

JIRIRI

Journal sur l'identité, les relations interpersonnelles et les relations intergroupes
Journal of Interpersonal Relations, Intergroup Relations and Identity

Volume 10, Hiver 2017 / Winter 2017

Rédactrice en chef / *Editor in Chief*

Céline El-Soueidi, B. Sc., Université de Montréal, Canada

Rédacteurs adjoints séniors / *Senior Associate Editors*

Simon Coulombe, Ph. D., Wilfrid Laurier University, Canada
Roxane de la Sablonnière, Ph. D., Université de Montréal, Canada

Chef d'édition / *Managing Editor*

Caroline Labonté, Université de Montréal, Canada

Directrice des communications / *Communications Director*

Maïlys Laylle, Université de Montréal, Canada

Responsable de la diffusion / *Head of Broadcasting*

Camille Bourdeau, Université de Montréal, Canada

Rédacteurs adjoints / *Associate Editors*

Diana Arnautu, Université de Montréal, Canada

Laurence Beaudry-Jodoin, Université de Montréal, Canada

Leila Benabdallah, Université de Montréal, Canada

Iulia Cerniavski, Université de Montréal, Canada

Émilie Dumont, Université de Montréal, Canada

Christine Ghantous, Université de Montréal, Canada

Joëlle Guillemette Lafontaine, Université de Montréal, Canada

Frédérique Hervieux, Université de Montréal, Canada

Karine Jauvin, Université de Montréal, Canada

Weldie Joseph, Université de Montréal, Canada

Samantha Kargakos, Université de Montréal, Canada

Samuel Laperle, Université de Montréal, Canada

Béatrice Marseille, Université de Montréal, Canada

Ibtissem Medjdoub, Université de Montréal, Canada

Samuel Mérineau, Université de Montréal, Canada

Karine Nadeau-Paquette, Université de Montréal, Canada

Audrey Paquette Masson, Université de Montréal, Canada

Tasnim Rekik, Université de Montréal, Canada

Mélissa Romano, Université de Montréal, Canada

Julie Zaky, Université de Montréal, Canada

Éditeurs consultants / *Consulting Editors*

Émilie Auger, McGill University, Canada

Diana Cárdenas, Université de Montréal, Canada

Mathieu Caron-Diotte, Université de Montréal, Canada

Simon Dubé, Concordia University, Canada

Julie Ouerfelli-Éthier, Université de Montréal, Canada

Laura French Bourgeois, Université de Montréal, Canada

Frank Kachanoff, McGill University, Canada

Nada Kadhim, Université du Québec à Montréal, Canada

Mathieu Pelletier-Dumas, Université de Montréal, Canada

Le **Journal sur l'identité, les relations interpersonnelles et les relations intergroupes** (JIRIRI) est une revue scientifique internationale concernant le monde de l'identité et des interactions sociales. La mission du JIRIRI est de permettre aux étudiants de premier cycle de vivre l'expérience complète de la démarche scientifique, de la mise sur pied d'idées originales jusqu'à leur diffusion, par le biais d'un processus de révision par un comité de pairs.

The **Journal of Interpersonal Relations, Intergroup Relations and Identity** (JIRIRI) is a scientific journal distributed internationally in the field of identity, interpersonal and intergroup relations. The mission of the JIRIRI is to offer undergraduate students a unique opportunity to fully experience the scientific method, from the development of original ideas to their diffusion, through the peer review process.

Rédactrice en chef / Editor in Chief

Céline El-Soueidi, B. Sc., Université de Montréal, Canada

Rédacteurs adjoints séniors / Senior Associate Editors

Simon Coulombe, Ph. D., Wilfrid Laurier University, Canada

Roxane de la Sablonnière, Ph. D., Université de Montréal, Canada

Chef d'édition / Managing Editor

Carolanne Labonté, Université de Montréal, Canada

Directrice des communications / Communications Director

Mailys Laylle, Université de Montréal, Canada

Responsable de la diffusion / Head of Broadcasting

Camille Bourdeau, Université de Montréal, Canada

Rédacteurs adjoints / Associate Editors

Diana Arnautu, Université de Montréal, Canada

Laurence Beaudry-Jodoïn, Université de Montréal, Canada

Leila Benabdallah, Université de Montréal, Canada

Iulia Cerniavscchi, Université de Montréal, Canada

Émilie Dumont, Université de Montréal, Canada

Christine Ghantous, Université de Montréal, Canada

Joëlle Guillemette Lafontaine, Université de Montréal, Canada

Frédérique Hervieux, Université de Montréal, Canada

Karine Jauvin, Université de Montréal, Canada

Weldie Joseph, Université de Montréal, Canada

Samantha Kargakos, Université de Montréal, Canada

Samuel Laperle, Université de Montréal, Canada

Béatrice Marseille, Université de Montréal, Canada

Ibtissem Medjdoub, Université de Montréal, Canada

Samuel Mérineau, Université de Montréal, Canada

Karine Nadeau-Paquette, Université de Montréal, Canada

Audrey Paquette Masson, Université de Montréal, Canada

Tasnim Rekik, Université de Montréal, Canada

Mélissa Romano, Université de Montréal, Canada

Julie Zaky, Université de Montréal, Canada

Éditeurs consultants / Consulting Editors

Émilie Auger, McGill University, Canada

Diana Cárdenas, Université de Montréal, Canada

Mathieu Caron-Diotte, Université de Montréal, Canada

Simon Dubé, Concordia University, Canada

Julie Ouerfelli-Éthier, Université de Montréal, Canada

Laura French Bourgeois, Université de Montréal, Canada

Frank Kachanoff, McGill University, Canada

Nada Kadhim, Université du Québec à Montréal, Canada

Mathieu Pelletier-Dumas, Université de Montréal, Canada

Un merci spécial à / A Special Thanks To:

