1) Dual Career management, (2) Career Planning, (3) Emotional Awareness, and (4) Social Intelligence & Adaptability. Student-athletes perceived all four competency factors as important to very important for a successful DC, reported average to strong possession of DC competencies, and perceived a general need to develop their competencies. Female student-athletes awarded higher importance to their DC competencies, reported a stronger perceived possession of Dual Career Management, and evaluated a stronger need to develop their Emotional Awareness in comparison with their male counterparts. The DC scenarios were experienced by the majority of student-athletes, who prioritized different competencies in function of the scenario they were confronted with. For each scenario, a set of prioritized competencies was identified, including transferable (i.e., prioritized across different scenarios) and scenario-specific (i.e., prioritized in a specific scenario) competencies. Student-athletes' stronger perceived possession of key prioritized competencies was significantly related with effective coping with the scenarios.

Discussion

The study advances previous research by providing the first measure of athletes' DC competencies. Findings help understand the challenging holistic nature of a DC pathway, and emphasize the importance of student-athletes' competencies to successfully manage the multi-level demands of their DC. The need for a situational (i.e., in function of the

upcoming demands) and individual approach to student-athletes' competency development is stressed. Furthermore, findings pose significant implications for DC practitioners. During the presentation, examples will be provided on how the DCCQ-A can be used as an identification-support tool to assist practitioners in optimising their DC practice with student-athletes.

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The Development and Implementation of Education Modules for Dual Career Support Providers

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Key words: Elite Athletes, Holistic Support, Lifelong Learning, Vocational Training.

Introduction

A Dual Career (DC) support provider is “a professional consultant, related to an educational institute and/or an elite sport organization – or certified by one of those – that provides support to elite athletes in view of optimizing their dual career/combination of elite sport and education” (Wylleman, De Brandt, & Defruyt, 2017, p. 18). DC support providers are crucial support figures for elite athletes, as receiving competent DC support is linked with health-related benefits, developmental benefits, social benefits, enhanced future employment prospects, and benefits in adapting to life after sport (EU Expert Group, 2012). Contrary, a lack of adequate proactive DC support might lead to elite athletes dropping out of sport/study prematurely (Baron-Thiene & Alfermann, 2015). Although the amount of knowledge and expertise on dual career support is growing, formal education for DC support providers is still lacking. Therefore, the current study aims at developing, pilot-testing, and evaluating three education modules for DC support providers.

Method

To develop the three modules, the researchers used focus groups. After acquiring ethical approval, 11 participants, consisting of experts in DC, both from the academic and applied field, were involved. A semi-structured Delphi-based approach (Powell, 2003) was adopted. After transcribing the focus groups, the researchers conducted deductive thematic analyses (Braun & Clarke, 2006) to structure the data and finalise the education modules.

The education modules of four hours each were implemented in four countries: Belgium, the Netherlands, Sweden, and Spain. In each country, six up to nine participants, consisting of a mix of unexperienced and more experienced DC support providers, received at least two out of three modules. In Belgium, participants received all three education modules, whereas (for practical reasons) only two out of three modules were provided in the Netherlands, Sweden and Spain. Paper-and-pencil feedback forms were provided and in-depth interviews with all the participants and teachers of the modules were conducted. Interviews were transcribed verbatim and thematic analyses were used to summarize the evaluations of the modules.

Results

Based on the focus group discussions, three education modules for dual career support providers were developed: ‘Self-assessment and development of dual career support competencies’, ‘The empowerment of dual career athletes’ and ‘Ethical guidelines for dual career support providers’. In general, the education modules were evaluated positively by the participants. Main strengths of the modules mentioned by the participants were (a) the dynamic balance between content (e.g., theory and tools provided by the teacher) and interactive learning (e.g., role play, discussion of cases); (b) the specificity of the learning content regarding their dual career support provision (participants never received training/education specific to dual career support before); (c) the mix of novice and more experienced DC support providers, providing the chance to exchange information and learn from each other. Main point of improvement included (a) the length of the modules: most of the participants had the feeling that longer modules would have resulted in deeper learning processes and (b) the focus on self-assessment: participants felt that they could have benefited from external perspectives in discussing their own competencies and ethical principles. Interviews with the teachers of the modules revealed that although the outlines of the modules were clear, providing the module requires craftsmanship. More specifically, the following factors were perceived as important in providing the modules: (a) contextualization: the modules need to be tailored to the specific cultural situation and professional functioning of the participants; and (b) diversification: the participants had different needs and expectations, which requires individualisation during the modules.

Discussion

Current research aimed at developing and pilot-testing three education modules. Based on the results, the education modules will be optimised and finalised to be implemented in education for DC support providers. This should result in more competent dual career support (EU Expert Group, 2012) for dual career athletes, enabling them to cope with DC challenges at the different levels of development (Wylleman & Rosier, 2016). Although this study is the first to develop and test education modules for dual career support providers in an evidence-based way, this study should be considered as a pilot study, without a (quasi-)experimental design. Therefore, future studies could research if and how these education modules impact the quality of dual career support longitudinally. Moreover, practitioners implementing these modules need to keep in mind the cultural specificity of dual career support, as even within Europe the structure of DC support can vary heavily (Aquilina & Henry, 2010) influencing the relevance of specific aspects of the modules.

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Competences Required by (Former) Elite Athletes Considering (Future) Employment and Employability

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Key words: Competences, Dual Career, Post-athletic Career, Retirement

Introduction

The reality many elite athletes face, is that only a few are sufficiently financially rewarded to make a living out of their sport. In addition, even fewer elite athletes can rely on measures in place to assist them with the financial and psychological impact of their retirement from sport. This emphasizes the importance of the need for athletes to have a ‘dual career’ (employment and sport) and to prepare for a post-athletic career during their participation in elite sport (Aquilina, 2013). While past research has focused on the topic of dual career ‘studay and sport’, there still is a lack of knowledge with regard to the competences athletes need to develop in order to enhance their employment and employability during or after their athletic career (De Brandt, Wylleman, & Van Rossem, 2015; European Commission, 2016). Therefore, current research aimed at establishing a competence framework for (former) elite athletes during three specific career stages: (a) the dual career elite sport and employment, referring to the engagement in the sports domain as elite athlete, as well as in the domains of work, (b) the transition into the post-athletic career, and (c) the new vocational career (first time employment).

Method

To establish a competence framework for (former) elite athletes within three specific stages, this study used the Holistic Athletic Career model (Wylleman & Rosier, 2016) as a framework. Literature research and input of consortium members of the ‘Be a Winner In elite Sport and Employment before or after athletic Retirement (B-Wiser) project, co-funded by the Erasmus+ Programme of the European Union, resulted in a list of 31 competencies

perceived as important in order to enhance employment and employability of (former) elite athletes during the three specific stages. Based upon this competence list, an online survey was developed, measuring (a) athletes' perceptions of the importance and possession of the 31 competences within the three specific career stages on a 5-point Likert-type scale (1: Very poor possession – 5: Very strong possession) and (b) athletes' perceptions of the competences that give them a competitive advantage in comparison with employees without an elite sport background. The survey was translated into 8 languages (Slovenian, Dutch, French, German, Spanish, Catalan, Italian and Swedish) in order to be able to run the questionnaire amongst former and active elite athletes from six different countries. Finally, Exploratory Structural Equation Modelling (ESEM) was performed to identify the core components of elite athletes' competences in order to develop a competence framework.

Results

Preliminary results revealed that (former) elite athletes and employability require competences at the athletic, psychological, psychosocial, academic, and financial level, in order to enhance their employment. These competences are situated within five larger competence factors, namely 'Life management', 'Emotional awareness', 'Social & communication competences', 'Career planning' and 'Occupational expertise & corporate sense'. The possession of the 31 competences varied significantly amongst the participating athletes, dependent on the specific career stage they are facing. Different competences within the competence framework are perceived to give an elite athlete an advantage in comparison with employees without an elite sport background (e.g. ability to remain self-confident after mistakes, ability to use your time efficiently). Further detailed results will be presented.

Discussion

To optimize the employment and employability of (former) elite athletes, support services should be knowledgeable about the competences athletes develop and require during, as well as after their athletic career. In addition, support services should focus on the competences perceived as giving elite athletes a competitive advantage. In this way support services can provide their athletes with tailor-made support. The competence framework can thus be a crucial element for support providers in order to enhance elite athletes and former elite athletes' employment and employability. Furthermore, current findings can be used to develop evidence-based best practices to enhance the employment and employability of elite and former elite athletes.

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Theorizing the Winning Attitude Concept for Quebec Student-athletes under a Longitudinal and Qualitative Approach

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Keywords: Winning Attitude, Development, Athletes, Performance.

Introduction

In this study, the researchers are interested by the development of the winning attitude for Quebec student-athletes participating in a sport-education program during and after their career in sports. Done over a period of sixteen years, this longitudinal study suggests a theoretical explanation of the winning attitude based on testimonies of top student-athletes, their parents and coaches, thus answering the following research questions:

- How was the winning attitude perceived and described by student-athletes, their parents and coaches?
- What are the roles of parents (family) and coaches (sport) in developing the winning attitude?
- What is the winning attitude functioning dynamic during and after the student-athletes' career?

Despite a few attempts made in the past to study the decisive psychological factors of people who succeed in life, like those of Hemery (1986) on the vision of the nature of athletic excellence of top athletes of this world, those of Orlick (1992, 2008) on the wheel of human excellence, and those of Ducasse (2006) on the psychology of sport and life performance, no development of unified model of excellence has been done in an inductive way starting from the main actors' perception. Therefore, the theoretical explanations

proposed to date, does not seem to highlight the mechanisms that influence the development of the winning attitude. Nevertheless, this concept is especially important for the educational and sport disciplines from which the objective is the development of human potential. The use of an eclectic approach including the models of Orlick (1992, 2008) on the human wheel of excellence and of Bloom (1985) on the evolution of talent, permits to build a precise theorization of the development and functioning model of the winning attitude. The elaboration of this model has therefore been possible due to the grounded theory approach (Glaser & Strauss, 1967).

Method

This longitudinal study suggests a theoretical explanation of the winning attitude based on testimonies of top students-athletes, their parents and their coach. In this study, the top-students-athletes are from international level or Canadian championships finalists. The students-athletes have therefore been interviewed twice: the first time at 17 years old ($n = 10$) and the second time at 33 years old ($n = 6$). As for the parents ($n = 10$) and the coaches ($n = 7$), all have been interviewed when the students-athletes were 17 years old. Since this study was about well captioning what the participants thought of the winning attitude, the semi-structured interviews have been a good means to succeed this task. During the content analysis process, the researchers were able to determine and compile under significant themes, participants' testimonies by complying with the Strauss and Corbin (2004) and Corbin and Strauss (2008) paradigm model. The researchers focussed on the wording of these categories and concepts in order to create several levels of analysis. This model requires three steps of analysis: open, axial and selective codifications. At the end, the model has described the concept of the winning attitude beyond a descriptive and exploratory analysis, by defining the concepts and putting them in relation with a conceptual model (Corbin & Strauss, 2008; Strauss & Corbin, 2004).

Results

All study participants have perceived the "winning attitude concept" and described it has a psycho-sociological process corresponding to the development of a positive state of mind predisposing to the development of athletes' full potential through practice of mental training during the five phases of their evolution (initiation, interest, commitment, transition and transfer). Subsequently, this study gave importance to the roles of parents and coaches in developing the winning attitude. Therefore, it is with education, teaching and transmission of resources associated with the winning attitude that parents and coaches have influenced its development throughout the five phases of evolution of the student-athletes' career. Then, the dynamic of its functioning was revealed while elaborating the conceptual model emerging from the student-athletes' reality, because it put in perspective interrelations and interactions of psychological and social factors that take action in its acquisition and its retention during every one of the five phases. The authors of this study have also discovered that sport retirement was also a transition phase in the conceptual model and that it corresponded to the re-orientation of the athletes' career as well as an indecisive and floating period lasting from the one to three years necessary to consolidate resources associated with the winning attitude. Finally, there is a transfer of acquisitions regarding these resources, between the athletes' life and their day-to-day life. It occurs by systematically reproducing the same mental schemes they used when they were active athletes and by emulating the same education methods they received from their parents. This transfer corresponds to the fifth phase of the conceptual model.

Discussion

The foundation of the theoretical model for the winning attitude emerging from the student-athletes' reality relies on the fact that it is a psycho-sociological process. In addition, this study has made it explicit, the importance of the role of the parents and the coaches in the development of a winning attitude. In all, the winning attitude does not seem to be a new

concept in the world of sport; instead it is a comprehension of its development and of its good functioning starting from a longitudinal study that is new. The point of interest of this study is the explanation of the interactions and of the interrelations between the elements that form the theoretical model, because the use of this model could have implications with regards to research, training and performance.

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Stressors Parents Experiences in High-Level Sport Context

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Key words: Adolescent, Athlete, Stress, Parental Involvement

Introduction

Parents are very important in athlete's development. Parents provide various types of supports to their child (e.g., financial, organizational, and emotional; Wylleman De Knop, Verdet, & Cecic-Erpic, 2008), particularly when athletes are involved in intensive training settings. Parental involvement can affect the athlete's development either positively or negatively (Dorsch, Lowe, Dotterer, Lyons, & Barker, 2016). However, it is not always easy for parents to provide effective support to their child (Wiersma & Fifer, 2008). In fact, it has been suggested that supporting athlete's involvement can result in parents experiencing stress (Harwood & Knight, 2015).

According to the transactional model of stress and coping (Lazarus & Folkman, 1984), a stressor is defined as any external and/or internal demand experienced by an individual in a specific context (e.g., parents in their child's sport). To date, researchers have explored the stressors encountered by British parents within three sport: tennis, football and gymnastics (e.g., Harwood & Knight, 2009a, 2009b). From such studies, it has been identified that parents may encounter stressors across three different categories: competitive, organizational, and developmental (Harwood & Knight, 2009a). Further, it has been recognized that stressors reported by parents may vary depending on stage of an athlete's

participation (Harwood & Knight, 2009b), but further research is required to fully understand these distinctions. Particularly, there is a need to understand the stressors parents experience when their children are competing at an elite level and involved in intensive training settings. As such, the objective of the current study was to explore parental stressors across multiple sports, focusing specifically on adolescent athletes involved in intensive training setting.

Method

Overall, 1304 parents from across France participated voluntarily in the study. The sample comprised 538 fathers and 766 mothers. The parents represented 856 boys and 448 girls (M age = 16; SD age = 1.51) who had been attending intensive training centres and participating in sport for 8.35 years ($\pm$ 2.89). Athletes trained for an average of 15.07 hours per week (SD = 5.33). They were from 34 different sports, both individual (45%) and team sports (55%), and competed at either national (79%) or international level (21%).

The parents completed an online open-ended survey. Following a request for anonymous demographic information, the survey incorporated two questions. First parents were asked to describe the components of their child's sport involvement that they found difficult to manage. Next they were asked to detail parts of their child's sport that caused them concern. Data was analysed through inductive content analysis (Miles & Huberman, 1994). Meaning units were created by identifying and paraphrasing every stressors reported by parents in their responses to each question. Each meaning unit was then coded into a first order thematic category that essentially represented a cluster of similar stressors (Maykut & Morehouse, 1994). This analytical process progressed inductively to a higher thematic level (i.e., higher order themes) culminating in a final set of general dimensions that represented the phenomena of parental stressor.

Results

Analysis of the open-ended survey responses led to the development of four general dimensions of parental stressors: Organizational, Competitive, Developmental, and Parental. Organizational stressors were the most frequently reported and included day-to-day demands (e.g., logistics), providing money and time for sport participation, and demands associated with the sport organization, training, coaching and health concerns. Competitive stressors encompassed the logistical, organizational, emotional and performance outcome demands associated with competitions. Developmental stressors consisted of demands arising in relation to their child's development and day-to-day concerns (i.e., engagement in education and living away from home). Finally, parental stressors were the less frequent stressors perceived and corresponded to the management of parents' emotions.

Discussion

The purpose of this study was to explore parental stressors across multiple sports, focusing specifically on adolescent athletes involved in intensive training setting. Three of the four parental stressors identified were in line with previous research (Harwood & Knight, 2009a, 2009b). As found with tennis parents, organizational stressors emerged as prominent stressors for all participants (Harwood & Knight, 2009b). The fourth stressors referring to the management of parent's emotions appeared as a new general dimension; however, it corresponds in part with some sub-themes mentioned by tennis parents (Harwood & Knight, 2009a). In the current study, competitive stressors were mentioned less frequently than in previous studies. This difference could be explained by parent's experiences of competitions and the fact that they did not regularly attend competitions due to them occurring a long distance from their home. Overall, the findings indicate that parents with children involved in intensive training settings experience a range of stressors and understanding and supporting parents to manage these stressors may help to optimize the experience of athletes.

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The Resilient Athlete. Personality, Psychological Strategies and the Ability to Bounce Back after a Crisis in Endurance Sport

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Key words: Resilience, Mental Skills, Personality, Endurance

Introduction

Resilience or psychological resistance is generally understood to be the ability to overcome crises and to use them as a starting point for further development through personal and social resources. It is regarded as a key success factor for mental health and performance in sports (Hosseini, S.A. & Besharat, M.A., 2010). However, the definitions and thus also the tools for measuring and promoting resilience are different and vary from personal resources that are positively associated with a healthy development (Wagnis & Young, 1993, Schumacher et al., 2004) or « situation-elastic qualities » that help successfully deal with challenges in general (Heller, 2015) to a narrower, original definition of resilience: stress resistance or the ability to recover quickly from stressful events (Smith et al., 2008). Asendorpf & Neyer (2012) suggest that resilient people differ from less resilient people in their big five personality profile: they show lower neuroticism scores and slightly above average scores in the four other dimensions extraversion, openness, conscientiousness and

agreeableness. Also a positive correlation with self-efficacy is assumed. In addition it has been shown that short and long-term successful athletes use certain psychological skills more often than less successful athletes (Hardy et al., 2010). These personal resources should be positively associated with resilience. This study seeks for answers to the following questions: Which personality profile is characteristic for resilient athletes compared to less resilient athletes? Can the postulated profile for resilient people be replicated in sport? What psychological strategies are associated with and may have a positive impact on resilience?

Method

In an online survey with $N = 362$ (ultra) long-distance runners, the resilience (BRS-D, Ufer, 2016), self-efficacy (ASKU, Beierlein et al., 2013) and big-five personality traits (BFI-10, Rammstedt et al., 2013) were assessed. The sample was divided into subjects with high / low resilience, and possible differences in their personality profiles were analyzed. In a second sub-study, the online survey of $N = 76$ athletes recorded the resilience (BRS, Smith et al., 2008) as well as the use of psychological strategies (TOPS, Hardy et al., 2010) and examined them for possible correlations.

Results

An expected relationship of resilience and self-efficacy is shown ($r_s = .47, p < .001$). The personality profile of resilient athletes differs from less resilient athletes. They have significantly lower neuroticism values, $F(1, 360) = 105.63, p < .001$, and slightly above-average values in the four other dimensions of extraversion, $F(1, 360) = 12.91, p < .001$, conscientiousness, $F(1, 360) = 15.76, p < .001$, and agreeableness, $F(1,360) = 6.49, p < .001$ (openness, $F(1,360) = 1.68, p = .20$ n.s.,)(Fig. 1). In addition, significant correlations between resilience and the use of seven sport psychological strategies were identified: self-talk ($r_s = .37, p < .001$), emotional control ($r_s = .64, p < .001$), automaticity ($r_s = .54, p < .001$), visualisation ($r_s = .39, p < .001$), activation ($r_s = .48, p < .001$), negative cognitions ($r_s = .49, p < .001$), attention control ($r_s = .54, p < .001$).

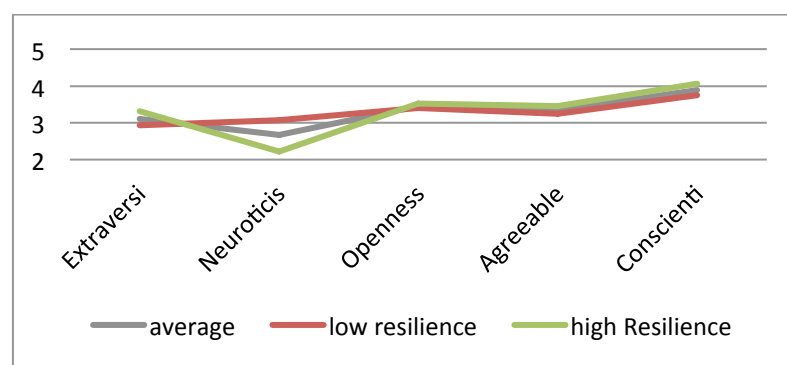


Fig. 1: Big-five personality profile of endurance athletes

Discussion

The available data from the area of (ultra) long-distance running can replicate the postulated personality profile of resilient people by Asendorpf & Neyer (2012). In addition, the medium to high correlations of resilience with the use of sport psychological strategies suggests that psychological resistance can be positively influenced or trained.

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Regard sur la Prise en Charge Psychologique du Sportif au CERS, l'Expérience de la Blessure

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Mots clés : Psychologie, Sport, Blessure, Addiction, Trauma, EMDR, Brainspotting

Introduction

Le CERS est le seul établissement conventionné français de rééducation fonctionnelle réservé uniquement aux sportifs. Situé à Capbreton, face à l'océan atlantique en bord de plage. Le CERS est lié à l'assurance maladie par une convention permettant d'assurer la prise en charge du coût du séjour de rééducation du patient dans la mesure où celui-ci présente les critères suivant: sportif licencié ayant participé à une compétition d'un niveau régional au minimum au cours des 12 derniers mois : enseignant d'EPS, sélectionné en équipe de France, professionnel du sport, entraîneur en structure d'accession à l'élite, étudiant inscrit en sport étude, au CREPS, UFR STAPS, en Centre d'entraînement et de formation, militaires. Le CERS a une capacité d'accueil de 141 lits et de 20 places d'hospitalisation de jour. Pour l'année 2017, 2479 patients ont été accueillis au CERS. La durée moyenne des séjours est de 24 jours, la moyenne d'âges des patients est de 26.5 ans avec un pourcentage de 22.5% de femmes et 77.5% d'hommes. Les sports représentés : le rugby (33.6% des patients), le foot (19.7%), le handball (10.5%), le basket (7.6%), le judo (2.7%), le ski (2.6%), moto (2.6%), Athlétisme (1.8%), le tennis (1.7%), le volley (1.7%), l'équitation (1.6%), pelote (1.2%), badminton (1.1%), autres (11.6%). Les principales localisations de la blessure sont les genoux (74.3%), cheville (10.1%), épaule (7.5%), rachis (3.5%), hanche (1.1%), autres (1.8%), elles peuvent être dues à des traumatismes sportifs ou autres (ex : accident de la voie publique, avalanches, blessures de guerre...). Le type de

séjour est la phase post-opératoire pour 39.4%. Puis la phase de ré-athlétisation pour 40.2%. 5% des patients n'entrent dans aucuns de ces critères du fait de la complexité de leurs pathologies. Les niveaux sportifs: 1.9% d'étudiants STAPS, 10% international, 43.2% national, 44.9 % régional. La prise en charge psychologique des patients au CERS s'articule autour du suivi psychologique des patients repérés par l'échelle HAD (Hospital Anxiety Depression), les questionnaires CAGE-DETA (Diminuer-Entourage-Trop-Alcool) et CAST (Cannabis-Abuse-Screening-Test) et les questions concernant la consommation d'autres substances et de produits dopants. La psychologue est responsable de la cellule addiction, de la cellule de soutien social s'occupant des problématiques liées à la reconversion des sportifs, ainsi que du comité éthique de l'établissement, membre du CLUD (Comité de Lutte contre la Douleur) et de la cellule Préparation Mentale.. Le but de cette communication est de une présentation clinique des sportifs blessés ayant bénéficié d'un suivi psychologique au CERS en 2017, de l'orientation de la démarche, des besoins exprimés durant l'expérience de la blessure et des modalités thérapeutiques proposées.

Méthode

L'analyse porte sur l'année 2017. Les résultats s'appuient sur les tests passés par l'ensemble des patients à leur entrée au CERS. Ces données sont retranscrites sur le dossier médical informatisé et font l'objet d'une analyse spécifique. Pour les patients étant amenés à bénéficier d'un suivi psychologiques les orientations, modalités de soin, outils thérapeutiques et évaluations sont énoncés dans une rubrique spécifique du dossier du patient par la psychologue permettant de mesurer l'évolution et bénéfices thérapeutiques.

Résultats

521 patients ont bénéficié d'un suivi psychologique. 168 femmes pour 353 hommes. Pour 490 d'entre eux les résultats au HAD montrent symptômes dépressifs et/ou anxiété significatifs. 177 patients ont bénéficié de la thérapie EMDR, 102 retraitements liés la blessure, accident, en lien direct avec le traumatisme corporel actuel. Pour les 75 autres, le retraitement est lié à des traumatismes plus ou moins anciens et réactivés par le vécu actuel de la blessure tels que des agressions, maltraitements, viols, pertes, deuils, problématiques affectives... 87 Patients ont bénéficié d'une prise en charge en addictologie, tabac, cannabis, alcool, autres substances, jeux et des dépendances croisées. 22 patients suivis pour des troubles du comportement alimentaire. Il est observé pour ces patients une augmentation de leurs consommations ou comportements en lien avec l'addiction durant la période de la blessure ou l'émergence de nouvelles dépendances. Concernant les retraitements EMDR ciblant le trauma de la blessure, l'observation clinique montre dans tous les cas un apaisement de tous les symptômes en lien avec du stress post traumatiques. Le suivi psychologique donne à voir un bénéfice pour l'ensemble des patients avec une meilleure adhésion au soin, réappropriation de repères, sécurité, confiance, diminution des appréhensions.

Discussion

La prise en charge psychologique fait sens pour le sportif notamment dans la période de la blessure. Ce moment de blessure synonyme de perte de repères corporels, psychiques et environnementaux, de remise en cause des objectifs sportifs et personnels, venant bien souvent altérer l'image de soi et générer un questionnement autour de sa place. Ce phénomène peut parfois s'apparenter à un processus psychique autour du deuil, un cheminement parlant de lutte, d'acceptation ou de changement entraînant insécurité, anxiété, et symptômes dépressifs. Comme que cette confrontation à la perte peut venir réactiver des vécus et traumatismes antérieurs, on peut parler de troubles de l'attachement, traumatismes corporels/psychiques, mais aussi de maltraitements. Le corps meurtri du fait de la blessure ne tient plus son rôle fort et protecteur, de même que la place d'athlète est remise en cause augmentant insécurité et vulnérabilité. Période pouvant aussi augmenter les addictions existantes ou laisser la place à des consommations ou comportement venant

encore augmenter la vulnérabilité dans une recherche de résolutions active des souffrances ressenties. Cet accompagnement psychologique dans la sécurité du lien qui se construit permet une lecture de ce qui est vécu est ressenti, une sécurité nécessaire afin de réaménager des modes de fonctionnements en adéquation avec le vécu de cette période de blessure ; il s'agit aussi de s'extraire de la lutte contre ce qui est vécu blessure et ses conséquences anxiogènes mais d'adopter un positionnement de lutte pour soi et non contre. Le retraitement (Grand, 2015) de l'expérience traumatique paraît constituer un outil essentiel dans cet accompagnement, le trauma entraînant notamment blocages psychiques, émotionnels, mémoires dysfonctionnelles, ou encore croyances négatives, posant des limites à la reconstruction et aux ressources nécessaires pour amorcer tout processus de changement. La demande de suivi psychologique est très forte de la part des sportifs lorsqu'elle est disponible, doit s'adapter à chacun, prend place dans un moment particulier de son histoire qui est ici la blessure mais ne s'arrête pas au temps de cette blessure avec un regard sur son histoire et sa construction mais aussi sur le développement de soi, de ses compétences, se dépasser, s'apprendre et se créer.

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Le débriefing en Sports Individuels de Haut-Niveau : Quand et Comment Débriefe-t-on ?

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Mots clés : Discours d'Après Match, Sport d'Elite, Compétition

Introduction

En sport, le débriefing est une activité d'optimisation de la performance sous la forme d'une discussion entre l'entraîneur et l'athlète. Elle vise à analyser les comportements et attitudes mis en oeuvre, et à déterminer des changements éventuels en vue de la/les prochaine(s) compétition(s) (Hogg, 2002). Débriefing aide l'athlète à tourner la page sur ce qui s'est passé et renforce sa confiance (Hogg, 2002 ; McArdle, Martin, Lennon & Moore, 2010 ; Macquet, Ferrand & Stanton, 2015). Peu d'études ont exploré le processus de débriefing en sport. Selon Hogg (2002), le moment durant lequel l'entraîneur et l'athlète se réunissent peut influencer la qualité du débriefing. Il peut être choisi délibérément ou par défaut en raison du rythme de la compétition. Macquet et al., (2015) ont mis en avant 8 modes opératoires (MO) mobilisés par les entraîneurs lors de débriefings en sports collectifs de haut-niveau. Trois portent sur la tâche, et cinq sur la gestion des athlètes. A notre connaissance, aucune étude porte sur le débriefing en sports individuels lors de compétitions majeures (championnats d'Europe, du monde et Jeux Olympiques), et seule celle de McArdle et al., (2010) a considéré le point de vue des athlètes et des entraîneurs. Aussi, notre étude vise à expliquer les moments où les entraîneurs et les athlètes de haut-niveau en sports individuels débriefent, et les MO qu'ils mobilisent, dans un contexte compétitif à enjeux et pression temporelle élevés.

Méthode

Huit entraîneurs (8 hommes) et sept athlètes de haut-niveau (2 femmes et 5 hommes) ayant concouru aux Jeux Olympiques de Rio ont volontairement accepté de participer à l'étude.

Neuf disciplines sont concernées : escrime, pentathlon moderne, lutte, boxe, tennis de table, tir, tir à l'arc, athlétisme, gymnastique. Des entretiens individuels semi-directifs ont été menés entre septembre 2016 et janvier 2017 et retranscrits verbatim. L'analyse de contenu a été réalisée en s'appuyant sur la méthode de comparaison constante de données (Corbin et Strauss, 1990). Elle a permis d'identifier : 1) les moments où les débriefings avaient lieu, et 2) le contexte et les MO mobilisés par les entraîneurs et/ou les athlètes.

Résultats

Les résultats révèlent deux temporalités de débriefings : des débriefings d'épreuve (après une épreuve) et des débriefings de compétition (après toutes les épreuves d'une compétition). Le moment de ces débriefings est choisi par défaut en raison du format de la compétition. Les résultats montrent que trois éléments de contexte sont pris en compte : les événements (résultats, comportements), l'état de forme de l'athlète (physique et mentale), et le temps (disponibilité pour débriefer selon la programmation des épreuves). Les événements sont prioritairement considérés pour débriefer une épreuve. Pour débriefer une compétition, il s'agit de trouver un moment pour réussir à avoir des échanges optimaux.

Les résultats indiquent que les entraîneurs et athlètes mobilisent cinq MO. Deux se rapportent aux tâches à réaliser : évaluer le plan et les comportements mis en œuvre (T1), et construire les axes de progrès (T2). Trois portent sur la gestion de l'individu : récupérer et se projeter (I1), réguler la confiance et les émotions (I2), et tenir compte des capacités attentionnelles et cognitives (I3).

Ces éléments de contexte et les MO mobilisés n'ont pas la même prépondérance pour des débriefings d'épreuve ou de compétition. Les MO relatifs à la tâche sont plus fréquents dans des débriefings de compétitions, et ceux qui portent sur l'individu le sont plus fréquemment lors des débriefings d'épreuve (cf. tableau 1).

Tableau 1

Fréquences et ratios des éléments de contexte et des MO mobilisés en débriefting d'épreuve et de compétition

			Modes opératoires					
Temporalités	Eléments de contexte		Acteurs	T1	T2	I1	I2	I3
Débriefing d'épreuve	Evénements	44 (.38)	Entraîneurs	25 (.38)	5 (.45)	31 (.58)	53 (.65)	11 (.92)
	Temps disponible	36 (.30)	Athlètes	18 (.28)	0	22 (.42)	28 (.35)	1 (.08)
	Etat de forme	37 (.32)	Binôme	22 (.34)	6 (.55)	0	0	0
Totaux				65 (.29)	11(.05)	53 (.24)	81 (.37)	12 (.05)
Débriefing de compétition	Evénements	14 (.26)	Entraîneurs	33 (.50)	12 (.46)	9 (.90)	21 (.68)	6 (1)
	Temps disponible	26 (.49)	Athlètes	9 (.14)	3 (.12)	1 (.10)	10 (.32)	0
	Etat de forme	13 (.25)	Binôme	24 (.36)	11 (.42)	0	0	0
Totaux				66 (.48)	26 (.19)	10 (.07)	31 (.22)	6 (.04)

Note : Les nombres entre parenthèses sont des ratios. T1 : évaluer le plan et les comportements mis en œuvre ; T2 : construire les axes de progrès ; I1 : récupérer et se projeter ; I2 : réguler la confiance et les émotions ; I3 : tenir compte des capacités attentionnelles et cognitives

Discussion

Les résultats montrent que le débriefting en sports individuels de haut-niveau dresse un bilan de ce qui s'est passé en compétition, et que les entraîneurs et les athlètes prennent en compte des éléments de contexte pour débriefer. Ces résultats sont consistants avec les travaux de Hogg (2002), mais révèlent que les éléments de contexte sont considérés différemment selon qu'il s'agisse d'un débriefting d'épreuve ou de compétition. Les résultats

montrent aussi que les participants effectuent les mêmes MO que ceux identifiés par Macquet et al., (2015), mais que leur réalisation varie selon la temporalité des débriefings, et que ce sont majoritairement les entraîneurs qui les initient ; cela renforce l'idée que le débriefing est davantage perçu comme une transmission d'informations unilatérale qu'un échange entre deux individus (Hogg, 2002). Il serait donc intéressant, dans une perspective d'application, d'aider les entraîneurs et les athlètes à identifier le contexte de réalisation de leurs débriefings pour prioriser les opérations à réaliser, d'encourager les athlètes à prendre davantage la parole, et les entraîneurs à solliciter plus souvent le point de vue de leur athlète.

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16H30-17h15
17h15-18h
Auditoire 1216

Atelier Pratique 3. Intégrer l'entraînement mental dans le parcours de formation des athlètes de haut niveau
Julie Doron (INSEP)

Présentation

Cet atelier présentera un dispositif d'entraînement mental intégré mis en place auprès de sportifs de haut niveau à l'INSEP (e.g., badminton, basket-ball). Notre démarche repose en grande partie sur les approches basées sur la pleine conscience qui apparaissent aujourd'hui comme holistiques et prometteuses pour favoriser le développement de ressources psychologiques fondamentales pour la performance et l'optimisation de celle-ci (e.g., Birrer, Röthlin, & Morgan, 2012 ; Bühlmayer, Birrer, Röthlin, Faude, & Donath, 2017 ; Gardner & Moore, 2012, 2017 ; Sappington & Longshore, 2015). Depuis une dizaine d'années, des programmes d'intervention basés sur la pleine conscience ont été conçus et mis en place auprès de sportifs dans un objectif de développement des habiletés mentales et d'optimisation de la performance. De manière générale, les résultats issus d'études scientifiques témoignent des effets bénéfiques sur le développement d'habiletés mentales fondamentales pour la performance sportive et l'optimisation de celle-ci (voir pour revues, Birrer et al., 2012 ; Bühlmayer et al., 2017 ; Gardner & Moore, 2012, 2017 ; Sappington & Longshore, 2015). Néanmoins, l'application des interventions basées sur la pleine conscience en sport est relativement récente et le nombre de recherches scientifiques ayant mesuré leurs effets reste restreint (Sappington & Longshore, 2015). De plus, la question de leur adaptation à un contexte de performance et aux besoins des athlètes de haut niveau mérite d'être approfondie.

Nous présenterons donc dans le cadre de cet atelier le dispositif d'entraînement mental intégré basé sur la pleine conscience mis en place auprès des joueuses du Centre Fédéral de Basket-Ball pendant deux saisons sportives. Dans une perspective éducative, ce programme est en grande partie intégré au parcours de formation des athlètes et aux séances spécifiques sur le terrain à l'entraînement, tout en amenant des éclairages et un travail réflexif sur sa pratique lors de séances en salle, en dehors du terrain. Il consiste en 5 modules (cf. Figure 1) garantissant une relative progressivité dans le travail effectué. Chaque module est précédé d'une réunion avec les entraîneurs pour faire un bilan du module précédent et planifier en détails celui à venir.

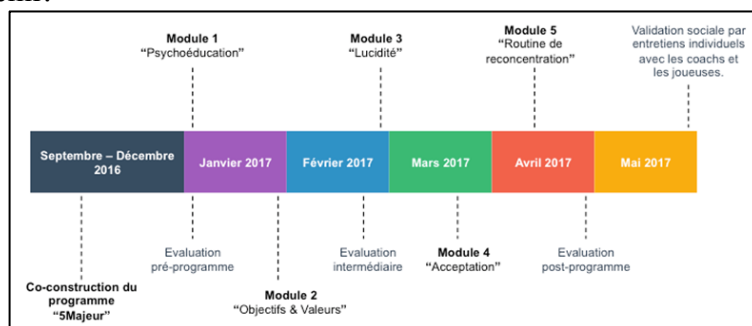


Figure 1. Dispositif d'entraînement mental

Afin de valider l'efficacité d'un tel dispositif, les athlètes engagées dans le programme renseignent avant, à la moitié et après l'intervention une série de questionnaires ciblant les habiletés mentales censées être développées par le programme et la performance individuelle et collective. La validation sociale du programme est également envisagée un mois après l'intervention auprès des athlètes. Pour se faire, des entretiens individuels semi-directifs sont menés pour évaluer les effets de l'intervention sur le développement des habiletés mentales ciblées et la performance individuelle et collective.

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**16H30-17h15
17h15-18h
Salle 1222**

**Atelier Pratique 4. Commotions cérébrales dans le sport
Catia Beni (Psychologue spécialiste en neuropsychologie)**

Présentation

Les commotions cérébrales dans le sport touchent de nombreux sportifs, enfants, adolescents ou adultes, professionnels ou amateurs, en match ou en entraînement. Selon le Centre de Contrôle et de Prévention des Maladies (CDC), il y a chaque année entre 1,6 et 3,8 millions de commotions cérébrales en lien avec le sport.

Pendant longtemps le diagnostic de commotion cérébrale était posé uniquement si une perte de connaissance avait lieu. Aujourd'hui, des études montrent que seuls 5-9% des athlètes qui ont une commotion cérébrale perdent connaissance (Castile et al., 2012). L'amnésie circonstancielle (oubli de l'événement) est un meilleur indicateur. Des études récentes montrent que plus l'amnésie circonstancielle est longue, plus les séquelles sont importantes et la récupération longue (Teel et al., 2017).

80 à 90% des commotions cérébrales sont dites simples et se résolvent au maximum dans le mois. 10 à 15% sont des commotions cérébrales dites complexes ou à évolution lente et des séquelles persistent au-delà de un mois, en moyenne sur sept mois, mais certains gardent des séquelles à vie et présentent un syndrome post-commotionnel (Tator et al., 2016).

Les séquelles suite à une commotion cérébrale sont multiples, variées et différentes pour chaque individu et pour chaque commotion cérébrale. On peut les regrouper en quatre catégories :

- 1) Les symptômes physiques : par exemple mal de tête, hyper sensibilité bruit/lumière, vertiges, nausées, vue trouble, pression dans le crâne ;
- 2) Les symptômes cognitifs : par exemple troubles de concentration, de mémoire, de planification ;
- 3) Les symptômes comportementaux et émotionnels : par exemple irritabilité, impatience, tristesse, anxiété ;
- 4) La fatigue et les troubles du sommeil : par exemple hypersomnie ou insomnie, fatigue diurne, somnolence.

Une prise en charge adéquate d'une commotion cérébrale est capitale, afin d'éviter trois conséquences négatives :

- 1) Maintien des séquelles à long terme et obligation de stopper l'activité sportive, voir même l'activité scolaire/professionnelle (Castile et al., 2012) ;
- 2) Le syndrome du second impact (ou gonflement cérébral diffus) : le cerveau reprend un choc sur la tête alors qu'il n'est pas remis du premier choc. Les risques sont majeurs, avec des séquelles handicapantes dans 100% des cas et le décès dans 50% des cas (McCroory et al., 2012) ;
- 3) L'encéphalopathie chronique traumatique : maladie neurodégénérative qui se développe suite à des commotions cérébrales à répétition, souvent mal soignées. Les symptômes principaux sont des troubles cognitifs, comportementaux et émotionnels. L'âge moyen du décès est 67 ans. Une étude récente montre que cela touche 87% des sportifs décédés qui ont pratiqué en moyenne 15 ans leur activité sportive à risque de commotions cérébrales. Cette pathologie évolue vers une démence dans 85% des cas (Mez et al., 2017).

En termes de prise en charge, il faut minimiser les différents troubles possibles. Pour se faire, il s'agit de travailler avec le sportif sur un équilibre entre repos et faibles activités,

physique ou mentale, qui seront augmentées progressivement en fonction des symptômes (notion de *seuil des symptômes*). Ensuite, en suivant strictement les recommandations des protocoles de retour au jeu (exemple au hockey sur glace:

http://www.respect.sihf.ch/media/1027/respect_my_head_-_return_to_play_f.pdf) dans la majeure partie des situations, le sportif peut reprendre son activité sportive. Il s'agit d'être conscient que cela peut prendre un certain temps et que notamment il y aura une différence entre le retour au sport et le retour à la performance.

En résumé

- Chaque commotion cérébrale est unique et son évolution dépend de nombreux facteurs : type de choc, localisation du choc, antécédents du sportif, nombre de commotions cérébrales, capacités de coping, type de soutien, pression personnelle ou du management, sexe, âge, amnésie circonstancielle, etc.
- Une prise en charge adéquate est nécessaire, en travaillant notamment avec le seuil des symptômes, afin d'éviter les séquelles à court, moyen et long terme.
- Les commotions cérébrales chez les enfants doivent être soignées de manière plus prudente que chez l'adulte (en lien avec la non-maturation cérébrale chez les enfants).
- Le protocole strict de retour au sport doit être respecté, quel que soit le temps que cela prend.

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- Dursort, P., (Opéra de Paris), Debanne, T., (Université Paris-Est Créteil) & Bernier, M. (Université de Bretagne Occidentale) : Évaluation des habiletés mentales des danseurs de l'Opéra de Paris
- Vuichoud, N., Coll, S., (Université de Genève), James, S., (Université de Genève, Haute Ecole de Santé de Genève) & Grandjean, D. (Université de Genève) : Impact of Absolute Pitch on Electrophysiological Reaction to Musical Violations, Short Term Memory, Working Memory and on Selective Auditory Attention
- Dursort, P., (Opéra de Paris), Debanne, T., (Université Paris-Est Créteil) & Bernier, M. (Université de Bretagne Occidentale): Étude exploratoire des connaissances et des techniques de préparation mentale des danseurs de l'Opéra de Paris
- Kosirnik, C., & Hauw, D. (Université de Lausanne) : A Study of the Development of Dancers from the Rudra Béjart School: An Enactive Approach of the Productive and Developmental Components of their Activity

Performance Psychology Among Artists

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Abstract

High-level athletes are often confronted with stressful situations during their performances as well as during their preparation phases. They are required to manage the training's intensity, the psychological pressure of the competitions, and the possibility of injuries. To successfully face these situations, athletes often develop excellent personal skills, which allow them to adapt and cope with these perturbations in a flexible fashion. Performing arts activities such as dance or music are not as much considered and studied by researchers as sport's performances, given their intrinsic cultural and functional differences. However, musicians or dancers do face performance situations similar to those encountered by an elite athlete (Hays, 2002). They often need to prepare for competitions, exams, auditions, concerts and shows - sometimes with little time at their disposal. Among others, this implies assiduous repetitions and constant psychological demands. With this in mind, this symposium aims at gaining a richer understanding of the activities and the psychological aspects central to music and dance performers.

It is well established that elite athletes can develop, optimize, and maintain their performance through mental preparation techniques. Similarly, the artistic anchoring of dancers' and musicians' activity requires specific needs in mental preparation (e.g., Allan, 2016). An increased knowledge of the psychological skills necessary for optimal artistic

performances and a better understanding of the environment in which they live could allow the creation of specifically targeted intervention programs for dancers and musicians. Peggy Dursort will start by presenting one of her research that aims at identifying the mental and mindfulness skills of professional ballet dancers. Then, Noémie Vuichoud will continue by talking about the impact of absolute pitch for the musicians' performances. Following this presentation, Céline Kosirnik will expose some results of her research on how young dancers of the "Rudra Béjart School" in Lausanne construct their artistic performances and develop as a person in such a training program. Finally, Peggy Dursort will talk about the psychological aspects of the artistic performance of the dancers at the "Opéra de Paris".

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Évaluation des Habiletés Mentales des Danseurs de l'Opéra de Paris

Peggy Dursort^{1,2}, Thierry Debanne², & Marjorie Bernier^{2,3}

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Mots clés : Performance Artistique, Pleine Conscience, Danse.

Introduction

Les compétences psychologiques sont nécessaires pour atteindre une performance optimale. Parmi ces compétences on distingue celles basées sur le contrôle des pensées et des émotions, issues des approches cognitivo-comportementales de la 2^{ème} vague, et celles, plus récentes, basées sur les concepts de pleine conscience et d'acceptation (3^{ème} vague). Bien qu'athlètes et danseurs s'efforcent d'atteindre des niveaux élevés en technique et en qualités physiques (Hays, 2002), à notre connaissance, peu d'études ont porté sur les compétences psychologiques des danseurs en général et des danseurs de ballet élite en particulier. La principale étude sur le sujet (Hanrahan, 1996) est déjà ancienne, et a été effectuée à partir d'entretiens, sur un échantillon de danseurs non-professionnels, sans investiguer les habiletés de pleine conscience. L'objet du présent travail est d'identifier les habiletés mentales et de pleine conscience de danseurs de ballet professionnels pour (a) montrer les effets principaux et d'interaction du sexe, de l'âge, et de leur niveau sur leurs compétences psychologiques, et (b) comparer les habiletés mentales utilisées par ces danseurs avec celles de sportifs de haut niveau.

Méthode

L'échantillon composé de 76 danseurs ($M\grave{a}ge=27.7$ ans, $SD=6.7$) de l'Opéra de Paris, sur une population totale de 150 danseurs, comprend 29 hommes ($M\grave{a}ge=27.2$ ans, $SD=6.9$) et 47 femmes ($M\grave{a}ge=27.9$ ans, $SD=6.7$), répartis, du plus haut niveau au moins élevé, en 12 « Solistes » (6 hommes et 6 femmes), 18 « Sujets » (6 hommes et 12 femmes) et 46 « Corps De Ballet » (17 hommes et 29 femmes). Les danseurs ont répondu à la version française de l'Ottawa Mental Skills Assessment Tool (OMSAT)-version 4 (Fournier et al., 2006) qui comprend 48 items mesurant 12 habiletés mentales regroupées en trois catégories :

Habiletés de Base (fixation de buts, engagement, confiance en soi), Habiletés Psychosomatiques (réaction au stress, contrôle de la peur, relaxation, et activation), Habiletés Cognitives (imagerie, pratique mentale, concentration, contrôle des distractions et planification des compétitions). D'autre part, les habiletés de pleine conscience (Lucidité, Acceptation et Reconcentration) ont été mesurées à l'aide du « *Mindfulness Inventory for Sport* » (Thienot et al., 2014), qui comporte 15 items. L'analyse statistique a consisté à réaliser une MANCOVA avec le grade (CDB vs Sujet vs Soliste) et le sexe des danseurs (H vs. F) comme variables indépendantes et l'âge comme covariable. Les variables dépendantes étaient les 12 habiletés mentales mesurées à l'aide de l'OMSAT, les 3 habiletés de pleine conscience mesurées à l'aide du MIS, et le score général des habiletés de pleine conscience. Dans la mesure où des différences significatives étaient mises en évidence par la MANCOVA, des tests univariés ont été conduits pour chaque variable dépendante. Ensuite, nous avons comparé les scores des habiletés mentales des danseurs, issus de l'OMSAT-4, avec ceux de sportifs de haut niveau, évalués par Fournier et al. (2006). La comparaison des scores a été réalisée à l'aide des calculs des intervalles de confiance à 95%.

Résultats

La MANCOVA a révélé un seul effet principal de l'âge (Wilks' Lambda = 0.51, $F(15, 54) = 3.49$, $p < .001$) sur les habiletés mentales et de pleine conscience. Les tests univariés ont montré un effet de l'âge sur (a) l'engagement ($F(1, 71) = 16.66$, $p < .001$; $r = -.40$, $p < .001$), (b) le contrôle des distractions ($F(1, 71) = 6.29$, $p = .015$; $r = .27$, $p = .017$), (c) la planification des compétitions ($F(1, 71) = 9.46$, $p = .003$; $r = -.26$, $p = .023$), (d) l'habileté générale de pleine conscience ($F(1, 71) = 9.77$, $p = .003$; $r = .39$, $p = .004$), (e) l'acceptation ($F(1, 71) = 7.31$, $p = .008$; $r = .33$, $p = .004$), et (f) la reconcentration ($F(1, 71) = 3.97$, $p = .05$; $r = .33$, $p = .001$). Aucun autre effet principal ou d'interaction n'a été mis en évidence par la MANCOVA.

La comparaison des scores des habiletés mentales des danseurs à ceux des sportifs de haut niveau révèlent que les danseurs ont des scores significativement plus faibles en confiance en soi, réaction au stress et contrôle de la peur, et des scores plus élevés en relaxation et dans trois habiletés cognitives (pratique mentale, contrôle des distractions et planification des compétitions).

Discussion

L'objet de cette étude était d'identifier les habiletés mentales et de pleine conscience de danseurs de l'Opéra de Paris pour (a) mettre en évidence d'éventuels effets du sexe, de l'âge et de leur niveau sur leurs compétences psychologiques, et (b) comparer les habiletés mentales utilisées par ces danseurs de ballet avec celles de sportifs de niveau comparable. L'effet positif de l'âge sur certaines compétences psychologiques peut s'expliquer par l'hypothèse de « l'apprentissage naturel » (Calmels, d'Arripe-Longueville, Fournier, & Soulard, 2003). Concernant les comparaisons entre les scores enregistrés à l'OMSAT-4 par les danseurs de ballet et ceux des sportifs de haut niveau, le fait que les danseurs de ballets aient moins confiance en eux, réagissent moins bien au stress et contrôlent moins bien leur peur nous incite à questionner l'influence du climat motivationnel. En effet, Fournier et al. (2006) indique que les activités comme la gymnastique ou la danse véhiculent plus de valeurs d'obéissance que dans d'autres disciplines sportives, et pour Nordin-Bates et al. (2014), la quête du perfectionnisme du danseur de haut niveau implique plus facilement un climat motivationnel d'ego. Enfin, la formation élitiste et exigeante de l'École de l'Opéra de Paris justifierait les scores élevés des habiletés cognitives des danseurs.

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Impact of Absolute Pitch on Electrophysiological Reaction to Musical Violations, Short Term Memory, Working Memory and on Selective Auditory Attention

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Key words: Absolute Pitch, Pianist, Planum Temporale, Early EEG Component, Cognition.

Introduction

Absolute pitch (AP) is the rare faculty to identify and label a sound without external reference (Takeuchi & Hulse, 1993). Those who don't possess AP have relative pitch (RP). RP is the faculty to recognize musical intervals (Levitin, 2004). At the cerebral level, AP possessors present a larger Planum Temporale (PT) asymmetry in favor of left side than RP musicians (Schlaug, Jancke, Huang & Steinmetz, 1995). AP possessors would possess a unique electroencephalographic component: the N150. This component would reflect the automatic action of pitch labeling. The brain generator of this component would be the left PT. By RP possessors, pitch naming would be associated with 3 EEG components: the P3b, a positive parietal component and a negative frontal component (Itoh, Suwazono, Arao, Miyazaki & Nakada, 2005).

Musical training would have benefic effects on general cognition (e.g. Forgeard, Winner, Norton, & Schlaug, 2008). Many researches were interested in the musical training effects on short term auditory memory, short term visual memory, auditory working memory, visual working memory and on auditory selective attention, but results are contradictory. Among these studies only a few tested AP possessors: Benassi-Werke, Queiroz, Araujo, Bueno and Oliveira (2012) have observed no difference between AP possessors, amateur singers and professional singers neither on auditory short term memory nor on auditory working memory. Moreover, AP musicians would not differ from RP musicians concerning visual short term memory, but AP possessors would have a better auditory short term memory (Deutsch & Dooley, 2013).

Our research try to answer following questions: does AP provide an advantage for the musical violation detection? Does the electro-encephalographic reaction to musical violations differ between AP possessors and RP possessors? Does AP provide an advantage

on the general cognition level in particular for the auditory and visual short term memory, the auditory and visual working memory and for the auditory selective attention?

Method

We recruited 24 pianists (12 AP and 12 RP) with a pre-professional or professional pianistic level with normal hearing and without neurological illness. Participants signed a consent formulary, answered a general informational questionnaire, completed the Edinburgh handedness inventory (Oldfield, 1971), an AP test (Oechslin et al., 2010). Then, they completed a subtle violation detection musical test during high density EEG recording (string quartet test). Once the EEG finished, they completed again an auditory short term memory test, an auditory working memory test, a visual short term memory test, a visual working memory test and an auditory selective attention test that we created. The study lasted between 3 and 4 hours and participants received a financial compensation (20 CHF per hour).

Results

The scores from 2 groups deferred on the AP test. On the contrary, they differed neither on the string quartet test, nor on the auditory short term memory test, the auditory working memory test, the visual short term memory test, the visual working memory test. Concerning the auditory selective attention test, there was no difference on the percentage of correct responses, but RP possessors tended to respond faster (marginal group effect on the reaction time (RT)). At the cerebral level during the string quartet test, we observed a precocious microstate peaking early (between 40 and 80 milliseconds (ms)) by AP possessors. We proceeded to a microstate analysis: the microstate 1 characterized AP possessors during the 100 first ms of information treatment while RP possessors presented two maps during this same period: the microstates 1 and 2. We performed F tests on different parameters linked to these microstates. They show that the microstate 1 was more characteristic for AP possessors while the microstate 2 characterized more RP possessors. Finally, we proceeded to a source analysis suggesting that precocious peak's sources would be localized in left secondary auditory regions including the Planum Temporale.

Discussion

The key and novel finding of this study is the revelation of a precocious microstate (≈ 60 ms) that characterizes pianists with AP in response to complexes musical closures. The cerebral sources from this microstate seem to provide from left secondary auditory regions including the PT corresponding to those described in the literature as differ anatomically and functionally by AP possessors (e.g. Schlaug et al., 1995). But, AP seems to impact nor on the later musical cognitive treatment, neither on the general cognition, excepted maybe on the auditory stimuli processing speed in an interference context as suggested the substantially longer RT by AP possessors in response to the auditory selective attention test. So, this unique but automatic pitch labialization's capacity could impair the sound analysis. Thus, the AP pianists' unique sound analysis capacity seems to represent a learned sound analysis capacity, but very automated dissociating from the musical cognition.

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A Study of the Development of Dancers from the Rudra Béjart School: An Enactive Approach of the Productive and Developmental Components of their Activity

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Key words: Dance, Performance, Development, Health.

Introduction

Nowadays, it is well established that monitoring the health of young elite athletes is beneficial. A person who is well balanced or in harmony, within all his activities, is both productive and at the same time able to develop. However, a recent review of dance research shows a lack of studies regarding dancers' health monitoring from a bodily, social and psychological perspective (Dumont et al., 2016). Like high-level athletes, dancers seek to achieve ideal performances and, to do so, they must train intensively, sometimes leading to physical (e.g., injury), social (e.g., restricted social network) or psychological (e.g., pressure and stress) disruptions.

The world-renowned Rudra Béjart school-workshop welcomes, each year, more than 40 young dancers aged between 16 and 20 years old. This school aims at developing the technical, artistic, musical and theatrical skills of these future professional dancers. The goal of this research was to study the construction of their sports and artistic performances (i.e., productive components) of the dancers of the Rudra Béjart school-workshop, as well as the transformative situations they encounter during their training and which have an impact on their personal development (i.e., developmental components).

Based on the enactive approach (Merritt, 2015; Varela, Thompson & Rosch, 1991), the "course of action" (Theureau, 2015) and on concepts such as incorporation or appropriation (e.g., Durand, Hauw & Poizat, 2015), this study proposes to understand how dancers build their world and their sport and art activity (e.g., Faure, 2003). Furthermore, this research aims at studying the effects of such a training program on the personal development of dancers (e.g., Dumont et al., 2016).

Method

Three dancers (1 boy and 2 girls) from the Rudra-Béjart school-workshop agreed to participate to this research. The dancers were respectively 18, 19 and 20 years old. Two of them (a boy and a girl) were in their second year of training, the final year before graduation. The third person, a girl, was in her first year. These dancers were selected with

the help of the school director who proposed several dancers who might be willing to participate in this research. During one year, interviews, inspired by self-confrontation (Theureau, 2015) and explanatory interviews, were conducted once every eight weeks with each dancer. As their daily schedule left little time for other activities, the interviews took place at the dance school, at the end of the day and after their training. The day of the interview and upstream to it, a course (e.g., classical dance, modern dance or kendo) was observed with note taking (paper and pencil). These written notes allowed the dancers to dive back into the situation, during the interviews. Following the analysis of the transcribed interviews, general thematic dimensions were developed. These dimensions bring together or separate the significant events experienced by the dancers (i.e., productive and developmental components).

Results

The results reveal that dancers, through their productive activity, enact specific adaptations according to the tasks required and the context in which they are located (e.g., classical dance or kendo classes). These adaptations allow the dancers to make new learning and relearning of danced movements. Several specific techniques were discovered. These techniques are used, by the dancers, to successfully incorporate the movements, solve the difficulties encountered in the execution of certain movements and seek a synergy between the technical and artistic dimensions of movements. Certain techniques of learning and improvement of movements, depending on external elements, have also been identified: the harmony between the dancers, the organization of the space around the dancer or the use of accessories in dance.

The results concerning the developmental components of the dancers' activity raised three main issues: the progressive construction of an identity of future professional dancer by the rediscovery and relearning of dancing; the adaptations to changes in their personal lives; and, finally, the importance of maintaining an expanded social network.

Discussion

The results highlight the positive impacts for the dancers of reflexive feedbacks on their activity. Indeed, the confrontation with their artistic and sports performances allowed them to bounce on disturbances encountered during their training. They were able to transform these disruptive situations to improve their performances. The results also show that dancers sometimes have difficulties caring for them and preparing themselves for the professional world (i.e., Warnick et al., 2016). Monitoring the health of dancers is too little invested (Dumont et al., 2016). Therefore, in order to be able to develop specific support programs for dancers, it is important to understand their activity in a global and situated way by looking at the transformations involved in their personal development and their sports and artistic practices.

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Etude Exploratoire des Connaissances et des Techniques de Préparation Mentale des Danseurs de l'Opéra de Paris

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Mots clés : Préparation Mentale, Performance Artistique, Danse.

Introduction

Les danseurs de l'Opéra de Paris sont considérés comme des sportifs de haut niveau et des artistes mêlant performance sportive et artistique. Ils rencontrent comme les sportifs des situations compétitives ou à enjeu, telles que le concours interne de promotion, les auditions et les représentations devant un public. En 1998 (p.71), Fournier définit la préparation mentale comme une « préparation à la compétition par un apprentissage d'habiletés mentales et d'habiletés d'organisation, et dont le but principal est d'optimiser la performance personnelle de l'athlète, tout en promouvant le plaisir de la pratique et en favorisant l'atteinte de l'autonomie ». Selon Antonini en 2013, certains principes de la psychologie du sport pourraient être très utiles pour les arts, notamment chez les musiciens. Dans les travaux d'Allan (2016), 71% des musiciens ont indiqué un manque de connaissance des compétences mentales nécessaires pour améliorer leurs performances. Dans l'étude 2,98% des futurs majors de musique universitaire ont indiqué qu'ils aimeraient améliorer leurs compétences mentales et 67% ont indiqué qu'ils souhaitaient obtenir plus d'informations sur l'acquisition de ces compétences. L'objectif de cette étude exploratoire est de mieux connaître les aspects psychologiques de la performance artistique des danseurs de l'Opéra de Paris. Pour cela, nous avons examiné les connaissances et les techniques de préparation mentale que les danseurs utilisent lors de situations de performance.

Méthode

24 danseurs gradés corps de ballet, sujets et étoiles ont répondu à un questionnaire ouvert composé de 37 questions sur les aspects psychologiques de la performance et la préparation mentale. Afin d'évaluer leurs connaissances, ils ont défini 7 concepts en psychologie du sport (ex : motivation, anxiété au regard de la performance artistique, concentration...), précisé 3 principales qualités d'un danseur « fort mentalement », et le degré d'importance des facteurs physiques, techniques et mentaux, dans l'atteinte de leur meilleure performance artistique. Afin d'en savoir plus sur leurs techniques, ils ont répondu à des questions telles que : Te fixes-tu des objectifs pour tes performances artistiques ? Et ont indiqué si la préparation mentale peut être utile à un danseur et si oui de quelle façon ? ; (b) un entretien d'explicitation a été réalisé auprès de 15 danseurs du même échantillon portant sur une situation concernant leur meilleure performance artistique avec un enjeu important. Une analyse qualitative des données recueillies a consisté à dégager des unités de sens et à les regrouper par thèmes de manière déductive et inductive.

Résultats

96,5 % des danseurs estiment les facteurs mentaux déterminants dans la performance artistique. De plus, les danseurs présentent des niveaux très disparates de connaissance des aspects psychologiques de la performance. Certains danseurs évoquent l'intérêt d'en savoir un peu plus sur ces différents concepts. Les résultats indiquent que les danseurs utilisent des techniques de préparation mentale similaires à celles des sportifs. Plusieurs techniques

peuvent renforcer une même habileté mentale. Ainsi, les danseurs renforcent leur concentration avec la planification, les techniques de pleine conscience, le dialogue interne et la fixation d'objectifs. Afin de gérer leur stress, les danseurs utilisent également la planification, la pleine conscience, la fixation d'objectifs auxquelles ils rajoutent les techniques de visualisation, de focalisation de l'attention et de respiration. Afin de se motiver, les danseurs emploient la visualisation, la focalisation de l'attention, l'activation et la fixation d'objectifs. Pour renforcer leur confiance, les danseurs privilégient la pleine conscience et le dialogue interne et enfin pour mieux gérer leur niveau d'activation, ils font appel à la fixation d'objectifs et à la respiration. Mais les danseurs utilisent également des techniques spécifiques à la danse comme, « se mettre dans son personnage » pour gérer l'anxiété ou « rentrer en contact avec son ou sa partenaire avant d'aller en scène » pour renforcer sa confiance ou bien même utiliser l'imagerie mentale pour « visualiser des émotions ou se créer un imaginaire pour créer son personnage » et « se chauffer seul » pour favoriser sa concentration.

Discussion

Les danseurs donnent une grande importance à la dimension mentale dans la performance artistique et reconnaissent l'utilité de la préparation mentale alors qu'aucun accompagnement de préparation mentale n'était offert aux danseurs dans la structure avant la réalisation de cette étude. De plus, comme suggéré par Allan (2016) pour les musiciens, il serait bénéfique de mener une formation psycho éducative des danseurs afin de développer un langage commun au service d'un suivi de préparation mentale. Certains danseurs utilisent régulièrement les techniques d'imagerie mentale tandis que d'autres n'en avait jamais entendu parler. On constate également très peu de connaissances des techniques d'activation. En accord avec Hanrahan (1996), l'élargissement de l'utilisation de l'imagerie par les danseurs et une introduction générale à la régulation des niveaux d'activation pourraient être bénéfiques. Les danseurs utilisent un grand nombre de techniques mentales pour gérer leur stress. Pour autant, dans une étude faite parallèlement (voir communication proposée dans le même symposium), les danseurs de l'Opéra de Paris obtiennent des scores moyens aux habiletés psychosomatiques mesurées par l'OMSAT-4. Il serait donc pertinent de travailler avec les danseurs pour optimiser les techniques qu'ils utilisent.

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- Fruchart, E., (Université de Perpignan) & Rulence-Pâques, P. (Université de Lille): Différentes positions de jugement de responsabilité des comportements antisociaux en sport
- Pellet, J., Campo, M., Lacassagne, M.F., (Université de Bourgogne-Franche Comté) & Mekaoui, N. (Ecole Supérieure des Métiers du Sport): Représentation sociale des comportements dits déviants des entraîneurs
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Différentes Positions de Jugement de Responsabilité des Comportements Antisociaux en Sport

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Mots clés: Comportements Antisociaux; Désengagement Moral; Jugement de Responsabilité

Introduction

La question du jugement de responsabilité en sport peut être investie dans une perspective éthique. Différents points de vue existent dans les jugements éthiques (e.g., Fruchart, Rulence-Pâques, & Mullet, 2017) et des mécanismes de désengagement moral sont invoqués (Bandura, 1991). Cette étude a pour objectif d'identifier différentes positions de jugement de responsabilité des comportements antisociaux. Elle examine la manière dont les individus combinent mentalement plusieurs informations pour juger le niveau de responsabilité des sportifs commettant un acte antisocial durant une compétition de hand-ball. Le cadre théorique utilisé est la théorie de l'intégration de l'information (Anderson, 2008). Elle a pour but de découvrir quelles opérations d'algèbre cognitive les individus développent pour effectuer un jugement lors du processus d'intégration de diverses informations.

Méthode

Trois cent neuf hommes ont participé à notre étude: 163 sportifs ($M = 24.64$; $SD = 8.04$) et 145 non sportifs ($M = 33.82$; $SD = 8.85$). En référence à la méthodologie andersonnienne (e.g., Fruchart et al., 2017), le matériel comprend un questionnaire décrivant 36 situations sportives dans lesquelles un joueur de handball commet un acte antisocial. Elles correspondent au croisement des modalités des facteurs considérés dont on veut mesurer l'impact sur le jugement de responsabilité: le type de comportement antisocial (agression hostile, agression instrumentale, tricherie) $\times$ déplacement de la responsabilité sur l'arbitre (n'a pas toujours sanctionné; a souvent sanctionné; a toujours sanctionné) $\times$ déplacement de la responsabilité sur l'entraîneur (n'a pas toujours réprimé; a toujours réprimé) $\times$ diffusion de la responsabilité sur les coéquipiers (certains membres de l'équipe se comportent aussi de cette manière; aucun membre de l'équipe ne se comporte de cette manière); soit le plan factoriel suivant : $3 \times 3 \times 2 \times 2 = 36$ scénarii. Chaque situation est présentée sur feuille suivie de la question « *Dans quelle mesure pensez-vous que le sportif soit en partie responsable de son acte ?* » et d'une échelle de réponse de 11 graduations allant de « *Pas du tout responsable* » à « *Tout à fait responsable* ». La tâche des participants a été de cocher une graduation sur l'échelle de jugement pour chaque scénario. Chaque participant a été questionné individuellement. La procédure a été composée de deux phases: une phase de familiarisation et une phase expérimentale. Seules les données de la phase expérimentale ont été retenues pour mener plusieurs analyses graphiques et statistiques, i.e., classification hiérarchique et en nuées dynamiques, ANOVAs, χ^2 , et tests post hoc de Bonferroni.

Résultats

Quatre clusters ont été identifiés. Une ANOVA a été conduite sur chaque groupe. Le cluster 1 ($n = 45$) est appelé « Modérément Responsable/Comportement Antisocial » parce que la moyenne des jugements se situe près du milieu de l'échelle ($M = 5.07$; $SD = 0.10$) et que la taille d'effet du facteur Comportement Social est le plus important. Les facteurs Comportement Antisocial, $F(2.88) = 54.23$, $p < .001$, $\eta^2_p = .55$, et Arbitre, $F(2.88) = 15.92$, $p < .001$, $\eta^2_p = .27$ sont significatifs (pour $p < .001$). Le facteur Coach, $F(1.44) = 6.32$, $p < .016$, $\eta^2_p = .13$, et Coéquipiers, $F(1.44) = 4.42$, $p < .038$, $\eta^2_p = .04$, ne sont pas significatifs.

Le cluster 2 ($n = 96$) est nommé « Souvent Responsable » parce que la moyenne des jugements se situe au-dessus de la moitié de l'échelle ($M = 6.80$; $SD = 0.04$). Les facteurs Comportement Antisocial, $F(2.190) = 70.27$, $p < .001$, $\eta^2_p = .43$, Arbitre, $F(2.190) = 51.69$, $p < .001$, $\eta^2_p = .35$, Coach, $F(1.95) = 97.20$, $p < .001$, $\eta^2_p = .51$, et Coéquipiers, $F(1.95) = 4.42$, $p < .001$, $\eta^2_p = .69$, sont significatifs.

Le cluster 3 ($n = 89$) est nommé « Modérément Responsable/Coach/Coéquipiers » parce que la moyenne des jugements se situe près de la moitié de l'échelle ($M = 5.61$; $SD = 0.06$) et que les tailles d'effet des facteurs Coach et Coéquipiers sont les plus importants. Les facteurs Comportement Antisocial, $F(2.190) = 19.75$, $p < .001$, $\eta^2_p = .18$, Arbitre, $F(2.190) = 53.59$, $p < .001$, $\eta^2_p = .38$, Coach, $F(1.88) = 381.30$, $p < .001$, $\eta^2_p = .81$, et Coéquipiers, $F(1.95) = 758.85$, $p < .001$, $\eta^2_p = .90$, sont significatifs.

Le groupe 4 ($n = 100$) est nommé « Très Souvent Responsable » parce que la moyenne des jugements se situe largement au-dessus de la moitié de l'échelle ($M = 8.37$; $SD = 0.04$). Les facteurs Comportement Antisocial, $F(2.156) = 14.16$, $p < .001$, $\eta^2_p = .15$, Coach, $F(1.78) = 33.09$, $p < .001$, $\eta^2_p = .30$, Coéquipiers, $F(1.78) = 37.83$, $p < .001$, $\eta^2_p = .33$ sont significatifs. Le facteur Arbitre, $F(2.156) = 6.00$, $p < .003$, $\eta^2_p = .07$ n'est pas significatif.

Le test du χ^2 de Pearson 2 (Type de Participants) $\times$ 4 (Clusters) est significatif, $\chi^2(3) = 13.55$, $p < .001$.

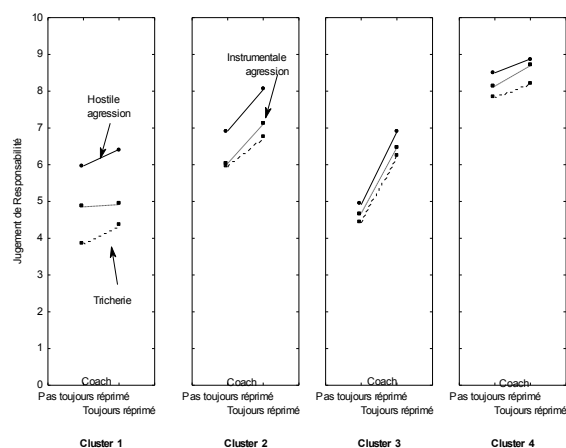


Figure 1. Effet des facteurs Comportement Antisocial et Coach sur le jugement de responsabilité pour chacun des quatre clusters.

Discussion

Les membres des quatre clusters identifiés ont intégré les informations de manière différente pour juger la responsabilité d'un acte antisocial. Les participants ont jugé la responsabilité des comportements antisociaux différemment en fonction de leur niveau d'implication sportive. La théorie de l'intégration de l'information (Anderson, 2008) met en évidence l'existence d'une algèbre cognitive décrivant différentes positions de jugement de responsabilité des comportements en sport. Ce genre d'étude peut être étendu à beaucoup d'autres situations sportives de performance ou de santé dans lesquelles la question de la responsabilité se pose.

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Représentation sociale des comportements dits *déviant*s des entraîneurs et éducateurs sportifs

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Mots clés : Comportements Déviants, Immoraux, Entraîneur, Représentations Sociales.

Introduction

Les travaux de recherche sur ce qu'implique la fonction d'entraîneur ainsi que sur la façon de changer positivement les comportements des intervenants sont nombreux. Il est possible d'aborder cette problématique via une prise en compte de l'aspect humain et un encadrement adapté aux athlètes (leadership transformationnel et transactionnel ; Rowold, 2006). À l'inverse, peu de travaux se sont penchés sur les comportements non attendus des

intervenants en contexte sportif (e.g. Cruickshank & Collins, 2015) ou encore sur leur définition, laissant une zone sombre, cela malgré une littérature fournie sur ce sujet en psychologie des organisations (e.g., Kaiser, LeBreton & Hogan, 2015). Pour accéder aux représentations sociales d'une population, beaucoup de chercheurs ont développé un grand nombre de méthodes (Abric, 2005), notamment via des questionnaires d'association de mots considérant leur fréquence d'emploi et leur rang d'assignation. Les représentations sociales correspondent à la vision du monde que les membres d'un groupe spécifique portent en eux et utilisent pour agir ou prendre positions. Elles renvoient au « savoir de sens commun mis en œuvre dans l'expérience quotidienne » (Moscovici, 1966). Ce cadre théorique est donc adapté pour faire apparaître les informations indétachables de l'objet, qui sont sous-jacentes à certains comportements dans une population donnée. Cette première étude vise à explorer la représentation sociale des jeunes sportifs vis-à-vis des comportements déviants que peuvent avoir les entraîneurs. Ce travail fait partie d'un projet de recherche centré sur la compréhension des causes et conséquences de ces comportements « *déviants* » chez les acteurs de l'environnement sportif des athlètes (CIFRE n°2017/0436).

Méthode

Les participants de cette étude (N=160) étaient étudiants à la Faculté des sciences du sport de l'Université de Bourgogne, âgés entre 18 et 22 ans, et pratiquaient un large panel de disciplines sportives (sports collectifs, de combats, de raquettes, de pleine nature, milieux stables, etc.) allant du niveau amateur au niveau semi-professionnel. Afin d'avoir accès à la représentation sociale des sujets, ces derniers ont identifié les comportements déviants d'un(e) entraîneur ou éducateur(trice) sportif. Pour l'analyse, nous nous sommes basés sur la méthode basée sur le tau de Kendall (Lacassagne, Bouchet, Weiss & Jebrane, 2004). Celle-ci considère les liens entre les rangs des mots les plus fréquemment énoncés, correspondant à l'analyse de proximité entre les idées. Plus les distances d'agrégation sont faibles, plus les termes sont proches. Afin d'obtenir une structure centrale particulièrement robuste, seuls les termes cités par 10% de la population ont été retenus (Salès-Wuillemin, Castel & Lacassagne, 2002).

Résultats

Les résultats indiquent deux ensembles majeurs distincts qui renvoient (A) à la difficulté à composer avec le facteur humain, impliquant une focalisation intrapersonnelle, et (B) à la dégradation d'autrui, impliquant une focalisation extrapersonnelle. Cet ensemble B compte une sous partie renvoyant à la violence directe, et l'autre à la violence en présence d'autrui. Plus spécifiquement, le premier ensemble (A) est composé d'une partie comprenant le *manque d'adaptation* aux athlètes et la difficulté à *gérer ses émotions* avec eux. À cette partie viennent se greffer d'une part les comportements de *favoritisme* avec certains athlètes, et d'autre part de recherche de *bouc émissaire* ($d=0.3$). La première sous-partie (B.1) du second ensemble correspond à la violence dans sa forme *physique* et *verbale*. À cette agrégation de violence vient se greffer des comportements de *manipulation* et de *pression* sur les joueurs ($d=0.27$). L'autre sous-partie (B.2) du second ensemble est composée d'un premier couple *rabaissement* et *comparaison devant autrui*, auquel vient se greffer l'item *iniquité* ($d=0.19$). Enfin, cet agrégat est rejoint par le couple *défavoritisme* ainsi que le *manque d'écoute et de communication* ($d=0.15$). Finalement, le couple *crier* et *ne motive pas*, rapidement rejoint par l'item *communiqué uniquement du négatif* ($d=0.08$), finit de constituer la seconde sous partie ($d=0.4$).

Discussion

Le but de cette étude était d'explorer la représentation sociale des jeunes sportifs vis-à-vis des comportements déviants que peuvent avoir les encadrants sportifs. Ces résultats montrent que les comportements déviants des entraîneurs sont principalement liés à l'incapacité de comprendre ou de se mettre à la place des athlètes, cela malgré des buts communs. Les conséquences comportementales peuvent être affectives (colère, ignorance),

verbales, non verbales, et concernent le fond (e.g. insultes, manipulation) comme la forme (e.g. crier, présence d'autrui). La notion d'iniquité semble être une préoccupation majeure pour les sportifs. D'autre part, la présence d'autrui lors des interactions entraîneur-entraîné semble aggraver le vécu de ces interactions chez les athlètes. Enfin, la violence en milieu sportif, comparé à d'autres contextes, peut aussi être physique. Les résultats sont toujours en cours de traitement. Ce travail est inclus dans un plus grand projet de recherche financé par le Département des Landes. Ces données seront comparées avec des populations d'âges et de localisations différents, et seront croisées avec d'autres de nature qualitative.

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Examining Officiating Confidence in Non-Invasive Sports

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Key words: Self-efficacy, Sport Officials, Model Testing

Introduction

Self-efficacy is one of the most widely studied psychological constructs in sports and has been extensively researched with individuals, teams, and coaches. Considering the impact of efficacy on outcomes such as motivation, performance, and commitment, the notion of officiating efficacy has begun to generate research. Guillén and Feltz (2011) defined officiating efficacy as “the extent to which referees believe they have the capacity to perform successfully in their job” (p. 1). The construct is currently understood to comprise four interrelated constructs – efficacy with respect to game knowledge, decision making, handling pressure, and communication (Myers et al., 2012). Myers et al. also developed the Referee Self-Efficacy Scale (REFS) a 13-item questionnaire to measure officiating efficacy and found support for the psychometric properties and predictive validity of the scale. Although this measure holds promise for research in this area, the early conceptual and measurement-development work on officiating efficacy have been characterized by a rather limited representation of officials, which may affect the validity and usefulness of the scale. In particular, Myers et al.’s (2012) work used team sport officials and Guillén and Feltz’s (2011) study only used soccer officials (i.e., highly interactive, invasion games). Lirgg (2016) suggests that the utility of one model may be problematic, as the expectations of

officials can differ depending on the type of sport. The current study was designed to assess the factor validity and psychometric properties of the Referee Self-Efficacy Scale with a more heterogeneous, non-invasive sport sample of officials.

Method

One hundred and eighty-seven officials (76 female, 111 male) representing a variety of 'monitor' and 'reactor' officiating sports (MacMahon & Plessner, 2008), predominantly wrestling ($n = 49$), figure skating ($n = 38$), tennis ($n = 55$) and boxing ($n = 27$) completed the REFS via an on-line survey administration. MacMahon and Plessner (2008) term these type of sport officials as 'monitors' and 'reactors', compared to 'interactors' (i.e., team sports) as more predictable decision cues are provided and less officiating interaction is required.

Results

All four factors showed acceptable levels of internal consistency, with Cronbach's alphas ranging from 0.67 to 0.91. A confirmatory factor analysis yielded robust goodness of fit indices indicative of a good fit of the model to the data ($CFI = .928$, $RMSEA = .069$). Experience was significantly positively correlated with all factors of efficacy ($p < .05$), which was consistent with Myers et al. finding with team sport officials. Furthermore, males were significantly more confident than females with respect to decision making efficacy ($t(170) = -2.13$, $p < .05$), although there no gender differences on the other three factors.

Discussion

These results give support to the generalizability of the construct of officiating efficacy and the REFS as a measurement tool. Gender differences in officials' self-efficacy perceptions found in this study are compared to similar results found in other general efficacy literature. While MacMahon and Plessner's (2008) classification of 'monitor' and 'reactor' officials was used as general criteria to select sport types, they acknowledge some sources in task variation (a potential influence on situational-specific, efficacy beliefs) can overlap categories. Wrestling and boxing officials have fewer athletes to monitor, but can also have an impact on the pace of competition and therefore be considered as 'interactor' type officials (MacMahon & Plessner, 2008). There is great variation in officiating requirements among sports, which can translate to diverse conceptualizations of self-efficacy that remain to be further tested. In line with accumulating recommendations for further understanding about the influence of efficacy on sport officials' development and retention (e.g., Guillén & Feltz, 2011; Lirgg et al., 2016; Livingston et al., 2017), suggestions for future research are made to investigate the link between self-efficacy and officiating outcomes, such as motivation, performance, and burn-out. Also, confidence displays exist as a powerful impression cue players use to judge officials' competence (Dosseville, Laborde, & Bernier, 2014), supporting the need to better understand ways players and coaches interpret and respond to confidence in officials. Other recommendations for future research into applied intervention design and types of organizational support to enhance efficacy in sport officials are also discussed.

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Can the Stereotype Threat Model be Applicable to Fatiguing Tasks ?

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Introduction

According to the stereotype threat model (Steele, 1997), people can underperform on a task when thinking about the negative performance expectations of their group. Based on this theory, many studies showed a negative influence of stereotypes on performance during motor tasks such as basketball shooting (e.g., Hively & El-Alayli, 2014). However, there is evidence that, under stereotype threat, women’s performance may not always be altered (Chalabaev et al., 2013). In this study, maximal strength was not negatively influenced by the stereotype manipulation. The authors suggested that simple one-step skills (i.e., simple tasks) are not impaired by the explicit monitoring of task execution. However, these past studies mostly focused on tasks that do not require energy expenditure (e.g., Hively & El-Alayli, 2014). It is well known that psychological factors (e.g., emotion regulation (Wagstaff, 2014)), strongly influence performance during prolonged motor tasks, which induce fatigue. In addition to individual psychological factors, social factors are also likely to influence motor performance, in particular stereotypes (e.g., Hively & El-Alayli, 2014). However, to our knowledge, no studies have examined the influence of stereotypes on performance during fatiguing tasks.

The present research investigated the influence of stereotype threat on simple fatiguing tasks. As fatiguing tasks have never been studied in the stereotype threat literature, several hypotheses may be advanced: activation of a negative stereotype about women will decrease their performance (stereotype threat effect, Hypothesis 1) or activation of a negative stereotype threat about women will not decrease their performance (simple tasks, Hypothesis 2). To test these hypotheses, two studies were conducted on two different fatiguing tasks (i.e., a submaximal task (Study 1), and a maximal task (Study 2)).

Method

In Study 1, seventy-seven highly-identified students (38 women and 39 men; Mage = 19.81, SDage = 1.69) from a sport university, were recruited. They were assigned to one of the three conditions (i.e., stereotypical, nullified-stereotype, and control condition). Participants had to maintain a percentage of their maximal strength for as long as possible, twice (once for baseline measures (T1) and the second time after of the condition was induced (T2)). Performance was characterized by the difference between T1 and T2 time to exhaustion and analyzed in 2 (Sex) x 3 (Condition) ANOVAS. In Study 2, forty students from a sport university (20 women and 20 men; Mage = 20.19, SDage = 1.29) were recruited. Each

participant was assigned to each condition (similar to Study 1; within-subject design) for three different sessions. The fatiguing task was a succession of 30 isometric maximal voluntary contractions (MVCs) and the stereotype threat manipulation was induced between the fifteenth and sixteenth contractions during each session. Participants were told that “women had been shown to underperform on this task relative to men” (stereotypical condition), or that “the test had not been shown to produce gender differences” (nullified-stereotype condition), or nothing was told (control condition). For performance (defined as the percentage of strength loss) and other variables, ANOVAs with repeated measures were run.

Results

In Study 1, analyses revealed that the difference in time to exhaustion between T1 and T2 was smaller for individuals in the stereotypical condition ($M=-0.46$; $SD=12.27$) than individuals in the nullified-stereotype condition ($M=10.33$; $SD=16.36$) and individuals in the control condition ($M=9.24$; $SD=21.96$), $F(2,71) = 3.30$, $p<.04$, $\eta^2=.08$. In Study 2, strength decrease was lower for individuals in the stereotypical condition ($M=14.25$; $SD=5.54$) than in the nullified-stereotype condition ($M=16.53$; $SD=4.46$) and in the control condition ($M=16.73$; $SD=6.72$), $F(2,78) = 3.46$, $p<.036$, $\eta^2=.08$. Moreover, in Study 2, analyses showed a better self-competence for both men and women in the stereotypical condition, $F(2,78) = 2.94$, $p<.05$, $\eta^2=.07$.

Discussion

The major finding of these two studies was the increase of performance in threatened women during prolonged motor tasks, suggesting that negative stereotypes can be beneficial to performance, this may be probably caused by an increase of self-competence. One possible explanation could be the implication of the mere effort account. It argues that stereotype threat motivates participants to perform well, which potentiates the prepotent responses of the task. If this response is correct, performance is increased, and conversely. As the two studies conducted were simple (no coordination) fatiguing tasks, there is only one possible response for each study and consequently the prepotent response is correct leading to performance improvement. Furthermore, these results can also be due to the sample used. Participants were from a sport university and were highly-identified with the sport domain. It is possible that when individuals were highly identified with the domain, as compared to moderately identified, they were more engaged to counter this stereotype. Further research is needed to test this hypothesis and observe if a high level of identification could boost or not boost the performance. As women are generally perceived as weakly competent (Fiske, Cuddy, Glick, & Xu, 2002), this increased performance observed under stereotype threat may encourage people to perceive women as more competent in this domain.

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Performance on a Fatiguing Task in Exercisers and Nonexercisers: Effect of the Nonexerciser Stereotype

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Introduction

Stereotype threat occurs when an individual is in a position to potentially confirm a negative stereotype that downgrades the ability of his or her own social group (Steele, 1997). Stereotype threat can contribute to the underperformance of individuals belonging to a range of negatively stereotyped groups and in a number of domains. A meta-analysis by Walton and Cohen (2003) evidenced the mechanisms of stereotype lift. Increased performances under stereotype threat, in subjects belonging to the group not concerned by the stereotype, were suggested to be due to a downwards comparison leading to not feeling threatened on their own value which in turn would increase self-confidence (Chalabaev et al., 2013).

Few studies have focused on the sports performance domain (e.g., Chalabaev, Sarrazin, Stone, & Cury, 2008; Hively & El-Alayli, 2014). The majority of these studies showed the effects of sex stereotypes on performance suggesting that these stereotypes are salient in the sports performance domain.

With the benefits of exercise being widespread, perceptions of active and inactive people are conveyed by society. Indeed, a nonexerciser stereotype has emerged (Martin Ginis & Leary, 2006), which nonexercisers perceived, by both exercising and non-exercising people, as less healthy, less energetic, unfit, less strong and weaker (Rodgers, Hall, Wilson, & Berry, 2009). However, the psychophysiological effects of this stereotype are unknown, in particular in relation to the physical activity experience of individuals. The aim of this study was to examine the effect of the negative nonexerciser stereotype on performance during a fatiguing task (i.e., a task that demands much more energy use compared to previous tasks used in the stereotype threat literature) in both exercisers and nonexercisers. We suggested an improvement in performance in exercisers due to stereotype lift in line with previous research (Chalabaev et al., 2013) and a decrease in performance in nonexercisers due to a classical stereotype threat effect (e.g., Chalabaev et al., 2008; Heidrich & Chiviacowsky, 2015).

Method

15 exercising ($M_{age} = 22.1$, $SD = 3.5$; $M_{mets/min} = 5381.2$, $SD = 4385.4$) and 15 non-exercising ($M_{age} = 23.1$, $SD = 3$; $M_{mets/min} = 613.2$, $SD = 163.7$) male participants were recruited to take part in a within subject protocol based on their reported physical activity level calculated using the Global Physical Activity Questionnaire (GPAQ). All participants were identified to the physical domain as indicated by two questions related to the importance of PA capacities rated on a seven point Likert scale (e.g., 'it is important for me to have good physical capacities'). The fatiguing task consisted in performing intermittent contractions at 40% of maximal voluntary strength until exhaustion (defined as three consecutive contractions that did not reach the 40% line). Physiological (e.g., the number of submaximal contractions) and psychological measures (e.g., self-efficacy, rate of perceived effort (RPE)) were collected. ANOVAS with repeated measures were performed.

Results

Results showed that in the stereotypical condition, exercisers and nonexercisers improved their performance as revealed by increased time to exhaustion (i.e., higher number of submaximal contractions performed), ($F(1,24)= 12.47$, $p<.01$; $\eta^2= 0.34$), and were characterized by a slower time to maximal RPE ($F(1,24)= 8.74$, $p= 0.01$; $\eta^2= 0.27$), than in the non-stereotypical condition. Though self-efficacy appeared to be higher in the stereotypical condition, the difference was not significant.

Discussion

Exercisers improved their performance on the fatiguing task when a negative exercise stereotype was induced, suggesting that the negative nonexerciser stereotype had the same lift effect as the negative sex stereotype in the sports performance domain (Chalabaev et al., 2013). Surprisingly, the nonexercisers also increased their performance on the fatiguing task in the stereotypic condition. In their study, Rodgers et al. (2009) revealed that positive exercising stereotypes showed higher endorsement than negative non-exercising stereotypes. With this in mind, it is plausible that the negative exercise stereotype was received with less emphasis than possible positive exercise stereotypes and therefore did not threaten nonexercisers. This, however, does not explain the lift effect observed among nonexercisers that cannot be attributed to a downward comparison characterizing the stereotype lift theory. The significant condition effect observed for RPE, with a slower time to maximal RPE in the stereotypical condition, suggested that, under threat, exercisers and nonexercisers persisted in the task, as their subjective difficulty of the effort was lower. With the RPE increasing at a slower rate, this could be a valid reason for increased performance, adding to the downward comparison mechanism of stereotype lift in exercisers and presenting a valuable explanation for nonexercisers' performance improvement. Moreover, exercisers and nonexercisers were all identified to the physical domain, which may have made them more entitled to counter the negative stereotype induced. This study is encouraging in that it revealed that nonexercisers' performance on a prolonged fatiguing task was not decreased by the negative nonexerciser stereotype but rather presented the same lift effect as exercisers.

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Analyser la Conduite Motrice pour la Transformer : quelles Catégories ? Etude de Cas en Danse Contemporaine

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Introduction

L'étude s'intéresse à l'organisation motrice d'athlètes dans différentes pratiques sportives ou artistiques, et plus particulièrement dans le cadre de cette présentation, en danse contemporaine. Son objectif est d'analyser l'organisation motrice en la considérant comme une *forme* dans une perspective gestaltiste actualisée (Rosenthal et Visetti, 1999). Dans ce contexte théorique de la *psychologie de la forme*, cette dernière doit être entendue selon deux sens : un sens faible qui correspond au déploiement spatio-temporel du mouvement corporel ; un sens fort qui correspond à une totalité signifiante. L'idée centrale est que ce qui apparaît, la forme au sens faible, résulte de processus fonctionnels complexes et intégrés. Intervenir dans le but de transformer cette forme pour la rendre plus performante, gagne en pertinence stratégique si l'intervenant (*i.e.* l'entraîneur, le professeur) dispose d'une compréhension minimale de ces processus fonctionnels. Le fait de considérer l'organisation motrice comme une *totalité signifiante* engage à s'intéresser aux différentes fonctions organisantes. Le concept de *totalité* renvoie au caractère unitaire de la conduite motrice, c'est-à-dire à l'interaction intégrée des différentes fonctions convoquées dans l'unité d'un acte. Le terme *signifiante* renvoie au fait que l'organisation dont il est question est celle d'un humain doté d'une conscience, et qui attribue un sens à sa conduite.

Les catégories d'analyse fonctionnelle de la conduite motrice ont été déterminées en référence à ce point d'appui théorique gestaltiste et dans une perspective anthropo-phénoménologique (Cizeron, 2013). Il s'agit pour partie de catégories intentionnelles, c'est-à-dire qui concernent la *visée* (noèse) de la conscience (Husserl, 1928). Elles regroupent le

motif d'agir (ce que cherche à faire l'athlète, ce qu'il attend de la situation, ce vers quoi il est tourné attentivement) ; les *coordinations d'actions* (agencement de différentes actions spécifiées chacune par un motif) ; l'*horizon intentionnel* (structure temporelle de l'action) ; les *perceptions* ; les *émotions*.

Les catégories non directement intentionnelles, ou sensori-motrices (Vanpouille, 2011) regroupent notamment : l'*équibration* selon deux sous-fonctions qui sont, d'une part, la *fonction de repérage spatio-temporel* (notion de référentiel d'équilibration) et d'autre part la *fonction tonico-posturale* (composantes *téléocinétique* et *éréismatique*) ; la *locomotion-propulsion* ; la *manipulation* (éventuellement *pédibulation*) ; les *coordinations motrices* (segmentaires ou posturales pour les distinguer strictement des coordinations d'actions). Enfin les catégories énergimotrices qui englobent la *respiration*, la *nutrition*, et la *thermorégulation*.

Les résultats antérieurement acquis posent les jalons d'une morphogenèse des habiletés motrices. Ils ont permis de développer chacune des catégories en les confrontant à du matériel empirique issu d'études dans différentes pratiques sportives. Des régularités apparaissent. Par exemple, les résultats ont montré qu'avec l'expertise sportive, l'horizon intentionnel de l'action s'épaississait et devenait de plus en plus fragmenté d'actions composantes intégrées. Le progressif cumul des résultats vise le dévoilement de principes génériques de ce type, qui gouverneraient la morphogenèse des conduites motrices.

Méthode

Deux types de données ont été recueillies : a) des données d'observation des formes de corps et de mouvements corporels ; b) des données relatives à la dimension intentionnelle de l'activité motrice. Les données d'observation regroupaient : des descriptions posturales et des formes des déplacements du corps dans l'espace. Pour l'étude de la dimension intentionnelle de l'activité, les options méthodologiques retenues étaient appuyées la technique d'entretien d'explicitation en psycho-phénoménologie (Vermersch, 2000). Les participants à l'étude étaient 5 étudiants de 3^e année en STAPS pratiquant la danse dans le cadre de leur formation universitaire. Le traitement des données a consisté à croiser les données descriptives et les données interprétatives pour faire émerger les catégories d'analyse fonctionnelle et leur contenu.

Résultats

Les résultats de l'étude montrent des transformations qualitatives consistantes de l'organisation motrice des étudiants lorsqu'on passe du débutant aux experts. Dans le cadre limité de ce résumé, nous présentons celles qui sont les moins évidentes et qui concernent les catégories intentionnelles. Les résultats montrent que les étudiants débutants et débrouillés juxtaposent des actions où ils visent à se déplacer d'un endroit à un autre, et des moments où ils visent à produire des mouvements esthétiques, des « beaux mouvements » essentiellement caractérisés par l'amplitude des gestes de leurs bras et de leurs jambes. Pour les étudiants les plus experts, leur visée intentionnelle est polarisée par des métaphores, notamment des métaphores de type *ontologique* par lesquelles leurs actions consistent davantage à « être » qu'à « faire ».

Discussion

Armée des catégories d'analyse, l'investigation des conduites motrices a permis d'aboutir à une compréhension de l'organisation motrice des participants, et également de saisir des éléments de cohérence de cette organisation. Ceci conforte l'idée selon laquelle le « comportement privilégié » (Merleau-Ponty, 1942), à un moment donné du développement du sujet, correspond à la synthèse d'un ensemble fonctionnel unifié par une attribution de sens. La connaissance de ces catégories et de la façon dont elles sont l'objet de transformations au fil du développement de l'organisation motrice devrait éclairer la « lecture » qu'a l'intervenant des conduites qu'il observe.

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La Phénoménologie du Corps comme Stratégie Compréhensive en Psychologie du Sport : le Cas des Sports de Combat et des Arts Martiaux

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Introduction

Ce travail fait partie d'une étude phénoménologique au karaté, la capoeira et le MMA, parmi des combattants brésiliens. Historiquement, la psychologie a privilégié les processus mentaux, laissant les discussions sur le corps secondaires. En outre, les travaux traditionnels en psychologie du sport maintiennent un regard techniciste du corps. Considérant le combat comme objet d'étude, les recherches au regard de ce sujet ont été menées à travers plusieurs perspectives et ce dans différents domaines de la connaissance. Récemment, des travaux ont étudié le combat à travers les approches phénoménologiques, en essayant de comprendre l'expérience vécue des combattants (Barreira, 2013 ; Bassetti, Telles & Barreira, 2016 ; Downey, 2002 ; Hogeveen, 2011 ; Telles & Barreira, 2016 ; Barreira, 2017a). Dans ce sens, la phénoménologie est considérée comme une alliée importante car elle met l'accent sur le corps vécu comme protagoniste des processus combatifs. Dans cette proposition, on essaye de présenter la phénoménologie comme une stratégie d'accès au vécu du combat – autrement dit, on parle d'une phénoménologie du corps, essayant de comprendre le karate, la capoeira et le MMA à travers les descriptions des combattants et ses mouvements, soit dans le domaine de la performance sportive, soit comme celui de l'activité physique. Pour cela, on souligne la perspective phénoménologique merleau-pontienne, qui pose le corps, la perception et la motricité comme des actes fondamentales à la vie humaine et, par conséquent, à la compréhension du combat.

Méthode

Pour cette étude, des entretiens semi-structurés ont été réalisés avec des karatekas, des capoeiristes et des lutteurs de MMA (n=29, selon le *snowball sampling*), avec au moins 5 années d'expérience et ayant déjà enseigné ou participé à des compétitions. Les entretiens ont été enregistrés et transcrits. Selon Hálak, Jirásek et Nesti (2014), il ne s'agit pas de comprendre les entretiens ni comme données objectifs ni seulement à partir des expériences singulières de chacun. Il faut les comprendre à partir des structures du corps vécu en combat, en croisant les rapports des combattants, via une *écoute suspensive* (Barreira,

2017b), qui essaye de suspendre les idées préconçues durant les entretiens et les analyses. Après ce type de compréhension, les résultats sont mis en perspective avec les éléments de la littérature présentés dans le domaine des sports de combat et des arts martiaux (SCAM). Il est important de souligner que l'utilisation d'une perspective phénoménologique pour comprendre le combat doit se baser sur une compréhension des actes pré-réfléchis. Il s'agit de transformer l'expérience vécue en langage (Stelter, 2000). Il consiste aussi en une réflexion sur le *non réfléchi* (Barbaras, 2008) car, en combat, le corps se déplace constamment. Toutefois, on comprend le corps vivant à travers les descriptions du corps vécu, réalisées par chaque combattant.

Résultats

Les descriptions ont permis d'identifier et de comprendre comment les corps en combat se meuvent selon chaque modalité. Au karate, on remarque que les combats se déroulent de manière contrôlée. Le corps du karateka semble éviter toute autre attaque le plus rapidement et le plus précisément possible soit en défendant, soit en anticipant le coup de l'adversaire. Ce corps cherche le moment exact pour se déplacer, il attend et il essaye de trouver un coup fort nécessitant peu de mouvements. En ce qui concerne la capoeira, les corps sont toujours liés à la musique : leurs déplacements se passent selon le rythme des chansons qui sont jouées et chantées par les capoeiristes. Tous les corps se bougent comme un seul et unique organisme : soit les capoeiristes qui combattent, soit les autres qui regardent le combat, en chantant. Au MMA, le corps est le lieu du spectacle et de l'extrémisme. Il faut montrer sa meilleure performance à l'audience et la meilleure façon de combattre en mélangeant plusieurs modalités d'arts martiaux et de sports de combat. Le corps est aussi le lieu de la limite : il s'arrête selon le temps du combat (prédéfini) ou d'un coup fort et précis, ce qui ne permet pas que l'autre corps puisse continuer le combat (e.g. la finalisation ou le *knockout*). Pour comprendre et discuter les descriptions on remarque le phénomène d'habitude (Saint-Aubert, 2013) et les notions de Merleau-Ponty (1945 ; 1953) sur le corps, la perception et la motricité.

Discussion

Ces résultats montrent comme une phénoménologie du corps est présentée comme une stratégie importante à la psychologie du sport pour la compréhension du corps vivant en combat, par les descriptions du corps vécu. Ce type d'étude permet des interventions plus efficaces et des recherches plus éthiques dans le domaine de la psychologie du sport, spécialement parmi les sports de combat et des arts martiaux (SCAM). Dans ce cas, il s'agit de revisiter, par exemple, les notions de concentration, attention et motivation, selon ce que convient aux façons spécifiques de chaque type de combat. Néanmoins, une stratégie compréhensive en psychologie du sport essaye de respecter le corps de l'autre, en comprenant l'expérience de combat selon laquelle il/elle vit, avant une intervention ou une recherche quelconque.

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Characterizing Instrumented Activity in Trail Running through the Articulation of Phenomenological and Behavioral Data

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Keywords: enaction, phenomenology, trail running, mixed approaches

Introduction

Previous studies in sport sciences have already shown the interest of crossing behavioral indicators with phenomenological data (e.g., Sève et al., 2013; Gal-Petitfaux et al., 2013) for a holistic understanding of activity; they also raised the question of identifying the relevant macroscopic variables that capture the complexity of human activity. In this perspective, following Varela's proposal (Varela, 1996) we propose a non-dualistic conception of the articulation of first- and third- person data in a relation of mutual enrichment. This conception is particularly relevant for the analysis of instrumented activity in trail running, as runners need to find an efficient way to carry their equipment to sustain their logistical autonomy in race and training situations. However, the perceived backpack bouncing is a salient, recurrent and problematic issue in this sport and we sought to gain greater insight into this phenomenon by assuming that a common variable can be documented both at the phenomenological and behavioral scales. Therefore the aim of this study was to characterize trail runners' interactions with different carrying system conditions in an ecological context of use via a conception of a mutually enriching relationship of first- and third-person data.

Method

Nine experienced trail runners volunteered to participate in the field test protocol. They were asked to run at a regular pace a 3-kilometer route using five carrying conditions (they changed equipment at the end of each loop). The route was marked and featured several terrain conditions typical of trail running and was split in two sections (i.e., section 1, a flat, asphalt road and section 2, a hilly single track in the forest). Runners were instrumented with four wireless inertial sensors (IMU): one was placed on the hip and three on the carrying system. The behavioral data treatment consisted of computing the vertical accelerations using the vector coding technique to document the low-order parameter of coordination. The high-order parameters were characterized by the acceleration couplings between the hip and one of the sensors positioned on the carrying was categorized in one of the four coordination modes: in-phase, anti-phase, hip in advance or either left strap, right strap or backpack in advance. In addition, just after the field protocol, self-confrontation interviews were conducted with the participants to collect phenomenological data; then in-depth analyses of the interviews we conducted to identify typical elements associated with each carrying condition, and especially situate their temporal emergence and recurrence during the trials.

Results

The phenomenological dynamics highlighted two main findings: (1) the identification of disturbing elements that are specifically linked to the structural characteristics of the carrying systems; thus some of them were more strongly associated with the issue of bouncing and (2) a well-defined temporal layout of these disturbing elements showing that they are more salient in the first section of the route. The behavioral results showed that (1) the low-order parameters of coordination matches the runners' experience by reporting that the most appreciated carrying condition (i.e., a vest with the bottles on the hips) was also the condition that significantly reported the lowest acceleration values. Conversely, the less appreciated condition (i.e., a backpack with the bottles on the shoulder straps) displayed the significantly higher acceleration values. (2) The high-order parameters reported that the less appreciated condition had an anti-phase relationship of the hip/carrying system coupling, while the hip/carrying system coupling of the most appreciated condition showed an in-phase relationship. In addition, for both low- and high-order parameters, statistical analyses reported a "section effect", suggesting that the vertical acceleration were significantly higher in the first section of the route (i.e., a flat, asphalt road).

Discussion

Results showed congruence between runners' experience (i.e., perceived comfort of the carrying system) and behavioral data in terms of (a) vertical oscillations of the system (i.e., low-order parameters) and (b) the couplings between the runners and the backpack accelerations (i.e., high-order parameters), with a converging evidence of two types of data. Indeed the first type was the phenomenological data that enabled us to identify the themes associated to comfort and discomfort induced by each carrying system condition and the phenomenological dynamics associated to the carrying system and the environment (i.e., section 1 of the route). They also enabled us to select the relevant third-person variable to investigate, which was the vertical accelerations of both the runner and carrying system (i.e., acceleration extremum and couplings). This data crossing sought to document a similar aspect (i.e., the bouncing) but revealed differently according to the type of data. Taken together, these results suggested that phenomenological data could be used to select and sample the relevant third-person variable to investigate for a mutual enrichment about a specific phenomenon emerging from activity. Furthermore, the interplay of such

phenomenological and behavioral data helped to interpret the perception-action couplings relating to the hip-backpack coupling time-series during running. In addition, the experiential data also revealed differences in runners' interactions with the carrying systems also in relation to the terrain (i.e., sections 1 and 2), which also differed at the behavioral level. They also provided new perspectives for an enactive and phenomenological approach of instrumented activity in sport. Finally, our results suggested that backpack bouncing is a significant source of discomfort that manufacturers should take into account during the design phase to develop carrying systems that enable to run efficiently with a load.

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Gym-Skill Technique as a Situated and Distributed Cognitive Scaffolding Process

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Keywords: Expert Coaches, Teaching, Gym-skill Technique, Cognitive Processes.

Introduction

Technical and tactical skill development, part of the core craft skills of sports coaches, confer physical body techniques to a central role in professional cultures of sports. The optimal body placements for motor-skill execution (Durand et al., 2005), which coaches teach their athletes in order to optimize their performance, carry a degree of ambiguity in gymnastics culture. Indeed, the movement, as scored by a panel of judges, is both method/vector and result/outcome of the performance. This ambiguity is ingrained by the contents of the reference guides written and published for coaches by the governing body for gymnastics in France (the French Gymnastics Federation), and which tend to confine performance to behavioural expressions (Hauw, 2009).

The spatial and temporal descriptions of the gym skill techniques, erring between canonical forms and analytical movement-by-movement breakdowns into kinematic storyboards and schematized representations and the processes that make them, ultimately constitute commoditized reification, or what Garassino (1980) deplored as an “abusive substantialization” of the gymnast's art. By only shedding light on the output expected from teaching–learning interactions, these theory-heavy rationalizations narrow teaching down to simply closing the performance gap to objectivized behavioural models and narrow the

gymnast's art down to reproducing the most efficient and effective movements. Left in the dark are all the constitutive processes, the organic work (Garassino's (1980) "*travail vivant*") behind the scenes, all the input it takes to slowly learn the techniques that make this output, and in conjunction, the tacit knowledge and intuitive perceptions mobilized by the gymnasts and their coaches alike. The disciplinary inscription of the study in cognitive anthropology advocates a move away from these naturalism-first characterizations of gym skill techniques towards a more comprehensive human-enactive approach, to uncover how, in actual situational intervention, coaches read meaning into gymnasts' successively attempted moves on the apparatus. This "activity-first" postulate (Durand et al., 2005; Hauw, 2009) offers the opportunity, through its ground theory and methodology frame, to characterize the gym skill techniques as pedagogical content knowledge (Shulman, 1987). It's a question of capturing and describing the micro-temporal cognitive processes manifested by expert artistic gymnastics coaches as they enact interventions to guide gymnast learning. The enaction paradigm (Varela, 1989) considers the experiential and embodied dimension of cognition, which it characterizes as a relational feedback process emerging from the interaction between an actor and the environment it selectively creates, and the world of meanings it generates.

Method

In order to document the dynamics of coaching activity praxis engaged when observing the moves being performed and regulating the gymnasts' executions, we employed Vermersch's explication interviewing technique to elicit verbalizations of the coaches' reflective experience (Vermersch, 1994) and cross-matched this experience to the observable praxis engaged in these adaptive adjustments. The material data collected was analysed through a qualitative inductive analysis process using the constant comparative method (Glaser and Strauss, 1992).

Results

Engaged in an activity to guide perfect execution of gym skills by gymnasts aspiring to join the elite, the coaches—considered experts by the gymnastics community—discretize gymnastic movement into units or sequences that their teaching experience has taught them to recognize as critical to successful execution of the moves. These sequences, which coaches term *placement phases*, constitute coherent systems of properties that are neither stabilized nor stably framed but perpetually densified as the coaches progressively self-learn to problem-solve attempted skill-moves. The properties that emerge, shaped by original and complex situated interventional praxis, the dynamics of the coaching work, do not limit the gymnast's attempted skill-moves to a translation of their physical-figuration dimension (body placement, positions-in-space on the apparatus, motor-skill operations, demonstrations), but also characterize the gymnast's intentionality-in-action (what he is trying to do, see, feel, etc.). These properties, sequenced by a system of cause-effect links, lend the *placement phase* a physical-figuration typicality that frames and organizes the coaches' perceptive skills. They also constitute a fairly dense repertoire of pathways for original as-seen situated intervention geared to bringing about the expected transformations and, ultimately, potentiate longer-term progress. This is because when they act on one property, the coaches aim to co-optimize the other properties, the target phase, and the all-round skill being worked on. The phase, like its defining metonymic properties, thus constitutes a simplex syncretic unit of action scaffolding possibilities for coach-practitioner co-action.

Discussion

These findings recast gym-skill technique as an enactive cognitive process that is forged by and for the activity of gymnastics skills coaching, and that is situated and distributed between the protagonists and the environment and material structures, being embedded in the coach-gymnast dyad through learning-in-action on the apparatus. Gym-skill technique

is also embodied, with coaches perceiving speeds, accelerations, body tensions, intensities of action, etc., all based on their own situational experiences of sensorimotor capacities. Here, marking a break away from an inert perspective of technique argued by theoretical formalizations in the scholarship which tends to typecast the gym-skill technique as static body-shape configurations, the results prompt a recast of technique as deeply embedded in human praxis—both “anthropologically constitutive” and “constitutional” (Steiner, 2010) due to the way it potentiates new knowledge-sets as resources tied to the intervention setting.

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9H-10H Auditoire 1216	Keynote 3. The Goldilocks approach to Talent Development – making your TDE ‘just right’ Dave Collins, Chair and Director, Institute of Coaching and Performance, University of Central Lancashire, UK
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Abstract

Talent Development Environments (hereafter TDEs) are important! They are a major factor in the conversion of talent. Furthermore, they can offer a broader education to everyone involved. Finally, if introduced to the right group, they can generate life influencing change...

...OR they can screw you up big style!

So, given the power of TDEs, they are an important area for study and (demonstrably) correct application. In this keynote, I offer some evidence for the claims above, then provide some suggestions for how TDEs at all levels can be structured and then tweaked to optimise return for all stakeholders. As part of this argument I offer data, some direct, some suggestive, to support these structures. In doing so, I stress the importance of long term aims, holistic methods and involvement of all key stakeholders.

Presentation

Athletes train to enhance and optimize performance. Performance increases are achieved, when the intensity, duration and total workload of exercise are appropriate for the actual performance level and the workloads are followed by adequate periods of rest. However, a rigorous training schedule with insufficient recovery caused through other sources of non-training stress may lead to maladaptive responses in form of performance decrements along with other symptomatology, which is labeled non-functional overtraining or overtraining syndrome (Meeusen, Duclos et al. 2013). In spite of the high career prevalence (30% in Swiss athletes; Birrer, Lienhard et al. 2013), it seems to be one of the most misunderstood and misconceived phenomenon in sport science. In the definition of the European College of Sport Science position statement on the overtraining syndrome, Meeusen and colleagues (2013) emphasize the use of the expression “syndrome” to express the multifactorial etiology of the phenomenon. Regardless the terminology, training is not the sole causative factor but several other factors such as inadequate nutrition, illness, psychosocial stressors (work-, team-, education-, family-related) are leading to the prolonged maladaptation, similar to the one that can be observed in an adjustment disorder (Jones & Tenenbaum, 2009). Therefore seeing non-functional overreaching and the overtraining syndrome as maladjustment similar to an adjustment disorder gives promising new options in the detection and treatment of this phenomenon.

The present workshop deals with the case of an overtrained elite rower with his physiological, psychological and social symptomatology. The symptoms are highlighted from a perspective of adjustment disorder and psychometric measures of one of the common symptoms, namely severe mood disturbances, are presented and discussed. Adjustment disorder is viewed as a response to identifiable stressors that results in clinically significant symptoms. The athlete's inability to adjust to the demands of his athletic and non-athletic life (stressors) are seen in his symptomatology of maladjustment with unremitted fatigue, depressed mood, and anxiety. Effective treatment of poor adjustment requires the understanding of the full etiology of the case and not just the adaptation of the training and recovery schedule. As a consequence, the rower of the presented case was treated with mindfulness and acceptance based interventions (Birrer, Röthlin, & Morgan, 2012) to tackle his inability to be aware of his basic bio-psycho-social processes, athletic-centered one-dimensional personality, predominant sources of self-worth and to be able to live a rich and value-based life. After the treatment, the athlete was able to pursue his career with competing at major international events such as World Championships and Olympic Games. Seeing non-functional overreaching or the overtraining syndrome as a subclinical or clinical form of an adjustment disorder enables to recognize the multifaceted nature of the athlete's maladjusted state and to quantify the complex interplay of variables. This view allows the practitioner to respond with the most pertinent rehabilitation and treatment strategies. Due to his emphasis of psychological flexibility, mindfulness and acceptance based treatment forms might be very suitable for the prevention, treatment, and relapse prevention of different forms of maladjustment in athletes.

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**10H30-11h15
11h15-12h
Auditoire 1216**

**Atelier Pratique 6. Troubles des conduites alimentaires et de l'image du corps chez les sportifs
Greg Décamps (Université de Bordeaux)**

Evidence scientifique en lien avec la thématique du cas pratique choisi

Si la question des troubles alimentaires et des troubles de l'image du corps chez les sportifs a fait l'objet d'un certain nombre de publications scientifiques permettant de mieux en appréhender les déterminants ainsi que les modalités d'intervention psychologique susceptibles de les prendre en charge, il n'en reste pas moins que les modalités de repérage diagnostique restent délicates pour les praticiens amenés à détecter ou accompagner ces sportifs. En effet, la symptomatologie observée dans l'un ou l'autre de ces syndromes est parfois très proche des signes identifiés dans d'autres troubles, comme notamment les syndromes d'addiction à la pratique sportive. De même, la coexistence de signes correspondant à plusieurs de ces troubles différents rend parfois le diagnostic difficile.

Présentation du cas

Le cas clinique présenté proposera de considérer la symptomatologie d'un patient ayant bénéficié de consultations psychologiques pour une problématique initialement présentée comme un trouble de l'addiction à la pratique sportive donnant lieu à l'installation d'un syndrome dépressif sévère, patient sportif présentant également des perturbations sur le plan de l'image du corps et des conduites alimentaires.

Analyse et suivi pratique du cas

Au-delà de l'analyse de la demande du patient et de son évolution, l'étude du cas proposera de considérer la pertinence des différentes hypothèses diagnostiques envisagées mais également des méthodes d'investigation visant à approfondir l'évaluation des signes cliniques. L'évolution du patient en lien avec les différentes modalités thérapeutiques mises en place (psychothérapeutiques, médicamenteuses, comportementales) sera également analysée.

Discussion

L'étude de ces éléments permettra de discuter l'impact du genre ainsi que des facteurs sociétaux sur les modalités d'apparition des troubles présentés par le patient, tout en considérant la symptomatologie dans une perspective systémique visant à considérer la place du patient au sein de sa structure familiale (et l'influence de cette dernière sur les troubles du patient).

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10H30-12H Salle 2212 Symposium 5. Dual career athletes support: research-based and applied views

(Chair: Debois, N. & Wylleman, P., INSEP & Vrije Universiteit Brussel)

- Wylleman, P., De Brandt, K., Defruyt, S., Smismans, S., & De Knop, P. (Vrije Universiteit Brussel): A holistic perspective on dual careers
- De Brandt, K., Wylleman, P., & De Knop, P. (Vrije Universiteit Brussel): Balancing elite sport and education (2): A longitudinal investigation into student-athletes' academic performances
- Defruyt, S., Wylleman, P., & De Brandt, K. (Vrije Universiteit Brussel): The dual career competencies questionnaire for support providers (DCCQ-SP): possible applications for sport psychologists
- Blondel, L. & Leseur, V. (INSEP): Les pratiques d'accompagnement au double projet : témoignage d'expert
- Nicaise, V. & Lienhart, N. (Université Lyon): A collaborative sport psychology program for parents in youth high-level sport context
- Debois, N. & Bonvin, V. (INSEP): Compétences des accompagnateurs des SHN en double projet : données de la recherche et réflexion sur les problématiques professionnelles observées

Dual Career Athletes Support: Research-Based and Applied Views

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Résumé

Dans une perspective de contribution à la fois à la réussite sportive et au développement personnel des sportifs de haut niveau (SHN), de nombreuses initiatives ont été engagées dans un nombre croissant de pays (Stambulova & Ryba, 2013), pour proposer aux SHN un soutien à la gestion de leur carrière sportive et à la préparation de leur devenir à l'issue de cette carrière. Le plus souvent qualifié d'accompagnement au double projet, ce soutien s'inscrit dans une approche holistique d'accompagnement au développement de la personne intégrant la dimension sportive, éducative, professionnelle mais aussi la dimension psychologique et sociale (Wylleman & Lavallée, 2004).

Dans ce domaine, un nombre conséquent de recherches a été développé. Si les travaux menés dans les années quatre-vingt-dix portaient plus particulièrement sur les conditions d'accès au haut niveau d'une part ou la transition d'arrêt de carrière d'autre part, un nombre croissant d'études s'intéressent plus particulièrement aux éléments permettant de concilier réussite sportive et développement personnel tout au long du déroulement de la carrière. Ce symposium se propose d'illustrer ce domaine de recherche par la présentation de travaux actuellement menés par différents laboratoires mais aussi de présenter des éléments concrets de mise en œuvre des pratiques d'accompagnement au double projet et les problématiques qui en émergent.

Paul Wylleman introduira le symposium en resituant le cadre théorique dans lequel il s'inscrit, à savoir l'approche holistique du développement de carrière qu'il a développé. Koen De Brandt rendra compte d'une étude longitudinale permettant d'identifier les profils

de SHN à risque d'abandon de leur formation en cours de carrière sportive. Simon Defruyt présentera un questionnaire d'évaluation des compétences que les accompagnateurs des SHN en double projet ont à mobiliser. Laurence Blondel proposera une illustration pratique en décrivant la procédure d'accompagnement du double projet développée à l'INSEP et plus largement en France. Virginie Nicaise, quant à elle, présentera une étude en lien avec les rôles et comportements des parents dans l'accompagnement de carrière sportive de leurs enfants. Enfin, Nadine Debois conclura en comparant les résultats observés d'une recherche sur les compétences des accompagnateurs du double projet et les problématiques actuelles rencontrées dans l'accompagnement des SHN.

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A Holistic Perspective on Dual Careers

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Key words: Holistic, Dual Career

Introduction

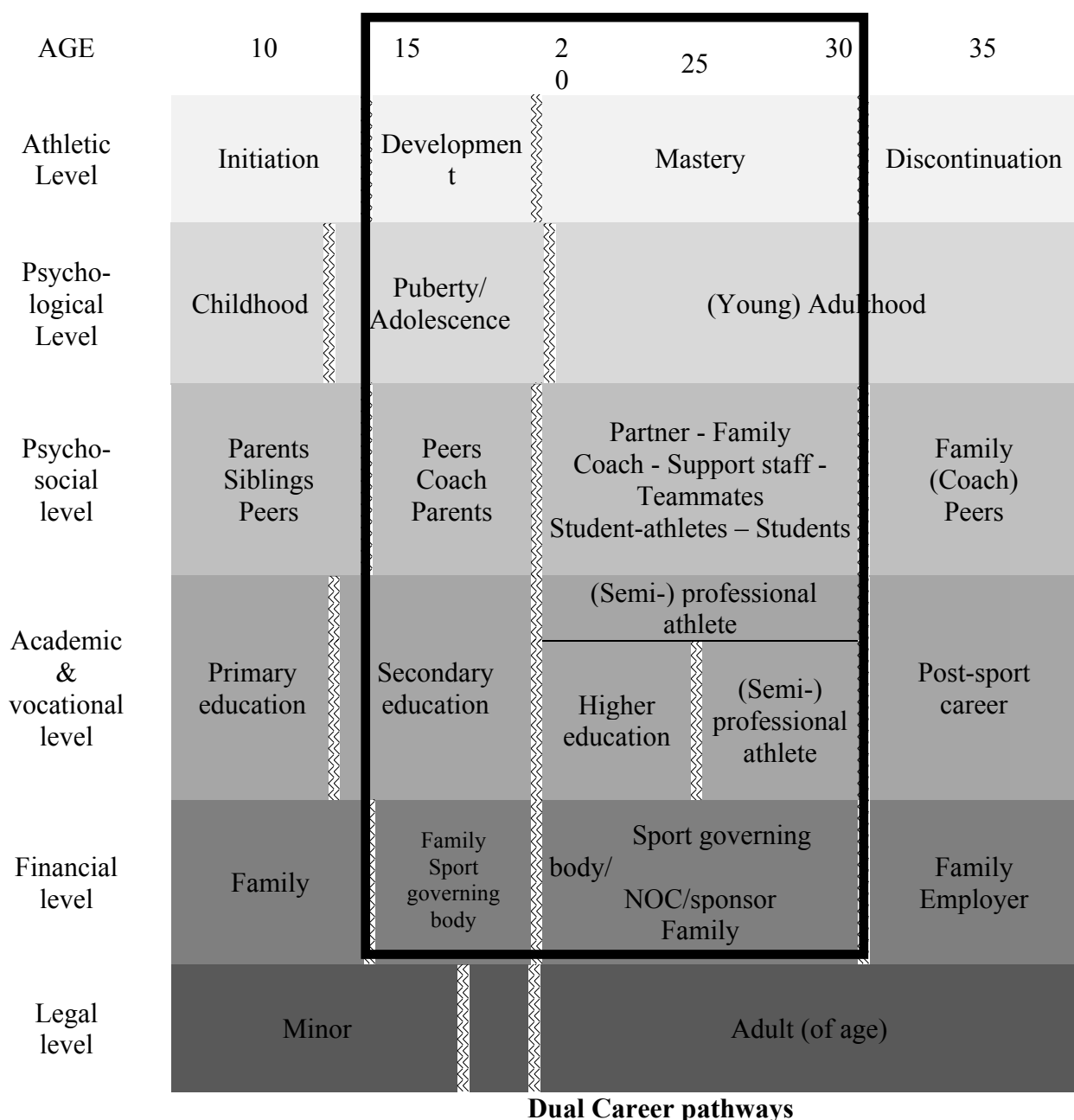
Research has shown that talented and elite athletes face challenges combining their sport career with education and are thus in need of developing a dual career 'education and sport' pathway in order to avoid to be forced to choose between education and sport (European Union, 2012).

Taking into account that dual career 'education and sport' pathways may assist athletes not only to perform well and compete at international level, but also prepare them for highly qualified employment on the European labor market, a strong need exists not only to fully understand the way in which talented and elite athletes are able to start and successfully a dual career 'study and elite sport' or 'employment and elite sport'.

Research has shown that the development and impact of a dual career pathway should be considered developmentally as well as holistically (e.g., Stambulova, & Wylleman, 2015; Wylleman, Reints & De Knop, 2016). From a developmental perspective, the dual career is not uniform and consistent in nature but actually consists in different stages and transitions. From a holistic perspective, research has shown that athletes are not only confronted with challenges at academic and athletic level, but in fact face throughout their dual career concurrently challenges and (possibly conflicting) requirements at psychological (e.g., stress related to exams, increased need for independence and self-regulation), psychosocial (e.g., residing in a student-home, integrating in a new social network), financial level (e.g., tuition fees, private mentoring), and legal level which will influence the progress athletes will make throughout their dual career (cf. Figure 1).

As an introduction to the symposium 'Dual career athletes support: research-based and applied views', this presentation will use a developmental and holistic perspective to focus on the challenges talented and elite athletes may face during their dual careers.

Figure 1. The Holistic Athlete Career model representing transitions and stages faced by athletes at athletic, psychological, psychosocial, academic/vocational, financial and legal levels of development in relation to the possible dual career of talented and elite athletes.



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Balancing Elite Sport and Education (2): A Longitudinal Investigation into Student-Athletes' Academic Performances

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Key words: Study Efficiency, Dual Career, Holistic

Introduction

A within-career transition faced by a majority of athletes when undertaking a dual “study and elite sport” career, is the normative transition to a combination of elite sport and higher education (Wylleman, Alfermann, & Lavalée, 2004). While there is a significant body of European research on the demands (e.g. Brown et al., 2015), required resources (e.g. De Brandt, Wylleman, Torregrossa, Defruyt, & Van Rossem, 2017; MacNamara & Collins, 2010), possible benefits (e.g. Aquilina, 2013), and potential costs (e.g. Cosh & Tully, 2014) of athletes’ dual career in higher education, little research is available on the actual outcomes of European athletes’ dual career pathways, in particular with regard to student-athletes’ academic performances. Therefore, the objective of this study was to investigate the academic performances of elite student-athletes during their first three years at a Flemish university.

Method

The academic performances of 111 elite student-athletes (mean age at entry into university = 18.1, SD = 0.6; 60% male – 40% female) were monitored over the course of their first three years at a Flemish university, which was purposefully selected based on its support provision to student-athletes. The study efficiency rate and dual career dropout rate were used as indicators of student-athletes’ academic performance. The study efficiency rate is calculated as the ratio between the number of credits (ECTS) acquired and the number of credits taken (Raad Hoger Onderwijs, 2013). Dual career dropout rates were studied in view of dropout from academia (i.e. leaving the university) or sport (i.e. losing elite student-athlete status). Possible differences for gender, type of sport, athletic level, study subject, type of secondary education (i.e. general, technical, or vocational preparation), and dual career background (i.e. whether or not athletes attended an elite sport school in secondary education) were examined. Using SPSS 23.0, dropout rates were calculated after year 1 and 2 for different groups of student-athletes, and differences in distributions examined using Chi-squared tests. Kruskal-Wallis and Mann-Whitney tests were performed to compare study efficiency between different groups within the same study year (i.e. cross-sectional), while multiple Wilcoxon signed-rank tests were performed to examine within-subject changes in study efficiency between year 1, 2, and 3 (i.e. longitudinal).

Results

Results showed that one athlete in three dropped out of their dual “university and elite sport” career in the first three years. Those who dropped out from their dual career had significantly lower study efficiency rates than non-dropouts. Dropout from academia was more prevalent than dropout from elite sport, especially after the first year. All those who dropped out of elite sport continued their studies at the university. Furthermore, five academic “risk” groups were identified. Student-athletes who were male, participated in team sports, competed at a higher athletic level, had a technical or vocational preparation in secondary education, or attended an elite sport school demonstrated not only higher dropout rates from academia, but also generally lower study efficiency rates, and significant declines in study efficiency over time. Finally, significant within-subject (i.e. longitudinal) differences were more prevalent than between-group (i.e. cross-sectional) differences.

Discussion

The study contributes to a stronger knowledgebase on student-athletes' academic performances in a local dual career context, using the European credit system as a measure of performance. To the best of our knowledge, no other studies identified the number of student-athletes dropping out from their dual career at a European university. Comparisons with dropout rates of regular Flemish students (OECD, 2013) tend to show lower academic dropout rates for both male and female student-athletes in our population (male: 38% vs. 25%; female: 24% vs. 11%). The results emphasize the importance of a systematic, longitudinal monitoring of athletes' dual career pathways. Furthermore, the different patterns in study progress (e.g. consistency, declines, and dropout) for different subgroups of student-athletes highlight the importance of taking into account the diversity among student-athletes (and by extension all students), supporting previous calls for individualized and tailor-made approaches among learners (European Commission, 2015). Future investigations into student-athletes' academic performances using quantitative and qualitative research methods are recommended in order to facilitate comparisons with existing results. Studies using a holistic perspective to explore the underlying reasons of athletes' performance drops and dropout are of particular interest. Recommendations for higher education institutions to optimise their monitoring and support processes for student-athletes will be suggested during the presentation.

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The Dual Career Competencies Questionnaire for Support Providers (DCCQ-SP): Possible Applications for Sport Psychologists

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Introduction

Competent dual career (DC) support is crucial to enable athletes to pursue a dual elite sport and study career (EU Expert Group, 2012). Previous DC support research has focused on practical aspects of support for DC athletes (Aquilina, 2013), environmental approaches (Henriksen, Stambulova, & Roessler, 2010), or on evaluating support programmes from the DC athletes' perspectives (López de Subijana, Barriopedro, & Conde, 2015). However, DC research and practice barely focused on the competencies of dual career support providers (DCSPs) themselves require to provide quality DC support towards athletes (Hong & Coffee, 2017). Therefore, current study will focus on the development, initial validation and possible applications of a framework that measures competencies of practitioners supporting athletes in their DC.

Method

This research was part of the Gold in Education and Elite Sport project, an Erasmus+ project that was co-funded by the European Union. In a first phase, the Dual Career Competencies Questionnaire for Support Providers (DCCQ-SP; Defruyt et al., 2017) was developed in English. Based on a qualitative research (Richard, 2015), the research literature, theoretical foundations, experts' panel focus groups, and a quantitative pilot survey, a list of 33 important competencies for DCSPs was developed and divided into 6 competency factors: (1) reflection and self-management competencies, (2) advocacy and cooperation competencies, (3) organisational competencies, (4) empowerment competencies, (5) awareness of DC athlete's environment, and (6) relationship competencies.

In a second phase, to the online version of the DCCQ-SP was translated into the languages of the participating countries and completed by 288 DCSPs from nine different EU Members States: the Netherlands (25%), France (19%), the UK (16%), Spain (12%), Sweden (12%), Belgium (7%), Slovenia (5%), Italy (3%) and Poland (2%). The sample consisted of 50.6% female and 49.4% male DCSPs. Participants were asked to rate the list of 33 competencies on importance (1=unimportant – 5=very important) and possession (1=very poor possession – 5=very good possession). Mean importance and possession scores were calculated using SPSS 25.0. To test the factor structure of the DCCQ-SP, Confirmatory Factor Analysis (CFA) was conducted using MPlus 7.0. CFA was preferred above an exploratory approach because of the strong theoretical and empirical background and thoroughly executed development of the competency list and factors. Cronbach's Alpha of the competency factors were computed to assess internal consistency of the subscales.

Results

The DCSPs reported a high mean importance score ($M = 4.26$, $SD = 0.41$) and all competencies were considered as important up to very important (range: 3.99-4.60), confirming the relevance of the DCSP competencies of the DCCQ-SP. The DCSPs self-reported an average up to high mean competency possession score ($M = 3.90$, $SD = 0.48$), with the mean perceived possession ranging from average up to very good possession (range: 3.50-4.28). CFA Fit indices for the 6-factor structure of the DCCQ-SP were acceptable ($CFI = .936$ $TLI = .930$) up to excellent ($RMSEA = .059$). Cronbach's Alpha coefficients for the competency factors were: .85 for 'advocacy and cooperation competencies', .76 for 'Reflection and self-management competencies', .76 for 'organisational competencies', .67 for 'awareness of student-athletes' environment', .82 for 'Empowerment competencies' and .85 for 'relationship competencies'.

Discussion

Overall, this study provides preliminary confirmation of the factorial validity of the DCCQ-SP in a European context. Although the first results affirm the factorial validity and internal consistency, more research is needed regarding the psychometric properties of the DCCQ-SP. Future research should assess the test-retest reliability, concurrent, construct and external validity of the DCCQ-SP. Practical implications and suggestions for the use of the DCCQ-SP in practice will be shared. As suggested by Hanton & Fletcher (2005), sport psychologists need to broaden their competencies in order to cope with organisational and societal challenges in the domain of elite sport. The DCCQ-SP can help them (a) to develop their own competencies regarding DC support, (b) develop competencies of other stakeholders in DC contexts. Specific suggestions and tools will be shared to enhance the professional development, education and accountability of DC support provision.

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Les Pratiques d'Accompagnement au Double Projet : Témoignage d'Expert

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Mots clés : Accompagnement, Orientation, Individualisation

Introduction

L'INSEP, Institut National du Sport, de l'Expertise et de la Performance, grand établissement public à caractère scientifique, culturel et professionnel, contribue à la mise en œuvre du projet d'excellence sportive en développant les conditions les plus propices possibles à la réussite du double projet, sportif et professionnel. Cet axe fort du Ministère des Sports est ancré dans le paysage du haut niveau depuis les années 70. Le ministère chargé des sports développe cette politique de suivi social afin que les sportifs de haut niveau (SHN) puissent atteindre leurs meilleurs niveaux de performance tout en leur garantissant la poursuite d'une formation et d'une insertion professionnelle correspondant à

leurs capacités et aspirations. Si certains des sportifs en pôles France au sein de l'INSEP savent parfaitement ce qu'ils visent et ont une idée du ou des chemins à parcourir pour ce faire, d'autres ont besoin d'être accompagnés.

Depuis les années 2000, l'accompagnement aux projets de formation des SHN est passé d'un choix limité de propositions de parcours à une étude individualisée de chaque projet. Aujourd'hui, Les orientations des projets de formations sont aussi variées et nombreuses que les sportifs sont différents. Cette approche s'appuie sur une vision holistique de l'accompagnement dans le sens où sont pris en compte tous les paramètres mais également les acteurs gravitant autour du SHN. Tous sont interrogés et mis en synergie.

Une cellule spécifique dédiée à l'accompagnement est mise en place au sein de l'INSEP. L'étude fine et approfondie de chaque projet de chaque sportif est menée. Cette cellule est un guichet d'entrée permettant d'étudier au plus près les besoins et aspirations des sportifs en matière de formation et de professionnalisation.

Méthode

L'aide à l'orientation, à la prise de décision sont menées par des professionnels en coaching, en psychologie de l'orientation mais également avec les responsables de formation des études concernées ainsi que des staffs sportifs pour une véritable cohérence autour du projet du sportif selon un principe de réalité. Il n'en demeure pas moins que, in fine, la décision incombe à l'intéressé.

Chaque sportif nouveau venu au sein d'un pôle France de l'INSEP, déjà en pôle France ou en partance passe par l'unité pour l'étude de la faisabilité de son projet de formation ou de sa poursuite d'études. Cette méthodologie est mise en place tant au niveau des sportifs en lycée qu'avec les sportifs au niveau universitaire et professionnel. Chaque projet est clairement identifié accompagné dans sa faisabilité et sa mise en œuvre (aménagement des plannings, des horaires, des examens à passer...).

Le process mis en place est le suivant :

- Des entretiens menés sous différents angles : (a) Utilisation du « clean langage » de manière à faire émerger les besoins et motivations les plus profonds de chaque sportif. Ces entretiens sont menés autant de fois que nécessaire et ce, pour que le sportif puisse clairement édicter ce qu'il veut faire ; (b) Conjointement à ces entretiens, des tests d'intérêts sont proposés. Tests « horizon carrière » : inventaire d'intérêts professionnels ainsi que l' Hexa 3D (outils psychométriques) ; (c) La méthode ADVP est également utilisée pour faire émerger les valeurs, les centres d'intérêts, l'internalité, l'externalité de l'individu.
- A la suite de ces entretiens, le sportif et l'accompagnant co-construisent un projet professionnel avec les critères de choix que le sportif a lui-même élaborés. Des allers/retours sont effectués avec : le sportif, les interlocuteurs concernés pour la formation choisie (responsable de formation au sein de l'INSEP, directeurs d'établissements, responsable de formation universitaire) ainsi que les interlocuteurs concernés par la partie sportive (fédération sportive, responsable de pôle France, entraîneur...).
- Le suivi tout au long de l'année est effectué par des collègues responsables de formation. Des points réguliers ont effectués durant l'année avec le sportif, le pôle France, la fédération ou encore lors des commissions réunissant tous ces acteurs.

Il n'en demeure pas moins que rien n'est figé, de ce fait le projet de formation est vu et revu dès qu'une problématique apparaît (médaillles, blessures, arrêt, sortie de pôle...).

C'est un process récursif.

Résultats

Le taux de réussite au baccalauréat est maximal : 100% de réussite ;

Les formations universitaires attestent une réussite de 78.5%, celle des formations professionnelles de 71.7%.

On constate une augmentation du choix des formations à distance et d'une ouverture du choix de leurs formations. La qualité de l'ensemble de ces résultats atteste de l'évolution des pratiques d'accompagnement des SHN et du bon degré de prise en compte par les établissements de l'enseignement professionnel et supérieur des contraintes sportives, sur la base d'une adaptation de la durée de formation, des examens et d'une individualisation de plus en plus marquée des actions de formation. L'offre de formation proposée s'enrichit d'année en année par des partenariats avec les différentes universités ou les centres de formation pour être au plus près des projets professionnels des SHN.

Il n'y a quasiment plus de sportifs en totale « déperdition » au sein de l'INSEP quant à leur projet de formation.

Discussion

La vision de l'accompagnement pour le double projet des sportifs de haut niveau est un fonctionnement partagé des différents acteurs. Au cours des quinze dernières années nous sommes passés d'un fonctionnement local (établissements hébergeant des pôles haut niveau, mise en place d'initiatives sur les régions...) à un fonctionnement partagé par tous les acteurs.

Dans cette nouvelle vision, est mise en place depuis 2016 une formation ministérielle à destination des cadres des fédérations en charge du suivi socio professionnel des sportifs de haut niveau (loi de 2015 donnant obligation d'un cadre en charge de ce dossier). Dans le même sens, les 20 établissements répartis sur l'ensemble du territoire accueillant les sportifs de haut niveau se concertent et échangent sur tous les sujets ayant trait au socio professionnel par l'intermédiaire de visio-conférences mises en place par l'INSEP. Ces espaces collaboratifs, comme la formation des cadres fédéraux : partage d'expériences et solutions mises en commun pour l'accompagnement du sportif dans son projet de vie.

La transversalité et la mutualisation à tous les niveaux de l'accompagnement du sportif (niveau fédéral, niveau des établissements mais également au niveau du territoire via les directions régionales) seraient les axes vers lesquels le sport de haut niveau se dirigerait.

A Collaborative Sport Psychology Program for Parents in Youth High-Level Sport Context

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Key words: Adolescent, Athlete, Parent, Educational Program

Introduction

Parental involvement increases the chances for children to achieve their sporting potential, to have a positive psychosocial experience, and to develop a range of positive developmental outcomes (Vincent, & Christensen, 2015). Such involvement requires parents to develop specific intrapersonal, interpersonal, and organizational skills. Given the impact that parents can have on their children's sport experiences, programming designed to help parents understand and manage their youth sport roles can have a beneficial effect on parents and youth athletes alike (Holt & Knight, 2014).

Parents of elite athletes face on stressful and challenging role, which could change in being no longer close to the center of their child's athletic world (Jowett & Timson-Katchis, 2005).

The purpose of this study is to present two parental workshops conducted by two psychology researchers.

Method

A total of 109 parents ($n^{\text{mother}}=57$, $n^{\text{father}}=52$), among them 33 couples, were present at the 1st workshop. The 2nd workshop meetings will be done at the end of January 2018. Seventy six adolescent athletes ($n^{\text{girls}}=53$; $n^{\text{boys}}=23$; $M^{\text{age}}=14,48$, $SD=1,21$) are attending to intensive training centers (soccer, basketball and handball). These intensive training centers are structures that receive the best adolescent athletes in France, five days per week. These centers: (a) help athletes to reach the highest levels of performance; (b) provide the necessary preparation for a successful transition to professional sporting life; and (c) focus on having good academic outcomes. They trained for an average of 13 hours per week and had been involved in competitive sports for an average of 5.5 years.

Overall Program- Workshop Descriptions: Six elite organisations were involved and volunteer to participate at this parental program project (2 soccer feminine, 3 feminine and masculine basketball, 1 feminine and masculine handball organisations from Lyon; South East of France). The parent workshop occurred in two different moments, at the start of the season (August/September 2017) and after 3 months (December 2017/January 2018), during a 90 minutes period. One month after the first workshop, a parental guideline (10 pages length) was built by the researchers, and sent to all parents who attending to the first workshop and parents who show-up at the second. The themes of this parental guide were child's motivation, parental behaviours, child-parent communications, parental communication with the staff, and scientific references related to parental involvement. Evaluations of each workshop were anonymously done at the end (*i.e.*, global point of view, program effects on your own attitudes and behaviours, main knowledge, more information needed). All activities were done by group of 4/6 persons.

Mother, father and child measures: Pre-tests data were collected before the first intervention and post-tests are proposed 3 months after the second, the last workshop (April/Mai 2018). For Child: *Parental Involvement in Sport Questionnaire (Directive, pression, active involvement and praise/understanding behaviors; Bois, Lalanne & Delforge, 2009), *Parental perceptions of support of basic psychological needs (Autonomy, competence, relatedness; Sanchez-Oliva, Leo, Amado, Cuevas & Garcia-Calvo, 2013), *Satisfaction of basic psychological needs (Gillet, Rosnet & Vallerand, 2008) : autonomy, competence and affiliation, *Motivation : the French version (Viladrich et al., 2013) of the Behavioral Regulations in Sport Questionnaire (intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation), *Enjoyment (Duda & Nicholls, 1992). For Mother and father: Parental Involvement in Sport Questionnaire, Parental perceptions of support of basic psychological needs, and previous and actual level of sport practise.

Table. Workshops, Activities and Learning Objectives

Workshop Title	Activities	Learning Objectives
Role and statute of all actors around the child project	1. Defining all child supports (medical, technical, scholarship, family, friends)	Increase awareness on many actors related to their child high level sport project.
	2. Classify who is doing what?	1. Consider that each actor has specific role and complementary role to share and to manage. 2. Outline that communication is essential.
	3. Specify your parental role, your missions	1. Discuss parent role into the child project. 2. Discuss issues related to managing the demands of elite youth sport.
	4. Four Scenarios	Debate around study cases related to parental behaviours and attitudes.
Parental attitudes	1. Videos analysis of	1. Note all words expressed by parents.

and behaviours before, during after training games	parental behaviours during a game	2. Identify the thoughts and emotions related to these comments. 3. Which objectives are outlined through these comments and behaviours?
	2. Four Scenarios	1. Share about common issues previously identified by parents: injury, coach / teammates / scholar issues. 2. Foster intervention strategies to sustain child's competence, autonomy and relatedness.

Results - Discussion

All the results will be presented at the congress; last data are collected in April/May 2018. Nevertheless, pre-post tests will provide the efficacy or not of the educational programme on all parents and child's outcomes variables. Moreover, the feedback provided by parents after each workshop are keys factors which determine the effectiveness of the program. This program may be useful in helping sport psychology practitioners and coaches to getting parent "on board" (Richards & Winter, 2013).

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Compétences des Accompagnateurs des SHN en Double Projet : Données de la Recherche et Réflexion sur les Problématiques Professionnelles Observées

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Mots clés : Double Projet, Elite, Pratiques d'Accompagnement.

Introduction

Plusieurs études ont permis de mettre en évidence que les déroulements de carrière des sportifs de haut niveau ne sont pas linéaires (e.g., Abbot, Button, Pepping, & Collins, 2005 ; Debois & al, 2015). D'autres études mettent en avant des périodes sensibles du parcours, liées à la juxtaposition de transitions multiples (e.g., cumul entre entrée en pôle d'entraînement, passage en catégorie sénior et transition des études secondaires aux études universitaires) (e.g., Debois, Ledon, Argiolas & Rosnet, 2012). Ces résultats invitent à appréhender, dans l'accompagnement des parcours de SHN, non pas seulement les éléments de soutien logistique (e.g., aménagement des études) ou de support financier à la conduite du double projet, mais aussi la question des compétences que doivent développer les SHN pour réguler efficacement les différentes composantes de leur parcours (e.g., vie sociale, parcours de formation ou professionnel). Les résultats observés auprès de la population des SHN français dans le cadre du projet « Gold in Education and Elite Sport » GEES (Wylleman, De Brandt & Defruyt, 2017) ont fait ressortir les compétences d'autorégulation comme constituant un domaine sensible dans la gestion du parcours, et une sous-estimation par les athlètes de l'importance que peuvent revêtir les compétences de planification (Debois, Perrus & Leseur, 2017). Dans ce contexte, il convient de s'interroger sur les compétences que les accompagnateurs du double projet ont à mobiliser pour contribuer au

développement des compétences des SHN. Ce dernier point constituait l'objet de la présente étude.

Méthode

51 accompagnateurs du double projet travaillant auprès de SHN ($m_{\text{âge}}=46,7$; $s = 9,7$) ont renseigné le Dual Career Competencies Questionnaire for Support Providers (DCCQ-SP) (Defruyt et al., en préparation), comportant 33 items répartis en 6 facteurs : 'Compétences d'introspection et d'autogestion', 'Compétences organisationnelles', 'Conscience de l'environnement de l'athlète', 'Compétences de communication (Interrelations institutionnelles)', 'Compétences relationnelles', 'Compétences de responsabilisation des athlètes'. Ce questionnaire comporte deux parties : (a) dans la première partie, les participants évaluent, sur une échelle de 1 à 5, l'importance et le degré perçu de possession de chacune des compétences pour l'accomplissement de leur mission ; (b) dans la seconde partie, 7 scénarios correspondant à des situations typiques sont proposés, pour chacun desquels les participants sélectionnent les 5 compétences leur apparaissant comme les plus importantes à mobiliser.

Résultats

L'analyse des données recueillies auprès de ces participants français fait apparaître que les compétences évaluées comme les plus importantes dans l'accomplissement de la mission d'accompagnement au double projet sont les compétences relationnelles ($m=4.52$; $s=0.16$) tandis que le score le moins élevé est observé pour le facteur regroupant les compétences d'introspection/autogestion ($m=4.16$; $s=0.08$). Par ailleurs, les compétences organisationnelles sont perçues comme les mieux possédées ($m=4.29$; $s=0.14$), tandis que les compétences de responsabilisation des athlètes sont celles pour lesquelles les accompagnateurs se sentent les plus démunis ($m=3.77$). Enfin, le recours aux scénarios fait ressortir des compétences transversales (i.e., calcul sur la base du nombre de scénarios où ces compétences ont été sélectionnées par le plus grand nombre de participants et par rapport au nombre de fois où chacun des participants les a sélectionnées sur l'ensemble des scénarios) et des compétences plus spécifiques à une situation donnée. Les compétences identifiées comme transversales relèvent du domaine de la responsabilisation des athlètes d'une part, et des compétences relationnelles d'autre part.

Discussion

Les résultats de la présente étude font apparaître les compétences de responsabilisation des athlètes comme étant celles que les accompagnateurs possèdent le moins bien. Pourtant, dans la pratique, les risques ou travers de l'assistanat semblent aujourd'hui communément admis, et l'importance de la responsabilisation des sportifs reconnue. On constate cependant que, dans le système français, la majorité des accompagnateurs du double projet sont d'anciens cadres techniques (i.e., entraîneurs) issus de formations aux métiers du sport, et se formant ensuite de manière autodidacte à la prise de fonction de leur mission d'accompagnement au double projet. Une formation à destination des responsables fédéraux du suivi socioprofessionnel a été initiée en 2016. Intégrer la question de la responsabilisation des athlètes apparaît comme un des incontournables de cette formation.

Les résultats de l'étude interpellent également sur la manière dont les compétences de planification sont prises en compte dans l'accompagnement des SHN au double projet. Ce domaine de compétences est apparu comme celui auquel les SHN accordent le moins d'importance pour la réussite de leur double projet (Debois, & al., 2017). Pourtant, les éléments composant ce domaine de compétences (e.g., projection sur les centres d'intérêt et le devenir professionnel, mise en cohérence du parcours de formation avec les impératifs du projet sportif et avec le projet professionnel, flexibilité/adaptabilité pour maintenir cette cohérence tout au long du parcours) apparaissent pourtant fondamentaux et très étroitement

liés à la dynamique responsable de conduite de son projet. Force est de constater que, dans les pratiques, la perspective de réguler sa formation en fonction des contraintes sportives se heurte encore souvent à des freins liés à des causes tant culturelles (i.e., étalement assimilé à redoublement, donc échec), familiales (e.g., pression des parents, contraintes financières) qu'institutionnelles (e.g., quelles garanties de soutien au parcours de formation, quand un sportif qui a étalé ses études ou les a reportées perd son statut de haut niveau avant d'avoir terminé son cursus ?). Une réflexion doit donc être conduite sur les moyens et mesures à renforcer pour inciter les athlètes à s'inscrire plus systématiquement dans une démarche de projection/planification.

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**10H30-12H Symposium 6. Understanding Team Performance using an Enactive
Salle 2218 Approach**

(Chair: R'Kiouak, M., Université de Nantes)

- Lussiez, J. & Bourbousson, J. (Université de Nantes) : Individual differences in sensorimotor synchronization experience in relation to the nature of movement
- R'Kiouak, M., Saury, J., & Bourbousson, J. (Université de Nantes) : Do athletes coordinate like insects ?
- Feigean, M., Seiler, R., (Université de Berne), R'Kiouak, M., & Bourbousson, J. (Université de Nantes): How do individual team members regulate their behavior to achieve spatiotemporal collective behavior?
- Schiavo, A. (University of Graz) : Making music together between adaptivity and creativity
- Gesbert, V., & Hauw, D. (Université de Lausanne): Am I connected or disconnected with others? Making this feeling explicit in team sport

Understanding Team Performance using an Enactive Approach

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Abstract

Team performance in sport is the goal that each competitive team tries to achieve by coordinating players' activities. However, team coordination is a complex process that requires to deeply understanding the collective activity (e.g., Bourbousson et al., 2010). The enactive approach emerged during the last decade in the field of psychology and sports science in order to better understand and study collective phenomena (De Jaegher & Di Paolo, 2007; Froese & Di Paolo, 2011). In summary, it consists in a holistic approach of sport performance whereby such activities are considered, in one side, from a phenomenological perspective (i.e., giving a central place to the "first-person" experience) and the other side by a behavioural perspective. Accordingly, this perspective implies a definition of the units of analysis in a different way than what is typically performed in sport psychology. Therefore it opens a pathway that is alternative and complementary with regards for the existing theoretical and methodological frameworks in this field. Within an enactive approach, the collective activity of sports teams is assumed to be fundamentally situated. The collective activity and its context are mutually determined, so that the collective activity cannot be described out of the material, social and cultural conditions in which it takes place. From this perspective the focus is on the actor/environment coupling. This coupling is conceived as being asymmetric because of the self-determination of the actor's perspective: the environment with which an actor interacts does not rely on "objective" characteristics. Instead, this environment is built by the actor in relation to his "own-world", i.e., the meaningful world emerging from the actor's point of view. Moreover, the collective activity is assimilated as a dynamical process, whose historicity is one of the main characteristics. Thus, we cannot understand the collective activity without taking into account the individual world of each actor through the activity under study (i.e., the manner how the actor regulates his/her activity). Depending on the specificities of the practices (i.e., sport and music) under study and of the research issues, this symposium aims to

demonstrate how the enactive approach, (a) can be carried out on multiple levels of organization of the activity, and (b) can highlight empirical phenomena that are of interest both for research and practitioners (i.e., sport psychologists and coaches).

The aim of the first presentation (Julien Lussiez, Jérôme Bourbousson & Marina Bourbousson) will be to present a dual approach to study and measure sensorimotor synchronization combining an innovative low-latency device and enactive interviews. The second presentation (Mehdi R'Kiouak, Jacques Saury & Jérôme Bourbousson) will question the possibility of an “extra-personal” mode of coordination in collective sport. The third presentation (Andrea Schiavio) will aim to frame the debate on the nature of skilful interaction in music and sport and will discuss about novel pedagogical settings and methodological implications. The fourth presentation (Mathieu Feigean, Mehdi R'Kiouak, Roland Seiler & Jérôme Bourbousson) will show how football players can arrange the regulation of their activity. The final presentation (Vincent Gesbert & Denis Hauw) will present an inventory tool for making explicit the feeling of connectedness between team members during real-time situations for better understanding and managing the coordination of their team.

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Combining a Low-Latency Device and Enactive Interviews to Measure and Study Individual Differences in Sensorimotor Synchronization

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Keywords: Sensorimotor Synchronization, Enaction, Arduino, Embedded system

Introduction

Humans have the ability to temporally coordinate an action with an external rhythm. This form of behavior is called sensorimotor synchronization (SMS) (Repp, 2005). SMS is typically assessed with quantitative measures such as the mean and variance of inter-taps intervals or asynchronies, corresponding to the time difference between each tap and the corresponding stimulus tone. These experiments are methodological and technical challenges because stimuli and responses must be presented with as much latency as possible. Percussion pads combined with software (e.g. Max/MSP) are frequently used to capture taps and provide auditory feedback. However, these setups involve unknown latencies between tap onset and auditory feedback (Schultz & Van Vugt, 2015). In the continuity of Schultz and Van Vugt's research work, we designed a “user-friendly” computer interface for controlling an Arduino microcontroller, which has a higher precision than predominant devices used in laboratory that measure sensorimotor synchronization (ibid.).

Next to these quantitative measures, we open an enactivist approach to SMS that is quite new to the research domain illustrating how humans experience SMS through qualitative analysis of verbalization data. As claimed by Varela, “*there is no abstract knower of an*

experience that is separate from the experience itself" (Varela, 1991). This quote emphasizes the importance of knowing the experience to have a better understanding of sensorimotor synchronization.

Thus, to account for individual differences in SMS, we designed a methodology to collect both qualitative and quantitative data.

Method

Our study is an on-going pre-experiment. We firstly focused on designing a user-friendly computer interface to control Arduino microcontroller. The interface is based on the BAASTA: "Battery for the Assessment of Auditory Sensorimotor and Timing Abilities" (Dalla Bella & al., 2017). Currently it allows the user to set and modify easily and quickly variables of four main SMS production tasks (unpaced tapping, synchronization, synchronization-continuation, adaptative tempo) and collect precise data.

We optimize the interface through an iterating process during which twelve healthy participants performed finger tapping at preferential rate with as much regularity as possible, while keeping in synchrony with an isochronous metronome. This process allows us to validate the robustness and flexibility of the system.

Lived experience of the participants were collected through enactive interview conducted immediately after the experimental task. This kind of interview focuses on the phenomenology of the individual (i.e., how he perceives the beat, how he produces a movement in relation to his perception). Verbalization data obtained was processed through a thematic analysis that aimed to identify timing strategies, as accounted by the participants. This method allows us to identify invariants in sensorimotor synchronization behaviour and provides the flexibility needed to study human behaviour. Indeed, the technique consists in categorizing the salient elements of the individual experience and works on an iterative mode allowing us to update the data as the research progresses.

Results

Our pre-experiment is in progress, but the results are consistent with the existing literature. Indeed, for each participant, we found a mean asynchrony which is a statistical signature that shows that human tend to anticipate the isochronous signal (Repp, 2005).

According to the thematic analysis, the participants experienced SMS in two distinct manners while they performed: Either they impulse the rhythm based on a singular structure of time they personally built from the auditory stimulus, or they were involved in maintaining or/and exploiting their own movement dynamics to achieve a self-maintained paced movement. To maintain SMS, two correction's experiences were reported: either participants focused on the isochronous signal and tried to reset their timing, or they attempted to slightly influence the dynamics of the movement. In most case, participants lose their attention during the task which often causes desynchronization. As a main result, our study shows that timing strategies and performance varies along the performance and depends on the focus either on time or on the movement.

Discussion

The present study argues that Arduino microcontroller is a device that allows high precision measure for SMS. Because it is independent from the hardware, it offers a robust and consistent solution for laboratory that conduct experiments on SMS.

Our study also opens a line of research that considers that SMS implies richness of behavior's experience.

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Do Athletes Coordinate like Insects?

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Keywords: Extra-Personal Coordination Mode, Stigmergy, Enactive Approach

Introduction

In sport, as in basketball where several partners are involved, various forms of collective intelligence can emerge from the social couplings that are established between individuals. These couplings between the activities of the athletes are reflected by different modalities of coordination between these activities, on which depends the collective efficiency of the teams. By adopting an enactive approach to interpersonal coordination (De Jaegher & Di Paolo, 2007), this presentation aimed to better understand the way in which experienced rowers in rowing (co-)regulated their collective activity in time in relation to the boat.

Method

An interdisciplinary approach has been mobilized. This approach articulated methods allowing to cross phenomenological dimensions (experiences as reported by the rowers) and behavioral dimensions (the measurable mechanical correlates of the behavior of rowers on the boat), which are usually disjointed in sports science researches. This presentation is based on two studies.

Results

Study 1 was a case study (R'Kiouak et al., 2016). The goal was to understand how a newly formed "Coxless-pair crew", consisting of two rowers experienced in individual boats, coordinated during practice in real conditions of practice. A method of sampling the behavioral data by phenomenological data was used to test our hypotheses. The results indicate that (a) both rowers rarely similarly experienced joint action at the same time, (b) it was observed oar strokes simultaneously experienced as effective or detrimental, and (c) mechanical correlates differentiating oar strokes lived as effective and detrimental were found at the level of rowers' respective peak force, suggesting that rowers actively regulated their collective activity by adjusting to each other's behaviors.

In Study 2 (R'Kiouak et al., 2018), we conducted a follow-up case report with the same crew, one month and one week after Study 1. Within this time, both rowers had undergone intensive training to improve their collective performance, as part of a national training program. We have replicated the methodology constructed for Study 1 to facilitate comparison. The results showed that at the end of the training program (a), the proportion of activity significantly increased, in which joint action was simultaneously meaningful to the rowers, and (b) the mechanical correlates differentiating the oar strokes respectively lived as effective and detrimental were identified within the boat speed index, suggesting that rowers actively regulated their collective activity by adjusting to boat behavior.

Discussion

Together, both studies allow to discuss (a) the forms of the presence and the transformation of the so-called "extra-personal" coordination mode in sport, (b) the methodological contributions to articulate first- and third-person descriptions, respectively, and (c) the consequences and contributions of our work to collective sports practices. Thus we discuss how human, as some social insects do (e.g., termites), could achieve collective performances by adjusting the dynamics of their activity through informational resources that are available in their material and physical environment, without regard for the behaviors of the other participant(s) (i.e., "extra-personal" coordination mode).

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Making Music Together between Adaptivity and Creativity

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Key words: Music, Enaction, Joint Performance, Collaborative Learning, Embodiment.

Introduction

Learning and performing music are two fundamental aspects of musical activity that often involve two or more co-performers mutually interact and collaborate (e.g., Small, 1999; Turino, 2008). Traditionally, studies investigating joint musical performance and learning are informed by two perspectives - *Theory-Theory* (TT) and *Simulation Theory* (ST) - which both focus on the individual as the explanatory unit of the interaction (Ratcliffe, 2007). Scholars working within TT defend the view that one can understand and interact with other agents by developing a 'theory' about the given situation (Leiberg & Anders, 2006). Such 'theory' it is argued, is developed in light of past experiences with similar contexts, implying that the collection and the (mental) elaboration of sense-data are the condition of possibility of successful interactions (mutual understandings, anticipatory behaviours, collaborations etc.). Researchers embracing ST, on the contrary, maintain that abstract 'theories' are not required for interactivity to occur - agents can 'simulate' the others' intentions, emotions, and behaviours, through an internal "as if" mechanism (Gallese & Goldman, 1998). While TT and ST offer important insights, they both arguably take a rather *individualistic* stance - 'theories' or 'simulations' develop and occur only *within* the individual. This talk will explore the possibility that alternative embodied and enactive accounts (Varela et al., 1991) offer better explanatory power to appreciate the complexity of the agents' sensorimotor coupling in musical contexts (e.g., Schiavio & De Jaegher, 2017).

Method

A mixture of empirical and theoretical methodologies will be adopted. Behavioural and qualitative studies from current literature and from the author's own record of contributions

(e.g., Schiavio & Høffding, 2015; Schiavio et al., *under review*) will be discussed to offer support to the ‘enactive’ background that will frame the discussion.

Results

It is proposed that skilful interactions in music and sport are best understood as emerging properties of the nexus comprising brain, body, and environment (see also De Jaegher 2007, De Jaegher et al., 2010). Here, it will be argued that agents involved in such co-performances, constantly negotiate between adaptive stability (responding in meaningful ways to the others and to the music being mutually enacted) and creative strategies (developing and co-constructing new goals and patterns of interaction).

Discussion

This talk aims to frame the debate on the nature of skilful interaction in music and sport within an embodied and enactive theoretical perspective - one in which psychological and educational considerations will be given relevant attention. Accordingly, implications for research and theory in music and sport psychology will be explored with particular regard to novel pedagogical settings and methodological implications. In discussing the results of the studies reviewed, new conceptual tools will emerge that will help (i) inspire a richer understanding of what skilful interactions entail in music and sport, (ii) provide an innovative framework to understand the psychology of collaborative learning and performance, and (iii) explore the difference between adaptivity and creativity in the context of interactive practices.

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How do Individual Team Members Regulate their Behavior to Achieve Spatiotemporal Collective Behavior?

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Introduction

The aim of our study was to provide observations about the diversity of informational resources that can support players' activity when involved in spatiotemporal teamwork. Some works have gone further in specifying what the content of such informational resources could be. On one hand, informational resources have been considered local when a team member contributes to collective behaviour while adjusting to the immediate neighborhood. On the other hand, some works state that informational resources can be global, grounded on the capability of any player to grasp the overall state of group behaviour. Nevertheless, the informational resources supporting an individual's contribution to collective behaviour have more often been theoretically presupposed rather than empirically investigated. In this line, Bourbousson & Fortes-Bourbousson (2016) have identified the empirical description of the regulation of interactions performed by team members in real time as a major gap in current teamwork research. To this end, we described the variety of informational resources achieved by team members during a soccer game. To conduct such an ambition, we adopt an epistemological approach respectful for how human actively regulate their actor/environment coupling (AEC), that was the enactivist approach to teamwork (De Jaegher & Di Paolo, 2007). In this perspective, sense-making is assumed to be central in delineating the dynamics of the AEC, and phenomenological experience of the actor is seriously considered in the study designs.

Method

11 participants from one football team (i.e., national level) participated in this study. We video recorded a complete official game using a drone. A sequence of ten minutes was selected, based on which phenomenological data was collected for all of players through individual self-confrontation interviews. The verbal data obtained were transcribed verbatim, from which we reconstructed the way participants dynamically experienced the game as players can comment it for each instant of the activity under study. Then, a thematic analysis (Braun & Clarke, 2006) helped to identify patterns of meanings within verbalization data, leading to the characterization of various informational resources.

Results

From the 625 meaningful units of activity, we identified 625 singular informational resources that merged into 19 first-order themes, then merged into 12 second-order themes and finally merged into 6 third-order themes. The six third-order themes retained as accounting for the informational resources supporting participants' activities were, respectively: (a) a single player, as captured from a focalised perception; (b) a global spatiotemporal shape, as captured from a bird's-eye viewpoint; (c) a single player associated with a global spatiotemporal shape, as captured from a perceptual sharing; (d) the ball area where current play is unfolding, as captured from a relocated focalisation; (e) surrounding behaviours, as captured from a comprehensive awareness; and (f) previously built knowledge suggesting an event expected to happen.

Discussion

Our study described a part of the complexity of regulating individual activity when contributing to teamwork. Such regulation was based on local and global informational resources, including the simultaneous co-occurrences of these resources and their divergence from knowledge-based modes of regulation. Alternating between focalised perceptions and open awareness and between nearby space and distant perceptions, players' activities were supported by diverse informational resources that were far more important than the ones assumed in the literature.

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Am I Connected or Disconnected with Others ? Making this Feeling Explicit in Team Sport

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Keywords: Team Performance, Team Sport, Feeling of Connectedness, Inventory Scale

Introduction

How people act together and understand each other in interactive situations is a question raised and answered by researchers from different contexts such as sport or music. In the present study we use an enactive approach (e.g., De Jaegher & Di Paolo, 2007; Fuchs & De Jaegher, 2009): team coordination is explained by a process of participatory sense-making between team members (De Jaegher & Di Paolo, 2007). By acting in the direction of the other team members, the member feels sensations, emotions and makes sense of the other team members' behaviors that allow him/her to develop a higher order understanding of the situation. And, when in the dynamics of interaction, the meaning that each team member builds in its activity fits with the meanings built simultaneously by the teammates, a highly participatory sense-making emerges. But, various degrees of participation in the building of shared meanings may exist in a team. For instance, a player can sometimes adjust his movement and his activity from the behavior of a specific teammate without being reciprocal thus corresponding to the lowest part of the continuum of participation in sense-making (Di Paolo, Rohde & De Jaegher, 2010).

To investigate this phenomenon, the study's aim was to describe how each team member makes sense related to their acting during unfolding situations (i.e., the meaningful part of their activity that emerges at their consciousness). For instance, Saury, Nordez and Sève, (2010) describing rowers' concerns during the race, showed that crew performance was perpetually threatened during the unfolding race through the perception of being together or not together. They thus indicated how mutual engagement between team members could be disrupted or even break down during real-time situations leading various feelings of connectedness with others (De Jaegher & Di Paolo, 2007; He & Ravn, 2017). However, these disruptions or breaking down of being together have been usually described through phenomenological forms of interviews (e.g. self-confrontation or elicitation interview) which may be time-consuming for sport psychologists. So, the aim of this study was to provide an inventory tool for making explicit this feeling between team members, identify the rupture, breakdown or upholding during performance, and characterize what is relevant for them in the environment to perceive that.

Method

Former verbalization data were collected during 24 elicitation interviews. They focused on football players' experiences during offensive transition situations (e.g., Gesbert, Durny &

Hauw, 2017). They were used to identify various types of connection feelings. 125 pages were thus coded following the three steps of inductive content analysis (Biddle et al., 2001): a) two researchers identified the salient statements of each player in relation to the experience of being together (e.g., to be together, to be not together, to be increasingly together) with others and sort them into raw data themes, b) grouped raw data themes into general dimension. These general dimensions then corresponded to the dimensions investigated in the scale. Then, the comprehensibility of the scale as well as the ease of its administration has been tested with various athletes competing at different representative levels. Finally, we built an *in situ* experimental task in football in order to assess the scale relevance for accounting these feelings in situation. This task consisted of a Gk + 5vs.5 + Gk soccer small-sided games with dimensions 40*42m. Its aim was to observe how the defensive playing method (zone vs man-to-man defense) of the opponent team affects the connection feelings of the team studied. To this end, two small sided-games were played, each lasting 5 minutes and interspersed with 3 minutes of recovery. Twenty teams and their coaches participated in this protocol. All players and coaches of the teams completed the scale before and after the experimental task for each game (e.g., my overall perception of being connected with my teammates is...).

Results

Seven types of connection feelings were identified. Each of them are illustrated below: (a) unlooked for connection; (b) desirable and realizable connection (*"I expect Jim to be higher on the field and that I can play quickly with him to eliminate these two defenders "*), (c) connection about to occur (*"I looked around myself to be in position, to be close of my teammates in order to reduce spaces"*); (d) completely connected (*"Each of us is not far from our opponents. We are in position"*); (e) tenuous connection (*"The one-two is possible but the space with the immediate defender decreases, I said myself that it will be difficult"*), (f) desirable but impossible connection (*"I see the solution offered by Arnold on the side but his movement is under the control of the defender"*) and (g) desirable connection but not shared by me or my teammates (*"I gave the ball to Wilson to make a one-two but he didn't give me the ball. His ball control is on him"*).

The initial results of the experimental task indicate different frequencies for the types of connection based on the opposing team's defensive style. This suggests the relevance of a scale to assess these perceptions of being or not being connected.

Discussion

This study should provide insights to coaches or sport psychologists into how team members perceive it they are connected or not with other during real-time situation and thus better grasp ongoing team coordination and performance (De Jaegher & Di Paolo, 2007; Di Paolo et al., 2010). This inventory scale has been directly filled in by team members who were confronted or not to the traces of past activity (e.g., video of their performance). It should characterize sequences in which team members differently perceive this state of being connected and which indicators are relevant for each of them. These indicators would allow sport psychologists to develop shared reflective practices between (some specific) team members in order to promote the emergence of this feeling of connectedness (Saury, Nordez & Sève, 2010). In addition, they could permit coaches to build training situations to promote the shaping of these feelings (He & Ravn, 2017). Initially developed in football (see the method section), this inventory scale aims at permeating to other team sports such as sailing, rowing, synchronized swimming, rugby or dance context.

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 - Cheval, B., (Université de Genève), Sarrazin, P., (Université de Grenoble), Boisgontier, M. (Université de Leuven) & Radel, R. (Université de Nice): Temptations toward sedentary behaviors automatically activate physical activity goals in successful exercisers
 - Scotto di Luzio, S., Isoard-Gauthier, S., Ginoux, C., & Sarrazin, P. (Université de Grenoble): The role of needs satisfaction and physical activity in the relationship between sense of community and vigor at work: A moderated mediation analysis
 - Rault, A., & Decamps, G. (Université de Bordeaux): Les contextes de consommation d'alcool chez les sportifs sont-ils les mêmes selon le genre, l'intensité et la discipline pratiquée ?
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The Relationships between Off-Job Physical Activity and Vigor at Work Across Time: Testing for Reciprocity

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Key Words: Cognitive Weariness, Emotional Energy, Moderate to Vigorous Physical Activity, Physical Strength.

Introduction

In the literature, most research on health and well-being at work has focused on the negative effects of stressors (e.g., burnout, Toker & Melamed, 2017). Positive work-related experiences were not much studied. These positive experiences at work such as vigor seem relevant to be studied when one is interested in the health and well-being at work. Vigor is defined as the sense of possessing physical strength, emotional energy and cognitive liveliness. The COR theory offers a rather general model of health and well-being at work. The resources represent a key concept within this theory. It is argued that resources can be restored, for example, by taking a break or by investing resources on other activities (such as leisure time activities). On the other hand, it has been assumed that possessing resources at work, and thus experiencing vigor, can lead to several positive consequences, such as motivation, job performance, organizational efficiency, and physical and mental health (Shraga & Shirom, 2009).

Given the positive benefits of vigor, it is important to investigate the conditions that facilitate it. Research on recovery processes have suggested that recovery from work during off-job time could predict an increase in well-being (Sonnentag, Venz, & Casper, 2017). Thus, off-job time experiences and leisure activities that offer the opportunity to recover from job stress and to restore one's resources are essential for maintaining one's well-being. Among these leisure time activities, off-job PA have been considered as having a particularly high potential for recovery. Precisely, it has been demonstrated that time spent on PA was positively related to vigor (e.g., Oerlemans & Bakker, 2014). However, previous studies have ignored the possibility that workplace vigor can influence the amount of off-

job PA practiced. It can be hypothesized that a lack of vigor could be associated with low off-job PA. Research on the potential impact of the working situation on levels of off-job PA has shown that the experience of job stressors may hinder people from engaging in PA during off-job time. The broaden-and-build model (B&B; Fredrickson, 1998) is a relevant theory which has examined the mechanisms by which vigor leads to positive cognitive and behavioral consequences. The B&B model states that repeated vigor over time is able to broaden people's attention and thinking, enabling them to draw on higher-level connections and on wider perceptions or ideas in the long-term. In turn, these broadened viewpoints often help people to discover and build important personal resources. As a result, the B&B model suggests that the accumulation of personal resources over time at work could prompt the individual to engage in more off-job PA.

In the present study, we aim to enhance insight into the association between off-job PA and work-related vigor by testing the reciprocal influence between the quantity of off-job moderate to vigorous PA (MVPA) and the level of vigor at work during a two months period.

Method

The participants (77 females and 51 male) completed a questionnaire twice during a 2-month period, had a mean age of 39.40 years old ($SD = 10.67$) and comprised 52 lower supervisory and technical employees, 14 intermediate occupations and 62 professional and managerial workers. Vigor was measured with a French translation of the SMVM (Shraga & Shirom, 2009). Participation in PA was assessed using the short form International Physical Activity Questionnaire (IPAQ) (Bauman et al., 2009). In the present study, the sum of minutes per week spent in MVPA during off-job time was used. In the statistical analysis, we controlled for the possible confounding effects of age, gender (i.e., 1 = female and 2 = male), and socio-professional category (i.e., 1 = professional and managerial workers, 2 = intermediate occupations, and 3 = lower supervisory and technical employees). Structural Equation Modeling (SEM) was used to examine the reciprocal relationships between vigor and MVPA when age, sex and socio-professional category were controlled. To investigate the reciprocal associations between physical activity and vigor a model including lagged effects from PA at T1 to PA at T2, lagged effects from vigor at T1 to vigor at T2, a path from PA at T1 to vigor at T2, and a path from vigor at T1 to PA at T2 were used.

Results

The model revealed good fit to the data ($\chi^2(35) = 36.947$, $TLI = .99$, $RMSEA = .02$ [90% $CI = .00; .07$], $CFI = .99$, $SRMR = .06$). Autoregressive paths between vigor at T1 and vigor at T2 ($\beta = .69$, $p < .001$), and MVPA at T1 and MVPA at T2 ($\beta = .43$, $p < .001$) were both significant. Cross-lag path between vigor at T1 and MVPA at T2 was significant ($\beta = .22$, $p < .05$), while cross-lag path between MVPA at T1 and vigor at T2 was not significant ($\beta = .04$, $p > .05$). The model explained 51% of the variance in vigor at T2, and 27% of the variance in MVPA at T2. Control variables (i.e., age, sex and socio-professional category) were all non-significantly linked to vigor and MVPA at T2 (β between $-.07$ and $.13$, $p > .05$).

Discussion

Present study results partly revealed that time 1 vigor at work predicted time 2 level of off-job PA controlling for the potential confounders. As a result, present study confirms the B&B model assumptions that vigor has the potential to widen the array of thoughts and actions, and to prompt the individual to engage in off-job activities such as PA. Conversely, the present study results failed to confirm the hypothesis regarding the influence of the level of time 1 off-job PA on the level of time 2 vigor. However, as the vigor construct was rather stable over time (across-time correlations $r = 0.73$), a large proportion of the variance in vigor was already accounted for by the same indicator measured two months earlier. This means that the proportion of variance left to be explained was rather small.

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Temptations Toward Sedentary Behaviors Automatically Activate Physical Activity Goals in Successful Exercisers

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Mots clés: Physical Activity, Sedentary Behaviors, Temptations, Automatic Goal Activation

Introduction

In a time of physical inactivity pandemic, attempts to better understand the factors underlying the successful self-regulation of exercise behavior is important. In their seminal article describing their theory of temptation-elicited goal activation, Fishbach, Friedman, and Kruglanski (2003) argued that individuals with past success in exercising self-control in tempting situations develop cognitive associations between temptation cues and the mental representation of the goals that are relevant to withstand this temptation. As a result, the presence of temptation cues in the environment leads to the activation, rather than the inhibition, of these goals and enables individuals to control their behavior. Conversely, goal-related cues do not activate the mental representation of the temptations and could even potentially inhibit them, resulting in an “asymmetric activation pattern” between temptations and goals that might determine self-regulation success (Fishbach et al., 2003). For example, among successful restrained eaters, the mere perception of an input, such as seeing a pastry in a bakery, can automatically trigger their goals of dieting. In contrast, among unsuccessful restrained eaters, food primes (e.g., chocolate) decreased the accessibility of the weight-control goals.

In physical activity (PA), we can reasonably argue that sedentary behaviors (SB) may act as temptations (or attractors), like fatty and sugary food in the context of dieting. Indeed, the minimization of energy is likely to be an evolutionarily adaptive reward for our specie (Brehm, & Self, 1989; Cheval et al., 2017). As such, among individuals who intended to be physically active, behaviors associated with low energy expenditure may be intrinsically attractive, and SB could act as temptations interfering with PA goals. In line with this reasoning, we first hypothesized that SB primes activate PA goals in physically active

individuals (Experiment 1). Second, we investigated the extent to which this effect was dependent of PA self-regulation success (Experiment 2). Based on the results in the field of dieting, we hypothesized that SB primes activate PA goals, but only in “successful exerciser”.

Method

Students in sports science (Experiment 1; $N = 46$) and individuals with high value of physical activity goals and low versus high physical activity levels (Experiment 2; $N = 28$) performed the primed-lexical decision in which they were asked to indicate as quickly as possible whether a letter string appearing on a screen was an existing word or not. Importantly, unbeknown to the participant, this letter string was preceded by a short presentation of a prime stimulus. Specifically, on each trial, a 35-ms pre-mask (i.e., “#####”) preceded the prime. The prime then appeared for 35 ms and was followed by a 45-ms post-mask (i.e., “#####”) preceding a target word that remained on the screen until the participant's response. The targets and primes in this task were PA (e.g., sport, training, run, move) and SB (e.g., sofa, television, computer, elevator)-related words. A shorter reaction time to detect a target word after the presentation of a prime stimulus (relative to a neutral prime) indicated that the prime stimulus automatically activated the target word. After 16 practice trials with an equal number of words and non-words, participants completed 128 experimental trials with half of the trials using non-word targets. Reaction times were analyzed using linear mixed models.

Results

Results of the Experiment 1 revealed a significant Target $\times$ Prime interaction ($b = -2.190$, $p = 0.006$). As illustrated in Figure 1, this interaction indicated that participants were faster in recognizing a PA-related target word, when primed with a SB-related versus neutral word (mean = 520 vs. 540 ms, respectively; $b = 2.14E-04$, $p = 0.001$). Results of the Experiment 2 revealed a significant three-way interaction between Success, Target, and Prime ($b = 6.342E-04$, $p = 0.038$). As illustrated in Figure 1, this interaction indicated that the automatic activation of PA-related words by SB primes significantly differed between successful and unsuccessful exercisers. Specifically, in line with the results of Experiment 1, successful exercisers were faster in recognizing a PA-related target word, when primed with a SB-related versus neutral word (mean = 617 and 637 ms, respectively; $b = -3.94E-04$, $p = 0.006$). Conversely, unsuccessful exercisers were not faster in recognizing a PA-related target word, when primed with a SB-related versus neutral word (mean = 684 and 681 ms, respectively; $b = -4.12E-05$, $p = 0.793$).

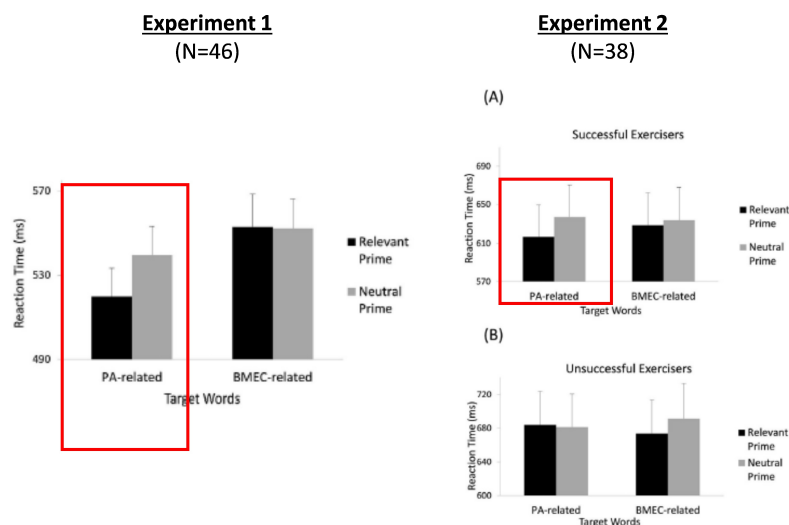


Figure 1. Reaction time for the recognition of words related to sedentary behaviors and physical activity, following (relevant) physical activity and sedentary behaviors-related primes, respectively, versus neutral prime.

Discussion

These findings corroborate the theory of temptation-elicited goal activation within the context of PA, with SB representing the temptations. To the best of our knowledge, this research is the first to suggest and to obtain preliminary evidence supporting the fact that SB act as temptations interfering with PA goals. These findings provide a better understanding of the psychological processes involved in the successful self-regulation of PA behavior. They suggest that interventions designed to create adaptive cognitive associations between SB cues and PA hold great promise to help individuals being successful in the regulation of their PA goals. Future studies should test whether the effect observed generalizes to actual SB temptations (i.e., actual SB opportunities rather than primed words).

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The Role of Needs Satisfaction and Physical Activity in the Relationship between Sense of Community and Vigor at Work: A Moderated Mediation Analysis

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Key Words: Job Resources, Moderate to Vigorous Physical Activity, Needs Satisfaction, Sense of Community, Vigor

Introduction

Workplace well-being has become an increasingly important issue for researchers and practitioners. Adopting a Positive Psychology approach vigor at work constitutes an indicator of individuals' optimal psychological functioning, described as the sense of possessing physical strength, emotional energy and cognitive liveliness. According to the COR theory high feelings of vigor are associated with high levels of individuals' job resources. Job resources are located at the task, the organization of work, the interpersonal and social relations, and / or the organization levels. Among them, positive interpersonal relationships in the organization are considered as resources that may promote vigor experience at work. In this perspective it seems interesting to consider the role of sense of community in organization as a job resource and its relationship with vigor at work. Sense of community constitutes an indicator of interdependent relationships among employees within organizations, and relationships among organizations or institutions within communities, and could be considered a feature of organizational culture (Peterson et al., 2008). According to SDT, a supportive social context promotes employees' well-being through psychological needs satisfaction. More specifically, job resources are responsible for the satisfaction of basic psychological needs for autonomy, competence and relatedness.

Despite the importance of sense of community for employee's well-being, there are no studies that have explored the role of sense of community in the vigor process at work.

In the COR theory, it is also assumed that individuals strive to accumulate and retain their resources. Resources that are lost during the workday need to be restored in order to optimally recover from work. A favorable recovery state at the end of the workday positively influences employees' recovery process during their free time, and increases the possibility that they start next working day in an optimally recovered state. In this perspective, van Hooff and Geurts (2015), proposed that needs satisfaction experienced at work results in a higher recovery state at the end of the workday. In addition, resources can also be restored by participating in off-job leisure activities (Sonnentag, Venz, & Casper, 2017). Among off-job leisure activities, physical activities have been considered as having a particularly high potential for recovery.

Stemming from these premises, the main purpose of the present study was to increase understanding of the vigor process at work and job resources, particularly by focusing on (a) the direct influence of the sense of community on vigor at work, (b) the indirect influence through needs satisfaction, and (c) the moderating influence of moderate to vigorous physical activity (MVPA) as an off-job leisure activity that can enhance the recovery effect of needs satisfaction on the sense of community – vigor relationship.

Method

95 French workers (Males = 36.4%, Females = 63.6%), completed a survey three times during a 4-month period [i.e., in February (T1), in April (T2) and in June (T3)]. The participants had a mean age of 39.13 years (SD=10.63), comprised 47% of professional and managerial workers, 10.6% of intermediate occupations and 42.4% of technical employees, and worked on average 37.48 hours per week (SD = 6.25). Vigor was measured with a French translation of the SMVM (Shraga & Shirom, 2009). Psychological needs satisfaction was measured with the adapted version of the Basic Psychological Needs in Sport scale, used by Gillet, et al. (2012). Sense of community was measured with the Revised Community Organization Sense of Community Scale (COSOC-R) (Peterson et al., 2008). Participation in physical activity was measured with the International Physical Activity Questionnaire (IPAQ) (Bauman et al., 2009). The statistical analyses were performed using the SPSS macro PROCESS (model 14) provided by Hayes (2013), and bootstrap procedure. For hypothesis testing, when zero was not contained in any bootstrapped confidence intervals, the null hypothesis of no indirect effect was to be rejected.

Results

The moderated mediation analysis with 5,000 bootstrapped samples revealed a conditional indirect effect in the predicted direction. Specifically, for employees who practice high level of MVPA the relationship between sense of community and vigor four months later is mediated by satisfaction of need for relatedness (indirect effect = 0.06; 95% bootstrap CI = 0.1–0.16). In contrast, the indirect effect is not significantly different from zero among employees who practice low (indirect effect = - 0.04; 95% bootstrap CI = -0.17–0.01) or moderate (indirect effect = 0.01; 95% bootstrap CI = -0.02–0.06) level of MVPA.

Discussion

This study was the first to consider the sense of community as a resource at work, and the potential mediation and moderation factors involved in the relationship between sense of community and vigor at work. Results constitute a step forward in research about vigor process, suggesting that sense of community as a job resource may be considered as a key element because of its role in the prediction of the satisfaction of basic psychological needs, particularly with regards to need for autonomy and relatedness. Furthermore, results support the assumption that positive effects of high level of MVPA are related to resource gains in other aspects of employees' experience, resulting in a resource gain spiral, favoring the experience of vigor at work, and confirm the particularly high potential for recovery of

physical activity. The present study also yields implications for practice. From an ecological perspective, in order to promote vigor experience at work, our results highlight the importance to develop a strong sense of community in the organization, to satisfy employees basic psychological needs at work, and thus allowing them to adopt a healthy lifestyle through the practice of high level of MVPA.

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Les Contextes de Consommation d'Alcool chez les Sportifs Sont-ils les Mêmes selon le Genre, l'Intensité et la Discipline Pratiquée ?

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Mots clés : Alcool, Contextes, Genre, Intensité, Discipline.

Introduction

La consommation d'alcool est souvent réduite à une dimension descriptive du comportement en termes de quantité ou de fréquence. Cependant, elle comporte également une dimension environnementale qui semble essentielle à interroger tant la consommation se fait le plus souvent dans des contextes sociaux. Pour Grønkjær et al. (2010), ces contextes se définissent en termes de situations ou de lieux. Ainsi, Stewart et Power (2002) concluent que le fait de se concentrer sur des facteurs contextuels : quand, où, avec qui, peut fournir davantage d'informations ainsi qu'une meilleure compréhension des circonstances d'apparition de tels comportements. À ce sujet, O'Hare (1997) met en avant trois contextes de consommation d'alcool : social/convivial (i.e. bar), personnel/intime (i.e. après le travail) et émotion négative (i.e. quand on se sent triste). Les sportifs masculins ont d'ailleurs été reconnus comme étant ceux qui consomment le plus pour ces diverses raisons (Wilson et al., 2004). Cette étude cherche à appréhender la consommation d'alcool des sportifs sous un angle bio-psycho-social. Elle a donc pour objectif de regarder les contextes de consommation d'alcool selon le genre, l'intensité de pratique, l'intensité de consommation et la discipline afin d'améliorer l'approche de cette thématique.

Méthode

L'échantillon est composé de 558 étudiants-sportifs, 282 hommes et 276 femmes, âgés de 18 à 30 ans ($M = 20.69$ ans ; $ET = 1.99$). Ils sont issus de 31 disciplines différentes et pratiquent entre 3 et 28 h de sport par semaine ($M = 8.44$ h ; $ET = 4.40$). Sur la base du critère de 8 h de sport établi par Choquet et al. (1999), ils ont été divisés en deux niveaux d'intensité : les « modérés » ($n = 270$) pratiquant de 3 à 7 h et les « intensifs » ($n = 288$) pratiquant 8 h et plus.

Les participants ont rempli un questionnaire en ligne de manière anonyme sur limesurvey.

L'intensité des consommations d'alcool a été évaluée grâce à la version française de l'Alcohol Use Disorder Identification Test (AUDIT) de Gache et al. (2005). Pour cette recherche, 12 contextes se référant aux dimensions d'O'Hare (1997) ont été présentés en prenant en compte les spécificités de l'environnement sportif (i.e. après un entraînement, selon le planning sportif). Ils permettent de déterminer avec qui ont lieu ces consommations, dans quel cadre et à quel moment.

Résultats

L'étude des comparaisons de moyennes selon l'intensité de pratique et le genre a été réalisée à l'aide d'un test non paramétrique, le U de Mann-Whitney. Ainsi, les étudiants-sportifs modérés consomment plus fréquemment dans les bars ou les clubs ($Mdn = 293.41$) comparés aux intensifs ($Mdn = 266.46$; $U = 35126$, $p = .02$), pour qui cette consommation dépend davantage de leur planning sportif ($Mdn = 308.73$ vs. 248.32 pour les modérés ; $U = 30463$, $p < .001$). Au niveau du genre, les hommes rencontrent plus fréquemment certains contextes de consommation que les femmes : seul ($Mdn = 300.61$ vs 257.93 ; $U = 32962$, $p < .001$), avec leurs coéquipiers/partenaires d'entraînement ($Mdn = 300.09$ vs 258.46 ; $U = 33110$, $p < .001$), chez des amis/coéquipiers ($Mdn = 294.15$ vs 264.53 ; $U = 34785$, $p < .01$), sur leur lieu de pratique sportive ($Mdn = 302.5$ vs 256 ; $U = 32431$, $p < .001$), après un entraînement ($Mdn = 293.45$ vs 265.24 ; $U = 34982$, $p = .02$) et après un match/une rencontre ($Mdn = 306.03$ vs 251.28 ; $U = 31153$, $p < .001$). En ce qui concerne l'intensité des consommations d'alcool, l'ensemble des contextes relatifs aux protagonistes, aux lieux et aux moments est corrélé modérément au score à l'AUDIT ($\tau = .10$ à $\tau = .31$; $p < .01$). Afin de comparer les contextes de consommation au sein des 8 disciplines les plus représentées ($n > 20$; $n = 287$), un test non paramétrique de Kruskal-Wallis et un test posthoc de Nemenyi ont été réalisés. Les comparaisons selon les disciplines montrent que les contextes de consommation des rugbymen se distinguent de ceux des sports individuels (cf. tableau 1). Les consommations avec les coéquipiers/partenaires d'entraînement ($\chi^2(7) = 38.43$, $p = 0$) sur le lieu de pratique sportive ($\chi^2(7) = 35.97$, $p = 0$) après un match ($\chi^2(7) = 52.25$, $p = 0$) selon le planning sportif ($\chi^2(7) = 15.63$, $p = .03$) étant significativement plus fréquentes que dans les autres disciplines.

Tableau 1. *Les médianes aux contextes selon la discipline pratiquée.*

	Rugby	Foot	Hand	Basket	Tennis	Musculation	Danse	Natation
Coéquipiers	182.21	-	-	-	116.15	100.04	-	-
Lieu sportif	177.97	-	-	-	-	100.04	-	98.24
Après-match	190.31	148.59	151.43	127.34	113.39	89.78	96.33	121.95
Planning	165.79	-	-	-	-	-	99.38	-

Discussion

Cette recherche montre que la dimension environnementale est importante à prendre en compte, elle permet d'identifier les sportifs masculins comme étant les plus à risques de se retrouver dans un contexte de consommation d'alcool (Wilson et al., 2004). En ce qui concerne le sport pratiqué, les rugbymen ont un rapport à l'alcool se distinguant des autres disciplines. La dimension culturelle est essentielle à prendre en compte car les contextes de consommation sont intégrés à la pratique, comme le veut la tradition de la « 3^{ème} mi-temps »

lors de laquelle les joueurs se retrouvent après les matchs et sont encouragés à boire ensemble afin de créer des affinités (Collins et Vamplew, 2002). Ces mêmes résultats ont tendance à se retrouver pour les autres sports collectifs comme le basketball, le football et le handball qui connaissent également ce genre de pratique.

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1. Khoudir, S., (Université de Sétif), Dahmane, B., (Université d'Alger) & Aissat, K. (Université de Sétif): Les effets de la pratique sportive adaptée aux femmes enceintes sur des symptômes psychologiques de la grossesse
2. Gyomber, N., Konig-Gorogh, D., & Kovacs, K. (University of Debrecen): Coping strategies of Hungarian junior handball players
3. Kovacs, K., Gyomber, N., (University of Debrecen) & Kelemen, A. (Torony Sportegylet Karate Club). The impact of perceived autonomy on motivation among young karate athletes in Hungary
4. Horvath, S., Morgan, G., & Birrer, D. (Swiss Federal Institute of Sport Magglingen): A Stop-Signal-Task to measure goalkeepers' reaction speed and impulse control
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6. Planchard, J., Corrion, K., & d'Arripe-Longueville, F. (Université de Nice): Development and validation of a workplace decisional balance scale for exercise

Les Effets de l'Activité Physique Adaptée aux Femmes Enceintes et les Symptômes Psychologiques de la Grossesse

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Mots clés : sport adapté, femme enceinte, dépression, anxiété

Introduction

La pratique sportive et le développement physique, sont étroitement liés à la promotion de la santé et d'un mode de vie sain, y compris le plaisir de pratiquer l'exercice physique tout au long de la vie (Commission européenne/EACEA/Eurydice, 2013, p. 17). Les Activités Physiques Adaptées correspondent à l'utilisation des activités physiques et sportives en liaison avec la santé en prenant en compte les besoins et les capacités de chacune. Elle contribue à l'amélioration ou au maintien de la santé des individus, en toute sécurité et de manière personnalisée (Ninot, 2014). Quand on parle d'une activité physique adaptée aux femmes enceintes, il s'agit en fait d'encadrer cette dernière en toute sécurité au sein d'une structure dans le domaine des pratiques physiques ou sportives, à un niveau d'initiation, d'entretien ou de loisir n'incluant pas la compétition. On sait maintenant qu'un mode de vie physiquement actif réduit les risques d'être atteint de problèmes de santé qui touchent malheureusement une grande partie de la population adulte et notamment la femme enceinte ; La sédentarité lors de la grossesse augmente les risques liés à son déroulement, comme la détérioration de la condition physique, une fatigue plus intense, un gain de poids excessif, ou encore des épisodes dépressifs. (Kino Québec, 2007, p. 3-4). On peut donc s'attendre à ce que la pratique de l'activité Physique Adaptée puisse avoir des effets bénéfiques sur la santé des femmes enceintes. Le but de cette recherche était donc d'examiner les effets de la pratique sportive adaptée sur les femmes enceintes et plus particulièrement sur les symptômes (dépression et anxiété) associés au déroulement de la grossesse.

Méthode

Nous avons ciblé une population comprenant 12 femmes enceintes à bas risque d'origine Algériennes, entre leur 21^{ème} semaine jusqu'au 32^{ème} semaine de grossesse, âgées de 25 ans à 30 ans. Une moitié des participants a constitué le groupe témoin et l'autre moitié a suivi un programme d'activité physique adaptée. Ce programme était composé de gymnastique aquatique de 12 semaines, à raison de 3 séances par semaine, d'une durée de 45 min par séance, l'eau étant chauffée à $31^{\circ} \pm 1^{\circ}$ et avec un encadrement assuré par l'assistance d'un Médecin, une Sage-femme, une Kinésithérapeute et de Maître-nageuse. Le questionnaire abrégé de Beck (BDI) a été administré pour évaluer le niveau de dépression ainsi que le questionnaire d'anxiété générale de Spielberger pour évaluer l'anxiété. Des statistiques descriptives ont été réalisées pour caractériser les états psychologiques moyens des participants de chaque groupe.

Résultats

Les scores des participantes ayant pratiquées le programme d'APA se caractérisent par une moyenne de $4,1 \pm 1.83$. Ce score se situe dans le seuil [4-7]. Elles ne souffrent donc que d'une dépression légère, contrairement aux femmes enceintes non pratiquantes qui ont obtenu une moyenne de $10,5 \pm 2.81$, révélant ainsi une dépression modérée du seuil de [8-15] (selon l'échelle de Beck). Les résultats des participantes ayant pratiquées le programme d'APA atteignent la moyenne de $32,3 \pm 7.5$ inférieure à $47,13 \pm 5.63$ points. Cela indique que la personne est moyennement anxieuse. Les femmes enceintes non pratiquantes obtiennent une moyenne de 55,16 exprimant anxiété importante selon le psychologue Charles Donald Spielberger.

Discussion

Suite à ce qui a été aperçu comme résultats auprès de notre population cible, on retient que la pratique de l'activité physique et sportive permet d'apaiser les troubles psychologiques, ce qui nous engage à confirmer que l'APS est souhaitable sinon indispensable chez les femmes enceintes. Notre étude confirme les résultats obtenus par Da Costa et collaborateurs en 2003 (Jaquement, 2012) qui comparait un groupe de femmes actives à un groupe de femmes inactives au cours des 1^{er} et 2^{ème} trimestres de la grossesse. Les effets bénéfiques de l'activité physique sur l'humeur, le bien-être et l'état d'anxiété avaient été également observés. De plus, l'étude réalisée par Poudevigne et O'Connor en 2006 (Jaquement, 2012) avait aussi montré clairement que l'AP permet à la femme durant la grossesse de garder son autonomie, et de maintenir son bien-être. Notre étude suggère donc la nécessité d'une prise en charge par l'APA des femmes enceintes en Algérie afin d'améliorer les conditions du déroulement de leur grossesse et réduire les risques sanitaires.

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Coping Strategies of Hungarian Junior Handball Players

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Key words: Coping Strategies, Young Athletes, Handball

Introduction

In order to achieve top sport performance, athletes and their coaches must learn to raise and sustain a sufficient emotional level of the players (Gyömbér et al, 2012), as emotions can influence performance (Leunes, 2011). In line with changes in fitness, psychological mechanisms also change and functions may be altered as well. (Révész, 2008). Motivation, coping strategies, sensing the motivational environment, stress tolerance and the ability to adapt can all influence the success of the athlete's preparation (Révész, 2008). Recently, researches (Bebestos and Antoniu 2003; Goudas, 1998; Gyömbér et al., 2013; Tóth et al., 2011; Wapels, 2003) on athletes' coping strategies have become more and more popular.

The literature mentioned above inspired us to study the aforementioned differences in sport-specific coping skills between age groups and sexes in handball players as well. Moreover, the question arose whether differences could be measured between players of different playing positions. In our present study, we expect that female players are more open-minded for advices of the coach, than male players, however males cope with adversity better, than females. Furthermore, we expect that older players reach higher values on ACSI-28 factors, than younger ones. Regarding playing positions we assume that there are significant differences in factors of ACSI-28.

Method

For gathering data on psychological profile, the Athletic Coping Skills Inventory (ACSI-28, Smith et al., 1994) instrument was applied. The questionnaire survey was conducted in the early training period of 2016 among junior handball players (n=288).

The questionnaires were distributed in elite Hungarian junior handball teams. Participants were informed about the study objectives. Filling in the questionnaires took approximately 20 minutes. Voluntary and anonymous participation was ensured in the study, noting that the collected data would be used only for research purposes. Sociodemographic features were measured in the first section of the survey. Besides gender (female 62,5%, male 37,5%) age was recorded in years of age at the time of participation. Age groups were calculated for subsequent analyses (1=under 15, 2=16-17 years old, 3=over 18). The mean of age was 16,24 (SD=1,5). The posts of junior handball players were also recorded (goalkeeper 17,1%, backcourt player 25,0%, playmaker 18,9%, winger 23,1%, pivot 15,9%).

Results

Considering coping factors, *Coachability* (M=12.84), *Peaking Under Pressure* (M=12.42), and *Confidence/Achievement Motivation* (M=12.34) showed the highest averages, while the lowest average value was measured on *Freedom From Worry* (M=9.43). There are a number of differences between male and female players. On the scales *Coping With Adversity* (11.69 vs. 11.00; $F=2.670$ $p<0.01$) and *Freedom From Worry* (9.94 vs. 9.12; $F=2.670$ $p<0.01$), males acquired significantly higher average values. In contrast, females showed higher mean values of *Goal Setting/Mental Preparation* (12.12 vs. 11.56; $F=-2.121$ $p<0.05$) and *Coachability* (13.28 vs. 12.12; $F=-4.107$ $p<0.01$). Differences between the age

groups became marked. On *Freedom From Worry* (10.55 vs. 9.88 vs. 8.83; $F=6.880$ $p<0.01$), the oldest players performed the best. *Coachability* ($F=9.617$ $p<0.01$) was highest in the youngest group, with players under 15 reaching an average value of $M=13.59$ and players above 18 reaching $M=12.92$. Looking at roles in handball, we concluded that *Concentration* ($F=2.612$ $p<0.05$) and *Confidence/Achievement motivation* ($F=3.067$ $p<0.05$) showed significant differences between group averages. High values of *Concentration* were measured by playmakers, which was significantly higher than that of other offensive roles.

Discussion

Based on results we can conclude that for females, information and instruction from their coach and external reinforcement are of crucial importance and they can also take constructive criticism better than male handball players can. However male players are better able to remain positive, enthusiastic, calm and controlled even when things are going badly and they can more quickly refocus after mistakes and setbacks, than female players. The oldest players reached the highest scores, that is, they worry less about the reception of their performance. Furthermore, the youngest handball players scored the highest on Coachability. Based on roles, we concluded that playmakers reached the highest average values on several scales (Coping With Adversity, Peaking Under Pressure, Goal Setting/Mental Preparation, Coachability), and a significantly high value on the Concentration scale. As one of the leaders of the team, the playmaker must see beyond his or her own play and be able to connect the different parts of the team, as well as follow the coach's instructions.

With the results of our study, we would like to draw attention to the importance of consideration of the players' sex, age and playing positions in case of athletic coping skills.

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The Impact of Perceived Autonomy on Motivation among Young Karate Athletes

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Introduction

Coaches' and parents' supportive behaviour has a beneficial influence on the stress management, self-confidence and effective goal-setting of young athletes (Babkes and Weiss, 1999; Cote et al, 2014). The ideal parental involvement and autonomy-supportive behaviour of primary environment (coach and parents) are factors that lead to favourable motivational climate for young athletes (Averill and Power, 1995; Knight et al, 2018). Task-involving climate (compared to an ego-involving one) consistently has been associated with more positive outcomes for children and adolescents, including greater perceptions of physical competence (Newton and Duda, 1999) and the desire to stay involved in sport (Duda and Ntoumanis, 2009). Parent-initiated motivational climate was a significant predictor of self-esteem, trait anxiety, and autonomous regulation (O'Rourke et al., 2014), but the autonomy support created by coaches was more strongly related to sport motivation, need satisfaction, sport achievement, and flow in athletes who perceived lower level of parental autonomy support (Gaudreau et al., 2016).

We expect that the level of perceived autonomy support provided by parents will be in connection with the approaching behaviour. The higher the level of perceived autonomy support, the more predictable will be the attitude of task-approach. Furthermore the low level of perceived autonomy support will be in connection with task-avoidance and other-avoidance goals.

Method

Participants were recruited from Hungarian karate associations, with limited age category (14-18 years). We applied three different questionnaires:

The SCQ (Sport Climate Questionnaire, Reinboth et al., 2004) measures the degree to which athletes perceive their coach to be autonomy supportive. Responses to the items were recorded on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

PASSES (Perceived Autonomy Support Scale for Exercise Settings, Hagger et al, 2007) measures perceived autonomy support from parents. This questionnaire contains 12 items. Responses to items were made using the same 7-point Likert-type response scales with the strongly disagree (1) and strongly agree (7) endpoints.

The 3 × 2 AGQ-S (Achievement Goal Questionnaire for Sport, Mascaret et al, 2015) measures six goals, each with three items: task-approach (focused on attaining task-based competence), self-approach (focused on self-based competence), other-approach (focused on attaining other-based competence), task-avoidance (focused on avoiding task-based incompetence), self-avoidance (focused on self-based incompetence), and other-avoidance (focused on avoiding other based incompetence). Participants respond on a 7-point scale ranging from strongly disagree (1) to strongly agree (7).

Results and Discussion

The current trend of goal-orientation theories includes the theory of achievement goals (Elliot et al., 2011), where the development of learning capacity and efficiency are significant factors. The aim of the research is to find out the differences of autonomy-supportive behaviour of coaches and parents, and their relationship with goals and motivation of young athletes.

Research is in progress. We expect that the conclusions will contribute to the issue of early dropout from the perspective of applied sport psychology.

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A Stop-Signal-Task to Measure Goalkeepers' Reaction Speed and Impulse Control

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Key words: Psychology, Sport, Executive-Functioning, Stop-Signal-Task, Football

Introduction

Research has shown that basic cognitive functions like attention and perception are important for sport performances (Mann, Williams, Ward, & Janelle, 2007). In contrast, only few studies have examined the importance of higher cognitive functions, i.e., executive functioning, e.g. motor inhibition. Motor inhibition is the ability to stop an initiated behaviour (Logan, 2004). This ability is important in constantly changing environments, where an initiated behaviour can become inappropriate (Verbruggen & Logan, 2009). In

some sports these changes are very rapid (Moran, 2009). For example soccer players, and particular goalkeepers, often have to adapt their behaviours very quickly. That also requires the ability to stop a motor response. Verburgh and colleagues (2014) used a stop-signal paradigm (Logan, 1994) to examine motor inhibition in young soccer players. The Verburgh et al. study (2014) showed that highly talented soccer players could faster inhibit their responses (shorter stop-signal reaction times; SSRT) than amateur soccer players could. Similar findings have been reported by Bravers and colleagues (2018) when they compared top athletes (taekwondo and fencing) versus non-athletes.

Although the stop-signal paradigm appears to measure an important component, to date it is unclear, how SSRTs are related to other sport-psychological factors. We expect that the ability to stop a motor response is associated with high state-orientation, high concentration, low anxiety and is influenced by motivation. According to Beckmann (1994) individuals with high state orientation respond to conflict and dilemmas with a prolonged analysis and assessment of alternatives rather than a quick assessment. Thus, they are expected to keep both options – go and stop – in mind, allowing them to stop and correct their responses. In contrast, we expect that individuals with concentration issues (Senderecka, Grabowska, Szewczyk, Gerc, & Chmylak, 2012), or low motivation (Leotti, & Wager, 2010) show deficits in motor inhibition. Finally, anxiety should be unrelated to motor inhibition (Avila, & Parcet, 2001).

Therefore, in the present study we examined the relationship between key parameters of the stop-signal task and other psychological characteristic of elite junior soccer goalkeepers.

Method

Thirty-six football goalkeepers (mean age 16.7 years, SD = 2.2) from different Swiss national teams (from U-15 to U-21) participated in the study. The data collection was part of a two-day testing at the Swiss Federal Institute of Sport in Magglingen. During the week before the testing in Magglingen, participants had to complete online four modified questionnaires: Competition anxiety and concentration (WAI-T; Brand, Graf, & Ehlenpiel, 2009), sport-motivation (SMT, Frintrup & Schuler, 2007), and action- and state-orientation in sport (HOSP; Beckmann & Wenhold, 2008). At place, all participants were tested individually. The Stop-Signal-Task was adapted to the soccer context. In the first practise block, participants had to respond as quickly and accurately as possible by pressing either the left or the right respond key corresponding to the side of the screen where a red soccer ball appeared. In the next block, the stop signal was introduced and explained; whenever the red ball turned into a green ball, participants had to inhibit their response.

Results

Two participants did not complete the Stop-Signal Task, and another two did not follow the instructions and started speculating about the appearance of the stop-signal. Data of the remaining 32 goalkeepers were analysed. SSRT was calculated based on the mean SSD of 48 Stop-Signal-Trials and the mean reaction times of the Go-Trials (Go-RT). In addition, we calculated the standard deviations of the Go-Trial responses. Neither the Go-RT nor the SSRT correlated with any of the self-reported (sub)scales of the questionnaires. Interestingly a low standard deviation in the Go-RTs was related to higher perseverance, confidence and action-orientation after failure.

Discussion

The study showed that the adapted Stop-Signal-Task is applicable in its football version. However, to prevent participants speculating in the stop-signal task, we recommend defining a response window (e.g. 200 to 600ms). Although there are individual differences in the reactions as well as inhibition times, they were unrelated to state-orientation, concentration or motivational factors. Further studies should examine the relationship between the key parameters of the Stop-Signal-Task and self-reported impulse-control or self-regulation in general. In addition, next to self-reports other approaches should be added

(e.g. coach report) to control for social desirability in the soccer players answers. In general, we are convinced that experimental paradigms offer important additional information about athletes.

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An Examination of the Precise Nature of Ironic Effects of Performance in Air-Pistol Shooting

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Key words: Anxiety, Ironic Error, Air-Pistol Shooting.

Introduction

An extensive body of research devoted to determining the nature of the anxiety-performance relationship has investigated theories such as the conscious processing hypothesis, attentional control theory, and catastrophe models. However, these theories do not offer a

mechanism via which anxiety can elicit precisely *counter-intentional* errors. One theory that has received less attention is Wegner's (1994) theory of ironic processes of mental control. From the perspective of applying the theory of ironic processes of mental control to a performance setting, there are two main shortcomings in the limited research on ironic performance error to date. First, researchers have not sufficiently differentiated ironic error from non-ironic error. A second limitation of previous research is that the mental load has been largely cognitive with little relevance to performance contexts. That is, participants are typically given a mental load task that serves to tax working memory (e.g., counting backward). Specifically, the aim of the current research was to address these limitations by testing for both *non-ironic* error and *ironic* error via an ecologically valid stressor. Additionally, aim of the present research was to provide the first test of the precision of irony in the occurrence of ironic effects in air-pistol shooting task. Regarding, the precision of ironic errors, ironic error zone shots would be farther away from the target and more precisely within the ironic error zone under high-anxiety condition compared to low-anxiety condition.

Method

Forty-one participants (24 men, 17 women; Mage = 26.51, SD = 3.27; 82) completed an air-pistol shooting task (30 shots for each trial) in three trials respectively (a. warm up, b. low anxiety condition and, c. high anxiety condition). Participants were instructed to aim at a specific area of the shooting-target and to avoid another area in a balanced design. Specifically, participants were told that "please try to shoot the target zone (10 points), or as close to the target zone as possible, but be careful not to hit the top right quarter of the light-coloured cardboard target (17 x 17 cm) as you will score zero points each time you do so". The designated ironic error zone was one of the four quadrants (e.g., top right of the target excluding the area of the target zone that shot within the quadrant). Woodman, Barlow and Gorgulu (2015) conceptualized the precision of ironic error and their approach was used to assess ironic error zone via two measures of irony (e.g., radial error and arc-length of participants' ironic error zone shots).

Participants also completed measures of anxiety using the Mental Readiness Form-3 (MRF-3; Krane, 1994) before each trial. To increase experimental rigor psychophysiological indices of arousal and anxiety, namely heart rate and heart rate variability (SDNN and r-MSSD) were measured via Polar V800 heart rate monitor.

Results

Anxiety manipulation. Both physiological and self-report anxiety measures confirmed the successful anxiety manipulation. Paired samples *t*-tests on the MRF-3 data demonstrated that in the high-anxiety condition, compared to the low-anxiety condition, participants' cognitive anxiety ($t_{40} = 5.98, p < .001$) and somatic anxiety ($t_{40} = 5.03, p < .001$) were significantly higher and their self-confidence ($t_{40} = 2.85, p < .01$) was significantly lower.

Performance. A 2 (anxiety: low, high) $\times$ 3 (zone: non-ironic error, ironic error, target) fully repeated measures ANOVA was conducted. As the sphericity assumption was violated, it was applied a Greenhouse-Geisser correction factor to the degrees of freedom.

Bonferroni-corrected follow-up paired samples *t*-tests revealed that, when anxious, participants hit significantly fewer shots in the *target* zone ($t_{40} = 5.44, p < .001$) and significantly more shots in the *ironic* error zone ($t_{40} = 5.71, p < .001$), as hypothesized. Importantly, as hypothesized, there was no significant *non-ironic error* difference between the high- and low-anxiety conditions regardless of which of the three remaining quadrants was conceptualized as non-ironic error ($t_s < 1, p_s > .5$).

Precision of ironic error. A repeated measure of MANOVA was conducted specifically on the ironic error data under low- and high-anxiety conditions. First each participant's mean radial error was taken within the ironic zone as the measure of the *distance from the target zone*. Second, each participant's mean arc length was also taken within the ironic zone (from the closest non-ironic zone) as the measure of the distance of the ironic error zone. The multivariate difference between low- and high-anxiety conditions was significant,

Wilks' $\Lambda = 0.76$, $F(2, 32) = 7.75$, $p = .001$, as hypothesized. Univariate follow-up F tests revealed that both the arc-length of the ironic errors, $F(1, 33) = 13.52$, $p < .001$, and the radial error within the ironic error zone, $F(1, 33) = 13.49$, $p < .001$, were significantly greater in the high-anxiety condition compared to the low-anxiety condition.

Discussion

The aim of the present research was twofold: (a) to address two shortcomings of the limited extant literature examining Wegner's (1994) ironic processes of mental control in an air-pistol shooting task; and (b) to better understand the nature of ironic performance errors by examining how precisely ironic such errors are under different anxiety conditions.

The results of present research show that performers suffered significant and specific ironic errors of performance when they were anxious. When negatively primed (e.g., don't hit the top right quarter of the target), anxious performers do not suffer error of a diffuse nature but rather suffer specifically to be-avoided error. The results of present research provide support for the Wegner's theory that anxious individuals make ironic errors that are more precisely ironic compared to when they are not anxious. The combination of a high-pressure situation and negative instructions is potentially fraught with undesired consequences that are perversely predictable. The present research demonstrates that ironic performance errors can be observed in different performance contexts and is a meaningful and robust potential concern for performers who are required to perform under pressure (e.g., Olympic athletes, police officers, soldiers etc.). Regardless, coaches and practitioners would do well to be particularly careful with the specific words that they use as part of their instructions when helping performers to ensure that they do not contribute to the likelihood of mental control backfiring when it matters most to the performer.

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Development and Validation of a Workplace Decisional Balance Scale for Exercise

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Key words: Physical Activity, Workplace, Decisional Balance, Transtheoretical Model, Validation

Introduction

The international community (WHO, 2008) has recognized the workplace as a suitable site for health promotion. Among the actions developed to improve the health of employees, physical activity (PA) programs have come to the fore and research on this subject has intensified. Most studies have focused on employee outcomes or company productivity following these programs (e.g., Pereira et al., 2015) or the effectiveness of interventions to reduce sedentarity or increase PA (e.g., Commissaris et al., 2016). However, few studies have examined the factors that determine participation in workplace PA programs and few have been based on theoretical models (Robroek et al., 2009). A strength of the Transtheoretical Model (TTM; Prochaska & DiClemente, 1982) is that it treats behavior

change through a temporal dimension of readiness to change. Among the factors that are hypothesized to mediate the change process, the decisional balance refers to perceived advantages and disadvantages of change. This study developed and validated a version of the Decisional Balance Scale for Exercise (Eeckhout et al., 2013) adapted to the workplace and examined its psychometric properties and relationship to the components of the TTM.

Method

The sample consisted of 488 volunteer employees (127 males and 361 females; $M_{age}=41.20$ years; $SD=11.20$) from several organizations offering PA programs (i.e., hospitals, private companies and universities). The study was carried out according to Vallerand's (1989) validation procedure: (a) developing a preliminary version and evaluating the clarity of the items, (b) exploring and confirming the factorial structure of the instrument, (c) evaluating its stability over time and confirming its internal consistency, and (d) examining the concurrent validity of the scale.

Results

A first preliminary version of 40 items was developed by a committee of experts in social psychology and exercise, public health and occupational medicine, based on semi-structured interviews and the Decisional Balance Scale for Exercise (Eeckhout et al., 2013). According to the Delphi method, 27 items referring to physical, psychological, and logistic dimensions of PA barriers or facilitators were finally defined. The clarity of the preliminary version was assessed and this led to a version with 23 items, with 12 items for the facilitators factor and 11 items for the barriers factor. Exploratory structural equation modeling was conducted. The analyses showed that a bi-factor model of 21 items provided the best adjustment indices [χ^2 (165)=454.62; $p<.001$; TLI=.93; CFI=.95; RMSEA=.06; RMSEA LO/HI=.05/.06]. The temporal stability of the questionnaire was verified with a Student's *t* test for paired samples, with 71 employees. The *t* test results were not significant. In addition, significant positive correlations (ranging from $r=.85$, $p<.001$ to $r=.89$, $p<.001$) were found between the first and second collections of data pertaining to each time taken as a whole. Last, the concurrent validity of the scale was tested through associations with TTM constructs: experiential processes, social facilitation (QPC; Eeckhout et al. 2012a), and self-efficacy (ECS; Eeckhout et al., 2012b). The barriers subscale was negatively related to self-efficacy ($r = -.33$, $p < .01$), social facilitation ($r = -.20$, $p < .01$) and autonomous motivation ($r = -.17$, $p < .01$); but positively related to amotivation ($r = .20$, $p < .01$) and controlled motivation ($r = .27$, $p < .01$).

Discussion

This series of studies helped develop a questionnaire consisting of 21 items with two subfactors, (facilitators, 12 items; barriers, 9 items), in which three dimensions were distinguished (i.e., physical, psychological and logistic) leading to the definition of six subscales: Physical Facilitators (PF) and Physical Barriers (PB), Psychological Facilitators (PsyF) and Psychological Barriers (PsyB), and Logistic Facilitators (LF) and Logistic Barriers (LB) (Fig.1).

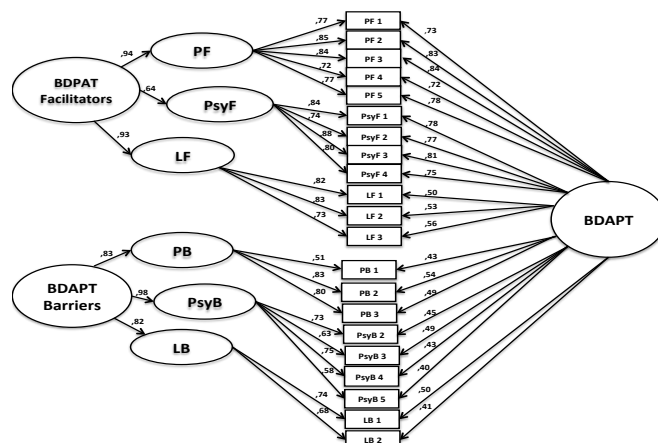


Fig.1. Coefficients of estimation and standard errors of measurement of the testing model

The scale was named “*Questionnaire de mesure de la Balance Décisionnelle pour l’AP sur le lieu de Travail*” (BDAPT-Q). Our results suggest that in future studies it will be possible to consider both the overall score (i.e., decisional balance for exercise in the workplace) and the specific score of each subscale (i.e., facilitators and barriers). To conclude, the BDAPT.Q presents satisfactory psychometric properties and constitutes a reliable and valid instrument that can be used for French-speaking employees. This scale will be helpful for gaining insight into the psychological mechanisms governing participation or non-participation in worksite PA programs and for developing health promotion strategies through physical activity in this context.

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Presentation

Mental health is considered to be a state of successful performance of mental functioning resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity. In view of this it can be said that athletes will face during as well as after their athletic career a diversity of mental health challenges which, if athletes' coping mechanisms and/or the support provided to them fail, can lead to mental health crises and (sub-)clinical psychological issues (Wylleman, Rosier, & De Knop, 2015). In fact, recent research among for example Dutch (former) elite athletes reveals that a prevalence of 6% for adverse alcohol use to 45% for anxiety/depression among current elite athletes, and from 18% for distress to 29% for anxiety/depression among former elite athletes. Specifically, the occurrence of symptoms of common mental disorders among both current and former elite athletes was related to a higher number of past severe injuries, a higher number of past surgeries, a higher number of recent life events, a higher level of career dissatisfaction and a lower level of social support. The research concluded with the fact that the prevalence of common mental disorders was similar to the ones among athletes from other sports disciplines, and that it also compared with the lifetime prevalence estimates in the general population of the Netherlands (Gouttebarga, Jonkers, Moen, Verhagen, Wylleman, & Kerkhoffs, 2016).

During the first part of this workshop, a developmental/holistic perspective (Wylleman, Rosier, & De Knop, 2016) will be used to illustrate and discuss some of the mental health challenges talented, elite, Olympic and retired athletes may face at six different levels of development (i.e. athletic, psychological, psychosocial, academic/vocational, financial, legal).

The second part of the workshop will focus on specific approaches used to support and strengthen athletes' mental health. These psychology-based approaches provided by a team of by sport, health, and clinical psychologists will include, among others, the development of performance behaviour competences to talented athletes, the interdisciplinary support provision to elite and Olympic athletes, and the career transition support for retiring and retired elite athletes. Furthermore, attention will be paid to the mental health challenges faced by elite coaches as well as by support staff (e.g., medical doctors, physiotherapists, admin/logistic support staff).

During the final part, attention will be paid to the roles of, and collaboration among psychologists, performance lifestyle coaches and psychiatrists, medical doctors, and physiotherapists. Recommendations will be formulated on how sport federations, elite sport centres and/or NOCs could optimize the development of the mental health of their athletes and coaches.

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**14H15-
15H45
Salle 1222**

Symposium 7. Neuroenhancement in sport psychology

(Chair: Laborde, S., & Dosseville, F., Université de Cologne & Caen)

- Javelle, F., Hosang, T., & Laborde, S. (Université de Cologne) : Transcranial direct current stimulation: Applications in Sport Psychology
 - Laborde, S., (Université de Cologne) & Dosseville, F. (Université de Caen) : Slow paced breathing in sport psychology
 - Hosang, T., Baum, N., Laborde, S., & Hoffman, S. (Université de Cologne) : Sweet Taste, and Cognitive Performance: A novel approach to cognitive enhancement?
 - Goisbault, M., (Université de Nantes) & Doron, J. (INSEP) : Integrated mindfulness-based intervention to enhance performance-relevant psychological skills of elite basketball players
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Neuroenhancement in sport psychology

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Abstract

Neuroenhancement refers to the targeted enhancement of cognitive, affective, and motor functioning, via pharmacological and non-pharmacological methods. This symposium aims to focus on non-pharmacological neuroenhancement in sport psychology, including a combination of presentations addressing neuroenhancement from different perspectives. Specifically, this symposium will address transcranial direct current stimulation (tDCS), slow paced breathing, mouth-rinsing via carbohydrates, and mindfulness. With transcranial direct current stimulation (Javelle, F., Hosang, T., & Laborde, S.), we get an introduction on a non-invasive brain stimulation technique showing promising features for improving motor learning, cognitive performance and affect. With slow paced breathing (Laborde, S. & Dosseville, F.), we introduce a simple breathing technique that enables to improve self-regulation mechanisms at several levels. Further, mouth-rinsing via carbohydrates (Hosang, T., Baum, N., Laborde, S., & Hoffmann, S.) was shown to be a simple and effective way to prime the brain in order to improve cognitive functioning. Finally, a mindfulness-based intervention (Goisbault, M., & Doron, J.) was shown to improve subjective performance markers in basketball players. To conclude, non-pharmacological methods have been proven to be successful in improving several parameters relevant for sport psychology. This symposium offers a research agenda in order to stimulate future research and to explore further the mechanisms of the neuroenhancement methods presented in order to better understand their functioning and how they can influence performance.

Transcranial Direct Current Stimulation: Applications in Sport Psychology – a Review

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Key words: tDCS, Performance Enhancement, Motor Learning, Restorative Neurology, Cognition

State-of-the-art

Due to their large range of applications, interest in non-invasive brain stimulation methods has increased in the last decade. Among these methods, transcranial direct current stimulation (tDCS) can be highlighted because it is easy to use, relatively inexpensive, and offers promising results with a small range of side effects (Zhao et al., 2017). tDCS stimulates the cerebral cortex via a weak (<2mA), constant, and direct electrical current for a short period of time (between 10 and 30 minutes) to enhance the neural plasticity during and after the stimulation (Yokoi et al., 2017; Zhao et al., 2017). This talk aims to review the functioning of tDCS and to examine its application and added value for sport psychology.

tDCS can be used with different kinds of participant samples (healthy individuals, individuals with psychological disorders, or individuals with motor disabilities) as long as the appropriate cortex stimulation location is used (Giglia et al., 2014; Hupfeld et al., 2017; Yokoi et al., 2017). It can be used for motor, cognitive and psychological applications (Giglia et al., 2014; Hupfeld et al., 2017; Yokoi et al., 2017).

When tDCS is applied to the motor cortices (the pre-motor cortex, the primary motor cortex, and the somato-sensory association cortex), it leads to a state of hyperplasticity. It allows neuronal connections to be wired or re-wired and enhances the neuronal priming, subsequently increasing physical performance and motor learning. The use of tDCS led to significant improvements in healthy volunteers in various strength exercises (Fan et al., 2017), in reaction times (Hupfeld et al., 2017), and even in endurance (Vitor-Costa et al., 2015). Commercial applications to increase elite athletes' motor and physical performance have already been created but bring with them ethical questions, such as whether tDCS should be considered as doping or as a legal performance enhancement device (Reardon, 2016). Moreover, tDCS can be used to improve injury recovery, as illustrated by significant results found in motor restorative neurology. For example, stroke patients were shown to recover their motor losses better when motor training was associated with repetitive primary motor cortex stimulations, in comparison to motor training alone (Kim et al., 2014).

In cognitive applications, stimulation of the prefrontal cortex showed a significant improvement of working memory with beneficial results lasting up to 9 months after the stimulation (repetitive use: 8 to 15 stimulations) (Giglia et al., 2014; Hoy et al., 2013; Ruf et al., 2017). tDCS was also found to help improve learning disabilities in children (Krause and Cohen Kadosh, 2013). In psychological applications, tDCS, via an anodal stimulation of the dorsolateral prefrontal cortex, is considered to be a potential treatment of various psychological disorders (Palm et al., 2009; Powell et al., 2014), specifically for major depressive disorder where antidepressive effects were shown to last up to 30 days after the stimulation (Yokoi et al., 2017).

Despite promising findings that could establish tDCS as a method of interest to be used in sport psychology, drawing precise conclusions from tDCS research remain challenging, given the cortical region being stimulated cannot be precisely defined. Improving the cost effectiveness of tDCS would require improving the accuracy in cortical stimulation, which would also contribute to enhance the effects of tDCS on performance.

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Slow Paced Breathing in Sport Psychology

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Key words: Heart Rate Variability, Cardiac Vagal Activity, Respiratory Sinus Arrhythmia, Resonance Frequency

State-of-the-art

The aim of this talk is to introduce slow paced breathing as a useful tool for sport psychology. Slow paced breathing is a structured breathing, with a predetermined length for inhalation and exhalation. Usually, most people breathe between 12 and 20 cycles per minute (Sherwood, 2006; Tortora & Derrickson, 2014). Slow paced breathing requires slowing down the breathing frequency to 6 cycles per minute on average. The term ‘paced’ means that participants have to follow a pacer regulating their inhalation and exhalation phases, with exhalation lasting slightly longer than inhalation.

Slow paced breathing can impact positively cognition, emotion regulation, stress management, and overall health (Lehrer & Gevirtz, 2014). These effects can be understood via cardiac vagal activity, the activity of the vagus nerve regulating cardiac functioning (Laborde, Mosley, & Thayer, 2017). Cardiac vagal activity can be measured via heart rate variability, the changes in the time intervals between successive R peaks (Laborde, Mosley, et al., 2017; Malik, 1996; Shaffer, McCraty, & Zerr, 2014).

Slow-paced breathing can increase cardiac vagal activity, according to the resonance frequency model (Lehrer, 2013). The prolonged exhalation contributes to larger beat-to-beat heart fluctuations compared with prolonged inhalation, and hence induces a higher cardiac vagal activity (Strauss-Blasche et al., 2000). The mechanisms are based on the coupling between respiration at a specific pace—on average six cycles per minute—and blood pressure, which triggers the resonance properties of the cardiovascular system through its action on the baroreflex. This phase coupling results in improved gas exchange and oxygen saturation, as well as in increased vagal afferences (Lehrer, 2013; Lehrer & Gevirtz, 2014).

Slow-paced breathing can be realized with or without biofeedback – the live display of heart rate variability-, the effects on cardiac vagal activity being rather similar (Wells, Outhred, Heathers, Quintana, & Kemp, 2012). However biofeedback may increase participants’ motivation to adhere to slow-paced breathing training (Lehrer & Gevirtz, 2014; Wheat & Larkin, 2010). As a conclusion, slow paced breathing may help a large range of individuals, from those having an intellectual disability (Laborde, Allen, Gohring, & Dosseville, 2017) to athletes (Jimenez Morgan & Molina Mora, 2017).

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Sweet Taste and Performance Monitoring: A Novel Approach to Cognitive Enhancement?

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Key words: Cognitive Enhancement, EEG, Taste, Performance Psychology, Dopamine

Introduction

The human gustatory system evolved as a dominant regulator of human eating behavior (Breslin, 2013). Sweet taste was of crucial importance during human evolution, signaling the availability of carbohydrates, energy density and nutritional safety of a food source. There is accumulating evidence that the oral availability of certain carbohydrates can lead to enhanced performance during exercise (Rollo & Williams, 2011). While the exact mechanism has still to be elucidated there is broad consensus that the effect is centrally mediated and independent of peripheral factors. Sweet taste elicits a strong, innate reward signal and increases dopaminergic transmission (Volkow, Wise, & Baler, 2017). This indicates a modulation of cognitive processes, especially the performance monitoring system (Holroyd & Coles, 2002).

The aim of the study was to investigate the effect of oral carbohydrate availability (glucose) on the performance monitoring system on the behavioral and neurophysiological level.

Method

Therefore 44 participants were tested under fasted conditions using a randomized-controlled, within-subject design. On two different days participants had to perform a modified Flanker Test, while behavioral data (reaction times and error rates) and the electroencephalogram (event-related potentials; error negativity (Ne)) were recorded. During testing participants had to intermittently rinse a glucose solution or a placebo solution (taste-matched artificial sweetener) in the oral cavity and subsequently spit it out.

Results

During error trials of the Flanker Test there was an increased amplitude of the error-related potential Ne for the glucose solution only. On the behavioral level, no difference between both conditions was observed.

The results of our experiment indicate that oral carbohydrate can have an impact on the human performance monitoring system, thereby affecting adaptive behavior on a very basal level. Interestingly neurophysiological parameter thereby seem to be more sensitive for this effect compared to behavioral data. This finding is in accordance with previous data, using

direct pharmacological dopaminergic manipulation during tasks requiring performance monitoring. The results further indicate, that oral carbohydrate availability affects human performance independently of sweet taste as both conditions were matched in regard to sweetness. This finding is also in accordance with previous research pointing towards a selective detection of certain types of carbohydrates (e.g. glucose and maltodextrin).

Discussion

Based on our findings, rinsing one's mouth with a glucose solution provides a simple, cheap and low-risk strategy to increase cognitive performance under conditions of energy-deprivation. Thus, especially weight-sensitive sports (frequent energy-restriction via weight-making strategies) might benefit from this type of neuroenhancement to optimize performance outcomes. Additional research is needed to investigate the effect of oral carbohydrate availability on other cognitive processes and to further test the proposed dopaminergic mechanism.

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Integrated Mindfulness-Based Intervention to Enhance Performance-Relevant Psychological Skills of Elite Basketball Players

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Keywords: Integrated Mindfulness-Based Intervention, Elite Sport, Basketball, Performance-Relevant Psychological Skills, Mixed Methodology.

Introduction

Elite sport can be considered an extreme example of situations that place high demands on peoples' behavior (Röthlin et al., 2016). Successful adaptation in high performance environments requires effective cognitive, behavioral, and emotional self-regulation skills (Birrer & Morgan, 2010). In order to perform optimally at the highest possible level even under challenging and non-optimal conditions, athletes need to develop and use psychological skills. In this context, mindfulness-based interventions would appear to be a promising and holistic approach fostering the development of performance-relevant psychological skills (Röthlin et al., 2016). While the application of a mindfulness approach in the sport domain and its enhancement have taken off in recent years, mindfulness-based intervention programs for performers with the aim of performance improvement need further development and validation (Bühlmayer et al., 2017; Sappington & Longshore, 2015). The current study aimed to design an integrated program, drawn heavily on the MAC

approach (Gardner & Moore, 2007), that suited the characteristics of the elite athletes and the specific demands of basketball. Specifically, the purpose was to evaluate the efficacy of an integrated mindfulness-based intervention on the self-regulation attentional and emotional skills and performance of elite basketball players.

Method

22 young female elite basketball players ($M_{\text{age}} = 16.72$, $SD_{\text{age}} = .82$) from the French Federal Basketball Center (CFBB) were recruited for this study. They followed the mindfulness-based intervention called "5Majeur" program. All participants completed pre-, mid- and post-program questionnaire (*Mindfulness Inventory for Sport*, two subscales from the *Five Facets Mindfulness Questionnaire*, *Coping Inventory Task-Stress*, *subjective performance's one-item*) and took part in semi-structured interview one month afterward.

The "5Majeur" program was designed to suit the characteristics of elite athletes and the demands of basketball. In this regard, the integrated exercises were created with the help of the coaches and were led jointly by both the researcher and the coaches. The program followed the principles of the MAC approach (Gardner & Moore, 2007). It also incorporated other psychological techniques, such as goal-setting and self-confrontation interviews, which are considered to be complementary with mindfulness, and share the same goal, i.e., helping athletes to sustain the focus of attention on goal-related cues, while disengaging from disruptive stimuli during training and competition. The intervention was designed to be integrated as much as possible, either into the basketball training sessions or into the physical training sessions. It lasted 16 weeks and comprised five modules (see Figure 1).

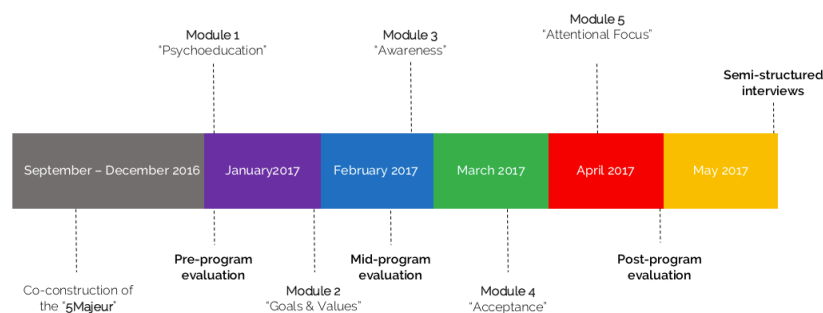


Figure 2. "5Majeur" Program

Results

The results of repeated measures ANOVAs showed a significant increase in mindfulness skills over the course of the intervention such as non-reactivity ($F_{(2,20)} = 5.34$, $p < .05$) and awareness ($F_{(2,20)} = 3.76$, $p < .05$) and a decrease, close to statistical significance, in ruminative coping strategies ($F_{(2,20)} = 3.23$, $p = .06$). Subjective performance also increased significantly with the intervention ($F_{(2,20)} = 3.90$, $p < .05$). Qualitative data from the semi-structured interviews were regrouped in meaning units and gathered into categories relative to the key messages and the training contents of the intervention. The qualitative results supported the effectiveness of the intervention on the whole. The feedback provided by athletes in the interviews provided a deeper understanding of the reasons why athletes adhered to the program's contents and how they applied it in their basketball practice.

Discussion

Using mixed methodology combining qualitative and quantitative approaches, the results provided preliminary support for the utility and effectiveness of the "5Majeur" program. It shows promise as a way to conduct mindfulness-based intervention for improvement performance purposes and incorporate mindfulness practice into discipline-specific training sessions. The program's conceptualization and application in elite sport in an attempt to enhance performance-relevant psychological skills and performance could be an original way to design mindfulness-based intervention for everyone who wants to optimize his or

her skills in challenging situations, such as elite athletes or performers as a whole, as well as for practitioners who help others optimize performance, for example, coaches, psychologists or consultants. Consequently, future program development should move away from interventions applying distinct exercises stemming from non-discipline-specific and clinical mindfulness interventions (e.g., MBSR, MBCT). Accordingly, enhanced knowledge may enable and result in the design of even more efficient and effective intervention for learning performance relevant-skills and the attainment of performance goals among elite athletes.

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- Grandchamp, A., (HEP Vaud) & Quin, G. (Université de Lausanne) : Analyse de l'évolution des pratiques évaluatives en éducation physique : revue de littérature
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Etudes des Stratégies d'Apprentissage Mobilisées par des Enfants Déficients Cognitifs dans des Tâches Motrices en Éducation Physique Adaptée

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Mots clés : Stratégies d'Apprentissage, Déficience, Tâche Motrice

Introduction

Les enfants déficients cognitifs n'accusent pas un simple retard de développement, leur profil d'apprentissage est également spécifique. Si la problématique de l'apprentissage chez ces enfants est très présente dans la littérature scientifique, les recherches se sont pour l'instant focalisées sur : a) l'évaluation des capacités cognitives ; b) l'évaluation des performances ou difficultés d'apprentissage ; c) la conception et l'identification de stratégies d'enseignement adaptées. Par exemple, des études ont révélé de fortes corrélations, chez les enfants déficients cognitifs, entre les fonctions exécutives (i.e., fonctions cognitives supérieures) et l'apprentissage moteur (Schott et Holfelder, 2015), ou la réussite scolaire (Will et al, 2017).

Plus rarement, quelques études ont cherché à investiguer les stratégies d'apprentissage utilisées par des sujets présentant des déficiences (e.g., stratégies d'apprentissage en lecture, Gersten et al, 2001 ; apprentissage de la langue des signes, Bouffard et Dunn, 1993). A notre connaissance, aucune étude n'a examiné les stratégies d'apprentissage des enfants déficients cognitifs dans une situation d'apprentissage moteur, ce qui constituait le principal objectif de notre recherche. Les stratégies d'apprentissage sont utilisées pour favoriser la recherche et la mémorisation d'informations relatives à un contenu disciplinaire (Kermarrec, 2004). Elles témoignent de la capacité d'autorégulation de l'apprenant, c'est-à-dire sa capacité à prendre en charge sa propre activité au sein du dispositif de formation en

vue d'atteindre son objectif. Les études réalisées auprès d'élèves non déficients, scolarisés en enseignement secondaire (Pintrich et al., 2000) ou à l'université (Credé et al., 2010) ont systématiquement utilisé des échelles de mesure verbales. Compte tenu du déficit des fonctions exécutives chez les enfants déficients, ils seraient incapables d'exprimer verbalement leur façon d'apprendre, d'explicitier leurs stratégies. Aussi, le défi méthodologique de cette étude exploratoire est de construire et de valider une procédure et une grille d'observation des stratégies d'apprentissage spontanément mobilisées par des enfants présentant une déficience intellectuelle légère, dans le contexte spécifique d'une séance d'Education Physique (EP) adaptée.

Méthode

Notre population d'étude est constituée de 9 élèves, âgés de 10 à 12 ans, scolarisés dans un institut médico-éducatif, les Genêts d'Or (France). Ils présentent une déficience intellectuelle légère, caractérisée par un quotient intellectuel entre 55 et 70. Nous avons organisé un observatoire de l'activité des élèves déficients, dans le contexte spécifique de deux séances d'EP adaptée. Les enfants devaient réaliser des tâches motrices topocinétiques : 1) marcher sur un banc, lors de la première séance, et 2) lancer dans une cible lors de la seconde séance. Le but de la première tâche était de traverser un banc sans tomber, et sans renverser des obstacles (boîtes en cartons). Au cours des essais, l'enfant pouvait choisir le nombre d'obstacles à franchir (1 à 3). Pour la deuxième tâche, le but était de lancer un ballon dans un panier, à partir de cerceaux plus ou moins éloignés de la cible (distance au choix pour l'enfant). Au cours de leurs essais, les participants sont invités à venir consulter, s'ils le souhaitent, sur une tablette numérique, une démonstration commentée ou non de l'habileté. Ces tâches motrices auto-contrôlées ont été conçues avec des experts de l'enseignement adapté afin de : 1) permettre l'autorégulation par l'enfant d'une contrainte de difficulté de la tâche ; 2) offrir des ressources pédagogiques potentielles pour aider l'enfant à développer son habileté. Les deux séquences d'apprentissage ont été entièrement filmées grâce à deux caméras numériques fixes, placées selon des angles différents. L'analyse des données vidéo a été réalisée tout d'abord, en dénommant minutieusement les comportements réalisés, sans interprétation, puis en procédant à une catégorisation ascendante ou empirique. Une triangulation a été réalisée pour assurer la validité des catégories de stratégies.

Résultats

Nous avons répertorié 778 comportements considérés comme des manifestations de stratégies d'apprentissage lors des deux séances. Après triangulation, ces comportements ont été empiriquement classés en 6 stratégies d'apprentissage: observer/imiter un comportement (46%), gérer la difficulté de la tâche (16%), exécuter/répéter un comportement (15%), écouter les consignes (10%), se focaliser sur un but (4%), valider un comportement (2%). Une 7^{ème} catégorie regroupait des comportements parasites (7%).

Discussion

Les stratégies d'apprentissage mobilisées par des enfants déficients pourront être discutées d'une part en référence au modèle CIR (i.e., comportements d'élèves non déficients en EP, Kermarrec et al., 2004), d'autre part en référence aux résultats antérieurs obtenus avec des sujets déficients (Bouffard et Dunn, 1993 ; Gersten et al., 2001). Ces comparaisons devraient permettre de mieux comprendre les spécificités des apprenants déficients confrontés à des tâches motrices complexes. A partir de cette étude exploratoire, notre objectif sera de construire et de valider une grille d'observation pour contribuer à de futures études, et aider les professionnels à identifier les stratégies d'apprentissage privilégiées par ces apprenants.

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Understanding Learning Processes of Postural Coordination Patterns on a Mechanical Horse: the Perspectives of a Joint Analysis

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Keywords: Mechanical Horse, Biofeedback, Postural Coordination, Phenomenology

Introduction

This study investigated the role of lived experience in the learning processes involved in the accomplishment of postural coordination patterns on a Mechanical Horse (MH) using a real time Visual Biofeedback (VBF). As the efficiency of postural regulation on a MH is linked to expertise, we sought to characterize in depth the underlying processes involved in the learning of specific postural coordination with the MH. To understand how postural coordination tasks are learnt, we postulated that investigating the strategies used by healthy participants would produce valuable insights to (1) formulate guidelines for adapted physical education sessions with the MH and (2) conduct further similar studies in specific populations of patients. Baillet et al. (2017) have already shown that expert horseback riders (1) have a better ability to maintain the rider/horse synchronization and (2) have a postural coordination, which differs from non riders (i.e., riders have anti-phase trunk oscillations with the MH, while non riders have out-of-phase oscillations). To do so, we propose a joint analysis of phenomenological data and behavioral data (i.e., relative phases) to characterize in depth the transformations of an unfolding activity; we postulate that these transformations may relevantly document the learning processes of a postural coordination with a VBF. By activity, we refer to (1) the meaningful part that is experienced by the actors, which encompasses actions, intentions, interactions with the environment and significations and (2) the signatures of the behavioral patterns of coordination that are not necessarily

experienced by the actors. The added value of such articulation is the mutually enriching nature of both accounts in terms of meaning and temporality to document the nature of the transformations of activity.

Method

Forty healthy participants volunteered to participate in the study. They all had no prior experience in horseback riding. Participants did a pre-test in which they performed four coordination patterns in function of the MH oscillation frequencies: (1) spontaneous coordination (SC) without VBF, (2) in-phase coordination (0°) with VBF, (3) out-of-phase coordination (90°) with VBF, and (4) anti-phase coordination (180°) with VBF. The VBF was given in real time and corresponded to a blue dot projected on the wall, which became green when the participants adopted the right coordination. For each coordination pattern, the MH oscillation frequency was set at 50% and was incremented to 70% and 80% every three minutes. After the pre-test, participants were then equally and randomly spread in four groups: (1) the control group (i.e., SC without VBF), (2) the 0° group, (3) the 90° group and (4) the 180° group to perform three learning sessions over three weeks. A post-test and a retention test (four weeks later) were then performed. Participants and MH were instrumented of goniometers to measure their angular positions from which the discrete relative phase (RP) (i.e., the difference of time between two similar occurrences from two oscillators) was computed. After each session, participants did a self-confrontation interview using the video recordings of the session (Theureau, 2010). The interviews aimed at documenting (1) embodied processes (e.g., physical engagement and sensations), (2) the modalities of coordination with the MH and (3) the modalities of interaction with the VBF. By respecting the chronology of events, phenomenological data were coded by identifying (1) actors' actions, (2) perceptions and (3) significations. Last, the articulation of the phenomenological and behavioral data was done step-by-step through the analysis of the temporal synchronization of the behavioral and phenomenological dynamics.

Results

The analyses of interviews showed that participants adopted specific exploratory strategies in order to fulfill the tasks, by relying on (1) multimodal embodied elements such as, muscular activity involved in the interplay between anteversion and retroversion of the plexus, the MH noise, kinesthetic information related to the sensation of the saddle; (2) the search of the adequate coordination, such as changing the position of the trunk, or standing up on the stirrups, jumping on the saddle and (3) a specific and changing use of the BF for monitoring their activity, by impacting on the dot trajectory and color (i.e., from blue to green). Our results also showed that the oscillation frequency was not necessarily linked to the perceived difficulty of the task. These exploratory strategies were associated with more important variability of the RP and in a more salient way in the 90° coordination (figure 1). Moreover, after 3 learning sessions, our results showed that the 90° coordination was the most difficult pattern to learn.

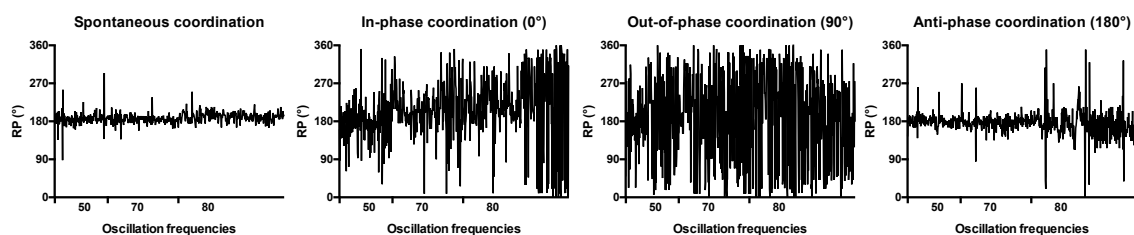


Figure 1. Depiction of four coordination patterns performed by a participant according to requested patterns (i.e., spontaneous coordination, 0° , 90° and 180°), for each oscillation frequency.

Discussion

This study provided insights into how learning of a coordination pattern on a MH is (1) organized with the use of a VBF to characterize various typologies of relationship with a dispositive of help (i.e., supplementation, assistance, support and substitution) (Gapenne, 2006) and (2) complemented by behavioral data that quantified the degrees of coupling between the actors and the MH over time. It also suggested further perspectives of investigation into the role of experience on learning processes of a given task. This study also provided an innovative proposition for articulating first- and third- person data to raise a mutual enrichment regarding a specific phenomenon, as the experiential data give meaning to the behavioral data. Conversely, the behavioral data also applied a temporal constraint to delineate experience that emerges at the phenomenological level, enabling to gain more intelligibility in the entangled processes involved during the accomplishment of specific tasks (Lutz et al., 2002). The upcoming and practical perspective is to apply and adapt the strategies used by healthy participants to develop rehabilitation protocols for brain-damaged patients by taking experience into account during sessions of adapted physical activity in a clinical context.

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Analyse de l'Évolution des Pratiques Évaluatives en Education Physique : Revue de Littérature

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Mots clés : Education Physique, Evaluation, Réforme, Enseignant

Introduction

L'éducation physique et sportive (EPS) est une forme de pratique physique marquée par des problèmes d'hétérogénéité entre élèves au niveau des attitudes, des morphologies, des niveaux de performances, accentuée par des activités sexuées. Cette hétérogénéité place la question de l'évaluation au centre des débats, notamment dans une perspective d'engagement des élèves dans l'activité physique, mais aussi dans un souci de justice, d'équité, c'est-à-dire au niveau de valeurs qui sont prônées par l'école mais qui sont aussi affichées comme éminemment sportives (Allain & al., 2016).

Et l'on pourrait penser que l'évaluation en EPS comme objet de recherche, largement analysé et discuté depuis 30 ans, a abouti à des résultats solides qui irriguent les pratiques. Or, des travaux récents mettent en évidence une confusion persistante des concepts et des

pratiques elles-mêmes (Mougenot & Dugas, 2014). Une opposition semble se prolonger entre une logique de *contrôle* permettant d'assurer un principe d'équité et une régulation *dialogique* s'inscrivant dans une logique de développement et d'apprentissage, même si, selon Lau (2016), il est temps de dépasser le clivage entre la « mauvaise » évaluation sommative et la « bonne » évaluation formative.

Ces débats seraient finalement abstraits et peu intéressants si les pratiques évaluatives en EPS n'avaient des conséquences sur l'engagement de l'adolescent dans la pratique sportive à long terme, dans un contexte où la lutte contre la sédentarité et l'obésité est une priorité de santé publique. Dès lors, cette communication vise à faire l'état de la question au travers d'une revue complète de la littérature internationale récente sur les pratiques évaluatives en EPS afin de relever et mieux comprendre les difficultés récurrentes, du côté de « l'activité » des élèves mais aussi des enseignants (Clot, 2008 ; Vygotski, 1978), et de pointer les pistes d'évolution.

Méthode

Cette revue couvre les douze dernières années car celles-ci sont marquées par de multiples réformes en Europe et sur d'autres continents (Etats-Unis, Océanie). Les moteurs de recherche suivants ont été utilisés : *Science Direct*, *Taylor & Francis*, *Web of Science*, *Google Scholar*, pour les articles anglophones, Cairn et Google Scholar pour les articles francophones. Les mots-clés « évaluation », « évaluation sommative », « évaluation formative », « équité », « arrangements évaluatifs » ont été utilisés pour les publications francophones et « *evaluation* », « *assessment* », « *physical education* » pour le monde anglophone. Cette démarche nous a permis d'analyser 82 articles et 6 ouvrages et rapports.

Résultats

Les évaluations dites « traditionnelles » (qui mesurent des performances ou évaluent des habiletés motrices) persistent en EPS (Dyson, 2014). Par exemple, 90% des enseignants anglais recourent à des *Physical Fitness Tests (FPTs)*. Les travaux pointent une double contradiction à ce niveau : l'évaluation des performances est en décalage avec les enjeux éducatifs présents dans la plupart des instructions officielles de l'EPS dans les pays développés (López-Pastor, Kirk, Lorente-Catalan, MacPhail, & Macdonald, 2013) ; surtout, les limites et effets pervers de ce type de notation sur l'engagement des élèves (notamment les moins performants, sont régulièrement mises en évidence par la recherche (Genelot, Gardes, Mansanti, & Pinsard, 2016).

Face à ces difficultés et contradictions persistantes, on remarque néanmoins une récente montée en puissance de pratiques alternatives qui cherchent à introduire du formatif dans le sommatif (*Assessment for learning*, *Integrated assessment*) (López-Pastor *et al.* 2013), à susciter l'engagement des élèves (*Authentic assessment*), notamment par le recours systématique à la co et l'auto-évaluation (Leirhaug & Annerstedt, 2015). Mais ces pratiques ne sont toutefois pas majoritaires et sont loin d'être généralisées.

Discussion

Cette revue de littérature confirme d'une part les intuitions relatives au quasi immobilisme des pratiques évaluatives en EPS ainsi que leurs effets discriminants sur les perceptions et l'engagement des élèves les moins performants. Les raisons sont sans doute à chercher dans les conflits intra-psychiques de l'enseignant(e) qui évalue en EPS (Clot, 2008 ; Vygotski, 1978) : en effet, il(elle) affiche des visées formatives et régulatrices mais se rabat encore majoritairement sur des pratiques certificatives de prises de performances (De Ketele, 2010 ; Mougenot & Dugas, 2014) ; il(elle) vise une équité mais procède souvent par des ajustements subjectifs pour compenser ce qu'il(elle) considère comme des inégalités (liés au fait que les élèves performants ont acquis leurs compétences en dehors du cursus scolaire). Or, ces ajustements peuvent accentuer le sentiment d'arbitraire chez d'autres élèves. Il ressort enfin que l'évaluation en EPS nécessite une formation spécifique approfondie car elle recouvre des « difficultés techniques » peut-être sous-estimées : évaluer à chaud et

individuellement 20 à 25 élèves dans des activités où ils sont interdépendants, sans trace de leur production, contrairement aux autres disciplines scolaires. Il paraît intéressant, à partir de là, de chercher à analyser de façon clinique l'activité de travail de l'enseignant(e) d'EPS qui évalue, ses préoccupations, ses motifs en rapport avec les fonctions affichées des évaluations qu'il met en place, mais aussi ses difficultés techniques (Clot, 2008).

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Faire Coopérer les Elèves en EPS : l'Ecart entre les Recommandations de la Littérature Scientifique et les Dispositifs Pratiques en Classe

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Mots clés : Education Physique, Coopération, Groupement, Elève, Travail

Introduction

Une des caractéristiques de l'enseignement de l'éducation physique et sportive (EPS) est qu'il prend appui sur des formes de groupements d'élèves. Mais il ne suffit pas de mettre des élèves en groupes pour qu'ils s'engagent dans une interaction de coopération, c'est-à-dire dans des tâches réalisées à plusieurs en fonction d'un but commun ou, de façon réciproque ou non, grâce à de l'entraide ou du tutorat. Cette question de la coopération entre élèves en classe d'EPS a donné lieu à de nombreux travaux (Dyson, 2014 ; Saury, Huet, Rossard & Sève, 2010). Qu'il s'agisse d'entraide ponctuelle, d'interactions dissymétriques

par dyades ou en groupe ou encore de tutorat réciproque entre pairs (Gillies, 2014), la coopération produit des effets la plupart du temps positifs sur l'engagement des élèves et l'apprentissage (Slavin, 2010). Ces effets sont questionnés en rapport avec l'interdépendance des élèves et la « symétrie des rôles » (Barker, 2008). Or, cette masse d'éléments scientifiques qui plaident pour les dispositifs coopératifs en EPS (dont seul un aperçu est évoqué ici) semble peu impacter les pratiques effectives en classe. En effet, ces formes d'organisation de la classe par l'enseignant sont la plupart du temps réalisées dans l'urgence, avant tout pour faire participer les élèves aux tâches (Gal-Petitfaux & Vors, 2008). Lorsqu'elles impactent les apprentissages, c'est la plupart du temps de façon incidente. Face à cet écart entre les résultats de la littérature scientifique et les pratiques d'enseignement recourant effectivement à la coopération entre élèves en EPS, nous avons initié une étude exploratoire visant à vérifier cet écart dans le contexte du Canton de Vaud (CH) et pour préciser un certain nombre d'hypothèses. Plus précisément, il s'est agi de répertorier les situations de coopération et à identifier la dimension incidente ou intentionnelle de ces dispositifs.

Méthode

L'enquête exploratoire a consisté, sur une période de sept mois, en 18 observations de leçons de 45 à 90 minutes auprès de cinq enseignant.e.s et sept classes de secondaire 1 (élèves de 10 à 15 ans) dans le Canton de Vaud (CH). Cinq observations ont été complétées par un enregistrement vidéo de la leçon (un enregistrement par enseignant). Les enseignants ont accordé 13 entretiens compréhensifs à la chercheuse. Le guide de ces entretiens visait principalement à faire commenter les dispositifs coopératifs entre élèves mis en œuvre par ces enseignant.e.s, au cours des leçons observées, à faire émerger leurs motifs, leurs éventuelles satisfactions et difficultés. Les dispositifs ont été répertoriés, triés entre coopération incidente et intentionnellement recherchée par l'enseignant.e. Enfin, les motifs et les difficultés de mises en œuvre ont été classés.

Résultats

Il apparaît que la coopération entre élèves n'est pas une préoccupation prioritaire des enseignants vaudois participant à cette étude. La formation des groupes est décidée en direct pour que « ça tourne », et non en termes de coopération. De plus, la coopération est souvent indexée à des impératifs de « rendement » dans l'activité des enseignants (déclencher et entretenir l'engagement physique des élèves). Elle implique aussi des préoccupations augmentées de contrôle de classe qui se traduisent par des interventions fréquentes parfois omniprésentes de l'enseignant. Elle empiète sur la supervision de l'enseignant, elle l'oblige à déléguer de manière consciente une partie de son autorité afin d'engager les élèves dans les interactions entre pairs). Les seuls moments où cette supervision est remplacée partiellement par une « délégation de la décision aux élèves » sont le moment de l'installation et du rangement du matériel et celui où les élèves dispensés sont livrés à eux-mêmes. Dans ces deux cas, les élèves interagissent et prennent davantage d'initiatives sur le mode coopératif. Enfin, lorsqu'à l'occasion des entretiens, la préoccupation de la coopération entre élèves revient sur le devant de l'activité des enseignants, il apparaît des difficultés chez eux pour trouver des solutions alternatives, pour opérationnaliser la coopération.

Discussion

Les données de cette pré-enquête confirment un décalage entre les travaux scientifiques sur les effets de la coopération entre élèves et les pratiques effectives qui sont souvent marquées par une « improvisation » des formes de groupement et de travail en classe ainsi que des outils conceptuels et opérationnels peu théorisés par les praticiens. Autrement dit, l'objectif de coopération donne lieu à des décisions et des outils mais ceux-ci ne sont pas conçus en termes de généralisation mais plutôt de « trucs » ponctuels. Il est marquant par exemple que le format des groupes soit décidé pour que « ça tourne », et jamais en termes de coopération

malgré les conclusions scientifiques peu discutables à ce sujet (Mons, Duru-Bellat & Savina, 2012). De même, pour le degré d'interdépendance entre élèves, bien qu'il semble central pour produire de la coopération (Baudrit, 2010 ; Saury & Rossard, 2009). Pour ces deux raisons, il semble donc intéressant d'analyser l'activité des enseignants d'EPS grâce à une recherche développementale permettant de mesurer le poids de la préoccupation de coopération dans leurs raisonnements pratiques et les outils mis en œuvre dans ce domaine.

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L'Influence du Jeu d'Horloge sur les Compétences Spatiales Directionnelles

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Introduction

Le système sensorimoteur de l'enfant repose notamment sur la constitution de référentiels égocentriques et allocentriques, qui fonctionnant ensemble ou séparément, effectuent une mise à jour continue de sa propre «cartographie» extracorporelle. Le but de ces systèmes est de permettre la prise de repères et la construction d'un « espace des lieux » dans lequel les objets sont identifiés et localisés en tant que cible de l'action (Paillard, 1991). De nombreuses recherches (Thommen et Rimbert, 2005) s'accordent à dire que le langage spatial ne peut se développer que grâce aux représentations mentales et cognitives que l'on se fait de l'agencement de l'environnement. Spelke et Shusterman (2005) supposent que l'acquisition d'un langage spatial naturel, est à combiner avec certains domaines distincts de nos

connaissances sur l'espace. En effet Haydel (2000), suggère qu'un type spécifique d'activité sportive pourrait être bénéfique pour le développement spatial chez l'enfant. Cette étude a pour objectif de fournir des éléments de réponse à des questions situées à mi-chemin entre les Sciences de l'Education et la Psychologie cognitive. En fait, elle poursuit deux objectifs :

1. Evaluer les capacités directionnelles des relations spatiales chez une population d'enfants de 7.3 ans (groupe contrôle).
2. Déterminer si le programme spécifique d'enseignement en EPS (basé sur le « jeu de l'horloge » voir figure 1) favorise un transfert d'apprentissage scolaire (Geertsens et al., 2016 academic achievement) ayant pour but d'améliorer ces compétences chez les enfants du groupe expérimental en comparaison avec des enfants du groupe contrôle.

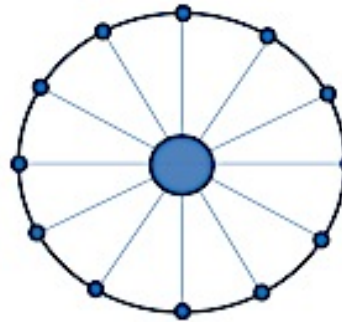


Figure 3. Jeu de l'horloge

Méthode

40 élèves âgés de 7.3 ans, ils fréquentent une école primaire publique. Leurs parents, de niveau socioculturel moyen, défini par la profession du père. Tous ces enfants sont jugés normaux et bien adaptés à la scolarité et se trouvent tous dans la classe correspondant à leur âge chronologique. Les élèves ont été évalués avec un test cotant leurs relations directionnelles (RTD Lacert, 2010). Le jeu se déroule sur un cercle de 12 mètres de diamètre tracé au sol dans la cours de l'école divisé par six segments lui donnant ainsi la forme d'une horloge. Ce jeu aurait principalement pour objectif l'organisation spatiale à travers la mise en action de la capacité des enfants de se situer dans l'espace, de déterminer la position que l'on occupe par rapport à des repères directionnels ainsi qu'agencer correctement les différents déplacements selon les diverses variantes proposées (situations d'apprentissage). L'objectif de ce jeu serait : l'acquisition de compétences spatiales qui permet l'appréciation des directions et le transfert d'apprentissage vers d'autres compétences scolaires transversales (apprendre à lire l'heure, apprendre les mois de l'année...). Nous avons programmé pour notre expérience un programme d'intervention en EPS s'étalant sur 12 semaines, à raison de 3 séances de 40 minutes par semaines.

Résultats

Paramètres	Groupe témoin (N = 20)			Groupe expérimental (N = 20)		
	Avant	Après	Δ ($\Delta\%$)	Avant	Après	Δ ($\Delta\%$)
Nombre de réponses correctes à D	5 $\pm$ 1	5 $\pm$ 1**	0,50 (11,33%)	5 $\pm$ 2	9 $\pm$ 2*****	4,15 (89,41%)###
Nombre d'erreurs à 18° à D	3 $\pm$ 2	3 $\pm$ 2*	-0,30 (10%)	3 $\pm$ 1	1 $\pm$ 1*****	-01,80 (-59,16%)###
Nombre d'erreurs > 18° à D	1 $\pm$ 1	1 $\pm$ 0*	-0,35 (20%)	1 $\pm$ 1	0 $\pm$ 1*****	-01,10 (-83,33%)###
Nombre de miroirs à D	2 $\pm$ 1	2 $\pm$ 1	0,10 (00%)	1 $\pm$ 1	0 $\pm$ 1*****	-01,25 (-79,16%)###
Nombre de réponses correctes à G	5 $\pm$ 1	5 $\pm$ 2*	0,25 (05,33%)	5 $\pm$ 2	9 $\pm$ 2*****	03,80 (86,91%)###
Nombre d'erreurs à 18° à G	3 $\pm$ 2	3 $\pm$ 2	-0,10 (-04,16%)	3 $\pm$ 2	1 $\pm$ 1*****	-01,80 (-57,83%)###

Nombre d'erreurs > 18° à G	1±1	1±1	-0,15 (-10%)	1±1	0±1***##	-00,80 (-62,50%)###
Nombre de miroirs à G	2±1	2±2	0,05 (01,66%)	2±1	0±1***###	-01,35 (-73,33%)###

Tabl

eau 1. Médianes et intervalles interquartiles des paramètres de l'étude avant et après l'apprentissage pour les deux groupes.

* Différence significative par rapport à l'avant apprentissage à $p < 0,05$; ** $p < 0,01$; *** $p < 0,001$

Différence significative par rapport au groupe témoin à $p < 0,05$; ## $p < 0,01$; ### $p < 0,001$.

Discussion

L'ANOVA montre des différences significatives entre le groupe témoin et le groupe expérimental au niveau de tous les paramètres de l'étude après l'apprentissage. En rapport avec de nombreuses études, le déplacement et l'orientation directionnelle constituent une expérience motrice et sensorielle, en lien avec la mémoire, qui permet de comprendre l'organisation spatiale du milieu (De Lièvre et Staes, 2012 ; Bidet-Ildéi, Orliaguet & Coello 2011 ; Viader, Eustache & Lechevalier, 2000). Pour être représenté, l'espace doit être expérimenté car l'enfant en se déplaçant, il modifie simultanément sa perception de l'environnement et ainsi il développe son acquisition spatiale directionnelle.

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- Antonini Philippe, R., Vuichoud, N., Gesbert, V., & Hauw, D. (Université de Lausanne): Enactive analysis of the coach-athlete relationship during the career: the athletes' point of view

Stratégies de Régulation d'Equipes et Performance en Handball d'Elite

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Mots clés : Focus Régulateur, Prévention, Promotion, Approche-Evitement.

Introduction

Cette étude, adossée à la théorie du focus régulateur (*Regulatory Focus Theory* [RFT] ; Higgins, 1998), a pour objectif d'évaluer l'effet des stratégies de régulation (*regulatory strategies*) d'équipes de haut niveau sur leur performance pour identifier *in fine* les comportements collectifs les plus efficaces. A ce jour, très peu d'études ont mobilisé cette théorie à propos de performance collective (e.g., Memmert et al., 2015) et aucune, à notre connaissance, n'a mis en évidence cet effet en contexte écologique. Selon la RFT, bien que les personnes possèdent un focus dominant (prévention ou promotion), le focus mobilisé dépend des facteurs situationnels (Shah, Higgins, & Friedman, 1998). Parmi ceux-ci, la structure de récompense (SR) est le plus important. Il s'agit, selon Ames (1992), d'une structure dynamique qui impacte l'évaluation de la réussite sur la base d'une comparaison entre la situation vécue ici et maintenant et l'état final souhaité (victoire). Cette SR peut être orientée soit vers la recherche de gains, soit vers l'évitement des pertes. En accord avec la théorie de la congruence régulatrice « *Regulatory Fit Theory* » (Higgins, 2000), nous faisons l'hypothèse que dans l'ensemble des situations où la stratégie est congruente avec la SR (*regulatory fit*) la performance est significativement supérieure à l'ensemble des situations où la stratégie est incongruente avec la SR (*regulatory mismatch*).

Méthode

Les données issues de rencontres (n=84) des 12 premières journées du championnat de France de la Ligue Nationale de Handball (1^{ère} Division), regroupent une variable dépendante catégorielle et dichotomique (résultat de chaque possession de balle [But = 1 ; Non-But = 0]) et deux variables indépendantes (la SR [Gains vs Pertes], et la stratégie de régulation [Promotion vs Prévention]). En accord avec Debanne et collaborateurs (Debanne, Angel, & Fontayne, 2014 ; Debanne & Laffaye, 2015), la SR est construite en associant

deux variables : la différence au score (Favorable vs. Défavorable) et la différence numérique entre les équipes (Supériorité vs. Infériorité). Lorsque le score est favorable et l'équipe en infériorité numérique, la SR est orientée vers l'évitement des pertes ; à l'inverse, lorsque le score est défavorable et l'équipe en supériorité numérique, la SR est orientée vers la recherche de gains. Ainsi, les situations où les équipes étaient à égalité au score ont été exclues de l'étude. La catégorisation des Stratégies de régulation en deux catégories (Prévention vs Promotion) a été réalisée par deux spécialistes de l'activité. L'indice kappa de Cohen, mesurant l'agrément inter-codeurs a révélé un accord très satisfaisant ($K=.88$; $z=7.57$; $p<.001$). En accord avec Debanne, Angel et Fontayne, (2014), Debanne et Laffaye (2015) qui ont révélé une sensibilité accrue des stratégies de régulation à la SR en deuxième partie de deuxième mi-temps ("*goal looms larger effect*"), les données n'ont été recueillies que durant cette période-là. Enfin, afin de conserver une valeur au contexte motivationnel, de manière arbitraire, toutes les possessions de balle où la différence au score entre les équipes étaient supérieures à 6 points ont été exclues de l'étude. Au total, 180 situations de jeu ont été retenues.

Résultats

Les résultats, présentés dans le tableau 1, révèlent un effet de la congruence régulatrice sur la performance offensive des équipes. Dans le cas de situations où la stratégie de régulation utilisée est congruente avec la SR (Recherche de Gains – Promotion ; Evitement des Pertes-Prévention), la performance collective est plus de deux fois supérieure aux situations marquées par l'incongruence entre la Stratégie de régulation et la SR (Recherche de Gains – Prévention ; Evitement des Pertes-Promotion [$RC=2.26$; Wald test= 3.86 ; $p=.049$]).

Tableau 1: Effet de la Congruence Régulatrice sur la Performance

Structures de Récompense	Stratégies de regulation	N	Congruence Régulatrice	Résultat		RC
				But	Pas-But	
PERTES: [Favorable] + [Infériorité]	PROMOTION	14	MISMATCH	10	22	1
GAINS: [Défavorable] + [Supériorité]	PREVENTION	18				
GAINS: [Défavorable] + [Supériorité]	PROMOTION	73	FIT	75	73	2.26
PERTES: [Favorable] + [Infériorité]	PREVENTION	75				
TOTAL		180		85	95	

Note : N=Effectif ; RC=Rapport de Côtes

Discussion

L'objet de cette étude était d'évaluer l'effet des stratégies de régulation utilisées par des équipes sur la performance en situation offensive. Les résultats de la présente étude réalisée en contexte écologique supportent la théorie de la congruence régulatrice (Higgins, 2000), et fournissent ainsi de précieuses indications aux entraîneurs leur permettant d'orienter les intentions offensives de leur équipe (conserver la balle lorsque la SR est orientée vers la perte et progresser vers la cible adverse lorsque la SR est orientée vers le gain). D'autre part, ces résultats sont inconsistants avec ceux de Debanne et al. (2014), qui s'était focalisé sur la phase défensive et n'avait pas révélé d'effet de la congruence régulatrice sur la performance. Cette inconsistance laisse suggérer que d'un point de vue motivationnel, les stratégies de régulation influent différemment selon la situation en général et plus particulièrement la phase de jeu.

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Etude de l’Influence de la Balance Stress-Récupération sur les Processus Identitaires en Pôle Espoirs Rugby

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Mots clés : Dynamique de Groupe, Récupération, Identité Sociale, Préparation Physique, Rugby

Introduction

Une des problématiques majeures des entraîneurs et des préparateurs physiques en pôle espoirs se situe dans la gestion optimale de la balance stress-récupération et de ses effets sur les sportifs (Vacher, Nicolas, Martinent, & Mourot, 2017). Si la plupart des effets contrôlés sont généralement d’ordre physiologiques, de récentes études ont montré également des effets de la charge d’entraînement sur les émotions (Vacher, et al., 2017) ou bien encore les dynamiques intragroupales (Relave, Campo, Hautier, & Nicolas, 2017). Dans cette perspective, les cadres théoriques de l’identité sociale définissent un groupe comme une collection d’individus qui se perçoivent comme étant membre d’une même catégorie, attachant une valeur émotionnelle commune à leur sentiment d’appartenance (Haslam, 2004). Les processus identitaires semblent ainsi être une variable pouvant permettre de comprendre davantage les effets de l’effort physique sur la dynamique de groupe. Plus particulièrement, les charges d’entraînement à haute intensité placent les sportifs dans des conditions extrêmes en termes de difficulté physique et mentale ressentie par l’intermédiaire de séances les amenant à explorer leurs propres limites, parfois beaucoup plus qu’en compétition.

Ainsi, l’entraînement à haute intensité peut générer des émotions intenses (Kerr & Kuk, 2001) et inciter les athlètes à partager leur état affectif avec les membres de leur groupe (Rimé, 2009). Le but de cette recherche est d’étudier l’influence d’un cycle d’entraînement à haute intensité sur la dynamique des processus identitaires de joueurs de rugby en Pôle

Espoirs. Plus spécifiquement, nous émettons l'hypothèse que (1) l'entraînement à haute intensité va déséquilibrer la balance stress-récupération, (Vacher, et al., 2017) et que (2) ce déséquilibre serait associé positivement au renforcement de l'identification des joueurs à leur groupe d'appartenance.

Méthode

Vingt-six joueurs de l'un des dix pôles espoirs que compte la Fédération Française de Rugby, âgés entre 15 et 18 ans ($M = 15.96$, $SD = 0.75$) ont participé à cette étude. Ces joueurs évoluent au plus haut niveau de leur catégorie d'âge et s'entraînent en moyenne douze heures par semaine. Les participants ont suivi un cycle d'entraînement classique de pôle espoirs lors de la première semaine, puis un cycle à haute intensité durant les cinq semaines suivantes. Ce dernier comprenait des séquences de rugby en opposition calquées sur les temps de jeu effectifs des matchs internationaux de la catégorie d'âge correspondante et des séances de préparation physique à très hautes intensités (une séance lactique hebdomadaire de 45 min de sprints en côtes : 30 s. d'effort maximal pour 3 min de récupération semi-active). Durant les six semaines de ce cycle d'entraînement, les joueurs ont participé à une série de mesures hebdomadaires dans des conditions standardisées. La charge de travail de la semaine écoulée a été quantifiée au travers de la traduction française du RESTQ-36-R (Nicolas, Vacher, Martinent & Mourot, 2016) et de mesures physiologiques (nHRR60s ; Buchheit, 2014). Les dimensions liées à l'identité sociale ont été mesurées au travers du TFMSI (Cameron, 2004) traduite en français pour les besoins de l'étude par une procédure de *back translation* (Campo et al., en cours).

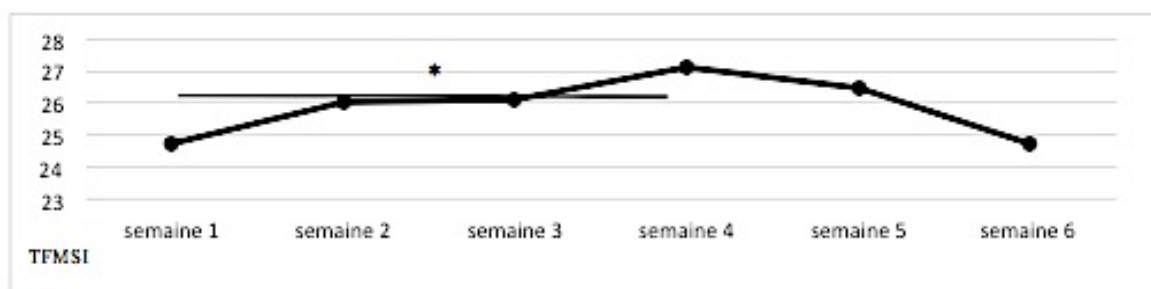


Figure 1. Evolution de la dimension « lien avec l'endogroupe » du TFMSI

Résultats et discussion

Les résultats montrent une balance stress – récupération stable au cours des six semaines du cycle ($p > 0.05$). Par contre, la dimension « lien avec l'endogroupe » du TFMSI (Cameron, 2004) augmente progressivement et de manière significative entre la semaine 1 et la semaine 4 ($p = 0.004$) puis redescend ensuite à des niveaux pratiquement similaires à la semaine 1 en fin de cycle ($p > 0.05$). La dimension « lien avec l'endogroupe » décrit ainsi une courbe en « U » inversé (figure 1). Le fait qu'aucune variation significative n'ait été obtenue pour les marqueurs de stress et de récupération invalide notre première hypothèse et laisse supposer une mise en place par les joueurs de stratégies de récupération efficaces permettant de contrecarrer les états de stress. Par ailleurs, la dimension « lien avec l'endogroupe » de l'identité sociale atteint son apogée lors de la quatrième semaine. Selon Cameron (2004), la dimension « lien avec l'endogroupe » de son modèle est en lien étroit avec la cohésion de groupe, cette dernière étant une conséquence comportementale des processus d'identité sociale. Le fait que le niveau d'identification sociale augmente sous l'effet de l'entraînement à haute intensité lors des quatre premières semaines, pour redescendre ensuite, semblerait montrer que les cycles à haute intensité ne devraient pas être trop longs afin de maximiser les effets en termes de dynamique de groupe. Ainsi, puisque la semaine 1 de notre étude était une semaine classique, trois semaines de haute intensité, plutôt que cinq ici, serait peut-être une limite à ne pas dépasser chez des joueurs en formation. Des études complémentaires en suivi quotidien, et d'autres, investissant des

charges d'entraînement d'intensité moindres seront nécessaires pour tester cette nouvelle hypothèse.

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Effects of Attachment Styles on Perceived Team Cohesion

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Key words: Attachment Styles, Group Cohesion, Team Performance

Introduction

A large number of studies have investigated the relationship between team cohesion and performance. There has been a lot of discussion on what really makes a team cohere but little is known about the variety of individual factors rather than situational and leadership factors affecting team cohesion.

In the last years, attachment theories considered as 'ground theories' in the personality research, have been used to shed light in understanding group dynamics and processes. According to Bowlby, author of this theory, attachment styles stand for relatively stable and predictable behavioral patterns, inherited and defined by early parental relationships. The caring childhood relationships the individual has repetitively experienced with his/her own parents as an infant translate and get internalized into prototyped "working models/schema" of interpersonal relationships. These schemas facilitate not only the development of the concept of self later in life but also reproduce patterns of interaction in future important relationships (Bowlby, 1969). In his research, Bowlby concluded that different attachment behavioral patterns lead to different attachment styles namely: secure and insecure. Ainsworth et al. (1978) went further in her investigation, suggesting that insecure attachment patterns are explained based on two underlying mechanisms: anxiety and avoidance. So far, studies have shown that children who develop secure attachment styles recover more quickly from stressful situations, report less distress and anxiety, and are

better able to develop social relationships than children who develop insecure attachment styles (Cassidy, 1994). A study from Ein-Dor et al. (2010), posited also that insecure attachment orientations (anxiety and avoidance) have domain-specific advantages that secure attachment orientations do not have and these advantages may promote group effectiveness and performance but little is known about how this heterogeneity of attachment styles affect team cohesion.

Thus, the purpose of our study was to examine the relationship between athlete personal attachment styles and perceived team cohesion. More thoroughly we tested if the personal attachment style of the players together with their attachment towards the group played a role in the way they perceived team cohesion.

Method

Upon approval from Bern University Ethics, 113 athletes from Bern sport teams (44 females and 69 males), with a mean age of 23.3 years (S.D. = 3.63) completed a multiple section questionnaire containing 2 measures of attachment: Adult Attachment Scale (Schmidt, Strauss, Höger & Brähler, 2004) and Adult Style Questionnaire (Hexel, 2004) and one measure of cohesion: Cohesion Scale (Fragebogen zur Mannschaftskohäsion (MAK0-02), Lau & Stoll, 2002). The Attachment Questionnaires assessed attachment dimensions such as secure vs. insecure- anxious, avoidant, while the Cohesion Scale assessed perceptions of team task and social cohesion. Correlational, confirmatory and multilevel analysis (SEM) were performed for each of the aforementioned constructs.

Results

Our data showed that attachment style plays a role on how people perceive team cohesion. People with insecure attachment styles perceived their team to be less cohesive than those with secure attachment styles. More specifically, it was found a significative relationship between Secure Personal Attachment Style and Task Cohesion ($r=.3, p<.001$) and negative relationship between Avoidant Personal Attachment Style with Task Cohesion ($r=-.2, p<.001$). On the other hand, we found that athletes develop a certain attachment towards their team, but this attachment correlates only partially with their personal attachment style with no significant results (check table). This is known especially when different methodology techniques are used to assess the individual attachment styles, as in our case, producing sometimes substantially different unique results and partial correlations. SEM analysis in process.

Person Correlation Coefficients Table

	1	2	3	4	5	6	7	8
(1)Att. Security	-							
(2)Att. Avoidance	-.589**	-						
(3)Att. Anxiety	-.440**	.073	-					
(4)GA. Trust	-.062	.155	-.034	-				
(5)GA. Closeness	-.073	.150	.009	.571**	-			
(6)GA. Anxiety	-.058	.013	-.029	.419**	.564**	-		
(7)Task Cohesion	.275**	-.221**	-.099	-.307**	-.177	-.139	-	
(8) Social Cohesion	.166	-.185	-.087	-.590**	-.348**	-.242**	.512**	-

**p<.001(two-tailed)

Discussion

Cohesion has been claimed as one of the most important group properties from group dynamics experts (Bollen & Hoyle, 1990). Amongst the variety of individual factors affecting team cohesion such as age, gender, race, shared cognitions, behavior and affect, personal attachment style should also be taken in consideration. Our study showed that players with secure attachment styles think their groups as more cohesive than those with insecure attachment styles, suggesting that attachment style plays a role on perceived team cohesion. While this study represents some progress in the field, including attachment styles as domain of personality to be evaluated as a possible antecedent in perceived team cohesion outcomes, more research has to be done in the field.

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Le Jour où J'ai Décidé de Courir avec mes Adversaires

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Mots clés : Psychologie, Sport, Performance, Coopération, Coreprésentation.

Introduction

Selon Rousseau (1775), « l'Homme naît bon et c'est la société qui le déprave ». Cependant, l'influence sociale peut être une nourriture riche en apprentissages, en émotions et en performance. Quand l'être humain est libre, il a tendance à imiter les autres (Chartrand & Van Baaren, 2009). Plus encore, il se synchronise avec les autres dans de nombreuses situations telles que la marche, les applaudissements ou encore le balancement sur une chaise à bascule (Lumsden *et al.*, 2012). Ces exemples de synchronisation motrice non-intentionnelle arrivent généralement dans des contextes coopératifs dans le but d'économiser de l'énergie et de créer une force collective (Lumsden *et al.*, 2012). Pourquoi la performance individuelle n'a-t-elle jamais été liée à cette synchronisation motrice non-intentionnelle entre adversaires ?

Il faut pour cela revenir à la définition de synchronisation motrice non-intentionnelle que donnent Nessler et Gilliland (2009) : adaptation comportementale spontanée en réponse à des stimuli provenant d'un autre individu et résultant en un modèle négocié du mouvement. Pour se faire, il est donc indispensable de se coordonner avec l'autre et de se lier mentalement avec cette personne (Nessler & Gilliland, 2009). En compétition, cette coreprésentation est donnée comme absente car les individus ne souhaitent pas partager leur état d'esprit, leurs objectifs ni leurs pensées. En conclusion, la synchronisation motrice non-intentionnelle n'est jamais associée à la performance individuelle à cause de son fonctionnement.

Ce n'est qu'en 2015, lorsque deux chercheurs (Varlet & Richardson, 2015) se sont intéressés au record du monde établi par Bolt lors d'une course que la synchronisation entre adversaires est venue à l'ordre du jour. Dans cette course-là, Bolt écrase la concurrence et signe un record du monde alors que Gay termine deuxième en améliorant son record personnel. L'élément pertinent de leur recherche est le pourcentage de synchronisation entre ces deux athlètes : plus de 25% de leurs pas sont synchronisés.

Comment générer de la coopération dans un milieu purement compétitif afin d'optimiser les performances individuelles ? Nous avons par conséquent créé un échauffement interpersonnel optimisant la performance individuelle des athlètes. Notre problématique est la suivante : Dans quelle mesure la performance individuelle d'un athlète est optimisée après avoir été imitée ?

Méthode

En utilisant les résultats des recherches sur la coopération et la performance, nous sommes arrivés à la conclusion que la meilleure manipulation pour augmenter le niveau de coopération entre adversaires étaient l'imitation posturale. Des récentes études montrent que plus un individu est imité, plus il sera coopératif envers une tierce personne et plus il y aura de chance d'avoir de la synchronisation motrice non-intentionnelle (Chartrand & Van Baaren, 2009).

Dans cette étude, 76 athlètes (64 hommes et 12 femmes ; âge moyen : 25) suivant un entraînement régulier et participant à des compétitions ont été regroupés par dyades de même sexe. Chaque dyade s'est vue aléatoirement attribuer une condition (contrôle vs. traitement). Chaque individu remplissait d'abord des questionnaires sur les comportements pro-sociaux et sur les attitudes sportives avant d'effectuer un échauffement individuel. Puis, les participants concourraient lors d'une première course de 30 mètres. Après cette course, les athlètes du groupe contrôle effectuaient des exercices de stretching en solitaire alors que les athlètes du groupe traitement suivaient un entretien interpersonnel et un exercice de collaboration. Puis, ils recourraient sur 30 mètres. Pour finir, les athlètes remplissaient des questions sur leurs attitudes durant l'expérience, leurs opinions sur les facteurs de performance et les données biographiques.

Résultats

Pour l'analyse, les données récoltées sur vidéo ont été codées sur Dartfish. Pour la performance, nous avons utilisé le temps en (ms). Quant à la synchronisation des pas, les derniers 80% ont été analysés à l'aide de la formule tirée de Varlet et Richardson (2015) :

$$\phi = \frac{tA - tB}{TA} \times 360^\circ$$

Pour répondre à la question de notre recherche, après avoir comparé les deux courses de 30 mètres à l'aide d'une Two-Way Anova effectuée sur R Studio, nous obtenons une amélioration significative de la performance dans le groupe traitement (6ms). Dans le groupe contrôle, la performance est équivalente (fig. 2). Néanmoins, en reprenant les données et les comparant avec le même test statistique, aucun résultat positif n'a été trouvé dans le pourcentage de synchronisation motrice non-intentionnelle.

De plus, des analyses supplémentaires ont été effectuées sans tenir en compte de la condition dans laquelle le participant avait été préalablement distribué. Une Multiple Ancova montre que plus les participants sont coopératifs, plus ils augmentent le pourcentage de synchronisation. Dernièrement, lorsqu'un athlète améliore sa performance, il y a plus de chance qu'il ait une coreprésentation avec son adversaire (T-test) signifiant qu'ils partagent plus sans pour autant augmenter leur synchronisation.

Discussion

Ces résultats font émerger deux grandes conclusions. La première est que la synchronisation motrice non-intentionnelle est volatile et difficilement manipulable. Il y a en effet une grande variation des foulées entre participants et même chez le même athlète. De plus,

l'analyse de ce phénomène est complexe. Varlet et Richardson (2015) ont, par exemple, utilisé une formule erronée qui ne permettait pas de calculer exactement l'impact sur le sol des foulées. Blikslager et de Poel (2017) ont tenté de reproduire les résultats sans succès même en changeant de formule et de point de comparaison. Il semble donc que la synchronisation motrice non-intentionnelle n'est pas source de performance dans les sports individuels de courte durée.

La seconde conclusion est que la méthode utilisée dans cette étude peut être source de recherche longitudinale permettant une meilleure compréhension des effets de la coreprésentation dans le sport. Il semblerait que se battre *avec* un adversaire soit plus utile que se battre *contre* un adversaire. Le résultat bien qu'individuel semble être influencé par les caractéristiques et comportements du coureur se trouvant dans les couloirs voisins. En psychologie du sport, ces résultats pourront être utilisés tant dans la théorie que dans la pratique de la cohésion d'équipe, de la gestion de la performance et de la préparation mentale.

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Enactive Analysis of the Coach-Athlete Relationship During the Career: The Athletes' Point of View

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Key words: Interpersonal Relationship, Coach-Athlete Relationship, Enaction, Life Course.

Introduction

The enactive account of social understanding that takes the properties of the interaction process will be the point of departure of this study (De Jaegher & Di Paolo, 2007). In fact, acknowledging that the study of coach-athlete relationship has been the subject of an amount of important researches (Wylleman, 2000, Jowett, 2007), the results of these models permitted to do an advanced progress in the researchers but they did not explain the why-question concerning the general conditions concerning the development of the athlete-coach relationships. Using the activity theory it provides an umbrella framework that can unify this kind of investigation, as it incorporates psychological analysis of actions, situations, meanings and experiences. According with this theory, in the domain of the interpersonal relationships, D'Arripe-Longueville, Saury, Fournier and Durand (2001) analyzed the interaction between athlete and coach during elite archery competitions. The coach's and

athletes' collective courses of action showed that cooperation within the dyad was either immediate, due to shared perceptions, or was constructed through negotiation. The results showed the value of using such frameworks not only to better understand the relationship between athletes in terms of when, how and why that will be very useful also for coaching and counseling.

Method

Eight male hockey players (Mage= 27; SD = 6.69), who had experienced a minimum of two years at professional level (ligue A, B in Switzerland or foreign) volunteered to participate in this study. Two types of data were collected to help build each athlete's course of experience database: (a) secondary sources on the players' past activity, and (b) verbalisations on past activity related to the stage on the career about these traces during self-confrontation interviews.

The enactive interviews were carried out immediately afterward and lasted between 60 and 90 minutes. Players were asked to describe and comment on their interpersonal relationship with the coach during their sport career. This typicalization of the athletes' activity was accomplished by examining regularities within chains of identified UMAs. When regularity was observed, a pattern was rewritten searching for a regularity concerning the type of activity in relation to the quality of the athlete-coach relationship. This proceed conducted us to the UMAs-type and then to categories.

Results

Six typical units of action were identified and characterized different experiences of the relationships between coaches and athletes (table 1).

Table 1. Six UA-Type describing the coach-athlete relationship.

UA	Unit action types
1	Positive and close link building with the coach generating positive effects on players' development and well-being. DISCOVERY
2	Establishing of a supportive relationship based on communication and exchange. The coach is a reference figure and takes care of players' athletic development and personal development. ESTABLISHING
3	Positive dynamic adaptation with the coach leading to increasing players' skills and possible operating hockey's skills. FUNCTIONAL ADAPTATION
4	Coach attitude' change and therefore relationship' change: difficult adaptation and psychological destabilization in the game. NON-ADAPTATION
5	Impossibility to create a link, shelving from the coach who induces player's regression and a psychological wear. REJECTION
6	Detachment of the coach figure and development of a spirit of resignation. Refocus on himself and can continue to progress. DETACHMENT

Discussion

Two relational patterns have been extracted from this study results. The first pattern is characterized by an adaptive type of relationship composed by unit action of discovery, establishing and functional adaptation between athlete and his coach. It appears in the form of a good interaction, a consequent play time and a game play style adapted to athlete's characteristics. Such a relationship leads to a satisfaction and blooming feeling from the athlete who sees this context as optimal. The second pattern is characterized by a maladaptive type of relationship in which a lack of interactions or an uncertainty feeling about coach's decisions doesn't affect performances or play time conceded by the coach to the athlete. On the other hand, the coach's distance that results, causes a relativising of the relationship's importance and the emergence from the athlete's attitude to refocus on himself.

As a complement to our preceding suggestions, future research could also investigate: how players can improve their coping strategy inherent to a relationship, whether gender and age differences affect coping with relationship; and whether an educational program for coaches can also be thought in order to improve the relationship with the aim to enhance performance and well-being from both participants of the dyad.

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16H15 – 17H15
Auditoire 1216

Keynote 4. Brain-Computer Interfaces and Sport
José Del Milan (Ecole Polytechnique Fédérale de Lausanne)

Abstract

Brain-computer interfaces (BCI) transform subjects' intention, as decoded from their brain signals, into actions. This makes it possible for severely disabled people to compete in bionic races by delivering mental commands to their avatars. In this talk, I will describe our experience with two tetraplegic users in the first Cybathlon BCI race. I will also illustrate other examples of brain signals in the framework of sports that can be decoded in real time –what opens the possibility to design novel training paradigms based on the use of BCI for learning how to modulate brain rhythms associated to sport. Finally, I will discuss how to enhance brain rhythms via non-invasive neuromodulation techniques such as transcranial direct current stimulation (tDCS).

**9H – 10H
Auditoire 1216****Keynote 5. Team Cognition in Sport: Insights into How
Teamwork is Achieved in Naturalistic Settings
Jérôme Bourbousson (Université de Nantes)****Abstract**

High-level performance in team sports is more than the mere sum of individual members' effectiveness. To understand how such team performances are built, the research has historically been driven by constructs from social psychology, as are those of group dynamics like leadership and cohesion. However, team effectiveness has been recently conceived as depending primarily on the spatiotemporal situated chaining of players activities, and thus rising up from the nature of the teamwork as achieved by team members. The present keynote will introduce studies concerned with such a research topic, all of them contributing to a greater understanding of how team cognition unfolds in real sport settings and helps collective behaviour to emerge. To which extent do team members need to share their knowledge prior to the game? To which kind of informational resources do team members need to be sensitive in the real-time? Existing empirical evidences will help us argue that team processes (i.e., the way phenomena evolve over time) probably matter more than teamwork inputs do, as do the ongoing singular situation compared with cognitive contents shared prior to the game.

Theoretical Background and Rationale

In team sports, one of the main issue for coaches consist in answering this following question: how can we help players to feel together as a team, and especially when “nothing works anymore”, when the team experiences defeats after defeats. Perhaps by habits, or influenced by the positive reputation of groups dynamics, coaches strive to improve the cohesion of their group. More specifically, as group cohesion is considered as one of the most important attribute of success in team sports (Burke et al., 2014), coaches investigated many practical implications to build (or re-build) their team.

Team building intervention is certainly the most frequently used approach to improve perception of group cohesion and enhance group effectiveness. Recommendations have been published in the sport and exercise literature since several decades. However, it is still frequently observed that coaches initiate some process without considering scientific knowledge that may sometimes lead them to use “crazy and atheoretical approaches” (Campo & Djaït, 2016). The most illustrative example may be found when coaches impose a two-day military or a training bootcamp on the players, considering such approach as “magic tool” that should mentally transform the group after a series of defeats. This observation thus raises the question of what are the attributes of an effective cohesion camp?

The Workshop : a Case Study from the Context of Rugby Union

In this workshop, some recent experiences of the use of this technique will be presented. Particularly, we will suggest a case study explaining the details of a cohesion camp that a rugby union coach wanted to impose on his players after a series of eight defeats.

Following a brief introduction to the main theoretical concepts about group cohesion in sport (see Burke, et al., 2014, for an overview), we will invite then the participants to discuss about the strengths and limits of the cohesion camp presented in the case study. In addition, we will discuss the practical issues associated with the use of cohesion camps so as to share experience-based recommendations for coaches and psychologists or consultants in sport psychology.

To conclude this workshop that reviews how optimize cohesion camps, we will open a last theoretical perspective based on Social Identity Approach (Haslam, 2004) and Interpersonal Emotion Theory (Mackie et al., 2000) to raise this following question: Why may cohesion camps be useful, useless, or even... counterproductive?

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**10h30-11h15
11h15-12h
Salle 1222**

**Atelier Pratique 9. Au-delà du Sport d'Élite: Perspectives de
Consultations en Psychologie du Sport/Beyond Elite Sport
Perspectives in Exercise Psychology Consulting
Olivier Schmid (Université de Berne)**

Abstract

Over the past couple decades, most (post)graduate students in applied sport psychology worldwide have strived for a career as practitioners working with athlete populations (e.g. Fitzpatrick, Monda, & Butters Wooding, 2016; Williams & Scherzer, 2003). However, upon graduation, only a minority of young professionals end up working full-time in sport psychology because the job market and related income are too limited (e.g. Meyers, Coleman, Whelan, & Mehlenbeck, 2001; Wylleman, Harwood, Elbe, Reints, & de Caluwé, 2009). Applied sport psychology students have often been advised by faculty members and seasoned practitioners to offer consulting services as a side occupation (Meyers et al., 2001). While the field of sport psychology continues to define itself and the range of its services, some practitioners have sought out training opportunities to transfer existing and develop new skills to consult in non-sport related performance settings, including the performing arts, the military, and physical activity. Even though exercise and physical activity have been considered parts of sport psychology by leading sport psychology organizations (e.g. FEPSAC, AASP, and ISSP), training and opportunities in applied exercise psychology have remained limited to a point where the “E” Sport and Exercise Psychology (SEP) has almost become silent. The purpose of this workshop is to offer sport psychology students, practitioners, and faculty members from both clinical and sport sciences backgrounds with perspectives in ethical exercise psychology consulting development. After a brief introduction to the field of exercise psychology, participants will be exposed to the nature, challenges, and benefits involved in training working in exercise settings, respectively of their countries of professional affiliation. The first workshop will be delivered in English and the second workshop in French.

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- Chaba, L., (Université de Nice, HEP Vaud), d'Arripe-Longueville, F., (Université de Nice), Lentillon-Kaestner, V. (HEP Vaud) & Mériaux-Scoffier, S. (Université de Nice) : Drive for muscularity in strength training: A trans-contextual model of motivation in male athletes
- Trouilloud, D., & Isoard-Gauthier, S. (Université de Grenoble) : « Je ne suis pas aussi bon que mon coach le pense ! » : Sentiment d'imposture et corrélats motivationnels dans le cadre de la relation entraîneur-entraîné(s)
- Cece, V., Lienhart, N., Nicaise, V., Guillet-Descas, E., & Martinent, G. (Université de Lyon): Le rôle de la satisfaction et de la frustration des besoins psychologiques fondamentaux sur les profils motivationnels des jeunes athlètes en centres d'entraînement intensif
- Lentillon-Kaestner, V., (HEP Vaud), Guillet-Descas, E., & Cece, V. (Université de Lyon): Influence of the context and professional identity on teacher's motivation, engagement and burnout: a longitudinal design
- Tessier, D. (Université de Grenoble) : Effet de situations stimulantes sur le plaisir et la motivation des élèves en EPS
- Chanal, J., Paumier, D., & Walther, L. (Université de Genève) : L'hypothèse de spécificité : un test en éducation physique et selon le sexe-typage des activités

Antécédents et Conséquences de la Motivation en Contexte Sportif, Scolaire ou de Santé

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Résumé

Durant les quinze dernières années, les recherches mettant à jour les processus motivationnels sous-tendant les comportements des individus ont connu une croissance exponentielle. Plusieurs cadres théoriques se sont ainsi affirmés comme des heuristiques pour mieux comprendre la motivation des individus comme la théorie de l'autodétermination (TAD ; Deci & Ryan, 2000), la théorie des buts d'accomplissement (TBA ; Elliot & McGregor, 2001) ou encore le modèle trans-contextuel (MTC ; Hagger & Chatzisarantis, 2009). Ce symposium se propose de présenter des travaux mettant à jours les antécédents et conséquences de la motivation en contexte sportif, scolaire ou de santé. La communication de Chaba et al. s'appuie sur le MTC pour mettre en évidence les antécédents de la dysmorphie musculaire (obsession à pratiquer des activités sportives pour atteindre un corps à la fois mince et musclé). La communication de Trouilloud et Isoard-Gauthier s'appuie sur la TBA et vise à caractériser les effets motivationnels du sentiment d'imposture (impression interne de fraude ressentie par un individu concernant ses performances dans certaines situations). Cette étude a ainsi examiné les relations existantes entre le sentiment d'imposture, les buts d'accomplissement et le burnout sportif. Les 4

dernières communications s'appuient sur le cadre théorique de la TAD dans un contexte sportif (Cece et al.) ou scolaire (Lentillon-Kaestner et al. ; Tessier ; Chanal et al.). La communication de Cece et al. s'appuie sur une approche centrée sur les individus pour : (a) modéliser les profils motivationnels de jeunes athlètes en centre d'entraînement intensif au cours de la saison sportive (début, milieu et fin de saison) en se basant sur les différents types de motivation postulés dans la TAD ; et (b) examiner l'effet de la satisfaction et de la frustration des besoins psychologiques fondamentaux sur l'appartenance à ces profils motivationnels. La communication de Lentillon-Kaestner et al. présente les résultats d'une étude longitudinale visant à explorer les antécédents (identité professionnelle) et les conséquences (engagement et burnout) de la motivation des enseignants. La communication de Tessier présente une recherche intervention qui examine si le fait de proposer aux élèves des situations qui participent à soutenir ou au contraire à frustrer leurs besoins psychologiques fondamentaux produit un effet immédiat sur le plaisir et la motivation des élèves en EPS. Enfin, la communication de Chanal et al. se focalise sur l'hypothèse de spécificité (les motivations autonomes sont plus différenciées parce qu'elles sont plus spécifiques à la matière dans laquelle elles sont mesurées que les motivations contrôlées) en examinant plus précisément l'effet de modération du caractère sexe-typé de l'activité et de l'orientation genré des participants.

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Drive for Muscularity in Strength Training: A Trans-Contextual Model of Motivation in Male Athletes

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Key words: Trans-Contextual Model, Eating Disorders, Drive for Muscularity, Self-Determined Theory, Theory of Planned Behavior

Introduction

Drive for muscularity (DM) can be defined as a desire to achieve an idealized muscular body (e.g., McCreary & Sasse, 2000). It has been associated with several sociodemographic variables, and (a) adolescence, (b) gender (males) (c) Caucasian origin, (d) weight sports, and (e) competition have emerged as risk factors (e.g., Bjornsson et al., 2013). Psychological factors have also been associated with DM, such as body dissatisfaction and certain personality traits (e.g., Benford & Swami, 2014). However, motivation and attitudes toward sports practice have never been examined in association with this target variable. Hagger and Chatzisarantis (2009) proposed the trans-contextual model (TCM), which integrates the theory of planned behavior (TPB; Ajzen, 1985) and self-determined theory (SDT; Deci & Ryan, 1985). This model has been useful in explaining physical activity and health behaviors, particularly eating behaviors (e.g., Girelli et al., 2016), but it has never

been applied to DM. The aim of this study was therefore to apply TCM to the drive for muscularity in male athletes practicing strength training.

Method

A total of 175 French and Swiss male athletes voluntarily participated in the study and all were recruited in gyms ($M_{age} = 27.3$; $SD_{age} = 7.5$). They were invited to answer 52 questions, which took an average of 20 minutes. The survey was composed of the French version of the BREQ-2 (Markland & Tobin, 2004) used in previous studies (e.g., Gourlan, Trouilloud, & Sarrazin, 2013), the validated DMS-FR (Chaba et al., submitted), and items related to TPB variables (i.e., attitudes, subjective norms, perceived behavioral control, and intentions) applied to the context (Ajzen, 1985). A Likert scale ranging from 1 (Not at all/Never) to 6 (Absolutely/Always) was used. After checking the factorial structure of each subscale, structural equation modeling was performed with AMOS 7.0 (Arbuckle, 2006).

Results

The application of Hagger and Chatzisarantis's (2009) TCM to DM in male athletes practicing strength training revealed satisfactory fit indices: $\chi^2(22) = 41.9$; $p < .001$; TLI = .94; CFI = .97; RMSEA = .07. Intrinsic motivation (IM) was positively related to DM through the mediating role of perceived behavioral control and intentions. Extrinsic motivation (EM) presented a significant positive relation only to subjective norms and risks.

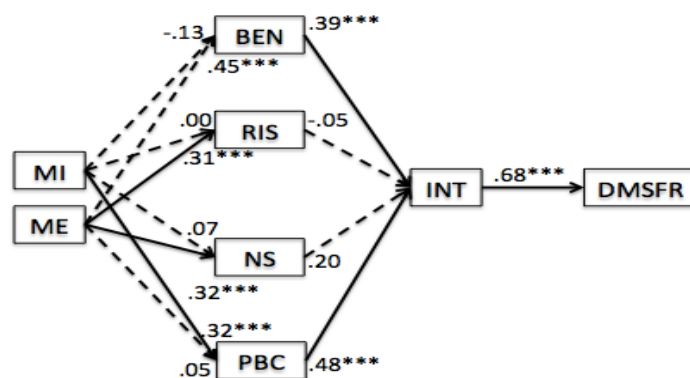


Figure 1. The trans-contextual model of drive for muscularity in male athletes practicing strength training

Discussion

This study shows that the TCM of Hagger and Chatzisarantis (2009) can be applied to the drive for muscularity in male athletes practicing strength training. The major finding is that IM in sport predicts DM through the mediating role of perceived behavioral control and intentions. IM has been consistently associated with positive health consequences and adaptive behaviors (e.g., Girelli et al., 2016), but this study suggests that it may have a paradoxical influence in the specific context of DM and strength training. IM did not predict significant benefits, but the results may have been biased, as, for example, the data might have been different if the sample had been larger. Further experimental research is needed to determine which motivational strategies would be useful for the health maintenance of at-risk athletes.

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**« Je ne Suis pas aussi Bon que mon Coach le Pense ! » :
Sentiment d'Imposture et Corrélats Motivationnels dans le Cadre de la Relation
Entraîneur-Entraîné(s)**

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Mots clés : Sentiment d'imposture, perceptions-miroirs, buts d'accomplissement, burnout, relation entraîneur-entraîné.

Introduction

Les athlètes accordent de l'importance à la façon dont ils sont perçus par certains autrui (Trouilloud & Amiel, 2011), et peuvent parfois avoir l'impression de ne pas être à la hauteur des attentes de ces derniers. Le sentiment d'imposture, défini comme une impression interne de fraude ressentie par un individu concernant ses performances dans certaines situations (Harvey & Katz, 1985), comprend trois principales dimensions : la croyance que les autres nous sur-estiment et qu'on ne mérite pas les réussites obtenues, le sentiment de les tromper, et la crainte que cette incompétence soit démasquée. Selon certains auteurs (e.g., Bouffard, Chayer, & Sarrazin-Vézina, 2011) les personnes ayant le sentiment d'être des imposteurs utiliseraient deux stratégies face à la crainte de la découverte de leur incompétence : l'évitement (e.g., fuir les situations où l'individu se sent incompétent) ou le travail acharné (e.g., redoubler d'efforts dans les situations où l'individu se sent incompétent). Cette thématique a très peu été explorée empiriquement (pour une exception, voir Kumar & Jagacinski, 2006) et jamais, à notre connaissance, en contexte sportif. Notre étude se propose d'approfondir cette ligne de recherche en analysant, dans le cadre de la relation entraîneur-entraîné, les liens entre le sentiment d'imposture ressenti par des athlètes vis-à-vis de leur entraîneur et certaines caractéristiques motivationnelles. Plus précisément, cette étude poursuivait un double objectif : (1) explorer l'existence de ce

sentiment d'imposture chez des athlètes dans le cadre de la relation qu'ils entretiennent avec leur entraîneur, et (2) évaluer les relations existantes entre ce sentiment d'imposture et les buts d'accomplissement poursuivis par les athlètes (en s'appuyant sur le modèle 2X2 ; Elliot & McGregor, 2001), et leur niveau de burnout (en se centrant sur les 3 dimensions du burnout proposées par Raedeke & Smith, 2001 : le sens d'accomplissement réduit, l'épuisement physique et mental, et la dévalorisation de l'activité). Plus précisément, nous faisons l'hypothèse que les athlètes éprouvant un fort sentiment d'imposture auraient tendance à adopter préférentiellement des buts d'évitement (performance et/ou maîtrise), en raison de leur crainte de voir leur incompétence révélée publiquement. D'autre part, nous faisons également l'hypothèse que ce sentiment d'imposture prédirait positivement leur niveau de burnout.

Méthode

369 athlètes (69% d'hommes) pratiquant des sports individuels ou collectifs, âgés en moyenne de 21.15 ans ($ET = 3.76$), ont participé à cette étude. Ils ont répondu à un questionnaire mesurant (a) leur sentiment d'imposture vis-à-vis de leur entraîneur (IS, Leary, Patton, Orlando, & Funk, 2000 ; e.g., j'ai l'impression que je ne suis pas aussi bon que mon entraîneur le pense), (b) leur tendance à adopter des buts de performance-approche (e.g., il est important pour moi d'être meilleur que les autres), de performance-évitement (e.g., je veux éviter de faire moins bien que les autres), de maîtrise-approche (e.g., il est important pour moi de m'améliorer le plus possible) et de maîtrise-évitement (e.g., j'ai peur de ne pas pouvoir m'améliorer autant que possible) (QAE-EPS, Schiano-Lomoriello, Cury & Da Fonseca, 2005), (c) leur niveau de burnout vis-à-vis de leur pratique sportive (ABQ ; Isoard-Gauthier, Oger, Guillet, & Martin-Krumm, 2010), et (d) certaines caractéristiques individuelles et situationnelles (e.g., sentiment de compétence, nombre d'heures d'entraînement).

Résultats

Des analyses préliminaires font tout d'abord apparaître des différences sexuelles concernant le sentiment d'imposture, conformément aux travaux antérieurs : les athlètes féminines ont reporté un sentiment d'imposture plus élevé que leurs homologues masculins ($p < .001$). Des analyses de régression multiple et des modélisations par équations structurelles ont ensuite révélé que le sentiment d'imposture des athlètes vis-à-vis de leur entraîneur prédisait positivement (a) leur tendance à poursuivre plus particulièrement trois types de buts : les buts de maîtrise-évitement ($\beta = .29, p < .001$), de performance-évitement ($\beta = .19, p < .001$), et de performance-approche ($\beta = .22, p < .001$), et (b) les trois dimensions du burnout : le sens réduit de l'accomplissement ($\beta = .32, p < .001$), l'épuisement physique et mental ($\beta = .14, p < .01$), et la dévalorisation du sport ($\beta = .15, p < .01$). Ces relations apparaissent après avoir contrôlé le sexe, l'âge, le nombre d'heures d'entraînement, et le sentiment de compétence des athlètes. Les résultats relatifs à d'éventuels médiations et/ou modulations de ces liens par des caractéristiques individuelles et situationnelles seront présentés lors du symposium.

Discussion

Les résultats de cette étude mettent en avant l'existence de liens significatifs entre le sentiment d'imposture ressenti par les athlètes vis-à-vis de leur entraîneur et certaines variables motivationnelles. Plus précisément, plus l'athlète a un sentiment d'imposture élevé, plus celui-ci a tendance à (1) privilégier des buts lui permettant d'une part d'éviter de démontrer son incompétence et sa non-maîtrise de l'activité, et/ou d'autre part de démontrer ses compétences, et (2) avoir un niveau de burnout élevé. Ces éléments suggèrent donc que le fait de ressentir un sentiment d'imposture vis-à-vis de son entraîneur peut amener un athlète à adopter des stratégies particulières, notamment afin d'éviter d'être « démasqué », l'amenant potentiellement à se désengager de sa pratique. Néanmoins, la nature synchronique et corrélationnelle des données recueillies dans cette étude ne permet pas de

tirer des conclusions solides concernant la causalité entre le sentiment d'imposture et ces caractéristiques motivationnelles. Des protocoles expérimentaux et/ou longitudinaux doivent être encouragés dans cette direction.

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Le Rôle de la Satisfaction et de la Frustration des Besoins Psychologiques Fondamentaux sur les Profils Motivationnels des Jeunes Athlètes en Centres d'Entraînement Intensif

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Mots clés : Besoins psychologiques fondamentaux, Théorie de l'auto-détermination, Analyses de Transitions de Profils Latents, Jeunes athlètes

Introduction

Les jeunes sportifs qui évoluent en centres d'entraînement intensif sont quotidiennement soumis à d'importantes contraintes biologiques, psychologiques et sociales susceptibles d'influencer leur motivation (Martinent & Decret, 2015). Or, d'après la théorie de l'auto-détermination (Deci & Ryan, 2000), le type de motivation des athlètes engendre des conséquences significatives sur la performance et le bien-être des individus. A ce jour, la majorité des études ont étudié la motivation sportive sur un unique temps de mesure ou bien en utilisant une méthodologie centrée sur les variables limitant l'apparition de différences inter-individuelles. De plus, considérant l'importance des conséquences de la motivation des athlètes, il semble essentiel de pouvoir identifier des variables clés qui pourraient prédire les variations motivationnelles sur le temps d'une saison sportive. Plus précisément, de précédentes études ont démontré l'importance des conséquences de la satisfaction et de la frustration des besoins psychologiques fondamentaux (SBPF et FBPF) sur la motivation des

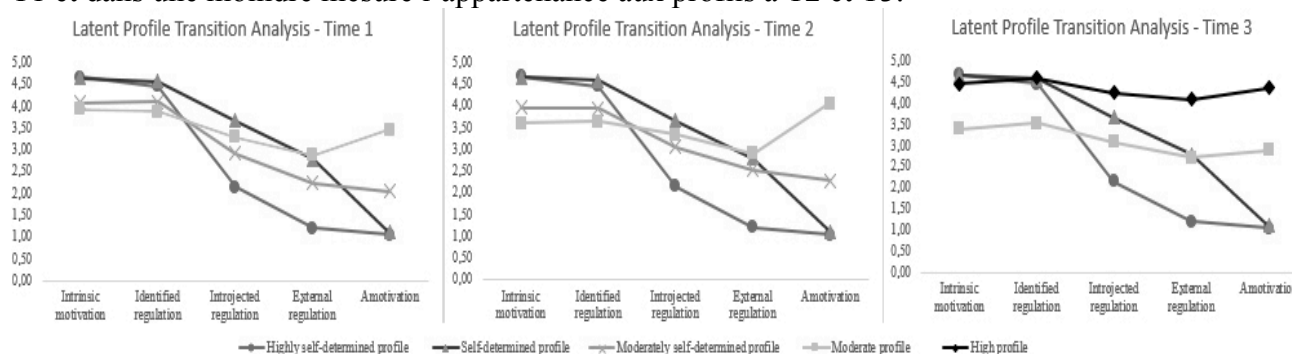
individus (Vansteenkiste & Ryan, 2013). Ainsi, le but de cette étude était d'examiner les différences inter-individuelles de profils longitudinaux de motivation sportive en utilisant une procédure en trois temps de mesures basées sur les individus (début, milieu et fin de saison sportive). Plus encore, la présente étude visait à explorer le rôle de la SBPF et FBPF sur les profils motivationnels des jeunes athlètes en centres d'entraînement intensif.

Méthode

Un échantillon de 736 athlètes issus de différents sports et évoluant en centre d'entraînement intensif ont participé à cette étude. Les athlètes ont répondu à des questionnaires portant sur leur satisfaction (version française du Psychological Need Satisfaction Scale ; Gillet et al., 2008) et menace (version française du Psychological Need Thwarting Scale ; Martinent et al., 2015) des BPS lors du premier temps de mesure (Temps 1, T1) ainsi que leur motivation sportive (version française du Behavior Regulation in Sport Questionnaire ; Viladrich et al., 2013) aux trois temps de mesure (T1, T2 et T3). Des Analyses de Transitions de Profils Latents (ATPL) ont été effectuées afin d'identifier différents sous-groupes de motivation sportive lors des trois temps et de mettre en évidence l'évolution des profils au cours du temps. Enfin, l'utilisation de la SBPF et FBPF comme covariants permettait de prendre en compte l'influence de ces variables sur l'appartenance aux profils motivationnels au cours de la saison sportive.

Résultats

Les résultats des ATPL (voir figure 1) ont révélé quatre différents profils lors des trois temps : un profil « fortement auto-déterminé », un profil « auto-déterminé », un profil « modéré » (pour T1, T2 et T3), un profil « modérément auto-déterminé » (pour T1 et T2) et un profil « haut » (pour T3). L'analyse des transitions montrait à la fois des changements (par exemple seulement 36% du profil « modérément auto-déterminé » à T1 le restent à T2) et de la stabilité (par exemple 88% des athlètes du profil « fortement auto-déterminé » à T1 le restent à T2) à propos de l'évolution longitudinale des profils motivationnels. De plus, la satisfaction et la menace des BPS impactaient significativement l'appartenance aux profils à T1 et dans une moindre mesure l'appartenance aux profils à T2 et T3.



Discussion

Les résultats obtenus suggèrent l'existence de différences inter-individuelles de réponses motivationnelles par rapport aux exigences d'une saison sportive. En effet, la présence de 4 profils par temps de mesure reflète l'hétérogénéité de motivation chez les jeunes sportifs évoluant en centre d'entraînement intensif, allant de profils fortement auto-déterminés à des profils modérés conformément à de précédentes études similaires (Gillet et al, 2012 ; Martinent & Decret, 2015). De plus, les résultats des analyses de transitions suggèrent de la stabilité mais également des fluctuations de motivation chez les jeunes sportifs au cours d'une saison sportive. La motivation des jeunes sportifs apparaît ainsi comme un processus parfois instable, soumis aux événements composant la saison sportive. En outre, en accord avec la théorie de l'auto-détermination (Deci & Ryan, 2000), la SBPF et FBPF en début de saison conditionnent le type de motivation à T1. La majorité de ces résultats sont en accord avec la TAD où les profils motivationnels théoriquement facilitants sont davantage prédits par des scores élevés de satisfaction des BPS et où les profils théoriquement non-adaptatifs

d'avantage prédits par des scores élevés de frustration des BPS. L'influence des BPF est cependant moins significative pour T2 et T3, suggérant un effet à court terme de ces variables sur la motivation des jeunes athlètes. Ainsi, en dépit de l'absence de conséquences directement mesurées sur les athlètes (burnout, performance) ainsi qu'un temps restreint par rapport à la carrière d'un sportif, cette étude apporte de nouvelles connaissances concernant le suivi longitudinal de la motivation des jeunes athlètes de haut niveau ainsi que sur l'influence de la SBPF et FBPF sur les profils motivationnels.

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Influence of the Context and Professional Identity on Teacher's Motivation, Engagement and Burnout: a Longitudinal Design

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Key words: teacher, motivation, burnout, professional identity, contextual factors

Introduction

Teaching is a profession at risk in the development of burnout (e.g., Brunsting, Sreckovic, & Lane, 2014). Related to the criticisms of the most used Maslach et al.'s burnout conceptualization and its measurement, an alternative conceptual approach of burnout and engagement were developed by Shirom and collaborators (2004). They organized the burnout measure around three dimensions: physical fatigue, emotional exhaustion and cognitive weariness. In addition, like Schaufeli and Bakker (2004), they considered that burnout and engagement were independent states and negatively related. In this perspective,

Shirom (2004) defined engagement as a positive multidimensional affect with three dimensions: sensation of physical strength, emotional energy and cognitive liveliness. The recent burnout studies argued on the necessary to measure simultaneously the two states. Previous studies on motivation showed that autonomous motivation related to more optimal outcomes, such as more commitment and engagement in the work setting (e.g., Gagné & Deci, 2005), while controlled motivation related to more negative outcomes, such as burnout (e.g., Fernet, Senécal, Guay, Marsh, & Dowson, 2008). Since burnout is considered complex, multi-causal involving various factors at different levels, there is not a general and comprehensive theory that explains this phenomenon (Schaufeli, 2003). Both teacher and school characteristics appear as interesting variables to better understand teacher burnout and engagement processes. Professional identity (PI), considered as teaching expertise (Beijaard, Verloop, & Vermunt, 2000), is closely related to teacher well-being (e.g., Canrinus, Helms-Lorenz, Beijaard, Buitink, & Hofman, 2012). In addition, some studies suggested relationships between school environment factors and burnout (e.g., Dorman, 2003). The aims of this study were to estimate the influence of perceived hierarchical support, professional identity on teacher's motivation, engagement and burnout using a longitudinal design during one school year.

Method

A sample of 544 teachers (Mage = 42.16 ($\pm$ 9.59) years with 16.36 years of experience on average ($\pm$ 9.46) completed a questionnaire included work motivation (MWMS), burnout (SMBM), engagement (F-SMVM), professional identity (QIPPE), and hierarchical climate (WCQ) scales. This questionnaire was fulfilled at the beginning and at the end of school year. The web survey was completed in 20 min. Data were analysed thanks to structural equation modeling (SEM, Mplus software).

Results

The SEM results showed that perceived hierarchical support was linked to pedagogical and didactical expertises at the beginning of the school year (see Figure 1). In turn, a high perceived pedagogical expertise increased teacher autonomous motivation at the end of the school year. Finally, the teacher autonomous motivation increased teacher engagement and decreased the risk of teacher burnout at the end of the school year.

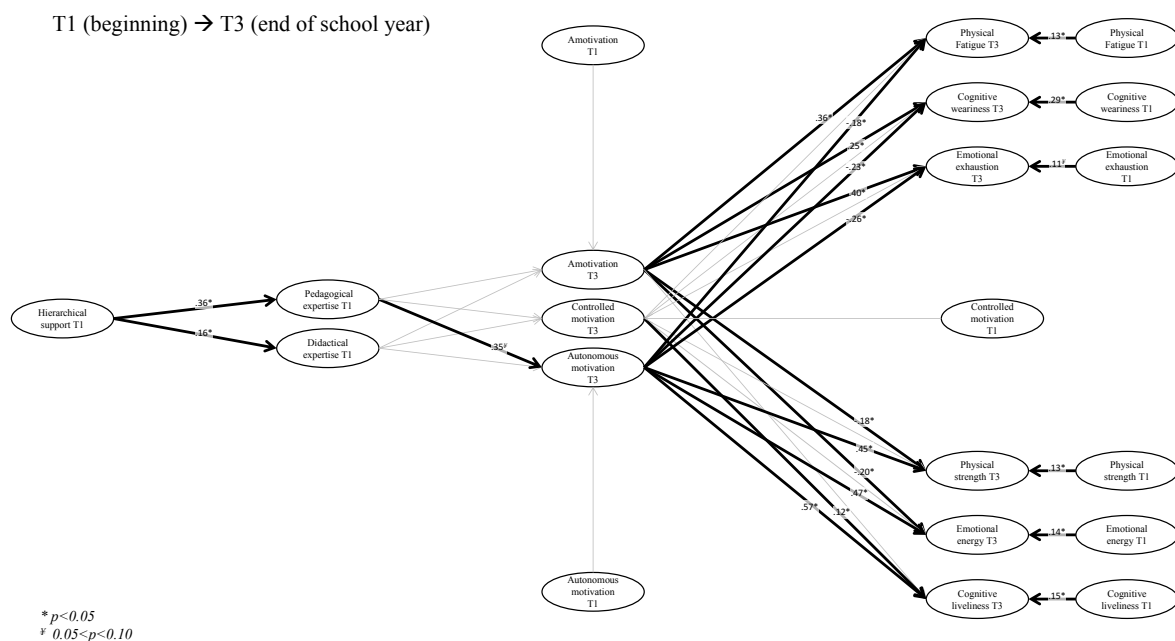


Figure 1. Influence of Hierarchical Support and Professional Identity on Teachers' Motivation, Burnout and Engagement

Discussion

This study highlighted the influence of perceived hierarchical support and pedagogical expertise in teacher burnout and engagement processes mediated by the motivation quality. To prevent burnout, teachers need efficient initial and continuing pedagogical education to be armed in front of the students and need a support of their hierarchical instance during the school year. In future, it will be necessary to continue to explore the role of professional identity, specifically the didactical expertise, and its mediated or moderated function.

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Effet de Situations Stimulantes sur le Plaisir et la Motivation des Elèves en EPS

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Mots clés : Motivation, EPS, Plaisir, Dispositif d'apprentissage.

Introduction

Depuis 15 ans, un nombre croissant d'études fondées sur la théorie de l'autodétermination (Ryan & Deci, 2017) s'est intéressé au processus motivationnel sous-tendant l'engagement et le bien-être des jeunes en éducation physique et sportive (EPS) (Ntoumanis & Standage, 2009). Constatant le rôle pivot joué par le style motivationnel de l'enseignant, de

nombreuses études interventions ont examiné les effets d'une formation visant à aider les enseignants à instaurer un style motivationnel soutenant les besoins psychologiques des élèves (e.g., Tessier, Sarrazin & Ntoumanis, 2010). La présente étude s'inscrit dans cette ligne de recherche en manipulant différents paramètres des situations d'apprentissage afin de les rendre plus stimulantes/engageantes. Elle vise plus précisément à examiner si le fait de proposer aux élèves des situations qui participent à soutenir ou au contraire à frustrer la satisfaction des besoins d'autonomie, de compétence et de proximité sociale, produit un effet immédiat sur la réponse affective (i.e., le plaisir) et la motivation des élèves en EPS.

Méthode

Dix classes de collège et de lycée – comprenant environ 250 élèves – participent à cette étude qui est encore en cours. Elle se déroule sur deux séances d'EPS : cinq classes expérimentent la situation la moins stimulante à la première séance, et celle la plus stimulante à la seconde ; les cinq autres classes réalisent les situations dans l'ordre inversé. Au début de l'étude, un cahier d'EPS comprenant l'échelle de motivation situationnelle (Guay, Vallerand & Blanchard, 2000) et l'échelle de mesure de la valence affective (i.e., the feeling scale, Hardy & Rejeski, 1989) est remis à chaque élève. L'échelle de motivation situationnelle est remplie trois fois au cours de l'étude (i.e., au début de la première séance, à la fin de celle-ci et à la fin de la deuxième séance), et l'échelle de mesure de la valence affective est remplie huit fois au cours de l'étude : quatre fois à chaque séance (i.e., avant et après chacune de deux confrontations à la situation). Les situations d'apprentissage ont été construites selon quatre principes spécifiques dans les différentes activités physiques (APS) programmées pour ces classes (i.e., badminton, volley-ball et step) : 1) dans chaque APS, les situations sont adaptées au niveau d'habileté des élèves et visent l'atteinte de la même compétence; 2) les situations stimulantes incitent les élèves à faire des choix (e.g., tactiques) et à s'encourager car ils doivent atteindre un but commun ; 3) les situations peu stimulantes n'offrent aucun choix aux élèves et limitent les possibilités d'interaction sociale ; et 4) une fois les consignes données, l'enseignant ne doit pas intervenir pour réguler l'activité des élèves. Ces situations ont été construites et transmises par l'équipe de recherche aux enseignants d'EPS, qui les ont ensuite mises en œuvre auprès de leurs élèves. Des analyses de croissance multiniveaux ont été conduites pour examiner l'effet des différents types de situations sur la réponse affective et la motivation des élèves.

Résultats

Les résultats préliminaires obtenus sur 48 élèves (i.e., deux classes) révèlent un effet d'interaction temps×condition significatif sur la réponse affective rapportée à la séance 1 ($b = 4.33$, $p < .01$) et à la séance 2 ($b = 1.73$, $p < .05$). Ils montrent également des effets d'interactions temps×condition et temps²×condition significatifs sur la motivation autonome ($b_{\text{temps} \times \text{condition}} = -4.58$, $p < .05$; $b_{\text{temps}^2 \times \text{condition}} = 1.53$, $p < .05$) mais pas sur la motivation contrainte.

Discussion

Les résultats mettent en évidence une augmentation du plaisir et de la motivation autonome des élèves dans la situation stimulante, et inversement une diminution nette des scores sur ces deux variables dans la situation peu stimulante. Ces résultats confirment ceux des études interventions antérieures (e.g., Tessier et al., 2010) en montrant que les élèves sont sensibles aux modifications du contexte d'enseignement, et que la satisfaction de leurs besoins psychologiques joue un rôle essentiel dans la dynamique motivationnelle en EPS. Toutefois, il ne s'agit là que de résultats préliminaires qui nécessitent d'être complétés par les données qui vont être récoltées dans les huit autres classes de l'échantillon.

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L'hypothèse de Spécificité : Un Test en Education Physique et selon le Sexe-Typage des Activités

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Introduction

Les travaux sur la motivation dans le contexte sportif ou scolaire s'intéressent la majorité du temps à un contexte particulier et unique. Les antécédents et les conséquences motivationnelles sont appréhendés dans un domaine (le sport ou l'école) ou dans une activité particulière (le football ou les mathématiques) sans se préoccuper des autres niveaux de motivation de l'individu dans d'autres contextes ou dans d'autres activités. Pourtant, les modèles courants de la motivation humaine s'accordent tous pour dire que la motivation n'est pas un concept homogène que l'on maintient de manière équivalente et indifférenciée dans toutes les sphères de sa vie.

Dans le cadre de la théorie de l'autodétermination (Ryan, et Deci, 2017), la motivation est un concept multidimensionnel puisque différentes régulations ont été postulées pour comprendre la motivation d'un individu. Quatre principaux types de régulations (i.e., intrinsèque, identifiée, introjectée et externe) ont été regroupées selon que les motivations sont autonomes (i.e., drivée par le self) ou qu'elles sont contrôlées (i.e., drivées par des contingences externes à l'individu). De plus, le modèle hiérarchique de la motivation de Vallerand (e.g., Vallerand et Ratelle, 2002) postule (1) l'existence de différents niveaux de motivation (i.e., global, contextuel et situationnel) et que (2) les antécédents et les conséquences de ces motivations sont spécifiques au niveau considéré (i.e., les motivations contextuelles seraient prédites par les antécédents au niveau contextuel, et auraient des conséquences au niveau contextuel seulement).

Récemment, quelques travaux (i.e., Guay, Chanal et coll., 2010 ; Chanal et Guay, 2015) ont simultanément étudié les liens entre les différentes régulations motivationnelles de différentes activités de même niveau (i.e., plusieurs matières scolaires) en considérant également plusieurs niveaux (i.e., situationnel pour les matières et contextuel pour l'école). Ces travaux ont montré que la différenciation entre les régulations des différentes matières scolaires dépendait du type de régulation (Guay, Chanal et coll., 2010). En effet, les motivations autonomes sont plus différenciées (i.e., plus faibles corrélations entre elles) que les motivations contrôlées (i.e., plus fortes corrélations entre elles). Pour expliquer cette différence de différenciation, Chanal et Guay (2015) ont proposé l'hypothèse de spécificité qui postule que la différenciation des régulations est influencée par leur degré de spécificité. Autrement dit, si les motivations autonomes sont plus différenciées, c'est parce qu'elles seraient plus spécifiques à la matière dans laquelle elles sont mesurées que les motivations contrôlées. Les résultats de deux études réalisées auprès d'élèves d'école primaire et de

collège qui ont répondu à un questionnaire sur leur motivation dans 4 matières scolaire et pour l'école à un niveau global ont validé cette hypothèse. En effet, la part de variance expliquée des items étaient plus importante au niveau des matières scolaires pour les motivations autonomes que pour les motivations contrôlées.

L'objectif de cette étude était double. Premièrement, il s'agissait de répliquer l'hypothèse de spécificité développée par Chanal et Guay (2015) en utilisant différents niveaux. Spécifiquement, nous voulions tester cette hypothèse en considérant l'éducation physique au niveau hiérarchique supérieur, et différentes activités pratiquées lors de ces cours au niveau inférieur, permettant ainsi de pouvoir généraliser cette hypothèse à d'autres niveaux de motivations. Deuxièmement, cette étude avait également pour objectif de proposer une validation du modèle utilisé pour la spécificité en testant la possibilité d'évaluer des différences individuelles dans la spécificité des construits envisagés. Spécifiquement, nous souhaitions utiliser les connaissances acquises concernant le caractère sexué des activités physique et sportive pour prédire une modération de la spécificité selon le caractère sexe-typé de l'activité voire l'orientation genre des participants. Aussi, nous avons sélectionnés trois activités au niveau inférieur couramment pratiquées dans les cours du cycle : une activité masculine (le football), une activité féminine (la gymnastique) et une activité neutre (l'athlétisme). Notre hypothèse est que la spécificité observée sera plus importante pour les activités féminines dans l'échantillon global. En effet, l'éducation physique étant une activité catégorisée comme masculine, l'activité féminine devrait être plus spécifique que les activités neutre ou masculine. D'autre part, nous faisons l'hypothèse d'une différence dans la spécificité exprimée pour les matières sexe-typées dépendamment de leur sexe ou de leur genre psychologique. Par exemple, la spécificité de l'activité féminine au regard de l'EPS pourrait être plus importante pour les garçons que pour les filles, mais également plus importante chez les élèves de genre masculin par rapport aux autres élèves de genre féminin, neutre, ou androgyne.

Méthode

Des élèves de cycle du canton de Genève se verront proposés le questionnaire à répondre en ligne. Un établissement du canton de Genève a été recruté par la procédure de recherche dans les écoles et le projet a été validé par la commission d'éthique de l'Université de Genève. Après avoir signé un formulaire de consentement électronique, les élèves se verront proposé des items de motivation pour l'éducation physique ainsi que pour le football, la gymnastique, et l'athlétisme qui serviront à nous renseigner sur leur niveau de motivation pour ces différentes activités. Les réponses seront données sur une échelle de Lickert allant de (1) jamais à (7) toujours. Le questionnaire de motivation est une version du questionnaire utilisé dans la deuxième étude de Chanal et Guay (2015) adapté aux 4 activités envisagées. Le questionnaire est anonyme, et le temps de passation est d'environ 40 minutes.

Résultats et discussion

Les premiers résultats basés sur un échantillon non finalisé répliquent l'hypothèse de spécificité de Chanal & Guay (2015) à ces niveaux hiérarchiques différents de ceux précédemment étudiés. Les résultats concernant la modération par les caractéristiques individuelles de l'individu nécessiteront l'échantillon complet afin de pouvoir les conduire, mais au niveau de la spécificité des activités, il semble que le football soit plus spécifique que la gymnastique ou l'athlétisme par rapport à l'EPS. Ce résultat n'était pas particulièrement attendu et nécessitera d'être discuté puisqu'il signifierait que la motivation pour l'activité football serait moins identifiée à la motivation pour l'EPS que la gymnastique ou l'athlétisme.

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- Terrien, E., Huet, B., (Université de Nantes), Iachkine, P., Clouet, Y., (Ecole Nationale de Voile et des Sports Nautiques) & Saury, J. (Université de Nantes): Se coordonner au sein d'un équipage sur un voilier volant : le bateau comme partenaire ? Étude de cas
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- Cunningham, I., Rix-Lièvre, G., (Université de Clermont-Ferrand), Mascarenhas, D. (Edinburg Napier) & Simmons, P. (University of Charles Sturt) : Concepts of co-construction in match interactions between high-performing Rugby Union officials and players
- Diotaiuti, P., & Falese, L. (University of Cassino and Southern Lazio) : The importance of teamwork for self-efficacy in handball referees

Se Coordonner au Sein d'un Equipage sur un Voilier Volant : Le Bateau Comme Partenaire ? Étude de Cas

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Mots clés : Cognition Collective, Coordination, Enaction, Voile, Foils.

Introduction

La voile vit actuellement une révolution avec le développement des bateaux volants, équipés de foils (plans porteurs soulevant le bateau au-dessus de l'eau). Cette évolution technologique s'accompagne de transformations des comportements des voiliers, et deux régimes de navigation sont distingués : le « régime archimédien » (la coque en contact avec l'eau) et le « régime de vol » (la coque sans contact avec l'eau). En régime de vol, la variabilité des mouvements du bateau dans les trois axes et sa sensibilité aux actions de l'équipage et aux fluctuations des conditions de vent et de mer, sont amplifiées en comparaison de celles de voiliers sans foils. Du point de vue d'experts du domaine, ce nouveau régime exige une transformation de l'activité des régatiers, et des modalités de coordination des activités des coéquipiers à bord encore inédites en voile.

Récemment, des travaux portant sur la coordination des équipages en aviron ont suggéré l'existence de coordinations originales entre les coéquipiers (R'Kiouak et al., 2016). Les auteurs parlent de coordination « interpersonnelle » en référence à une conception de la coordination en termes de couplage direct acteur/acteur, qu'ils distinguent d'un mode de coordination « extra-personnel », dont ils suggèrent l'existence lorsque les coéquipiers

coordonnent mutuellement leur activité par l'intermédiaire du bateau, sans prendre en compte intentionnellement l'activité de leur partenaire.

Dans la continuité de ces travaux, cette étude a été conduite dans le programme de recherche du Cours d'action (Theureau, 2006), qui concrétise le paradigme de l'enaction (Varela et al., 1993) pour l'étude de l'activité humaine. Elle visait à mettre en évidence les modes de coordination adoptés par les régatiers d'un équipage expert dans les phases de vol sur un catamaran à foils, et à caractériser plus particulièrement le rôle de la médiation matérielle dans ces modes de coordination.

Méthode

Un équipage de Nacra 17 (catamaran à foil olympique en équipage mixte homme-femme), composé d'un barreur et d'une équipière, classé parmi les 10 meilleurs mondiaux, a participé à l'étude. Les données ont été recueillies lors d'une session d'entraînement. Les comportements du bateau (vitesse, trajectoire, mouvements du bateau sur les trois axes) ont été capturés grâce à une centrale inertielle et un GPS embarqués. Les comportements et communications des équipiers ont été enregistrés grâce à deux caméras : l'une sur un bateau suiveur, capturant les conversations entre les coéquipiers munis de casques audio et de micros, et une caméra embarquée fixée sur le mat, donnant une vue plongeante sur l'équipage. Des entretiens d'autoconfrontation individuels ont été conduits avec les participants immédiatement après l'entraînement. L'analyse des données a consisté (a) à reconstruire les cours d'expérience des membres de l'équipage au cours d'une séquence de *reaching* (bord au vent de travers), très exigeante du point de vue du contrôle du vol, et (b) à analyser l'articulation collective des cours d'expérience, et à synchroniser celle-ci avec la dynamique des comportements du bateau.

Résultats

Quatre modes typiques de coordination ont été identifiés au sein de cet équipage :

(a) Des ajustements comportementaux concomitants des coéquipiers permettant de stabiliser le vol du bateau *hic et nunc*. Ce mode de coordination se caractérise par une corrélation non accidentelle entre les déplacements longitudinaux de chacun des coéquipiers et les variations d'assiette longitudinale du bateau. Les coéquipiers étaient sensibles à ces mouvements sur la base d'indices visuels (e.g., hauteur de l'étrave) ou proprioceptifs (e.g., variation de pression sur un appui).

(b) Des coordinations d'actions sur les commandes visant à maintenir la trajectoire de *reaching* à vitesse optimale. Ce mode de coordination se caractérise par des préoccupations typiques de l'équipière et du barreur visant respectivement à « maintenir le bateau à plat » (i.e., assiette latérale horizontale), et « maintenir une trajectoire vent de travers », s'accompagnant de communications verbales adressées au coéquipier visant à influencer ses actions sur les commandes dont il a le contrôle. Typiquement, il se traduisait par des demandes du barreur à l'équipière d'équilibrer le bateau et de le maintenir « à plat » (condition du contrôle de la trajectoire), et réciproquement des demandes de l'équipière au barreur de libérer davantage d'écoute (cordage permettant de doser la puissance de la voile) afin de lui permettre d'équilibrer le bateau.

(c) Des communications verbales visant à anticiper conjointement des variations de vent ou de mer. Ce mode de coordination se caractérise par des préoccupations typiques des coéquipiers visant à attirer l'attention de l'autre sur les variations du vent ou de mer qu'ils anticipent (e.g., « risées »).

(d) Des communications visant la résolution de problèmes rencontrés en navigation. Ce mode de coordination se caractérise par des préoccupations visant à échanger et confronter au sein de l'équipage des interprétations et solutions aux problèmes rencontrés.

Du point de vue de la dynamique temporelle, les ajustements comportementaux concomitants permettant de maintenir la stabilité du vol se manifestent constamment en régime de vol, tandis que les autres modes de coordination émergent en relation avec les circonstances du bord de *reaching*.

Discussion

La coordination entre coéquipiers sur un voilier « volant » repose sur l'imbrication de modes de coordination multiples, en termes d'ajustements entre les coéquipiers, le bateau, et l'environnement. Cette coordination intègre (a) des ajustements comportementaux continus visant à maintenir un régime précaire de vol, (b) des interférences mutuelles dans le pilotage du bateau entre les coéquipiers, liées à une interdépendance de leurs actions sur les commandes, et (c) des interactions visant à construire une perception commune de l'environnement de navigation à chaque instant, ou (d) une interprétation commune d'événements survenus en navigation. Ces résultats sont discutés au regard de la distinction entre coordinations interpersonnelle et extra-personnelle (R'Kiouak et al., 2016) pour pointer, d'une part, les caractéristiques comparables à celles qui ont été mises en évidence au sein d'équipages de rameurs en aviron, et d'autre part, celles qui sont originales, dans les façons d'exploiter « le bateau comme partenaire » dans la dynamique des interactions barreur-équipier. Des incidences pratiques de ces résultats seront développées, proposant notamment de voir sous un nouvel angle l'optimisation de la performance collective sur ce type de voilier, et remettant en perspective des travaux réalisés sur la coopération des équipages sur bateaux sans foils (Saury, 2008).

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How Do Team Members Regulate their Own Activity in Real-Time to Make Collective Behaviour Emerge? A Simulation Study

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Key words: Programming, C++, Football, Informational Resources.

Introduction

In the last decade, teams have been frequently conceptualized as complex adaptive systems. In taking such a view, team behaviour is assumed to emerge from the many interaction between player's activities in real time. In a recent opinion article, Bourbousson and Fortes-Bourbousson (2016) considered the nature of the active regulation of interactions performed by co-agents as a main gap in current research. In other words, the description of how interpersonal coordination is formed, stabilized or destroyed at a behavioural level of description has been far more developed than how individuals manage online their interpersonal states, with regards to what they perceive as the team behaviour's needs. Our

project is to understand interaction processes (i.e., how player adapt their behaviour) that help flexible and resilient collective behaviour patterns to emerge in sport.

A preliminary exploratory study showed that football players were able to contribute to collective behaviour while their activity could be supported by 6 distinct informational resources (Feigean et al., submitted). Those informational resources were ranked from purely local (e.g., interacting with a single player) to global resources (e.g., grasping the spatiotemporal shape formed by his own team): (a) a single player, as captured from a focalised perception; (b) a global spatiotemporal shape, as captured from a bird's-eye viewpoint; (c) a single player associated with a global spatiotemporal shape, as captured from a perceptual sharing; (d) the ball area where current play is unfolding, as captured from a relocated focalisation; (e) surrounding behaviours, as captured from a comprehensive awareness; and (f) previously built knowledge suggesting an event expected to happen (Feigean et al., submitted). From this previous empirical study and regarding a lack of knowledge in the literature on this topic, the aim of this study was to understand to which extent each of the given informational resources (see Feigean et al., submitted) allowed for a very specific contribution to collective behaviour. To this end, informational resources have been transformed into mathematical terms, and implemented in a collective football simulation model. The purpose of the present study was to search for the best combination of such informational resources at the team scale (e.g., do all team members need to regulate the actual state of their contribution through global information?). The best combination of informational resources within the team was assumed to give rise to the most flexible and resilient spatiotemporal collective behaviour. We used a simulation study to test all the existing combinations.

Method

Using a free C++ environment, we create a dynamical model of two interacting football teams, which simulates the spatiotemporal behaviour of every agent, including their relationship to the ball. This model builds on five field forces that apply to every agent, called avoidance force, side force, area force, game force and ball force, respectively. Avoidance force constrained agent to be repulsed when there are close to a collision, side force constrained agents to stay on the field and also to be repulsed when they are close to the side and the zone force constrained the agent to tend to go back in their specific role-dependent zone when being too far away. Finally, we introduced a regulation-related force, which changed according to the four informational resources kept, we aimed at implementing in each agent. With four informational resources, and two teams composed of 10 interacting agents each (i.e., the goal-keepers were not implied in the simulation), we obtained more than a thousand combinations for the simulation. Within each simulation, we recorded the individual positions (i.e., x/y coordinates) at each instant (i.e., drawing the trajectories of agents across time), and their aggregation gave rise to team behaviour metrics (i.e., stretch index, centroid, surface area) (Duarte, Araújo, Correia, & Davids, 2012) that then served to measure flexibility and resilience at the level of the collective behaviour obtained. Flexibility of collective behaviour was considered through measures of variability (i.e., standard deviation measures). Resilience of collective behaviour was considered through identification of team states being maintained (i.e., no qualitative change observed in collective behaviour parameter).

Results

Preliminary analyses show that combinations were not similarly ranked whether flexibility or robustness criteria were applied, thus leading to explore solutions to find a compromise of both criteria. Whatever the case, best combinations were composed of a large amount of informational resources, thus suggesting that all informational resources should probably be considered as necessary in team cognition processes. The presentation will introduce the results in detail.

Discussion

The simulation design adopted here gave the opportunity to control the processes that led collective behaviour to emerge, notably by changing the individual regulation rules underlying players interacting behaviours. Together, the results provide new directions for the research on teamwork, and suggest avenues for rethinking how swarming intelligence is achieved in sport teams. The main avenue could be to consider that the way individual activities are dynamically arranged together matters more than the inner nature of such an individual interacting activity. We conclude by exposing how significant insight can be obtained into team sport coaching and players' sporting development.

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Etudier la Dynamique d'une Activité Collective : Complémentarité des Données d'Expérience et des Représentations Graphiques

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Mots clés : Dynamique, Activité Collective, Représentations Graphiques.

Introduction

Dans le domaine sportif, l'étude des phénomènes dans leur complexité et leur dynamique fait l'objet de plus en plus de travaux scientifiques. Ces travaux qui visent à renseigner des phénomènes de la façon la plus précise le font entre autres à partir de l'articulation de données de nature différente (e.g., Sève, Nordez, Poizat, & Saury, 2013). Dans ce type de démarche, les études prennent classiquement le parti d'articuler des données qualitatives (e.g., des données d'expérience) et des données quantitatives (e.g., des données cinématiques). Elles permettent alors d'associer des représentations graphiques (à partir d'indicateurs quantitatifs) qui enrichissent la description de la dynamique de l'activité d'un ou plusieurs acteurs étudiés (e.g., Hauw et al., 2017). Notre étude cherche à poursuivre cette réflexion sur une autre option méthodologique permettant d'appréhender la dynamique de l'activité d'acteurs engagés dans des situations sportives. En ce sens, il n'est pas question dans notre travail d'articuler deux types de données mais d'exploiter « le potentiel graphique » des données qualitatives recueillies au cours de l'expérience vécue par les acteurs. Précisément, notre étude a été conduite dans le cadre du programme de recherche du Cours d'Action (Theureau, 2004) qui étudie la part de l'activité telle qu'elle est vécue du point de vue de l'acteur (recueil de données d'expérience). Le Cours d'Action s'intéresse notamment à l'évolution dans le temps de l'activité humaine. D'autres courants scientifiques, comme par exemple la théorie des systèmes dynamiques, ambitionnent également de renseigner cette notion de dynamique à partir d'objets d'étude spécifiques (e.g., les coordinations perceptivo-motrices) et pour cela ont utilisé des outils mathématiques dans leurs recherches (e.g., phase relative). Aussi, notre démarche a consisté

à emprunter un outil méthodologique pour éclairer autrement les données d'expérience recueillies, ceci dans le but de représenter graphiquement la dynamique de l'activité étudiée.

Méthode

Nous avons étudié l'activité de huit dyades affinitaires réparties dans deux classes de Sixième au cours des leçons 4 et 5 d'un cycle de 7 lors d'un premier cycle de course d'orientation. Les dyades étaient engagées sur des parcours de difficulté et de durée similaires, avec une carte pour deux mais dans deux contextes de pratique (chambre d'appel et balises-leurres). Les données d'enregistrement audio-visuel à partir de « lunettes caméra-micro » ont permis d'avoir accès en permanence à ce qui était dit, regardé ou pointé du doigt par les élèves pendant l'activité de recherche des balises. Les données de verbalisation ont permis d'avoir accès à l'expérience des élèves à partir d'entretiens individuels post-action s'inspirant de la méthodologie de l'autoconfrontation (Theureau, 2004). Le traitement de ces données a consisté en deux étapes successives : une première étape qualitative visant la reconstruction des « cours d'action collectifs » de chaque dyade pour caractériser les formes d'interaction entre les élèves lorsqu'ils cherchaient à se rendre aux balises, puis une étape quantitative visant à codifier les résultats issus de la première étape à des fins de représentations graphiques de la dynamique des formes d'interaction de chaque dyade dans les différents contextes de pratique. Ce code a été attribué sur la base de l'analyse compréhensive des « cours d'action collectifs » correspondant à un label à chaque instant de la course.

Résultats

L'analyse qualitative met en évidence la présence de trois formes d'interaction entre les élèves en course d'orientation quel que soit le contexte de pratique : la co-construction, la confrontation, la délégation (Jourand et al., 2017). L'analyse quantitative des données met en avant une dynamique présentant des singularités dans la fréquence des bascules d'une forme d'interaction à une autre (Figure 1) et dans la répartition de ces formes (Figure 2) indexées aux contextes de pratique.

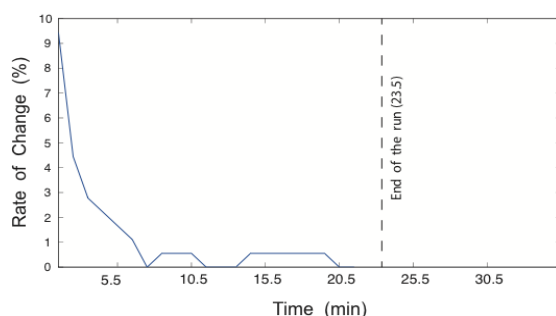


Figure 1 : Fréquence des bascules dans le contexte « chambre d'appel »

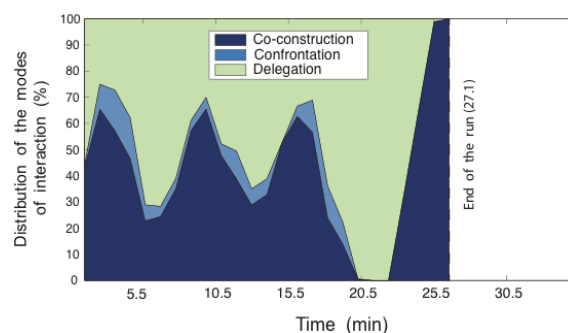


Figure 2 : Répartition des formes d'interaction dans le contexte « balises-leurres »

Discussion

Les représentations graphiques mettent à jour une dynamique du flux d'expériences des acteurs qui ne transparaît pas dans une analyse qualitative et exclusive des données d'expérience (e.g., le nombre de bascules d'une forme d'interaction à une autre dans la dyade). Ces représentations graphiques (i.e., Figures 1 et 2), même si elles caractérisent des indicateurs de la dynamique des formes d'interaction des élèves qui ne peuvent pas être dévoilés par le traitement qualitatif, ne mettent pas en évidence les significations de la situation telles qu'elles sont vécues par les acteurs de la dyade. A titre d'exemple, les 4 pics de la forme de co-construction sur la figure 2 sont associés à une activité d'élèves qui approchent la zone de balises-leurres : les élèves s'accordent alors à chercher à vue les balises et à vérifier leur numéro jusqu'à valider la bonne. Ainsi, il semble qu'opérer un

aller-retour entre les données d'expériences issues de l'analyse qualitative et ces mêmes données d'expériences représentées graphiquement à partir d'un traitement quantitatif puisse être une démarche de recherche permettant une compréhension plus précise de ce qui se joue dans l'activité collective des acteurs lorsqu'ils sont engagés dans une pratique sportive. Cette démarche méthodologique tend vers la conception de « modèles synthétiques » (issus de modèles mathématiques) sur la base de « modèles analytiques » (issue de l'observation) classiquement utilisés. Cette démarche invite le chercheur à étudier, à questionné la façon de concevoir une complémentarité entre ces domaines (Theureau, 2004).

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Patterns of Contextual Co-Construction during Actual Match Interactions between High-Performing Rugby Union Officials and Players

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Introduction

Communication and game management are critical performance areas in sport officials (MacMahon et al., 2014). Most of the few studies on sport official communication use fairness and organisational justice as an interpretive lens, thus emphasising the powerful influence officials' procedural and interactional displays has on players' attitudes and behaviour. Impression management (Dosseville et al., 2014) and decision communication (Mellick et al., 2005) are often the focus of these studies which tend to explore 'one-way' concepts. Such study focus ultimately separates officials' communication from a more complex relational and interactive process with players.

Few studies have explored player and sport officials' interactions. More recent research has extrapolated from ergonomics and professional communication contexts, expanding conceptualisations of sport official communication to include dynamic interaction and performance co-constructions. Players are found to manage identity projections to sport officials in interactions as a method of strategy and adaptation (Cunningham et al., 2015). Rix-Lièvre et al., (2015) revealed modes of coordination between players and officials that illustrate ways they spontaneously build situated interactions based on salient features and concerns for each. Finally, providing case examples, Vine (2017) conducted an 'external reconstruction' of player-official interactions demonstrating ways rugby union match officials use behavioural displays and verbalisations to orientate players' comprehension to

aspects of shared context. An approach neglected by researchers has been to ‘internally construct’ officials and players actual match experiences during interactions to explore co-produced communication complexities and situated accordance. This approach can help to articulate patterns in the ways players and officials construct their communication interactivity through identity constructions and modes of coordination. Yet have these empirical perspectives of interaction co-construction been married to understand ways both groups orientate and are oriented by their match activities.

This study used the empirical research program of the ‘course-of-action’ (Theureau, 2003) from cognitive anthropology to explore player-sport official interactional co-constructions. A course-of-action approach helps to reveal meaningful signs attached to interlocutors’ communication activity (e.g., goals, identities, expectancies) that shape ways match activities are spontaneously built and interactionally achieved.

Method

A qualitative, multiple-case study approach was used. Six cases (i.e., professional rugby union matches) were analysed that each involved one match official and players of one team. Participants were match officials (n=6) and players (n=12) in the highest national Rugby Union competition in France (Top 14) and Scotland (Scottish Premiership). Player captains were selected as the main player participants in the study, however where necessary, other players who contributed to interactions with the match official were also recruited. An interactional ‘configuration’ in any given case comprised of a dyad (the match official and player captain) or triad (the match official, player captain, and a second player). Matches were recorded using a raised, wide angle camera and point of view (POV) of the match official. Researcher(s) documented instances of player-official verbal interactions during the matches that were later used as discussion stimuli (in their temporal order) during individual, self-confrontation interviews within 48 hours following the match. Verbal interactions were specifically selected as they were observable and identifiable encounters between players and officials. Participants were presented self-recordings to immerse them in their interactions and to describe and comment on their interaction activity (i.e., to describe what they were doing, feeling, thinking, and perceiving about their/and other’s activity and match context).

Selected ‘hexadic signs’ provided by Theureau (2003) were used as an analytical frame to explore participants’ course of experience. For each identified interaction, analysis focused on ways players and officials signify their activity context/environment (i.e., *Representamen*); broader concerns, consequences, and preoccupations of interactions (i.e., *Involvement in the situation*); and expectancies about future outcomes that are built based on previous interactions (*Potential actuality*). According to previous results showing the importance of identity co-constructions (Cunningham et al., 2015), we identified players and officials preoccupations and concerns in order to understand if, when and how identity co-construction organises their activities. According to previous results distinguishing different modes of coordination based on meaning sharing or on a hierarchical position (Rix-Lièvre et al., 2015), we identify the meaning sharing, its dynamics, and so doing, we will “compare” Representamen of the official on one side, of players on the other.

Results and Discussion

The anticipated results will provide new empirical insights into interpersonal coordination in player-official interactions. This study explores the turn to context within sport official communication, acknowledging the theoretical progress in reconceptualising officiating as complex and contextually shaped social activity is not matched by empirical studies explicating how player-official interaction transpires as situated action. This is achieved through an analysis of multiple cases in which interactions and contexts are treated as being reflexively configured by players and officials within the ongoing unfolding situated coordinated action of intersubjectively intelligible social activities. Sport Federations are

seeking new knowledge to help train interaction skills in sport officials, thus the findings will have profound impacts by providing insight into interaction principles transferable to improving adaptive and reflexive communication in sport officials.

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The Importance of Teamwork for Self-Efficacy in Handball Referees

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Key words: Sport Officiating, Couple Efficacy, Teamwork, Enjoyment, Awareness.

Introduction

The referee's social experience is directly correlated to the referee's involvement and developing a sense of community, two factors that are key in determining the ability to overcome on-court stresses (Kellett and Shilbury, 2007; Kellett and Warner, 2011; Warner et al., 2013). Perceptions of the group's efficacy, or what Bandura (1986) calls "collective efficacy", is an important element in sustaining team members' commitments which can also increase the feeling of personal efficacy, especially if the actions are viewed as successful (Gecas, 1989). Although the importance of individual psychological aspects for referees has been analysed by previous scientific literature, only a few studies have focused on the psychological dimensions of referees as a team or a group. For this reason, we have decided to study handball referees as a unit or team since during official matches, two referees officiate with equal authority and teamwork, making communication and cooperation fundamental to their success.

We chose to analyse handball referees given that they always work with the same partner throughout competitions and often work together for many years. This characteristic led us to think that the perceived quality of the relationship between the two referees, considered a couple, could influence the perception of self-efficacy of each individual referee and consequently, his/her own performance and/or intention to quit.

Method

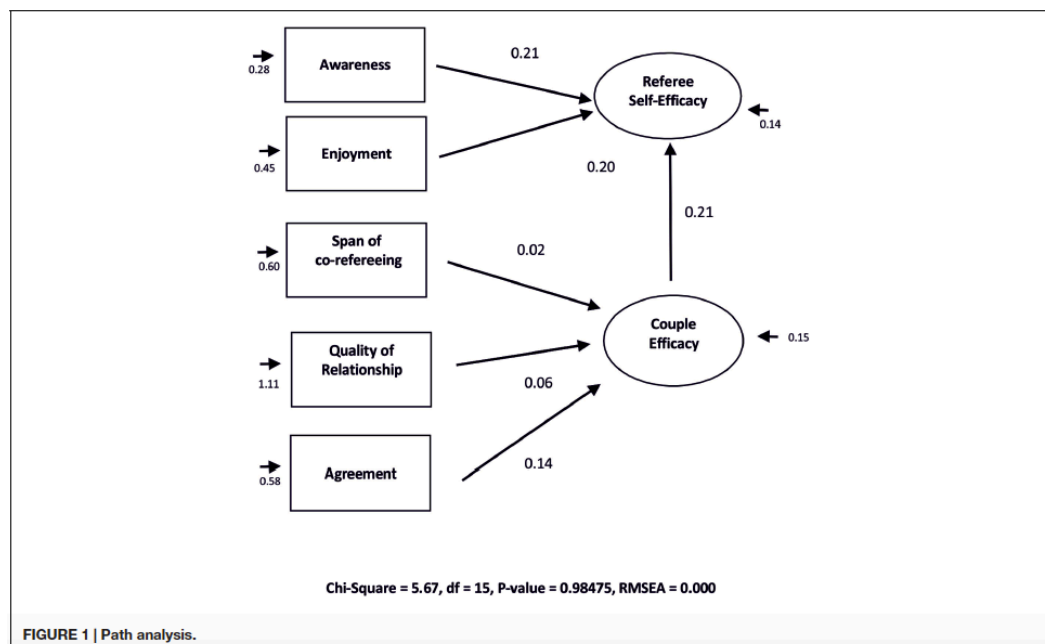
The study aimed to identify factors predicting self-efficacy in a sample of 248 professional Italian handball referees. The main hypothesis was that perception of teamwork efficacy would be a significant predictor of self-efficacy in handball referees. Participants completed an online questionnaire including Referee Self-Efficacy Scale (α 0.85), Self-Determination Scale (α 0.78), and an adaptation for Referees of the Sport Commitment Model (α 0.80).

Results

Two hierarchical regression analyses have identified: (1) Enjoyment (β 0.226), Couple Efficacy (β 0.233), and Personal Awareness (β 0.243), as predictors of Self-Efficacy; (2) Span of Co-Refereeing (β 0.253), Perceived Quality of the Relationship (β 0.239), and Mutual Agreement (β 0.274), as predictors of Couple Self-Efficacy. A further SEM analysis confirmed the fit of a structural model of Self-efficacy (figure 1) considering the reciprocal influence of Couple Efficacy, Enjoyment and Awareness (χ^2 : 5.67; RMSEA: 0.000; SRMR: 0.019).

Discussion

In the structural model realized, the perception of couple efficacy, along with awareness and enjoyment, accounted for a high proportion of influence on the perception of self efficacy and our analyses confirmed the hypotheses of a positive association between the perceptions of teamwork efficacy, or what we refer to as couple efficacy for handball referees, and the perception of each referee's self-efficacy. We assert that some aspects of the referee experience, such as teamwork, enjoyment in officiating and dimensions of self-determination can provide a good explanation for perceived referee self-efficacy. A better understanding of self-efficacy processes can help with the development of adequate intervention programs, which could improve the following outcomes: speed/accuracy of decisions, lower stress levels, less rule breaking, less dropout, greater satisfaction in the officiating experience and greater commitment (Lirgg et al., 2016). Enhancing positive affective responses found in enjoyment in officiating should be the focus of intervention programs further improving referee retention. Future studies should investigate the relationship between factors influencing perceived teamwork efficacy and officiating performance outcome.



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 - Taktek, K., (University of Laurentian), Zinsser, N., Fielitz, L., (US Military Academy) & St John, R. (Royal Military College): The psychology of training: how to use mental imagery efficiently to enhance sports performance
 - Andreetto, V. (Elite Swiss Coach) : Intervention visant à renforcer la confiance en soi spécifique de 19 jeunes sportifs de haut niveau de 11 à 14 ans
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Mindfulness Based Strategies Among Tunisian Elite Swimmers

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Key words: mindfulness, swimming, sport performance

Introduction

Over the past two decades, mindfulness-based theories and interventions have been implemented, profoundly changing intervention strategies with athletes in an attempt to enhance their overall well-being and sport performance (Gardner & Moore, 2017). Although traditional cognitive behavioral-based interventions involve the creation of an optimal mental state through strategies, such as control and management of internal states (cognition, emotions, bodily sensations), mindfulness-based interventions instead require recognition and exploration of internal states in the present moment, without judgment (Gardner & Moore, 2004).

Wegner's (1994) theory of ironic process of mental control contends that the attempt to suppress the non-desired thought may result in overly focusing on this specific thought, which would then become distracting. Mindfulness is defined as the nonjudgmental focus of one's attention on the experience that occurs in the present moment (Kabat-Zinn, 1994). The ability to maintain present-moment focus has been identified as an effective strategy to achieve peak performance and flow (Jackson & Csikszentmihaly, 1999). Results of research exploring the relationship between mindfulness and flow (Kee & Wang, 2008; Bernier & al, 2009) showed that greater levels of flow disposition was associated with greater levels of mindfulness.

Mindfulness-based interventions and theory involve the use of strategies such as: a non-judging moment to moment awareness and acceptance of one's internal state, whatever that may be, present-moment attentional focus on task-relevant external stimuli instead of a focus on internal processes, and self-regulation of attention (Gardner and Moore, 2004; 2017).

The purpose of this study was to explore mindfulness-based strategies in Tunisian elite swimmers using a qualitative investigation, and to compare results of qualitative investigation with mindfulness inventory for sport measurements (Thienot & al, 2014).

Method

The participants were 4 elite swimmers (two males and two females) all of whom volunteered to participate. The swimmers belonged to the Tunisian national team: one of them was in the junior category, and the others were in the senior category. The swimmers ranged in age from 17 to 23 years ($M_{age}=20$, $SD=2$, 24) and had participated in their sport for an average of 15 years ($SD=1$, 87).

The French version of the Mindfulness Inventory for Sport (MIS) was used to measure swimmers' mindfulness levels. This scale consisted of 25 items designed to assess the following three dimensions: awareness, non-judgmental attitude, and refocusing. Participants rated each item on a six-point Likert scale ranging from 1 (not at all) to 6 (totally).

Semi-directed, qualitative interviews were administered to collect individualized and detailed testimony concerning strategies used by swimmers when they performed at their best as well as the modest competitive performances. The interview guide consisted of two main themes. Firstly, swimmers were asked to describe their experience during which they had realized an optimal performance. Secondly, athletes were asked to describe an experience in which they realized a bad competitive performance. Thus, each theme was composed of a subset of questions in which swimmers were asked to describe their internal states deeply (cognition, emotions and body sensations): how are you mentally prepared for this competition? On what did you concentrate before and during this competition? What thoughts did you have before and during this competition? What emotions did you have before and during this competition? What have you positively or negatively retained about how you mentally managed this competition?

Subsequently we conducted a verbatim transcription of swimmers' responses to interview questions, which become our units of analysis. We opted for inductive analysis for the analysis of responses, using classification of swimmers' responses per theme to bring them closer of existing literature on the topic of mindfulness-based strategies. A deductive analysis was also used to compare results between interviews and the Mindfulness-Inventory for Sport.

Results

Swimmers' descriptions of their optimal performance reflected several mindfulness-based strategies. Awareness and acceptance of internal states (during this competition I had mixed feelings; I was a little disturbed, sometimes; I feel nervous, stressed sometimes happy and restless, but I tell myself it's very normal to be stressed). However, swimmers have the propensity to judge their internal states. Present moment attentional focus (e.g. "During this race I was really in it and I really forget everything happening around me, I was just focused on my race"). Self-regulation of attention (e.g. 'I was stressed and scared but I was able to manage and refocus on my race'). However, swimmers' description of their modest performance were totally different compared with their declarations of optimal performance.

Discussion

The analysis of the interviews showed that present-moment attention and self-regulation of attention were present in swimmers' descriptions but only for their optimal performance. The present findings may be linked with flow, since the three dimensions of Csikszentmihaly (1999) were found in swimmers' descriptions of their optimal performance: sense of control, clear goals, and concentration on task. Moreover, we found

that interview analysis was consistent with the results of the Mindfulness Inventory for Sport (Thienot & al, 2014).

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Mise en Place et Evaluation d'un Programme d'Entraînement à la Pleine Conscience auprès de Jeunes Golfeurs de Haut Niveau Canadiens

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Mots clés : Pleine Conscience, Sport de Haut Niveau, Jeunes Athlètes, Golf

Introduction

Le concept de « pleine conscience » évoque le fait d'être conscient de ce qui se passe dans l'instant présent et attentif à l'expérience actuelle sans porter de jugement. En psychologie du sport, l'intérêt pour les interventions basées sur la pleine conscience ne cesse de croître. Gardner et Moore (2004 ; 2007) ont suggéré que ces interventions pourraient constituer une alternative aux programmes de préparation mentale traditionnels qui s'appuient sur la modification des états internes.

Cependant, des récentes revues systématiques de littérature (e.g., Palmi & Solé, 2016 ; Sappington & Longshore, 2015) ont identifié et retenu moins de vingt articles portant sur la mise en place d'interventions fondées sur la pratique de la pleine conscience auprès des athlètes. Il est donc pertinent d'élargir la base de connaissances dans ce domaine au travers d'un plus grand nombre d'études et d'une évaluation rigoureuse de l'efficacité des interventions.

La présente étude porte sur la mise en place du programme « Pleine Conscience pour la Performance » (PCP) auprès de golfeurs de haut niveau. Les objectifs sont d'évaluer si le programme PCP augmente la pleine conscience dans la vie quotidienne et dans le golf et de vérifier si cette augmentation perdure dans le temps. En golf, l'athlète n'est pas soumis à

des contraintes temporelles élevées. Le golfeur dispose de temps (e.g., lorsqu'il se déplace jusqu'à sa balle), ce qui laisse la possibilité de ruminer les mauvais coups passés, d'anticiper les conséquences de la performance en cours, de tenter de supprimer les pensées et émotions négatives ou de contrôler consciemment des actions qui ont déjà été automatisées. Le programme PCP est inspiré des travaux de Bernier, Thienot, Codron, et Fournier (2009). Le programme PCP est conçu dans une perspective éducative. Il s'étale sur 6 semaines, et comprend une pratique méditative formelle et quotidienne d'environ 10 minutes avec un support audio et un suivi hebdomadaire de la progression des participants. PCP inclut les principales pratiques méditatives : le balayage corporel, la méditation assise et la concentration sur la respiration, ainsi que l'utilisation de celle-ci comme moyen de s'ancrer dans le moment présent. La durée des exercices a été adaptée à la population de cette étude. L'accent a été donné à la capacité de rediriger l'attention vers le moment présent. En effet, en golf, il est nécessaire d'alterner une réflexion sur le coup à jouer avec la réalisation d'un geste fluide et automatique.

Méthode

Dix-sept jeunes golfeurs et golfeuses d'une académie de golf de Québec, âgés de 17 à 19 ans, ont été volontaires pour suivre le programme PCP. L'entraîneur a tenu compte des critères suivants dans la présélection des participants : le niveau sportif actuel, le nombre d'années d'expérience sportive et l'absence de problématique de santé mentale connue. Chacun(e) de ces athlètes détenait au moins 5 années d'expérience sportive et un niveau allant de provincial à international de performance compétitive. La présente étude a été approuvée par le Comité d'éthique de la recherche de l'Université Laval.

Un protocole de recherche à cas unique (PRCU) de type « A-B à niveaux de base multiples avec suivi » a été utilisé. Les participants ont été assignés à des niveaux de base de 3, 4 ou 5 semaines. La phase « A » correspond à l'évaluation du niveau de base. Celle-ci a permis de quantifier la tendance à être pleinement conscient dans la vie quotidienne, ainsi que les trois dimensions de la pleine conscience dans le contexte spécifique du golf, à savoir la lucidité (*awareness*), l'acceptation et la reconcentration sur les éléments clés de la performance. L'intervention, ou phase « B », a duré 6 semaines pour tous les participants. La rétention a été mesurée pendant 3 semaines.

La collecte des données a consisté à administrer sur ordinateur auprès des participants, de façon hebdomadaire, les versions françaises de la « Mindful Attention Awareness Scale – MAAS » (Jermann et al., 2009) et du « Mindfulness Inventory for Sport-Golf – MIS-Golf » (Thienot et al., 2014), pendant 14 semaines consécutives durant une période comprise entre les mois de novembre 2017 et février 2018.

Le programme de la semaine et les différents exercices de pleine conscience (fichiers audio) ont été mis à disposition des golfeurs. Une sensibilisation à la pleine conscience a été dispensée lors de rencontres individuelles hebdomadaires. La progression dans le programme PCP, les questions et les difficultés rencontrées y étaient abordées. Les golfeurs répondaient en ligne une fois par semaine à trois questions pour vérifier l'adhésion au programme et la compréhension des principes généraux de la pleine conscience et des exercices spécifiques récemment pratiqués. Lors d'un bilan avec chaque participant à la fin du programme, il leur a été demandé d'estimer la quantité de pratique qui a été effectuée pendant les 6 semaines, de faire part de leurs éventuels commentaires et suggestions et de remplir un questionnaire papier crayon développé à partir de la liste d'obstacles à la pratique de la pleine conscience conçue par Forbes, Gutierrez, et Johnson (2018). Les données obtenues seront traitées individuellement et aussi collectivement.

En ce qui concerne les analyses quantitatives envisagées, une inspection visuelle des graphiques sera effectuée, devant faire ressortir la présence ou l'absence de changements entre le niveau de base, la phase d'intervention et la phase de suivi. Des critères classiquement retenus seront appliqués : changement de moyenne, changement de niveau, changement de tendance et rapidité du changement. Le pourcentage de non recouvrements (*nonoverlapping data*) entre les lignes d'intervention et les lignes de base sera calculé.

Résultats et Discussion

Les résultats et leur interprétation seront présentés au congrès.

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The Psychology of Training: How to Use Mental Imagery Efficiently to Enhance Sports Performance

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Key words: Mental Imagery, Kinesthetic Imagery, Visual Imagery, Retention, Transfer.

Introduction

The effects of mental imagery on motor skills acquisition have been evidenced by several scientific studies (Feltz & Landers, 2007; Louis, Guillot, Maton, Doyon, & Collet, 2008). The virtue of mental imagery transpires through the equivalence between real and imagined motor actions (Radulescu, Adam, Fischer, & Pratt, 2010). Although the fruitful role of mental imagery in motor learning and performance enhancement was corroborated by the majority of the studies in the field of sport and exercise psychology, the manipulation of the imagery modalities was limited (Taktek, Zinsser, & St-John, 2008). Several studies dealt with kinesthetic and/or visual imagery. Whereas kinesthetic imagery (KI) allows the representation of muscular contractions as well as proprioceptive sensations inherent in the movement's execution, visual imagery (VI) permits the representation of space, size, amplitude, or movement forms. However, very few studies investigated the manipulation of temporal imagery (TI), despite the fact that it plays a crucial role in the acquisition of motor skills and performance. TI leads to the representation of rhythm, speed, and duration of the motor action (Louis et al., 2008). Based on the distinction emphasized initially by Mahoney

and Avener (1977) between internal and external perspectives of imagery, Hardy (1997) and also Hardy and Callow (1999) suggested that the internal visual imagery (IVI) is efficient for the acquisition and performance of open skills that depend heavily on perception for their successful execution. Indeed, this IVI allows the performer to mentally rehearse the precise spatial locations, environmental conditions, and timings at which key movements must be initiated. However, external visual imagery (EVI) has superior effects on the acquisition and performance of skills that depend heavily on form since it enables the performer to “see” the precise positions and movements that are required for successful performance. Moreover, Hardy (1997) emphasized that KI should not be confused with IVI, and that it should enhance performance more than each visual imagery perspective alone (IVI or EVI) because it helps the performer to match the timing and feel of movements to the employed visual images. Therefore, the main purposes of this study were (a) to compare the effects of mental imagery combined with physical practice and physical practice only on the retention and transfer of an open motor skill in future military officers; and (b) to determine the type of mental imagery modality (VI, KI, or TI) which has the most impact on the acquisition, retention and transfer of sport rifle marksmanship. As for secondary purpose of the present study, it was to determine the effects of movement imagery vividness on cadets’ sport rifle shooting.

Method

70 undergraduate students from the United States Military Academy (USMA), West Point, New York, participated in this study. They were aged between 18 and 22 years. Participants were divided into seven experimental groups. Each group was composed of one woman and nine men, distributed based on their score on the VMIQ, in such a way to maintain a homogeneous gender and imagery ability between the groups. The experimental task consisted of 12 rifle shooting stations located at the Marksmanship Range of the USMA. Participants used their dominant hand to shoot (live-fire shooting) rotating targets. The length of the targets’ exposure was automatically controlled by an IBM PC computer. Under the physical practice condition, participants were asked to hold the weapon and shoot rotating targets. Mental imagery conditions required the participants to close their eyes, hold the weapon as if they were going to shoot, listen to the imagery instructions, and imagine or feel the scene of the movement (VI, KI, or TI). Performance, as measured by the number of points, was recorded during four principal phases (pretest, treatment, posttest and transfer).

Results

The results demonstrated that the retention performance obtained by each group using mental imagery (VI, KI or TI) combined with physical practice was equivalent to that produced by the Physical Practice only Group (all $p > .05$). Moreover, the transfer performance obtained by KI and TI were equivalent but each was significantly better than that produced by each of the other groups (all $p < .01$).

Discussion

With respect to Feltz and Landers’ (2007) view point, these results could be explained by three principal functions inherent in the potential benefits of mental imagery for the acquisition of motor skills and performance: (a) the symbolic learning role, which refers to the formation of movement image or motor program in the central nervous system; (b) the psycho-neuromuscular role, which consists of the evocation of muscular contractions similar to those produced during real physical practice of shooting; and (c) the “psyching up” role which refers to the “psychological skills hypothesis,” notably the alert state raised by the non-localized muscular activity following the mental practice of the shooting task. As for the absence of relationship between the QVIM scores and motor performance, it suggests that this Questionnaire is not valid for use by the present study participants’ age category (Morris & Spittle, 2012; Taktek et al., 2008). Overall, the results of this study offer athletes, educators, coaches, and sport psychologists relevant strategies for systematically

developing intangible motor and mental skills. More precisely, the ultimate objective and challenge of the mental imagery training strategy consisted of helping participants to reach the cognitive psychological level where they achieved their full potential based on the manipulation of mental imagery modalities (VI, KI, and TI).

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Intervention Visant à Renforcer la Confiance en Soi Spécifique de 19 Jeunes Sportifs de Haut Niveau de 11 à 14 ans

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Mots clés: auto-efficacité, confiance en soi spécifique, jeunes sportifs de haut niveau.

Introduction

L'auto-efficacité ou la confiance en soi spécifique est la perception développée par un athlète de sa capacité à réussir (Bandura, 1997). Les compétences par la motivation peuvent être améliorées chez les enfants en répétant les tentatives de maîtrises réussies. Pour les aider à cultiver leur pratique sportive tout en améliorant leur confiance en soi, il faut prendre en compte en priorité leurs propres motivations (Cox, 2005). Redéfinir le succès en intégrant des résultats positifs autres que la victoire permettra à un plus grand nombre d'enfants de réussir. L'amélioration de l'habileté, la tentative proprement dite ou l'aspect ludique sont également des formes de succès (Cox, 2005). Le dialogue intérieur positif est une technique efficace pour renforcer la confiance en soi spécifique et, par conséquent, le comportement (Cox, 2005).

Méthodologie d'intervention

La demande d'intervention provenait soit des entraîneurs soit de leurs parents. 19 enfants de 11 à 14 ans participant à des Championnats suisses juniors ont participé à ce programme. Parmi ces enfants, il y avait 11 filles (patinage et gymnastique artistique, plongeon et

natation) et 8 garçons (tennis de table, football, hockey-sur-glace, voile, trampoline, natation, gymnastique artistique et natation) pratiquant différentes pratiques sportives. Le nombre moyen de séances individuelles a été de 12,6 (SD 6,41). Ces séances duraient 60 minutes. Pour évaluer la confiance en soi, j'ai utilisé pour les enfants de 11 à 13 ans environ, le questionnaire de Mastronardi-Johner et Piedfort-Marin (2001) qui propose 5 items en lien avec la confiance (questions 3, 4, 8, 9 et 15) auxquels ils peuvent répondre par "oui", "non" ou "parfois".

Puis, pour les enfants âgés de 13 à 14 ans, l' Ottawa mental Skills Assessment Tool (Durand-Bush, Salmela & Green-Demers, 2001) qui évalue 12 habilités mentales dont la confiance en soi testée à l'aide de 4 items (questions 2,12, 28 et 48).

Constats de début de suivi

Leur entraîneur ou leurs parents ont observé une différence de comportement entre les entraînements et les compétitions, c'est-à-dire un manque de reproduction d'actions réussies, un manque d'audace dans les moments clés ou une tendance à baisser les bras en cas de difficulté.

De leur côté, les enfants disaient: "J'aimerais oser plus car je sais le faire d'habitude". Ils veulent être capable de participer à des compétitions à enjeux pour se maintenir dans la catégorie, être sélectionné dans la catégorie supérieure ou l'équipe nationale.

Au test de Mastronardi-Johner et Piedfort-Marin, 10 enfants de 11 à 13 ans répondent "Oui" aux 5 items détectant une faible confiance. Pour les 9 autres enfants de 13 à 14 ans, la moyenne à l'OMSAT-3 est de 13.25.

Techniques d'accompagnement

1) Pour renforcer son sentiment d'auto-efficacité, l'enfant était invité à verbaliser et à élaborer une liste écrite de 10 points forts dans la discipline - techniques, physiques, tactiques, artistiques et sociaux. "J'ai de la hauteur dans mes sauts", "Je suis endurant", "J'ai une bonne vision du jeu". 2) Pour renforcer le sentiment de compétence par la mémorisation des tentatives de maîtrises réussies et apprendre à débriefier une compétition à froid en l'analysant sans les émotions, il verbalisait et établissait une liste écrite de 10 actions dont il avait été content (quel que soit le résultat de la compétition) ainsi que d'une ou deux choses qu'il devait améliorer. "J'ai fait 2 passes décisives", "J'ai gardé la tête droite". "Je peux améliorer la position du corps". 3) Afin de savoir encourager dans les moments compliqués, nous avons créé des phrases d'affirmation positives. "Je vais jusqu'au bout", "Je reste calme", "Je suis capable de la faire, je l'ai déjà fait". 4) Le renforcement positif était utilisé en soulignant les progrès observés: "Tu as été capable de garder le ballon, de dribbler et de faire un tir cadré. Alors qu'il y a deux mois, tu passais systématiquement le ballon à un coéquipier".

Résultats des interventions

Au test de Mastronardi-Johner et Piedfort-Marin 10 enfants de 11 à 13 ans ont répondu "non" ou "parfois" à la présence d'une faible confiance en soi spécifique. Ils vivaient mieux leurs compétitions et avaient moins peur de faire des erreurs. Les parents observaient moins de déception en cas d'échec et plus de combativité dans les moments difficiles. Pour les 9 autres enfants de 13 à 14 ans, une augmentation sensible de la confiance en soi est mesurée au test OMSAT-3, avec une moyenne de 2.01.

Au terme de leur suivi, 12 enfants n'ont pas exprimé le besoin de poursuivre le travail, ils se disaient désormais à l'aise dans leurs performances: ils ressentaient moins de stress pré-compétitif et se sont maintenus dans leur catégorie. 1 enfant (gymnastique artistique) a abandonné la discipline. 2 enfants (natation) sont revenus consolider le travail quelques mois plus tard à travers quelques séances supplémentaires.

Enfin, 6 enfants ont souhaité poursuivre le travail car ils étaient très satisfait des améliorations, ils ressentaient moins de stress en compétition et voulaient acquérir d'autres compétences mentales (football, tennis de table, natation et patinage artistique).

Perspectives

Avec les 6 enfants qui ont choisi de poursuivre le programme, les séances ont été orientées vers les développements des capacités de gestion du stress, comme la visualisation/relaxation, toujours dans le but d'augmenter la confiance en soi.

Ces enfants ont été satisfaits d'atteindre des sélections nationales ou de se maintenir dans leur catégorie.

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1. Dhouibi, M.A., Melki, H., Fadhloun, M., & Ben Rejeb, R. (Université de Tunis): Etude comparative de la vivacité de l'imagerie motrice entre les enfants physiquement actifs et sédentaires âgés de 6 à 7 ans
 2. Midvaine, V., Molinaro, C., Lejeune, L., & Molinaro, M. (Université de Caen): Analyse de l'influence de contraintes biomécaniques sur la rotation mentale
 3. Jacquet, L., & Nicaise, V. (Université de Lyon): French rugby and basketball coaches' role in facilitation positive development within high performance contexts : is positive development relevant?
 4. Caumeil, B., (Université de Bordeaux), Porro, B., (Université de Montpellier), Vincent, Y., & Décamps, G. (Université de Bordeaux): fear of re-injury or re-injury anxiety? A step for clarifying the definition: a literature review
 5. Chrétien, A., (CHI Fréjus) & Fournier, J. (Université Paris Nanterre): Stratégies cognitives et ultra endurance. A quoi pensent les coureurs d'ultra trail?
 6. Taktek, K. (Université de Laurentian): Psychology in the realm of sports injury and rehabilitation: mental imagery use by injured athletes
 7. Levillain, G., Harabi, S., Gaudino, M., & Nicolas, M. (Université de Bourgogne- Franche-Comté): Stratégies de coping en compétition sportive : approche comparative-longitudinale
-

Etude Comparative de la Vivacité de l'Imagerie Motrice entre les Enfants Physiquement Actifs et ceux Sédentaires Agés de 6 à 7 ans

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Mots clés : Imagerie Motrice – Enfant – Education Physique – Sport – MIQ-RS.

Introduction

Les effets bénéfiques de l'imagerie motrice sur l'apprentissage et la performance d'une habileté motrice apparaissent à présent bien établis dans la communauté scientifique (Feltz & Landers, 1983 ; Jones & Stuth, 1997 ; Murphy et al., 1990). Dans cette optique nous nous sommes orientés vers l'évaluation de la vivacité de l'imagerie motrice chez les enfants âgés de 6 à 7 ans, garçons et filles, pratiquants et non pratiquants d'une activité physique et sportive en présumant que l'enfant physiquement actif développe une image motrice plus vivace que sa paire sédentaire. Pour se faire et afin d'élargir le spectre de notre étude, nous nous sommes interrogés, si éventuellement : 1- Le SPORT aurait une influence sur le développement de la vivacité de l'image motrice? 2- Si oui, pourrait-il avoir plus d'influence que l'E.P.S? 3- Développer une image motrice vive dépendrait obligatoirement d'une pratique physique ou d'une maturité neuronale ? 4- Enfin le facteur GENRE pourrait-il jouer un rôle sur le degré de vivacité de l'image motrice ?

Méthode

Notre population d'étude est composée de 120 enfants, âgés de 6 à 7 ans, garçons et filles. Cette population est répartie en 3 groupes : 40 sportifs, 40 actifs (qui suivent uniquement les séances d'EPS au sein des écoles) et 40 dispensés. Tous les enfants ont répondu au questionnaire MIQ-RS. Ce dernier présente 14 items et est conçu pour évaluer la capacité d'imagerie motrice de type visuelle (7items) et celle de type kinesthésique (7items) (Loison et al., 2013).

Résultats

L'analyse de la variance ANOVA à 3 facteurs a donné les résultats suivants (tableau1).

(A) les enfants développent une imagerie visuelle plus importante que celle kinesthésique.

(B) les sportifs et, à un degré moindre, les actifs sont plus imageants que les sédentaires.

(C) les garçons sont plus imageants que les filles.

Tableau 1. Effets de la pratique sportive et du genre sur l'Imagerie motrice.

Groupe	Genre	Imagerie motrice (condition)		Cohen <i>d</i>	Effets principaux et interactions
		Visuelle	Kinesthésique		
Sportifs	Garçons	4,69±0,58**	3,38±0,64	2,24	<i>Effets principaux</i> Condition : $F=41,58^{**}$; $\eta^2=0,26$ Groupe: $F=4,77^{**}$; $\eta^2=0,07$ Genre: $F=4,71^*$; $\eta^2=0,04$
	Filles	4,23±0,70**	3,17±0,75	1,52	
	Total	4,46±0,68**	3,27±0,70	1,75	
Actifs	Garçons	3,90±0,60	3,96±0,65	0,11	<i>Interactions</i> Condition*Groupe: $F=10,52^{**}$; $\eta^2=0,15$ Condition*Genre: $F=0,15$; $\eta^2=0,001$ Groupe*Genre: $F=0,72$; $\eta^2=0,01$ Condition*Genre*Groupe: $F=2,40^*$; $\eta^2=0,04$
	Filles	4,15±0,80	3,58±0,91	0,72	
	Total	4,02±0,71	3,77±0,81	0,36	
Dispensés	Garçons	3,90±0,81	3,47±0,79	0,53	
	Filles	3,60±0,57	3,36±0,65	0,42	
	Total	3,75±0,70*	3,41±0,72	0,48	

Discussion

Nos résultats corroborent bien avec la littérature au niveau des points suivants :

Effet de la pratique physique et sportive : les travaux de Guldenpenning et al. (2011), Mumford & Hall (1985), Schack et al. (2014) stipulent que la pratique physique et le sport contribuent au développement de la capacité d'imagerie motrice.

Comparaison entre les deux types d'imagerie : les travaux de Julien et al. (2011), Solodkin et al. (2004), Stinear et al. (2006) ont montré que l'enfant évoque plus facilement l'imagerie motrice visuelle que l'imagerie motrice kinesthésique.

Genre et imagerie motrice : les travaux de De Caroli & Sagone (2007), Hoyek et al. (2009), Monsma et al. (2009) stipulent que les filles manifestent plus de difficultés de préserver l'organisation temporelle d'un mouvement.

Conclusion

Les retombées de notre étude s'inscrivent dans une perspective élargie d'éducation où des stratégies cognitives appropriées doivent être enseignées aux enfants afin de leur permettre d'encoder des savoirs. De ce fait, c'est aux pédagogues qu'incombe la charge de prendre en considération l'importance de cette technique d'imagerie et lui allouer un intérêt particulier tout le long du processus d'apprentissage.

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Analyse de l’Influence de Contraintes Biomécaniques sur la Rotation Mentale

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Mots-clés : Rotation Mentale, Transformation Egocentrique, Contrainte Biomécanique, Stratégies

Introduction

La rotation mentale qui consiste à faire pivoter mentalement une image est basée sur deux stratégies distinctes. Une stratégie externe, basée sur l’objet dans laquelle le temps de rotation augmente avec l’angle de la configuration proposée (Shepard & Metzler, 1971). L’autre stratégie, égocentrique, fait référence à l’incorporation du schéma corporel

(embodiment) dans la forme des objets (Amorim, Isableu, & Jarraya, 2006). Le participant se glisse dans l'image présentée en se référant à ses informations motrices et proprioceptives (Zacks & Michelon, 2005). Certaines tâches de rotation mentale comme le jugement de latéralité avec des représentations de corps humain favorisent le recours aux stratégies égocentriques (Amorim et al., 2006; Habacha, 2014) et l'implication des processus moteurs (Habacha, Moreau, Jarraya, Lejeune-Poutrain, & Molinaro, 2017). La simulation mentale des mouvements et leur exécution réelle partagent des propriétés temporelles et biomécaniques ainsi les temps de rotation de segments corporels (Sekiyama, 1982) sont plus longs dans des configurations biomécaniquement difficiles ou impossibles. Toutefois l'influence de contraintes biomécaniques imposées à une représentation de corps tout entier n'a été que peu testée. On s'attend à retrouver une augmentation du temps de réponse et une diminution de la précision au test de rotation mentale en fonction de l'augmentation de la contrainte biomécanique représentée.

Méthode

26 étudiants de l'Université de Caen, âgés en moyenne de 21,31 ans (ET : 0,97 ans) ont participé à cette étude. Aucun des participants ne présentait de problème moteur ou sensoriel.

Le test de rotation mentale consistait en la présentation pendant 400 ms chacune de trois silhouettes humaines dans des configurations biomécaniques plus ou moins difficiles à reproduire. La difficulté à réaliser les configurations a été définie en fonction des angles articulaires nécessaires à leur mise en place. La configuration la plus simple, proche de la position anatomique est appelée « Référence ». La configuration « Difficile » est intermédiaire avec seulement une inclinaison du tronc et un bras levé au-dessus de la tête. La configuration dite « Impossible » avec un grand écart en équilibre et les 2 mains au-dessus des épaules n'est réalisable que par des gymnastes expérimentés. Après un test de familiarisation, chacun des stimuli était présenté 3 fois dans 5 rotations différentes (0°, 45°, 90°, 135° et 180°) et dans les 2 latéralités. L'ordre de présentation des 90 configurations était contrebalancé entre les participants et les différentes orientations présentées aléatoirement. La tâche du participant était d'indiquer la main dans laquelle se trouvait un disque rouge en appuyant sur une touche identifiée.

Résultats

Des analyses de variances à mesures répétées (3 configurations x 2 latéralités x 5 angles) ont été réalisées sur le nombre moyen de bonnes réponses (précision) et le temps de réponse. Le test HSD de Tukey a été utilisé pour préciser les effets significatifs lorsque nécessaire.

Précision. L'ANOVA révèle un effet significatif de la configuration sur la précision ($F_{2, 50}=14,64$; $p<0.01$). La précision est significativement inférieure pour la configuration impossible (M: 0.6 +/- 0.08) que pour celle de référence (M: 0.78; +/- 0.09) et celle difficile (M: 0.72 +/- 0.09) ($p<0.01$) mais aucune différence significative n'est observée entre la configuration de référence et la configuration difficile. Un effet significatif de l'angle est également observé ($F_{4, 100}=18.36$; $p<0.01$). D'une manière générale, plus l'angle de rotation est important, plus la précision est faible. La précision observée pour chaque angle diffère significativement des autres mais pas de celle observée pour l'angle adjacent (sauf pour 135° et 180°).

Temps de réponse. L'ANOVA révèle un effet significatif de la configuration sur le temps ($F_{2, 50}=3.95$; $p<0.05$). Le temps est significativement plus long pour la configuration impossible (M: 960 +/- 125) que celle de référence (M: 888 +/- 123) ($p<0.05$). Un effet significatif de l'angle est également observé ($F_{4, 100}=7.57$; $p<0.01$) : les temps obtenus pour les angles 135 et 180° sont significativement plus longs que celui obtenu pour l'angle 0° ($p<0.05$), le temps obtenu pour 180° est également significativement plus long que celui obtenu à 135° ($p<0.01$) et tend à l'être par rapport à 90° ($p=0.057$). Enfin un effet d'interaction entre la configuration et l'angle est observé ($F_{8,200}=2,22$; $p<0.05$). Pour la

configuration de référence, le temps varie selon l'angle puisqu'il est significativement plus long à 135° et 180° qu'à 0° ($p < 0.05$) et plus long à 180° qu'à 90° ($p < 0.05$). De la même manière pour la configuration difficile, le temps est significativement plus long pour 90° ($p < 0.05$) que pour 0° et pour 180° que pour 0° et 45° ($p < 0.05$). Par contre, pour la configuration impossible, les temps ne diffèrent pas significativement quel que soit l'angle. Notons que pour aucune des 3 configurations (référence, difficile, impossible), les temps obtenus pour chacun des angles adjacents ne diffèrent pas significativement.

Discussion

L'objectif de ce travail est de déterminer quels sont les effets des contraintes biomécaniques représentées dans les stimuli sur les performances d'une rotation mentale impliquant une stratégie égocentrique. Il révèle un effet de la configuration sur le temps et la précision, principalement entre les configurations référence et impossible. Plus les contraintes biomécaniques représentées sont élevées, plus la réponse au test de rotation mentale est affectée. Ce qui confirme notre hypothèse et l'idée que les processus moteurs sont impliqués (Habacha et al., 2017; Krüger et al., 2014; Petit & Harris, 2005). Si l'on représente des positions impossibles à prendre pour l'organisme, le temps de réponse est plus long que sur une position de référence puisque les contraintes biomécaniques externes affectent la réponse au test de rotation mentale (Parsons, 1987) et qu'il en est de même pour celles représentées dans les stimuli (Petit & Harris, 2005). Il serait intéressant, en complément, de déterminer l'influence de contraintes biomécaniques internes en prenant en compte des positions douloureuses ou des restrictions de mobilité testées en l'absence de douleurs.

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French Rugby and Basketball Coaches' Role in Facilitation Positive Development within High Performance Contexts: Is Positive Development Relevant?

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Key words: Psychology, Sport, Positive Development, Coaching philosophy

Introduction

Sport clubs, physical education within school environments, recreational contexts and high performance coaching play relevant roles in fulfilling the developmental needs of a significant number of young athletes around the world who enroll in such activities. Positive Development (PD) has been used as a framework in which individual attributes are valued, constituting a strength-based approach; contextual conditions are created within intervention programs so that young people can strive, gain interpersonal competencies and reach adulthood well prepared for the relational challenges ahead (Vierimaa, Erickson, Côté, & Gilbert, 2012).

The first investigations have started to shift the focus to understanding sport agents' efforts toward PD and life skills promotion (Camiré, Trudel, & Forneris, 2014; Vella, Oades, & Crowe, 2011, 2013b). Coaches represent one of the agents within this system and can serve as enablers, decision-makers in promoting positive sport experiences, teachers of life skills and providers of significant developmental outcomes (Gould, Collins, Lauer, & Chung, 2007). Considering the relevance PD has in coaching, research has found that coaches have difficulties in articulating how PD intended outcomes are integrated in their practices, particularly when it comes to identifying the strategies used toward this objective (McCallister, Blinde, & Weiss, 2000). However, high performance coaching has not been investigated with the necessary depth. High performance coaching involves a focus on sports development and the need to win.

Gould et al. (2007) mentioned the importance of comprehending coaches' philosophies and practices, and expressed the need of integrating PD and objectives associated with players' performance and motivation to win. It is evident that there is a lack of information within high performance sport about the role played by these coaches (Chinkov & Holt, 2015). There is a need to explore how the transition into high performance sport settings occurs and how PD is prioritized and facilitated at this level (Santos et al., 2017). Finally, in France no studies have investigated the high performance coach's philosophy in regard with positive youth development.

The purpose of the current study is to identify the coaching philosophy of high performance rugby and basketball coaches, and to understand their perspectives about the importance of PD in high performance sport. Five questions guide the study: (a) How do coaches define their coaching philosophies? (b) Which PD outcomes are associated with high performance coaching? (c) What do coaches believe is the role of coach education programs in helping them facilitate PD? (d) How do coaches portray themselves as leaders? (e) What strategies do coaches use to foster PD in their players?

Method

14 male and female rugby and basketball French coaches involved in high performance sport who trained athletes (under 23 years old). The participants are basketball coaches (50%) and rugby coaches (50%), 20% are females. Due to the fact that women are under-represented among youth basketball and rugby coaches in high performance context in France, we couldn't recruit more female coaches. The participants are between 27 and 48 years old ($M=36,3$), and they all have previous coaching experience in youth sports settings, they have been coaching for 3 to 25 years for an average of 11,2 years. Coaches spend Minimum 10 hours with the athlete per week. All the participants have an experience as player, 90% played in a national championship.

Before scheduling the interviews, the participants signed a consent form explaining their rights to anonymity and confidentiality, and the context in which the data would be published, among other relevant information on the research conducted. The interviews were conducted by the first author; which used an audio device to record each interview that lasted on average 48 minutes, ranging from 42 to 60 minutes.

The interview guide was based on past research endeavors (Camiré et al., 2014), particularly on the work conducted by Vella, Oades and Crowe (2011) and the interview guide used in their study. The first part of the interview guide was designed with the intent of collecting coaches' demographic data. The core questions of the interview guide addressed the key aspects inherent to their coaching philosophy (How would you define your coaching philosophy?), perceived coaching outcomes (What outcomes do you desire for your team as a result of your coaching?), strategies used to pursue those outcomes (What strategies do you use to positive develop your players?), the differences in coaching philosophy from youth sports to high performance coaching (How did you see you role change from youth sports to high performance coaching?), the impact coach education has on learning how to foster PD (How did you learn to facilitate PD?) and coaches' perceptions about their role as leaders (How can you influence players as a leader?).

Data will be collected in December 2017 and end of January 2018.

The interviews are currently being transcribed verbatim and they are mean to be inserted in the software NVivo10. A thematic analysis (Silverman, 2000) is going to be done with the objective of transforming the raw data into meaning units. In addition a deductive analysis is going to be used to create themes.

Results and Discussion will be presented at the Congress.

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Fear of Re-Injury or Re-Injury Anxiety? A Step for Clarifying the Definition: a Literature Review

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Key words : Re-Injury Anxiety, Fear of Re-Injury, Literature Review

Introduction

Every year 9% of athletes experiment the impact of an injury in France and around 20% of them do not return to sport activities or reduce them, because they have a feeling of fear of reinjury (Arderm, Webster, Taylor & Feller, 2011; Podlog, Dimmock & Miller, 2011). Fear of re-injury is described as behavioural manifestations, such as hesitation, holding back, giving less than the maximal effort, being wary of injury provoking situations and strapping the injured body part when participating in sport (Johnston & Carroll, 1998). It should not be confused with re-injury anxiety, which is “a negatively toned emotional response, with cognitive (e.g., negative thoughts and images) and somatic symptoms (e.g., feeling nauseous and tense) that arise due to the possibility of an injury reoccurring after an initial injury of the same type and location” (Walker, Thatcher & Lavalley, 2010). A third term is even used in the Literature in reference to anxiety or fear: kinesophobia, which is defined as “an irrational and debilitating fear of physical movement resulting from a feeling of vulnerability to painful injury or reinjury” (Kori, Miller & Todd, 1990). However, Ross, Clifford and Louw (2017) have described an amalgam in the scientific literature with regard to these three notions. As a matter of fact, their psychological determinants are not very well-known. In order to clarify these definitions, we conducted a literature review that will also identify the determinants of each of these concepts.

Method

A review was conducted until January 2018, using the following databases: “Medline”, “PsycINFO”, “PsycARTICLES”, “Psychology and Behavioral Sciences Collection”, “SPORTDiscus” and “SocIndex”. We used the thesaurus (in PsycINFO) and MeSH (in Medline) to obtain the full terms of re-injury anxiety/fear and kinesophobia in order to be more precise. In order to be as precise as possible, we completed the search terms with synonymous words. The gray literature was taken into account (i.e., books). Finally, we inspected the bibliographies for each of the articles identified, which enabled us to widen the exhaustiveness of our research. We referred to a table that describes the levels of evidence of the studies (Wright, Swiontkowski, and Heckman, 2003). All articles were blindly assessed by three of the authors.

Results

A total of 2057 articles were identified and 19 articles met all the inclusion criteria. Twelves studies were cross-sectional, 6 were longitudinal, 1 was retrospective and 1 was a case-control study. Thereby 3543 participants were included in studies.

Seven studies investigated the influence of different variables on reinjury anxiety. The main determinants of reinjury anxiety are social support, self-confidence, depression and coping. Severity and nature of the injury are predictors of reinjury anxiety, but these results deserve to be confirmed through other studies using a better methodology.

Ten studies investigated the influence of different variables on fear of re-injury. The main determinants of fear of reinjury are severity of injury, time spent in higher risk activities, knee-related quality of life, perception of risk and pain. Gender, age, the timing of surgery and the level of sport may be associated with fear of re-injury, but these results need to be confirmed with better methodology.

The two remaining studies investigated the influence of medical variables on kinesophobia. The main determinants of kinesophobia are knee function over time and pain.

Discussion

Through this literature review, the majority of the variables studied, when it comes to reinjury anxiety, were psychological in nature, when compared to variables used to study fear of reinjury, defined by their medical nature. Previous research has failed to provide a

clear consensus between the definitions of reinjury anxiety and fear of reinjury. Our results make it easier to distinguish fear of re-injury from re-injury anxiety. Fear of re-injury is defined as the perceived possibility of sustaining an injury in a physical sense, with predictors like pain, severity of injury and knee function. Whereas, re-injury anxiety is the perception of consequences of injury that the athlete represents himself, linked to coping, seeking of social support and self-confidence. In light of these results, it would be interesting to investigate whether interventions aimed at reducing fear of reinjury and reinjury anxiety can be differentiated. From a clinical point of view, health professionals must take into account the distinction made by athletes of the terms fear of reinjury and reinjury anxiety in order to be the most judicious in the choice of their interventions.

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Stratégies Cognitives et Ultra Endurance A Quoi Pensent les Coureurs d'Ultra Trail ?

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Mots clés : Psychologie, Sport, Stratégies Cognitives, Attention, Ultra Trail

Introduction

Dans le cadre du développement des performances sportives et de l'optimisation des processus cognitifs des sportifs, nous avons mené une étude sur les processus attentionnels utilisés par les coureurs d'ultra endurance. A ce jour les études menées sur l'endurance ont essayé de comprendre quelles stratégies attentionnelles étaient utilisées par les coureurs et, de la même manière, lesquelles de ces stratégies étaient les plus efficaces en termes de performances sportives. Pour cela, Morgan et Pollock en 1977, se sont intéressés aux pensées des coureurs de marathons. Leur étude a mis en évidence que les coureurs expérimentés utilisaient une attention associative (centrée sur soi) contrairement aux coureurs novices qui, eux, utilisaient plutôt une attention dissociative (centrée sur l'extérieur). Par la suite, Tenenbaum (2001) a mis en avant un modèle de l'effort perçu. Selon celui-ci, l'évaluation d'un effort perçu « élevé » engendrerait l'utilisation de stratégies associatives alors qu'une évaluation d'un effort perçu « faible » engendrerait l'utilisation de stratégies dissociatives. Cependant, d'autres auteurs (Brick, Campbell, Metcalfe & Macintyre, 2016) ont démontré qu'une attention associative engendrait une augmentation de l'effort perçu donc une diminution des performances sportives, contrairement à l'attention dissociative qui permettrait de diminuer les sentiments d'effort perçu donc de gérer plus

efficacement les sensations douloureuses. Cependant, Antonini Philippe, Rochat, Vauthier et Hauw (2016) ont mené une étude sur les caractéristiques des abandons des ultra traileurs. Ils se sont intéressés aux différentes séquences d'expériences menant les coureurs à l'abandon. Et, il s'avère que l'attention dissociative semblerait plus présente au cours des ces différentes phases (tenter de surmonter le problème, connaître les autres coureurs, évaluer la situation). Enfin, Antonini Philippe et Seiler (2005) ont mené une étude sur les différentes stratégies attentionnelles utilisées dans l'endurance en fonction des genres. Les résultats de leur recherche avancent que les hommes utiliseraient plutôt une focalisation attentionnelle associative contrairement aux femmes, qui utiliseraient davantage une focalisation attentionnelle dissociative. De fait, notre recherche a une visée principalement exploratoire car centrée sur l'ultra trail (course d'endurance de plus de 43km, sur terrain vallonné et montagneux), discipline ayant fait l'objet de peu d'études dans le domaine des stratégies attentionnelles. Notre objectif est d'identifier les stratégies attentionnelles utilisées par les coureurs d'ultra trail sur des efforts de plus de 24 heures afin d'élaborer des contenus d'intervention en préparation mentale de manière à améliorer leurs performances sportives.

Méthode

Cette étude expérimentale portant sur les stratégies attentionnelles utilisées par les ultra traileurs a été menée sur six coureurs ayant participé au Grand Raid (Diagonale des Fous) de la Réunion (course de 164km pour 9000m de dénivelé positif).

Les six participants étaient des hommes âgés de 29 à 60 ans originaires du Sud de la France (Var, Alpes Maritimes, Bouches-du-Rhône) ayant répondu à un appel à participation après la course.

Trois d'entre eux ont abandonné, les trois autres ont terminé la course.

Nous avons mené avec chacun des participants un entretien semi-directif d'une heure, quelques semaines après la Diagonale des Fous. Au cours de ces entretiens, nous les avons invité à décrire en détail leur course : déroulement, pensées et stratégies mentales utilisées pour faire face aux difficultés rencontrées. Nous avons laissé les coureurs s'exprimer librement de manière à impacter le moins possible leur discours. Les relances portaient sur les comportements, pensées et sensations durant la course, de manière à obtenir des informations plus précises.

Les données de nos résultats ont alors été analysées selon la méthode d'analyse de contenu.

Résultats

Les analyses sont en cours. Cependant, les résultats préliminaires indiquent que :

- ❖ Les ultra traileurs finishers adoptent une focalisation attentionnelle associative ;
- ❖ Les ultra traileurs qui abandonnent, adoptent une attention dissociative.

Nous nous attendons à ce que les résultats définitifs de notre recherche, confirment ces résultats préliminaires.

Discussion

La discussion concernant cette recherche porte principalement sur :

- ❖ Les biais cognitifs (de mémoire) des participants dans la mesure où ils ont été interrogés quelques semaines après leur compétition et non immédiatement après celle-ci ;
- ❖ L'impact du discours interne positif et négatif sur les performances des coureurs ;
- ❖ L'impact des stratégies associatives et dissociatives en milieu naturel : Théorie de la restauration de l'attention de Kaplan et Berman (2010) ;
- ❖ Liens entre les caractéristiques de l'abandon (Antonini Philippe, Rochat, Vauthier & Hauw, 2016) et les pensées des finishers ;
- ❖ L'importance d'une focalisation attentionnelle orientée vers le moment présent pour améliorer les performances sportives et diminuer le nombre d'abandon dans cette

- discipline : intérêt de la mindfulness ;
- ❖ Le développement d'un modèle de focalisation attentionnelle efficace concernant la discipline de l'ultra trail de manière à essayer de diminuer le nombre d'abandon sur de telles courses (objectif des recherches futures).

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Psychology in the Realm of Sports Injury and Rehabilitation: Imagery Use by Injured Athletes

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Key words: Visual Imagery, Kinesthetic Imagery, Rehabilitation, Athletic Knee Injuries, Physiotherapy

Introduction

As a form of therapy, mental imagery has been employed successfully in a wide range of clinical interventions including the treatment of asthma, bulimia, chronic tension-type headaches and negative effects of chemotherapy. However, few articles explored the use of mental imagery in rehabilitation cases such as patients who have undergone bone or muscle surgery and those who suffered a physical injury (Driediger, Hall, & Callow, 2006). In their study on people with chronic hemiparetic stroke, Hwang, Jeon, Yi, Kwon, Cho et al. (2010) showed that locomotor imagery training improves gait performance. Durso-Cupal, (1998) reported that psychological injury intervention in the form of relaxation and guided imagery contributed to statistically significant better physical and psychological outcomes in the case of orthopedic patients recovering from major knee surgery. Therefore, the primary purpose of this study was to explore the effects of physical therapy combined with mental imagery on the enhancement of rehabilitation process during exercise and athletic knee injuries. As for the second purpose, it was to determine mental imagery (visual versus kinesthetic), which had the most impact on the development of rehabilitation strategies in patients experiencing exercise and athletic knee injuries. Although the benefits of mental imagery on the enhancement of cognitive and motor skills as well as accident rehabilitation was supported by the majority of researchers (Gueugneau, Mauvieux, Papaxanthis, 2009), the modalities on which this imagery was manipulated do not seem to be standardized (Fairweather & Sidaway, 1993). Several studies distinguished kinesthetic imagery (KI) from

visual imagery (VI). Whereas the first form of imagery allows the representation of the neurophysiological (muscular sensations, proprioception, etc.) and temporal (speed, duration, etc.) components, the second permits the evocation of the spatial (distance, size, etc.) components. Féry and Morizot (2000) found that KI is significantly more efficient than VI when the dominant parameter of the experimental task relies on the time or duration of movement. More particularly, Féry (2003) reported that KI is significantly superior to VI in the case of the reproduction of a task involving a time parameter or coordination of the two hands and that is completely the opposite with respect to form reproduction (drawing).

Method

30 students from the Laurentian University, Sudbury, Ontario, participated in this study. They were aged between 18 and 28 years and suffering an exercise and/or athletic knee injury. Among the various exercises used in the rehabilitation of exercise and athletic knee injuries, it was decided to take measurements of knee flexion. In fact, the participant was required to be lying supine on a treatment table with her/his injured knee straightened as far as pain will allow (initial position). From this position, she/he should flex her/his injured knee so that the heel gets close to her/his buttocks (135° maximum, final position, Magee, 1992, p. 382). The different exercise and athletic injuries affecting knee range of motion varied from simple quadriceps strains to complex knee surgeries. Participants were proportionately distributed across three experimental groups with homogenous injury types. Each group was composed of five woman and five men: (a) Specific Physical Practice Group (SPPG); (b) Physical Practice combined with Visual Mental Imagery Group (PPVMIG); and (c) Physical Practice combined with Kinesthetic Mental Imagery Group (PPKMIG). Participants of the SPPG were required to execute 15 sessions of 10 knee flexions each. Participants of PPVMIG or PPKMIG were asked to execute the same number of knee flexions. Nevertheless, they alternate after each trial between physical practice and (visual or kinesthetic) mental imagery. The measurements for each flexion of the exercised knee were taken as soon as the maximum amount of flexion during each intervention was achieved (Alveiro, 1997).

Results

The results demonstrated that performance obtained by PPVMIG and PPKMIG were equivalent ($p > .05$) but each was significantly better than that produced by SPPG (both $p < .01$).

Discussion

These results may be explained by the link between mental imagery and the hypotheses inherent in the psycho-neuromuscular, symbolic learning, psychological skill and/or Triple Code Model (Taktek & Hochman, 2004). Holmes and Collins (2001) encircled these results in what they termed as “behavioural evidence for functional equivalence” (p. 66) between mental imagery and physical practice. Hence, the results of this study offer injured athletes, coaches, sport psychologists and, more particularly, physiotherapists relevant strategies for thoroughly developing dynamic mental rehabilitation skills. On the whole, the significance of the present study’s mental imagery strategy is substantially apparent at four levels: first, reduction in costs, since mental imagery requires less physiotherapy sessions and leads to a faster recovery from athletic knee injuries; second, optimization of physical effort and decrease of pain, because mental imagery is mostly inherent in the mind’s ability to imagine or feel (simulation) and does not solicit any open movement; third, control of proper physiological autonomous nervous system variables as well as neurological responses; and fourth, development of different forms of cognitive functioning, which is indispensable for any strategic rehabilitation of athletic knee injuries.

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Stratégies de Coping en Compétition Sportive : Approche Comparative-Longitudinale

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Mots clés : Coping, Compétition Sportive, Stress, Approche Comparative-Longitudinale

Introduction

Le sportif de haut niveau est amené à vivre des épisodes de stress lors des compétitions sportives et un ensemble de stratégies permet alors une adaptation à ces épisodes, stratégies dites de coping (Lazarus & Folkman, 1984). Cependant peu d'études ont traité de l'évolution de ces stratégies à travers une approche longitudinale. Les stratégies de coping sont « l'ensemble des efforts cognitifs comportementaux, en perpétuel changement, destinés à maîtriser les demandes spécifiques internes ou externes excédant les ressources de la personne » (Lazarus & Folkman, 1984, p.141). Lazarus et Folkman (1984) ont proposé une classification dichotomique du coping avec le coping centré sur le problème et celui centré sur l'émotion. Une dichotomie qui évoluera en coping tâche (Gaudreau & Blondin, 2002) et coping évitement (Skinner et al., 2003) dès lors que les chercheurs ont remarqué que des stratégies pouvaient à la fois être centrées sur le problème et sur l'émotion, notamment dans le contexte sportif. Plusieurs études (notamment Bois, Sarrazin, Southon et Boiché, 2009) montrent ainsi que le coping tâche est positivement associé à la performance, contrairement au coping évitement. L'intensité et la perception d'efficacité sur la performance seraient donc plus importantes pour le coping tâche que pour le coping évitement (hypothèses 1). Par ailleurs, Campo et Louvet (2016) soutiennent que les résultats obtenus lors d'une

compétition sont les reflets de nombreux épisodes marquant la trame temporelle et phénoménologique de l'expérience vécue par l'athlète. Ainsi, si le résultat d'une performance est indissociable de l'évolution de son vécu, la manière dont ce vécu est régulé (*i.e.* le coping) serait elle-même objet d'évolution (hypothèses 2). Pour tester les hypothèses, nous avons examiné (1) l'utilisation des copings tâche et évitement par les athlètes en compétition sportive, (2) leur perception de l'efficacité de ces copings sur la performance (direction) et (3) l'évolution de ces deux stratégies sur une saison sportive.

Méthode

50 sportifs de haut niveau, tous de sexe masculin ($M_{\text{âge}} = 15,15$; $SD = 1,29$) ont participé à l'étude. Ils font partie d'équipes de sports collectifs (basketball ($n=10$), football ($n=14$), rugby ($n=26$)) aux Pôles espoirs du CREPS de Bourgogne (France). Ils ont un niveau international ($n=7$), national ($n=36$) et régional ($n=7$). Les stratégies de coping ont été mesurées à partir du Coping Function Questionnaire (Kowalski & Crocker, 2001). Ce questionnaire comporte 11 items : six pour le Coping Tâche et cinq pour le Coping Evitement. Les échelles étaient de type Likert à 6 points (1 : « pas du tout d'accord » ; 6 : « totalement d'accord »). Pour mesurer l'intensité du coping, les participants devaient répondre à partir de l'inducteur « durant ma compétition... ». Et pour mesurer la direction du coping à partir de « J'ai trouvé cette stratégie efficace ». Les athlètes ont répondu, sur toute la saison, à un questionnaire post-compétition environ tous les deux mois, soit cinq temps de mesure. Les compétitions étaient pour chaque sport des matchs entre pôles espoirs (niveau interrégional).

Résultats

Conformément aux objectifs, les résultats concernent quatre axes : (1) la comparaison entre l'intensité du coping tâche et coping évitement dans les cinq temps de mesure, (2) la comparaison de la direction des deux copings dans chaque temps, (3) l'évolution dans le temps de l'intensité du coping tâche et du coping évitement et (4) l'évolution dans le temps de la direction. Les résultats révèlent que le coping tâche est plus utilisé que le coping évitement au temps 1 ($t(50)=4,37$, $p<.001$), au temps 2 ($t(50)=5,12$, $p<.001$), au temps 3 : $Z = -4,63$, $p<.001$, au temps 4 : $Z = -4,093$, $p<.001$ et au temps 5 ($t(50)=5,375$, $p<.001$). En ce qui concerne la direction, les résultats montrent que le coping tâche est perçu comme plus efficace que le coping évitement au temps 1 de manière significative : $t(50)= 2,04$, $p<.05$; au temps 2 : $t(50)= 3,88$, $p<.001$; au temps 4 : $Z = -3,74$, $p<.001$; au temps 5 : $Z = -3,35$, $p<.01$. Pour l'évolution dans le temps de l'intensité des deux stratégies, les résultats révèlent un effet significatif au niveau du coping tâche selon le temps ($F(4,45) = 3,33$; $p < .01$; $R^2 = .05$), et du coping évitement ($F(4,45) = 2,07$; $p < .01$; $R^2 = .03$). Les analyses *post-hoc* (LSD) ont montré, pour le coping tâche, que $T1 > T3$, $T1 > T4$, $T2 > T3$, $T2 > T4$, $T4 < T5$ et, pour le coping évitement, que $T2 > T3$, $T4 < T5$. Pour la direction, les résultats n'indiquent de différence significative ni au niveau du coping tâche selon le temps ($F(4,45) = 0,69$; $p = .5$), ni du coping évitement ($F(4,45) = 0,33$; $p = .85$).

Discussion

Comme soutenu notamment par Doron et Gaudreau (2014), le coping tâche est généralement associé à des résultats positifs, ce qui expliquerait que son intensité soit supérieure au coping évitement, sur les cinq temps. Les résultats montrent une perception d'efficacité plus importante pour le coping tâche et que le coping évitement peut aussi être perçu comme efficace dans certaines situations en compétition. En effet, aucune stratégie n'est jugée totalement efficace ou inefficace mais sa valeur dépend du caractère adaptée de son utilisation à un événement ou une situation particulière (Campo & Louvet, 2016). Pour l'évolution du coping dans le temps, les résultats montrent une différence significative entre certains temps pour l'intensité, ce qui soutient l'importance de l'aspect dynamique du coping, résultat des transactions entre les caractéristiques d'une personne et des situations spécifiques (Lazarus, 1999). Ceci étant, le caractère collectif des disciplines concernées

pourrait avoir catalysé le vécu de sorte à le rendre plus ou moins polarisé. Ainsi, les résultats encouragent l'évolution des interventions visant à améliorer l'utilisation du coping par les athlètes.

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**14h15-15h
15h-15h45
Auditoire 1216**

**Atelier Pratique 10. Lecture Clinique et Compréhension de la
Dynamique du Sportif
Marc Lévêque (Université Orléans)**

Repères scientifiques

La méthode clinique en psychologie s'est construite dans le prolongement de l'investigation clinique, ou du bilan clinique, en médecine (Foucault, 1972). Tout d'abord consacrée à l'élaboration d'un diagnostic ou à la compréhension de troubles, elle s'est ensuite largement diffusée dans les procédures de conseil, d'orientation, d'accompagnement, notamment au service de sportifs.

Cette méthode n'a cessé de se diversifier dans ses applications et modalités ; elle est toujours la matrice des procédures dites « qualitatives » fréquemment utilisées pour comprendre la dynamique du sujet, son économie psychique, sa subjectivité dans la gestion de son projet et ses modalités d'implication. Le décodage des interactions relationnelles et des réactions émotionnelles, mais aussi du rapport à l'environnement bénéficient, notamment, des apports de cette méthode. Celle-ci se caractérise par différents principes :

- Investigation approfondie du cas individuel pour recueillir des informations non-numériques, riches, détaillées selon « le primat de l'intrinsèque », soit la prise en compte comme donnée première de la perspective subjective du sujet

- Recueil d'informations langagières et visuelles (observation, entretiens..) dont le regroupement et le recoupement permettent de « donner sens » au vécu individuel. Sans exclure le recours à des tests (comme les tests projectifs), la clinique s'exerce « à mains nues », dans le silence des théories. Dans cette optique, « chaque sujet mérite une théorie », élaboration d'une écoute et d'une observation strictement individualisée de son économie psychique

- La personne concernée est appréhendée dans son contexte et dans la situation totale qu'elle vit (à la différence d'une investigation standardisée et contingentée par une tâche réduite et normée, par exemple une investigation psychométrique). Son parcours de vie, sa biographie, ses antécédents familiaux, personnels participent à cette mise en perspective et à cette compréhension qui ouvre donc à des associations et causalités indirectes et spontanées

Des travaux d'orientation ethnographique, anthropologique, sociologique, historique s'apparentent à cette méthode (observation participante, histoire de vie...)

La méthode clinique participe à la généralisation de résultats dès lors que des cas similaires sont étudiés et accumulés, permettant de construire des cadres d'intelligibilité ou cadres de référence. Notamment cette méthode s'impose lorsque des sujets sont en très petit nombre, lorsqu'ils se situent dans une marge (exclusion, marginalité sociale...) ou vivent des situations atypiques, extrêmes, originales, peu connues. Citons par exemple dans la sphère sportive les adeptes de sports extrêmes, de prises de risque intempestives, les victimes d'addiction à l'effort, mais aussi plus fréquemment les sportifs en transition de carrière, les sportifs victimes de blessures graves et récidivantes...

Illustration : Cas n°1

Une jeune sportive d'un groupe national rejoint un stage de préparation. Dans le quotidien du stage, elle connaît plusieurs évanouissements dont le groupe s'émeut car le sport pratiqué, dans la famille des sports de pleine nature, l'expose à de grands risques si elle connaît cette perte de conscience.

Le médecin du suivi a mené des examens et ne trouve pas de support neurologique à ce problème. Le groupe gronde, soupçonnant l'encadrement d'incompétence et de négligence

A son arrivée le psychologue est assailli et « sommé » d'intervenir, les autres pistes ayant été évacuée. Dans la journée l'athlète est conviée à un entretien individuel. Très vite elle évoque la santé de son père, en fin de vie à domicile, qui sollicite de ses filles (plusieurs sœurs en haut-niveau) leur présence près de lui en dehors des stages obligatoires. Elle avoue que pour la première fois, entre deux stages où elle pouvait rejoindre sa famille, elle a préféré retrouver son petit ami qui effectuait lui-même, avec son groupe, un stage sur un autre site. Elle exprime sa culpabilité et son désarroi à cette évocation qu'elle n'avait encore jamais confiée. Elle n'a plus produit d'évanouissements par la suite

Cette intervention de type clinique (écoute individualisée, ouverte, compréhensive) prend en compte la sphère privée et ouvre à la compréhension des comportements sur le site sportif par l'évocation de facteurs personnels, liés à l'histoire de vie du sujet

Cas n°2 (résumé de Devenir champion, C. Quignon-Fleuret, psychologue clinicien à l'INSEP)

Une jeune nageuse de haut-niveau d'origine antillaise connaît des difficultés d'adaptation au quotidien du sport intensif et à la vie parisienne. Elle vit une relation très fusionnelle avec sa mère seule, qu'elle admire profondément et n'a pas connu son père. Cette admiration se fonde sur le « sacrifice » de sa mère, venue en métropole pour soutenir la carrière de sa fille, vivant un quotidien de labeur et de dévouement

Peu à peu elle se sent bridée en compétition, ne reproduit pas ses performances d'entraînement, se sent crispée, tendue. Elle s'inquiète pour ses études mises en veilleuse et exprime peu à peu, dans un suivi clinique, la crainte de vivre un quotidien sportif monotone, asservi, sans relief...et de « finir comme sa mère, en vieille fille déprimée ». Cette crainte à la fois de ne pas réussir, de vivre sans accomplissement un quotidien exigeant et austère se double de l'angoisse de décevoir sa mère qui se sacrifie pour elle, et de « finir comme elle » dans une monotonie déprimante. L'élaboration de ces angoisses, la prise de conscience de ces ressentis lui permettra de quitter le giron maternel et de se relancer de façon plus autonome dans sa carrière

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**14H15-
15H45
Salle 2212**

Symposium 9. Emotion and Emotional Intelligence in Sport Settings
(Chair: Martinent, G., Université de Lyon)

- Cece, V., Lienhart, N., Nicaise, V., Guillet-Descas, E., & Martinent, G. (Université de Lyon) : Le rôle de l'intelligence émotionnelle et de la régulation émotionnelle sur les trajectoires émotionnelles des jeunes athlètes en centres d'entraînement intensif
 - Martinent, G., (Université de Lyon), Gareau, A. (University of Ottawa), Lienhart, N., Nicaise, V., & Guillet-Descas, E. (Université de Lyon) : Emotion profiles and their motivational antecedents among adolescent athletes in intensive training settings
 - Doron, J., (INSEP) & Martinent, G. (Université de Lyon): Management of constantly changing challenges in highly demanding situation : considering the ongoing process relationships between appraisal, coping, emotion, and performance
 - Laborde, S., (Université de Cologne), Guillén, F., (University of Las Palmas de Gran Canaria) & Vaughan, R. (School of Psychological and Social Sciences) : Convergent validity analysis between the profile of emotional competences full-form and the trait emotional intelligence questionnaire full-form
 - Campo, M (Université de Bourgogne Franche-Comté), Piscione, J., (Fédération Française de Rugby), Laborde, S., (Université de Cologne), Louvet, B., (Université de Rouen), Martinent, G. (Université de Lyon) & Nicolas, M. (Université de Bourgogne Franche-Comté): Développement de l'intelligence émotionnelle en rugby : étude des effets d'un programme d'intervention adapté aux contraintes de préparation du haut niveau
-

Emotion and Emotional Intelligence in Sport Settings

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Abstract

Emotions are ubiquitous to the lives of individuals, especially in demanding settings such as sport. The crucible of competitive sport raises the tide of emotion for sport performers and forces them to regulate those emotions in order to use their emotions to aid sport performance rather than disrupt it. Although the abundant field of sport emotion literature mainly focused on negative emotions such as anxiety, a more recent line of research has examined the role of a wide variety of positive and negative emotions in sport settings (McCarthy, 2011). The first two communications of this symposium (Cece et al.; Martinent et al.) are grounded within this approach as they explored a wide variety of positive (harmony, vitality, love, and confidence) and negative emotions (sadness, anxiety and anger) among samples of adolescent athletes involving in intensive training settings. In particular, Cece et al. examined the multinomial heterogeneity in emotional experience across the competitive season in testing: (a) whether several subgroups of athletes representing distinct emotion trajectories (for each of the eight emotions) emerged from the latent class growth analyses; and (b) whether emotional regulation and emotional intelligence measured at the

beginning of the season predicted membership to the emotion trajectories. Otherwise, Martinent et al. examined if distinct profiles of emotions emerged across the three measurement points (beginning, middle and end of the season) and if self-determined motivation predicted memberships to these emotion profiles across the three time points. Rather than focusing on the competitive season, the communication of Doron and Martinent centered on the ongoing process-like nature of the relation between the key cognitive-motivational-relational theory constructs (i.e., appraisal, coping and emotions; Lazarus, 2000) and performance during competition. The implementation of an original process-oriented method allowed longitudinally tracking the relationships between cognitive appraisal, coping, emotions and performance within ecological achievement situations through two studies conducted with elite fencers. This innovative approach allowed exploring the micro-analytical aspects of transactional processes during sport performance. Finally, the last two communications (Laborde et al.; Campo et al.) specifically focused on the concept of emotional intelligence, which have recently gained considerable attention within the literature. This recent interest can be explained by the growing evidence that trait emotional intelligence impacts several aspects of sport performance (Laborde et al., 2016). Because the measurement of trait emotional intelligence is still highly debated in sport settings, the communication of Laborde et al. investigated the convergent validity between two measures of trait emotional intelligence: the Trait Emotional Intelligence Questionnaire and the Profile of Emotional Competences. Finally, because recent scientific evidence suggested it is possible to train and develop emotional intelligence, the communication of Campo et al. detailed the effects of an intensive training program to increase emotional intelligence among elite rugby union players.

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Le Rôle de l'Intelligence Emotionnelle et de la Régulation Emotionnelle sur les Trajectoires Emotionnelles des Jeunes Athlètes en Centres d'Entraînement Intensif

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Mots clés : Emotions ; Intelligence Emotionnelle ; Régulation Emotionnelle ; Jeunes Athlètes ; Classes Latentes de Courbes de Croissance.

Introduction

D'après la théorie relationnelle cognitive et motivationnelle (TRCM, Lazarus, 2000), une émotion est déclenchée par l'évaluation cognitive de la situation et engendrent des conséquences aussi bien positives que négatives notamment sur la performance. Pour autant, le processus émotionnel semble soumis à un ensemble de contraintes susceptibles de provoquer des changements d'émotions au cours de la saison compétitive. Or, les jeunes sportifs qui évoluent en centres d'entraînement intensif sont quotidiennement soumis à d'importantes contraintes biologiques, psychologiques et sociales susceptibles d'influencer leurs émotions (Martinent et al, 2018). De plus, l'intelligence émotionnelle (Lane & Wilson,

2011) et la régulation émotionnelle (Berking et al, 2008) étant des concepts en relation directe avec les émotions, ces variables mesurées en début de saison pourraient ainsi impacter les trajectoires émotionnelles des athlètes. Enfin, la plupart des recherches étudiant les émotions des sportifs se centrait sur un seul temps de mesure. Et lorsque plusieurs temps de mesures étaient recueillis, les différences inter-individuelles n'ont que rarement été investiguées. Dès lors, les buts de cette étude étaient : (a) d'identifier les différentes trajectoires émotionnelles des sportifs pour plusieurs émotions discrètes en utilisant une procédure longitudinale en trois temps de mesures (début, milieu et fin de saison sportive) et (b) d'explorer le rôle de l'intelligence émotionnelle et de la régulation émotionnelle sur l'appartenance aux trajectoires émotionnelles.

Méthode

Un échantillon de 736 athlètes issus de différents sports individuels (e.g., natation, athlétisme, judo, gymnastique) et collectifs (e.g., basket, football, rugby, handball) et évoluant en centre d'entraînement intensif ont participé à cette étude. Les athlètes ont complété la version française du Brief Emotional Intelligence Scale et de l'Emotional Regulation Questionnaire lors du 1^{er} temps de mesure ainsi que leur émotions (Multiple Emotions Measure; Martinent et al, 2018) aux trois temps de mesure. Des analyses de classes latentes de courbe de croissances (ACLCC) ont été effectuées afin d'identifier les différentes trajectoires de chacune des huit émotions (anxiété, amour, confiance, colère, harmonie, joie, tristesse et vitalité). Les scores d'intelligence émotionnelle et de régulation émotionnelle ont été ajoutés aux modèles comme covariants pour examiner l'influence de ces variables sur l'appartenance aux trajectoires émotionnelles au cours de la saison sportive.

Résultats

Les résultats des ACLCC ont révélé quatre trajectoires pour l'amour (haut et stable, très haut et instable, haut et instable, modérée et stable) et la confiance (haut et décroissante, haut et croissante, modérée et croissante, faible et croissante), trois trajectoires pour la colère (haute et décroissante modérée et stable, faible et instable), l'harmonie (haut et stable, modérée et stable, faible et stable), la joie (très haute et décroissante, haute et stable, modérée et croissante), la tristesse (haute et instable, faible et instable, faible et stable) et la vitalité (haute et stable, modérée et décroissante, basse et croissante), et deux trajectoires pour l'anxiété (modérée et instable, faible et stable). De plus, les scores d'intelligence émotionnelle et de régulation émotionnelle à T1 impactaient significativement l'appartenance aux trajectoires pour les huit émotions étudiées. Plus précisément, les athlètes reportant un score élevé d'intelligence émotionnelle en début de saison ont une probabilité plus importante d'appartenir à : (a) la trajectoire très haute et instable de la joie en comparaison des trajectoires haute et stable et haute et instable ; (b) la trajectoire haute et croissante de la confiance en comparaison des trajectoires haute et décroissante et faible et décroissante ; (c) la trajectoire haute et stable de l'harmonie en comparaison de la trajectoire modérée et stable ; (d) la trajectoire très haute et décroissante de la joie en comparaison des trajectoires haute et stable et modérée et croissante ; (e) la trajectoire haute et stable de la vitalité en comparaison de la trajectoire faible et croissante. Les athlètes reportant un score élevé de ré-évaluation de la situation ont une probabilité plus importante d'appartenir à : (a) la trajectoire faible et instable de la colère en comparaison de la trajectoire haute et décroissante ; (b) la trajectoire haute et croissante de la confiance en comparaison de la trajectoire faible et croissante ; (c) la trajectoire haute et stable de l'harmonie en comparaison des trajectoires modérée et stable et faible et stable ; (d) la trajectoire très haute et décroissante de la joie en comparaison de la trajectoire modérée et croissante ; (e) des trajectoires faible et stable et faible et instable de la tristesse en comparaison de la trajectoire haute et instable ; (f) à la trajectoire haute et stable de la vitalité en comparaison des trajectoires faible et croissante et modéré et décroissante. Les athlètes reportant un score élevé de suppression expressive ont une probabilité plus importante d'appartenir : (a) aux

trajectoires modérée et croissante et haute et stable de la joie en comparaison de la trajectoire très haute et décroissante ; (b) à la trajectoire haute et instable de la tristesse en comparaison de la trajectoire basse et stable ; (c) à la trajectoire modérée et décroissante de la vitalité en comparaison de la trajectoire haute et stable.

Discussion

Les résultats des ACLCC témoignent d'une stabilité émotionnelle pour certains athlètes mais également de fluctuations émotionnelles pour d'autres athlètes au regard des trajectoires émotionnelles identifiées auprès des jeunes sportifs au cours de la saison sportive. La présence de différentes trajectoires pour les huit émotions symbolise l'hétérogénéité des émotions chez cette population. On note également que certaines trajectoires peuvent être conceptualisées comme théoriquement facilitantes (par exemple une trajectoire présentant des scores de vitalité haut et stable) tandis que d'autres apparaissent davantage handicapantes (par exemple une trajectoire présentant des scores de colère élevés et stables) dans le cadre du quotidien de jeunes sportif. En outre, en accord avec la TRCM, l'intelligence émotionnelle (Lane & Williams, 2011) et la régulation émotionnelle (Berking et al, 2008) en début de saison semblent conditionner l'appartenance aux trajectoires émotionnelles à l'échelle de la saison sportive. En accord avec la TRCM, les trajectoires théoriquement facilitantes sont davantage prédites par des scores élevés d'intelligence émotionnelle et de ré-évaluation de la situation (régulation émotionnelle conceptualisée comme adaptée) et les trajectoires théoriquement non-adaptatives sont davantage prédites par des scores élevés de la suppression expressive (régulation émotionnelle conceptualisée comme inadaptée). Il est également à noter que bien que les concepts d'intelligence émotionnelle et de régulation émotionnelle se recouvrent partiellement d'un point de vue théorique, les résultats soulignent un effet significatif simultané de ces 2 construits sur l'appartenance aux trajectoires émotionnelles. En conclusion, cette étude apporte de nouvelles connaissances concernant le suivi longitudinal des émotions des jeunes athlètes de haut niveau et met en lumière l'influence de l'intelligence émotionnelle et de la régulation émotionnelle sur les trajectoires de plusieurs émotions discrètes à l'échelle de la saison sportive. Les futures recherches pourront compléter ces résultats par une mesure directe des conséquences (burnout, performance) ainsi qu'un temps d'analyse supérieur par rapport à la carrière d'un sportif (par exemple sur plusieurs saisons).

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Emotion Profiles and Their Motivational Antecedents Among Adolescent Athletes in Intensive Training Settings

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Introduction

A notable challenge for researchers has been to capture the multivariate nature of emotions. A person-centered approach could provide insights on the different combinations of emotions experienced by athletes (i.e., emotion profiles). As athletes involved in intensive training centers are constantly evaluated and involved in numerous competitions within their training center (Martinent et al., 2015), identifying athletes' emotion profiles may lead to the implementation of interventions that are more effective given that practitioners could be able to target athletes who could benefit the most from changing their pattern of emotions and could adapt their intervention according to the needs of specific groups of athletes. In addition to identifying naturally-occurring emotion profiles experienced by adolescent athletes in intensive training settings, it could be useful to explore the motivational determinants of those emotion profiles. Consistent with contemporary research in achievement settings, theoretical tenets of self-determination theory (SDT; Deci & Ryan, 2000) provide useful heuristics for investigating such context. Thus, the purposes of this study were to: (a) identify emotion profiles of athletes involved in an intensive training setting across three measurement points (beginning, middle and end of the season); (b) explore the stability and change of those emotion profiles over the season; and (c) examine if self-determined motivation predicts membership to the emotion profiles.

Method

A total of 343 (127 girls) high-level adolescent athletes ($M_{age} = 16.07$; $SD_{age} = 1.94$) involved in 29 intensive training centers (including several individual and team sports) voluntarily participated in this study. A three-wave design was used. Participants completed: (a) a multiple emotion measure (sadness, anxiety, anger, happiness, confidence, love, harmony and vitality) based on the Sport Emotion Questionnaire (Jones et al., 2005) and Emotion Recovery Questionnaire (Lundqvist & Kenttä, 2010) thrice (beginning, middle and end of the season); and (b) the Behavioral Regulation in Sport Questionnaire at Time 1 (Lonsdale et al., 2008). We used a Latent Profile Transition Analysis approach (Martinent & Nicolas, 2016) to explore emotion profiles across the three time points. In particular, within the final LPTA model, T1 autonomous and controlled motivation were incorporated in the LPTA model as predictors of emotion profiles to examine if key SDT variables could predict T1, T2 and T3 emotion profile membership.

Results

LPTA results revealed four emotion profiles: (1) High positive emotions (PE) and low negative emotions (NE); (2) moderately high PE and low NE; (3) moderately high PE and NE; and (4) moderate PE and NE. Athletes from the T1 (and T2) *high PE and low NE profile* were more likely to stay in this emotion profile at T2 (and T3) even if some athletes transitioned to the T2 *moderately high PE and low NE profile*. Athletes from the T1 (and T2) *moderately high PE and low NE profile* were more likely to stay in this emotion profile at T2 (and T3) even if some athletes transitioned to the T2 *moderate PE and NE profile*. Athletes from the T1 *moderately high PE and NE profile* either transitioned to the T2 *moderate PE and NE profile*, the *moderately high PE and NE profile*, or *moderately high PE and low NE profile*. Individuals from the T2 *moderately high PE and NE profile* were more likely to transition to the T3 *moderate PE and NE profile* even if some athletes transitioned to the T3 *moderately high PE and low NE profile*. Finally, athletes from the T2 *moderately high PE and NE profile* were more likely to stay in this emotion profile at T3 even if some athletes transitioned to the T3 *moderately high PE and NE profile*. Membership of emotion profiles were significantly predicted by autonomous and controlled

motivation assessed at baseline (beginning of the season). In particular, athletes who reported higher scores of T1 autonomous motivation were significantly: (a) less likely to be in the T1 *moderately high PE and NE* and T1 *moderately high PE and low NE* profiles compared to the T1 *high PE and low NE* profile; and (b) more likely to be in the T3 *high PE and low NE* profile compared to the T3 *moderately high PE and low NE* profile. Moreover, athletes who reported higher scores of controlled motivation at T1 were: (a) significantly less likely to be in the T1 *moderately high PE and low NE* profile compared to the T1 *high PE and low NE* profile; and (b) significantly more likely to be in the T3 *high PE and low NE* profile compared to the T3 *moderately high PE and NE* profile.

Discussion

Results of the present study contribute to the advancement of scientific knowledge on emotion in four ways. Firstly, the present study focused on the emotions experienced by adolescent athletes in their everyday life rather than in relation to a specific competition (as most of the existing sport and exercise literature). As adolescent athletes are confronted with a wide range of daily demands (physical, social psychological), the individual differences in emotion experience (emotion profiles) certainly has an impact on their engagement, achievement, and overall well-being (Lyubomirsky et al., 2005). Secondly, LPTA provided a parsimonious and meaningful way to summarize the wide variety of emotions experienced by athletes rather than independently considering each emotion in a regression or structural equation modelling model. Thirdly, not only the LPTA approach has offered a holistic representation of the emotion construct but has also highlighted significant relationships with key motivational predictors (autonomous and controlled motivation). While numerous studies have examined the motivation-emotion relationship (Vallerand & Rousseau, 2001), most have taken a variable-centered approach. The motivation-emotion relationship is a complex one and the LPTA approach has added crucial information to that puzzle. Fourthly, results of the present study have demonstrated the advantages of using LPTA to explore the stability and change of emotion profiles over time.

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Management of Constantly Changing Challenges in Highly Demanding Situation: Considering the Ongoing Process Relationships between Appraisal, Coping, Emotion, and Performance

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Key words: Cognitive Appraisal, Coping, Emotion, Performance, Random Coefficient Regression Model, Elite Fencers.

Introduction

Elite sports are considered extreme situations that place high demands on people's behavior. Successful adaptation in highly demanding sport requires effective cognitive, behavioral, and emotional self-regulation skills (Crocker, Tamminen, & Gaudreau, 2015). Coping is one of the critical process of self-regulation (Lazarus, 1999, 2000). Coping strategies involve the capacity to modulate thoughts, affects, and behaviors over time and in changing environments. A lot of the research on stress, coping and emotion is grounded in Lazarus's cognitive-motivational-relational theory of emotion (CMRT; Lazarus, 1999, 2000). Consistent with Lazarus's CMRT, cognitive appraisal, coping, and emotion are intertwined in a dynamic relationship that allows individuals to continuously adjust to ever-changing challenges. However, at the present time, little is known about the ongoing process-like nature of the relation between the key CMRT constructs and performance within achievement situations. Sport is an ideal setting that offers multiple opportunities to study patterns of cognitive appraisal, coping, emotion and performance as the event unfolds. Especially, sport competitions allow researchers to monitor cognitive appraisal, coping, and emotion at multiple points across performance episodes in order to provide a finer grained portrait of the adaptation processes (Doron & Gaudreau, 2014; Doron, & Martinent, 2016, 2017). Based on two studies conducted with elite fencers, the present research aims to longitudinally track the relationships between cognitive appraisal, coping, emotion and performance within ecological achievement situations. More specifically, the aim of these studies is to ascertain whether the relationship between appraisal and objective performance is mediated by emotion and/or coping.

Method

Study 1. A process-oriented sequential approach was used with 16 elite women saber fencers ($M = 22.88 \pm 3.30$ years) during a simulated competition. The data were obtained using multiple assessments of objective performance, and perceived control, negative emotions, and emotion- and problem-focused coping rated on a 100 mm visual analogue scale immediately after each point during the entire match.

Study 2. A new sample of nine women elite saber fencers ($M = 23.67 \pm 3.16$ years) participated in this study. Using video recall method, the data were obtained using multiple assessments of objective performance, threat and challenge appraisals, problem- and emotion-focused coping, and positive and negative emotions, rated on a six-point Likert scale ranging from 0 (not at all) to 5 (very much) immediately after each point using the Dartfish© tagging panel. In total, 25 matches were analyzed (13 won, 12 lost; between 1 and 5 matches for each athlete).

Results

To investigate the relationships between the key CMRT constructs and performance within achievement situations, a Random Coefficient Regression Model (RCRM) approach was used in the both studies (Doron & Martinent, 2017).

Study 1. RCRM results showed that the relationship between perceived control and objective performance decreased from .16 to .11 ($p < .001$) when negative emotions ($\beta = -.08$, $p < .001$), problem- ($\beta = .03$, $p < .05$) and emotion-focused coping ($\beta = .00$, $p > .10$) were also entered as a predictor of objective performance. These results suggested that negative emotions (Sobel test = 6.47, $p < .001$) and problem-focused coping (Sobel test = 2.93, $p = .003$) mediate the relationship between perceived control and objective performance.

Study 2. RCRM results showed that: (a) the relationship between threat appraisal and objective performance decreased from -.13 ($p < .001$) to .03 ($p < .10$); and (b) the relationship between challenge appraisal and objective performance decreased from .13 ($p < .001$) to .01 ($p > .10$). These results provide evidence that negative and positive emotions mediate the relationships between threat and objective performance (Sobel test = -3.86 and -4.13, $p < .001$) and between challenge and objective performance (Sobel test = 2.61 and 3.63, $p < .01$ and .001).

Discussion

Grounded in Lazarus' (1999, 2000) CMRT of emotion, the current research sets out to gain insights and understanding on how the constructs central to the CMRT of emotion and objective performance are related over the course of a fencing match. This research provided empirical support of the ongoing process-like nature of the relation between the key CMRT constructs and objective performance within ecological achievement situations. Through two studies conducted with elite fencers (1: simulated competition during an elite training session; 2: naturalistic international competitive matches), the results of the RCRMs showed that the relationship between cognitive appraisal and objective performance was mediated by coping and emotion. Specifically, our findings indicated that the ways these constructs are interrelated influence objective performance within competitive settings. Thus, they provided a deeper understanding of the overall sequence of the constructs central to the CMRT of emotion and their links with objective performance over the course of fencing match (Doron & Gaudreau, 2014; Doron, & Martinent, 2016, 2017). Through the implementation of original process-oriented methods and statistical approach, this research provided additional support for Lazarus's contention that the key constructs of the CMRT of emotion are intertwined in a dynamic relationship and form a conceptual unit within competitive sport settings.

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Convergent Validity Analysis between the Profile of Emotional Competences full-form and the Trait Emotional Intelligence Questionnaire full-form

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Key words: Emotional Intelligence, Emotional Competences, Questionnaire Validation

Introduction

There is growing evidence that trait emotional intelligence impacts several aspects of sport performance (Laborde, Dosseville, & Allen, 2016). In addition to be related to psychological processes such as stress appraisals and coping mechanisms at the subjective level (Laborde, Dosseville, Guillén, & Chávez, 2014; Laborde, You, Dosseville, & Salinas, 2012), trait emotional intelligence has been also related to physiological and hormonal variables in sports via cardiac vagal activity (Laborde, Brüll, Weber, & Anders, 2011; Laborde, Lautenbach, & Allen, 2015) and cortisol (Laborde, Lautenbach, Allen, Herbert, & Achtzehn, 2014). Although most of the research within sports has been realized with the Trait Emotional Intelligence Questionnaire (Petrides, 2009), the measurement of trait emotional intelligence is still highly debated (Laborde & Allen, 2016). A recent instrument has been developed to fit theory development regarding trait emotional intelligence, the Profile of Emotional Competences (Brasseur, Grégoire, Bourdu, & Mikolajczak, 2013). In order to analyse comparatively both instruments, the aim of this study was to investigate the convergent validity between the PEC full-form and the TEIQue full-form. Examining the convergent validity will identify the similarities and the unique aspects of each questionnaire. Our hypotheses were based on relationships displaying large effect sizes according to Cohen's (1988) guidelines ($r > .50$).

Method

A sample of 1026 participants were involved in this study (Mage = 21.35 years old, age range = 18-30). Participants were recruited on a university campus. They completed both the PEC and the TEIQue in a classroom setting, in a counterbalanced order. Data collection lasted between 30 and 45 minutes.

Results

Bivariate Pearson correlations were run at two levels: first between the 10 PEC subscales and the 15 TEIQue subscales, and second between the PEC dimensions (i.e., intrapersonal and interpersonal emotional dispositions) and the TEIQue factors (i.e., self-control, well-being, emotionality, sociability). Results indicated large overlaps between the two questionnaires, however two main differences emerged: first, the PEC allows to capture precisely the emotional dispositions at the intrapersonal and interpersonal levels, while the TEIQue mixes both levels; second, the competence "using emotions", both for one's own emotions and for others' emotions, is not comprehensively reflected in the TEIQue.

Discussion

Findings illustrate some advantages of the PEC over the TEIQue. The fact that intrapersonal and interpersonal levels can be clearly differentiated with the PEC enables to investigate precisely their contribution to performance in both individual and team sports, while with the TEIQue the information related to one's own emotions and to others' emotions is mixed within the subscales. Moreover, the dimension "using emotions" is critical for athletes, given it reflects the ability to integrate emotions as a tool to achieve their goals, which would be an additional argument to use the PEC over the TEIQue in sports settings. Future research should investigate comparatively the criterion validity of both questionnaires with specific outcome variables, at the subjective (e.g., self-reported performance indicators) and objective (e.g., physiological measurement, objective performance indicators) levels, in order to find out which questionnaire displays the highest predictive ability for phenomena related to sport and exercise psychology.

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Développement de l'Intelligence Emotionnelle en Rugby : Etude des Effets d'un Programme d'Intervention Adapté aux Contraintes de Préparation du Haut Niveau

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Introduction

Les situations compétitives de haut niveau, dont la nature émotigène croît inexorablement, renvoie inévitablement à une interrogation sur l'optimisation de la dimension mentale des acteurs de la performance en rugby (Campo & Djaït, 2016). De nature intrinsèquement sociale, la pratique du rugby fait naître chez les joueurs de nombreuses expériences émotionnelles vectorisées par une conjonction remarquable de processus intra-individuels et interpersonnels. Si les théories actuelles soutiennent le rôle adaptatif des émotions, il est assez largement accepté que la capacité des athlètes à réguler les émotions est cruciale dans une recherche de performance experte. Dans ce sens, l'intelligence émotionnelle est reconnue pour ses nombreux bienfaits sur les performances sportives et professionnelles (Laborde, Dosseville, & Allen, 2015). Des travaux récents ont notamment montré qu'il était possible d'améliorer l'intelligence émotionnelle au travers d'interventions spécifiques (pour revue, voir Laborde et al., 2015). Si les différents programmes d'intervention montrent la possibilité de développer l'intelligence émotionnelle, les études suggèrent également certaines limites, notamment sur le plan de l'applicabilité réaliste au regard des contraintes qu'imposent la pratique du haut niveau. Particulièrement, le travail de Campo, Laborde et Mosley (2016) a mis en avant les limites liées à la lourdeur des protocoles actuels au détriment de la fréquence des sessions d'intervention avec les athlètes. Le présent projet s'inscrit ainsi dans la continuité de ces travaux de recherche et cherche à tester l'efficacité d'un programme spécifiquement élaboré sur la base des contraintes imposées par le manager au regard de l'organisation de sa période de préparation à une échéance internationale. Plus particulièrement, nous souhaitons (1) tester les effets d'un programme intensif en sessions collectives sur les compétences émotionnelles des joueurs, et (2) explorer la possibilité d'implémenter ce programme par un membre du staff formé au préalable. Se basant sur l'influence de l'entraîneur sur les variables psychologiques des athlètes, nous posons l'hypothèse qu'en comparaison au protocole implémenté par un expert en psychologie du sport, membre du staff et neutre dans le processus de sélection, les effets bénéfiques sur les compétences émotionnelles des joueurs de rugby seront (1) plus importants lorsque l'intervention sera menée par un membre du staff non expert mais acteur du processus de sélection et (2) moins importants lorsque le protocole sera mené par un membre du staff non expert et neutre dans le processus de sélection.

Méthode

L'étude porte sur 96 participants âgé de 17 et 18 ans et faisant partie du pool de sélection de l'équipe de France de rugby des moins de 18 ans. Ces joueurs ont été aléatoirement répartis au sein de quatre groupe : un groupe contrôle (GC) ; un groupe expérimental suivant le protocole implémenté par un expert en psychologie du sport et en rugby (G1) ; un groupe expérimental suivant le protocole implémenté par un membre du staff technique de l'équipe de France formé par le porteur du projet (G2) ; un groupe expérimental suivant le protocole implémenté par un membre du staff médical de l'équipe de France formé par le porteur du projet (G3). Ces quatre groupes expérimentaux permettent ainsi de mesurer l'effet de l'intervention (G1, G2, G3, vs. GC) et d'identifier l'influence du statut sur l'effet potentiel de cette intervention (G1 vs G2 vs G3). L'enjeu de ce présent travail était de s'adapter aux contraintes imposées par le manager en termes de disponibilité des joueurs et de planification de la période de préparation. Dans le contexte de la présente étude, le manager a laissé disponible 3 créneaux d'une heure d'entraînement sur les trois journées précédant la compétition. Le protocole a été élaboré sur la base des travaux réalisés par Campo et al. (2016) et adapté afin de permettre leur utilisation sur les contraintes imposées par cette

période de préparation. L'intervention a consisté en une séance d'une heure par jour sur trois jours consécutifs. Afin de contrôler l'effet de cette intervention, le trait d'intelligence émotionnelle a été évalué au travers du TEI-QUE (Petrides, 2009) et du PEC (Brasseur, Grégoire, Bourdu, & Mikolajczak, 2012).

Résultats

L'évolution des dimensions mesurées par les deux questionnaires aux deux temps de mesures a été modélisée au travers de modèles Linéaires à Effets Mixtes avec les sujets en effets aléatoires, et le temps et la condition comme effets fixes. En comparaison au groupe contrôle, les analyses montrent différents effets d'interaction significatifs et tendanciels du Temps*Condition selon les conditions comparées au GC. Les analyses montrent une augmentation des scores d'émotionnalité ($p=.09$), de perception émotionnelle ($p=.06$) de régulation émotionnelle ($p=.06$) et d'impulsivité basse ($p<.01$) entre les deux temps de mesures pour le G1. Une augmentation des scores d'émotionnalité ($p=.07$), d'empathie ($p>.05$) et d'expression émotionnelle ($p<.001$) ont été observées chez les sujets du G2, tandis qu'une amélioration des scores d'assertivité ($p=.09$), de perception émotionnelle ($p=.08$), de compréhension émotionnelle ($p=.09$) et d'utilisation des émotions ($p<.05$) ont été observées chez les sujets du G3.

Discussion

Les compétences émotionnelles des athlètes sont au cœur de leurs performances, ces dernières influençant massivement la mobilisation de leurs habiletés. Dans ce sens, cette étude visait à élaborer un protocole d'intervention destiné à améliorer les compétences émotionnelles de joueurs de rugby et respectant les contraintes imposées par les sélectionneurs d'équipes nationales au regard des modalités de préparation des échéances internationales. Relever un tel challenge nous a contraint à devoir concevoir un programme court en sessions collectives. Cette contrainte forte, ainsi que les mesures dispositionnelles utilisées viennent ainsi expliquer la variation non significative du trait d'intelligence émotionnelle dans sa globalité. Néanmoins, il est important de noter que l'intervention a permis aux joueurs d'améliorer certaines dimensions stables liées à l'intelligence émotionnelles, suggérant ainsi l'intérêt de ce type d'investigation scientifique dans le cadre de l'optimisation de la performance. L'autre but de cette recherche était de mesurer l'effet de l'investigateur. Si nos hypothèses n'ont pas été validées en soi, les résultats montrent des effets différents de l'intervention selon si elle a été menée par un entraîneur, un membre du staff médical ou un spécialiste de la psychologie du sport. Ces résultats invitent alors à prendre en considération le fait qu'un entraîneur pourrait être en mesure d'intégrer ce type d'entraînement au sein de sa planification de préparation d'échéance internationale, et vient ainsi souligner l'intérêt de la formation de l'entraîneur dans le domaine de la psychologie du sport.

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 - Van der Pluijn, M. (Université de Lausanne) : What are differentiating factors for achieving effective teamwork and individual mental performance during a ski race by a woman's amateur team
 - Schneider, O. (Université de Lausanne): TDA-H et sport de haut niveau
-

La Performance Sportive chez les Adolescents à Haut Potentiel Intellectuel **Réflexions à partir de Cas Cliniques**

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Mots clés : Psychologie, Sport, HPI, Adolescents, Performance

Introduction

Cette intervention est une analyse de cas de trois adolescents à haut potentiel intellectuel mettant en évidence les atouts et limites de ce fonctionnement et de ses caractéristiques sur l'entraînement et la performance sportive.

Le haut potentiel intellectuel est un fonctionnement cognitif singulier présent chez 2.2% de la population et qui a des répercussions autant sur la vie scolaire, professionnelle, de loisir ou relationnelle. Dans la littérature, il est difficile de trouver une prise de position consensuelle du haut potentiel intellectuel tant au niveau terminologique que définitoire. Le premier critère retenu est le niveau d'intelligence, mesuré par un test de QI, qui sera considéré comme très supérieur à la moyenne dès 130 (rang percentile 97.7 ou + 2 écarts-type). Renzulli (2002) a ajouté deux autres points importants par rapport à la question qui nous intéresse: premièrement, un engagement élevé dans la tâche c'est-à-dire une énergie importante qui peut être mobilisée et, deuxièmement, de la créativité qui correspond à une combinaison de fluidité, de flexibilité et d'originalité de la pensée. D'autres caractéristiques des enfants HPI ont été mises en évidence par l'étude de Simoes Loureiro et al. (2010), notamment une précocité au niveau de la marche et du langage mais également une anxiété plus importante et des troubles du sommeil. Une plasticité cérébrale est présente et peut expliquer le développement de capacités exceptionnelles dans un ou plusieurs domaines auxquels l'enfant HPI a été confronté dès son jeune âge. Il y a également chez ces individus une meilleure coordination de deux hémisphères cérébraux et une vitesse des connexions nerveuses plus rapide. Ceci a par ailleurs été confirmé récemment par l'étude co-dirigée par F. Nusbaum et D. Sappey-Marinier à l'Université de Lyon 1. De plus, Besançon et al. (2010) a mis en évidence des facteurs conatifs chez des enfants HPI au potentiel créatif : la curiosité servant la motivation intrinsèque et favorisant les comportements d'exploration et de recherche de solutions ; et le perfectionnisme qui pousse l'enfant HPI à être critique envers lui-même, à chercher du sens et à viser la précision dans un but d'excellence.

Méthode

Les trois adolescents sont suivis en psychologie du sport, lors de séances individuelles ou en équipe depuis plus de six mois à raison d'une à deux séances par mois. Ils pratiquent des sports différents (gymnastique, football et unihockey) et sont âgés de 11 à 13 ans. Ils ont tous été testés et diagnostiqués HPI par des professionnels spécialisés dans le domaine et deux ont sauté une classe. Le travail réalisé avec eux diffère légèrement selon leur situation et leurs demandes, mais tous ont bénéficié de séances autour de la gestion des émotions en lien avec leur sport et de séances de préparation mentale permettant le développement de rituels précompétitifs et de discours ou marqueurs internes positifs. Des discussions ont également eu lieu avec les entraîneurs de deux jeunes sur les trois.

Résultats

Premièrement, des points favorisant la performance ont été observés chez les trois jeunes, particulièrement une très grande motivation et un investissement important dans leur sport et dans le suivi en psychologie du sport. De plus, ces jeunes présentent de très bonnes capacités d'analyse du jeu pour les deux jeunes pratiquant des sports d'équipe et une bonne capacité d'appréhension des mouvements pour la personne pratiquant la gymnastique. Les entraîneurs relèvent également une aisance dans la compréhension et l'application des aspects techniques et tactiques (football et unihockey) ou des mouvements artistiques (gymnastique).

Deuxièmement, des points plutôt négatifs ou entravant la progression linéaire de ces trois jeunes sont observés, notamment une mauvaise gestion de leurs émotions en match ou lors des compétitions qui leur font perdre leurs moyens. De plus, on observe chez les trois jeunes un manque de spontanéité visiblement dû à leur besoin incessant de tout contrôler et tout analyser.

Leur perfectionnisme est, quant à lui, à la fois une possibilité de travailler dans la direction du succès mais aussi lié à leur peur de l'échec, double aspect que l'on retrouve dans l'article de Stoeber (2011) dans le « perfectionistic strivings » et « perfectionistic concerns » (p.129).

Discussion

Les adolescents à haut potentiel suivis montrent de bonnes capacités d'analyse dans leurs sports respectifs, ils se montrent très investis et comprennent rapidement les gestes à entraîner. Cependant, leurs nombreuses pensées et réflexions pendant les compétitions les rendent moins efficaces que leurs capacités peuvent le laisser penser selon les entraîneurs. Ils sont souvent anxieux et stressés et ne gèrent pas toujours de façon optimale leurs émotions pendant les compétitions. Chaque geste est trop mesuré et leur façon d'être dans leur sport manque de spontanéité. Un accompagnement dans le domaine du sport prenant en compte le haut potentiel intellectuel semble nécessaire et positif notamment en termes de gestion du stress et des émotions ainsi que par rapport à leur très haut degré de perfectionnisme. Une bonne connaissance d'eux-mêmes participe à la construction de leur carrière sportive et ceci passe aussi par la compréhension des liens avec le haut potentiel intellectuel.

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La Préparation d'un Objectif Important chez les Sportifs Amateurs : Interventions Possibles

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Introduction

Afin de mettre toutes les chances de leur côté, certains sportifs amateurs commencent à vouloir s'entourer de professionnels du sport afin de les accompagner dans la réussite de leur(s) objectif(s) exigeant(s) : Médecin du sport, diététicien, préparateur physique et enfin psychologue rejoignent tour à tour leur « staff » de préparation à la compétition.

Quels sont alors les enjeux psychologiques majeurs et les problématiques particulières rencontrés par cette population ? Il y a-t-il une « typologie » particulière, reconnaissable, parmi les individus amateurs s'engageant dans des défis de longues distances ? Comment accompagner au mieux ces individus dans leur projet tout en préservant leur santé psychique et physique ?

Deux cas concrets de sportifs amateurs préparant des objectifs importants tels que des Ironmans, des ultratrails ou encore la Grande Patrouille des Glaciers seront présentés.

L'émergence de quelques similitudes entre les cas sera mise en lumière, afin d'essayer d'en dégager certaines tendances particulières, potentiellement généralisables à ce type de population.

Différents exemples d'interventions réalisées auprès de ces sportifs seront mis en lumière.

Des pistes de réflexion ainsi que des outils pratiques seront donnés aux professionnels présents dans l'auditoire afin d'optimiser la prise en charge psychologique de ces individus.

Méthode

Le cas n° 1 est un homme de 44 ans, triathlète amateur, ayant pour objectif de terminer un Ironman. Il avait déjà effectué un semi Ironman quelques années auparavant, mais qui ne s'était pas très bien déroulé. Avec ce sportif, nous avons travaillé principalement sur la mise en place d'outils issus des approches de type Mindfulness, 3^{ème} vague des approches TCC, et sur la conciliation entre ses différents projets de vie (privée, professionnelle et sportive). Le suivi a duré environ 10 mois et 12 séances ont été réalisées.

Le cas n°2 est un homme de 34 ans, sportif amateur pratiquant le ski de randonnée et le trail en montagne. Ce patient est arrivé en consultation à la suite de forts symptômes liés à un potentiel surentraînement. S'entraînant très régulièrement et participant à de nombreuses courses de ski alpinisme, des ultratrails ainsi qu'à des courses de ski de fond, nous avons travaillé à la reconnaissance des symptômes liés au surentraînement, notamment à l'aide d'outils issus des approches de type Mindfulness tels que le bodyscan. La mise en sens de cet épisode en rapport avec son histoire de vie a également été abordé à l'aide de techniques d'anamnèse et d'analyse du parcours de vie. Son actuel mode d'engagement dans la pratique sportive a donc pu être modifié par l'introduction d'une réflexivité autour de cette pratique et la place qu'elle occupait dans sa vie. Le suivi a duré environ 6 mois, et 10 séances ont été réalisées.

Résultats

Dans les deux cas, les sportifs ont pu atteindre leurs objectifs.

Pour le premier cas, le triathlète a pu terminer son Ironman sans pour autant mettre sa santé, physique et psychique, en péril. Son projet sportif a su s'intégrer dans son emploi du temps, ce qui a demandé l'apprentissage d'une grande flexibilité et adaptabilité de la part du sportif. Le travail sur l'acceptation des conditions intérieures et extérieures, sur la focalisation de l'attention et sur la gestion de l'effort en lien avec ses sensations lui a permis de parvenir jusqu'à la ligne d'arrivée de l'Ironman.

Dans le second cas, le sportif est parvenu à réadopter un mode d'engagement équilibré dans sa pratique sportive tout en préservant sa vie familiale et professionnelle. Il est parvenu à comprendre, selon son histoire propre, comment il est arrivé à un surinvestissement de sa pratique, au détriment d'autres domaines de vie. Actuellement, il parvient à ne plus uniquement se focaliser sur le résultat, mais sur le plaisir lié à la pratique elle-même, ainsi que sur les « à-côtés », plus sociaux, des différents sports pratiqués.

Discussion

Ces deux cas relatent des problématiques courantes rencontrés chez les sportifs amateurs se fixant des objectifs ambitieux. La conciliation entre les différents projets de vie est quasiment toujours une thématique importante et qui doit absolument être abordée en séance pour créer une réflexivité autour de la place que peut/doit prendre le projet sportif dans le projet global de la personne et que la récupération, autant physique que mentale, fasse partie intégrante de leur « mode de vie » (Fleurance, 2001 ; Décamps, 2011 ; Cox, 2013 ; Soligard et al., 2016)

Le profil des personnes s'engageant dans de telles entreprises est également souvent similaire: ce sont des personnes ambitieuses et exigeantes dans leur vie privée comme dans leur vie professionnelle. Se sont des individus, souvent masculins, qui occupent des postes à responsabilités ou sont des cadres dirigeants. L'objectif sportif vient alors s'inscrire comme une nouvelle opportunité de se réaliser et d'obtenir de la reconnaissance sociale, qui fait parfois défaut dans une routine familiale ou professionnelle qui s'est insidieusement installée (Baddeley, 2002). Cet aspect-là est donc également à aborder pour qu'un investissement sain dans la pratique sportive puisse s'effectuer, et, de ce fait, prévenir des cas potentiels d'épuisement et/ou de surentraînement.

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Assessment of Applied Intervention Techniques to Achieve Team Cohesion and Mental Performance of a Female Ski-Team during the 'Patrouilles des Glaciers' Ski Race

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Introduction

Every second year 5000 people, from amateurs to top athletes participate in one of the world's hardest ski races: 'the **Patrouille des Glaciers (PDG)**'. A mythical race, a race that challenges people to go beyond what they imagined they would be capable of. Not only physically but also psychologically the race is extremely demanding. Each 'Patrouille' consists of 3 members who, in order to compete, must be able to: Independently master unexpected situations under extreme conditions in an high-alpine environment; Train hard to meet the physical, mental and technical requirements of the competition; Be willing to live the 'PDG spirit' and values by acting fair, with caution and solidarity recognizing their limits as well as respecting nature and the unique alpine world; Have excellent skiing-, alpine touring and mountaineering skills and experience.

The case discusses a woman's 'Patrouille' who are coached on the mental and psychological aspects of the race during the preparation phase in the months before the event. Each team member has a busy life filled with commitments. The psychological demands that are experienced outside the competitive context are very diverse and make the case study in particular interesting: lifestyle sacrifices, difference in commitment to training sessions, difference in competence levels and stressors before and during the event. The objective of this case study is to better understand how an effective combination of intervention methods may improve team cohesion, confidence and overall and individual performance.

Method

The team consists of 4 amateur women ski race competitors. The team is coached both as team as well as individually. The objective of the coaching interventions is to support the team to better connect and understand the differentiating factors that help them cope with the psychological demands, increase their personal and individual performance before and during the race. In order to support the athletes the following intervention methods will be used:

- Behavior assessment tool DISC which measures a person's degree of Dominance, Influence, Steadiness and Conscientious behavior. Everyone has their unique level of each in the context of their role in the team. It is based on the theory of psychologist W. M. Marston and developed into a behavioral assessment tool by psychologist Walter V. Clarke. DISC's primary purpose provides practical strategies to improve personal and team performance through developing self-awareness, effective communication, more productive relationships and identifying how each person contributes their best.
- Group dialogues to create awareness of individual characteristics from a value and personal goal's perspective, identifying the factors that promote and interfere with the team cohesion and performance
- Personal- and team interventions for mental preparation to increase performance.

Results

The race will take place from 17th to 21st of April 2018 and therefore both the project and results analysis are ongoing. The results will comprise of a qualitative comparison of the various intervention methods mentioned above, and how its effect on the group cohesion (through understanding of own and others' behavior, strengths and weaknesses), confidence (level of -mental- preparation) and performance were perceived by the amateur athletes (through bringing structure and clarity on personal and collective objectives).

Discussion

We will discuss the lessons learnt in this case study and how these could be applied in other situations, notably how the use of different intervention methods affected the team and the ultimate outcome for their performance:

- A better understanding of own and others behavior in normal and stress situations, and how this may be transformational for team members, creating room for a meaningful dialogue and how this may increase group cohesion.
- Mental coaching on a team and personal level, and how this may positively affect confidence. Also the mental coaching on a group level allows agreement on route tactics, exchange different approaches, transfer mental skills from other domains and learn from each other.
- How coaching itself may bring structure to the team, their training and their preparation. Due to different commitments, their busy lives, they tend to train often on their own. The team coaching creates room to learn how to deal with each other in different situations and better understand differences between their personal and collective objectives. This may affect their level of preparation for the race, prepare them better for possible obstacles and therefore may increase performance.

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TDA-H et Sport de Haut Niveau

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Introduction

Selon les critères du DSM-V, les symptômes du TDA-H ou Trouble du Déficit de l'Attention avec ou sans Hyperactivité se manifestent sous trois grandes catégories : les problèmes d'attention (distraction, oublis, perte des affaires personnelles), d'hyperactivité (agitation motrice et intérieure) et d'impulsivité (prise de parole à des moments inopportuns, décisions impulsives, manque d'organisation, mauvaise gestion du temps, procrastination, recherche de sensations fortes) (Wolfe & Madden, 2016). Lidia Zylowska, (Zylowska, 2015) le décrit par des problèmes d'attention, d'organisation, d'impulsivité, d'agitation et d'émotions intenses qui peuvent empêcher la personne d'atteindre son vrai potentiel à l'école, au travail et dans les relations. Il mène aussi à des difficultés d'autorégulation, d'autocontrôle (le contrôle de soi) et à une faiblesse des fonctions exécutives. Les traitements existants pour traiter le TDH-A sont : la psychothérapie, les psychostimulants, la

remédiation cognitive (entraînement pour rééduquer les fonctions exécutives) et la pleine conscience. La pleine conscience c'est quoi ? C'est un entraînement à une conscience du moment présent. L'idée est d'entraîner son esprit, TDA-H ou pas, grâce à l'entraînement de l'attention (Zylowska, 2015). Etant une pratiquante de cette méthode, j'ai voulu m'intéresser à sa pertinence dans l'accompagnement des athlètes. Véritable alternative à la médication, la Dre Lidia Zylowska a mené une étude pilote aboutissant à des résultats positifs et prometteurs.

Dans cette présentation, j'ai choisi d'aborder l'utilisation de la pleine conscience dans le TDA-H dans un contexte de sport de haut niveau, par une étude de cas. En effet, je me suis trouvée confrontée à un sportif présentant des symptômes du déficit d'attention. J'ai voulu comprendre comment accompagner un athlète présentant des difficultés de cet ordre.

Méthode

L'athlète dont je vais parler est un JH de 20 ans, qui pratique le hockey sur glace. Je l'ai rencontré dans le cadre de mon activité professionnelle. Il a effectué sa scolarité obligatoire dans un autre canton. Il est actuellement sous contrat professionnel avec un club de la ligue nationale de hockey pour 2 ans.

Parallèlement à sa formation de hockey, il a effectué le gymnase pour obtenir sa maturité CFC. Au niveau scolaire, il y a eu des renvois et des redoublements à répétition. Il dit avoir été diagnostiqué TDA-H durant son enfance. Son frère souffrirait du même syndrome. Il a été question de le mettre sous Ritaline il y a 1 an (inquiétude des parents) mais cela ne s'est pas concrétisé, la médication avec la pratique du hockey posant d'autres problèmes (Corrigan, 2003) JH qui présente des difficultés attentionnelles, une agitation motrice, des troubles de la concentration, des oublis à répétition, une impulsivité et une tendance aux consommations. Difficulté à être constant dans ses comportements, actions, résolutions, performances.

En entretien, il se montre ouvert à la discussion, se livre facilement, agréable dans le contact. Toutefois, il se montre dissipé, présente une agitation motrice (regarde son téléphone, ramasse quelque chose qu'il a fait tomber, se touche le bras, bouge, etc...). Il est difficile de garder une ligne durant l'entretien. On ressort avec une impression de confusion. Selon lui, ces difficultés se répercuteraient sur ses performances d'athlète.

Les outils utilisés dans l'accompagnement de cet athlète ont été les suivants : analyses des matchs (écrire ses observations), pense-bêtes (alarmes sur son téléphone), planning, relaxation, imagerie mentale, routines d'avant-match, programme de pleine conscience sur 8 séances (en cours) décrit par Zylowska (Zylowska, 2015).

Résultats

Au début, l'athlète oubliait nos séances régulièrement et les entretiens étaient difficiles à cadrer car il tendait à sauter du coq à l'âne. Il ne faisait pas les exercices proposés et a mis du temps à venir avec de quoi écrire. Il se montrait réticent à travailler l'aspect mental de son sport car il avait peur de perdre son côté fou. Comme l'explique Anthony Mette (Mette, 2017), beaucoup de personnes atteintes de TDA-H sont très créatives et pensent en dehors du cadre, des normes, ce qui laisserait entrevoir tous types de réalisation de performance. Pour lui le TDA-H peut être une force dans la pratique sportive, la clé serait d'aider le sportif à en prendre conscience.

A ce stade du travail effectué avec lui, j'ai pu constater une amélioration de son organisation (retours positifs de son lieu de travail) et une diminution de ses oublis (régularité dans nos séances). Il dit noter une amélioration de sa concentration et de son observation de soi (« je remarque plus rapidement quand je suis déconcentré et j'arrive à me reconcentrer »). Il met des alarmes sur son téléphone pour se rappeler de faire 5 min par jour de la pleine conscience. La familiarisation avec l'imagerie mentale lui a permis d'affiner ses perceptions (il note ses ressentis après chaque exercice et remarque des sensations kinesthésiques nouvelles). Sujet à des blessures à la hanche, l'auto-massage en pleine conscience lui est bénéfique (moments de relaxation et d'introspection). Pour finir il dit avoir pris l'habitude

de préparer ses matchs avec des routines, les relis, cela lui donne confiance et lui permet de se concentrer.

Discussion

Le travail effectué avec cet athlète lui a permis de mieux se connaître (ses besoins et ses limites) et de s'observer. Il a pu améliorer le contrôle de son attention, de son organisation afin d'atteindre ses objectifs professionnels et sportifs. Les routines de préparation et les analyses de match l'aident à moins s'éparpiller. La pleine conscience semble lui avoir apporté un cadre et une meilleure capacité d'introspection. J'aurai plus de recul et d'éléments à apporter au mois de juin sur les effets du programme des 8 séances proposées dans l'ouvrage de Zylowska (Zylowska, 2015). Il est nécessaire d'être régulier dans la pratique des exercices de pleine conscience pour que cela soit utile. Pour finir cette présentation, je dirais que je continue de me questionner sur comment travailler sur son attention, le focus, sans casser son côté fou (il dit lui-même) ? Il a d'ailleurs mentionné très vite qu'être derrière un bureau toute la journée ne lui conviendrait jamais, il deviendrait fou. Faire du hockey, selon ses dires, lui permettrait d'exprimer son grain de folie et le protégerait de comportements addictifs. Être hyperactif est-il nécessaire à sa réussite ?

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