Martha E. Mesa Rey

Clemencia Mesa Rey

Évaluateurs / Reviewers

Fatima Alawie, Université de Montréal, Canada

Emmanuelle Brien-Robidoux, Université de Montréal, Canada

Weyam Fahmy, Memorial University of Newfoundland, Canada

Samir Farhloul, Memorial University of Newfoundland, Canada

Najat Firzly, Université d'Ottawa, Canada

Mélanie Garceau, Université de Montréal, Canada

Chloé Gingras, Université Laval, Canada

Charlene Grau, Université de Bordeaux, France

Isabelle Hoang, Université du Québec à Montréal, Canada

Clarice Huard, Université de Montréal, Canada

Gabriela Huerta Castro, Université de Montréal, Canada

Guillaume Lalonde-Beaudoin, Université du Québec en Outaouais, Canada

Brian Lafrenière, Université de Montréal, Canada

Élisabeth Langelier, Université de Montréal, Canada

Stéphanie Langheit, Université de Montréal, Canada

Véronique Martel, Université de Montréal, Canada

Meagan McCardle, Memorial University of Newfoundland, Canada

Sophie McMullin, Université de Montréal, Canada

Pénélope Pelland-Goulet, Université de Montréal, Canada

Cynthia Rocheleau, Université Laval, Canada

Mélodie Roy, Université de Montréal, Canada

Imane Sahraoui, Université de Montréal, Canada

Aissatou Tounkara, Université de Montréal, Canada

Évaluateurs invités – Étudiants des cycles supérieurs

Guest Reviewers – Graduate Students

Jordanne Amos, University of Toronto, Canada

Jean-Sébastien Audet, Université de Montréal, Canada

Jean Bouchard, Université de Montréal, Canada

Valérie Courchesne, Université de Montréal, Canada

Audrey-Ann Deneault, Université d'Ottawa, Canada

Christoffer Dharma, Wester University, Canada

Monica Dunnagan, Walden University, Minnesota, États-Unis/
United States

Maryam El Gewely, Université de Montréal, Canada

Daphnée Genesse, Université de Sherbrooke, Canada

Carolane Helin, Université de Bordeaux, France

Jennifer Hepditch, Université d'Ottawa, Canada

Leyla Javam, University of Toronto, Canada

Lee Jia Jin Kristy, Nanyang Technological University of Singapore,
Singapore

Catherine Ouellet-Courtois, Université de Montréal, Canada

Anais Plaquet, Université de Bourgogne Franche-Comté, France

Yanick Provost Savard, Université de Montréal, Canada

Cassie Schaefer, Université de Caen, France

Noor Sharif, Université d'Ottawa, Canada

Marie-Pier Verner, Université de Sherbrooke, Canada

JIRIRI

Journal sur l'identité, les relations interpersonnelles et les relations intergroupes
Journal of Interpersonal Relations, Intergroup Relations and Identity

Volume 10

Hiver 2017 / Winter 2017

4 Remerciements / Acknowledgments

5 Editorial

Céline El-Soueidi, B. Sc.

6 Editorial

Céline El-Soueidi, B. Sc.

7 Lettre des rédacteurs adjoints séniors

Simon Coulombe, Ph. D. & Roxane de la Sablonnière, Ph. D.

8 Letter from the Senior Associate Editors

Simon Coulombe, Ph. D. & Roxane de la Sablonnière, Ph. D.

9 Processus de révision par les pairs / Peer-Review Process

10 Communication as a Mediator Between Personal Characteristics – Five-Factor Personality Traits, Emotional Intelligence, Self-Disclosure – and Romantic Relationship Satisfaction

Sarah Mackay & Kenneth Cramer, Ph. D.

25 Attachment Anxiety as a Barrier to the Benefits of Novel Couple Activities

Adrienne A. Paynter & Cheryl Harasymchuk, Ph. D.

35 Profil alimentaire et conjugal selon l'asymétrie du poids des partenaires

Jessica Philippe, Marie-Ève Bergeron, Marilou Côté, Ph. D., & Catherine Bégin, Ph. D.

46 Intimate Partner Violence and Sexual Communication

Tasha Falconer

53 The Influence of Perception on Student-Athletes' Motivation and Relationship with Coaches — Student-Athlete's Perception

Zipporah Foster & Amber DeBono, Ph. D.

58 Gamers and Video Games Users: What's the Difference?

Amanda Argento, Devin Mills, Victoria Carmichael, Jessica Mettler, & Nancy Heath, Ph. D.

69 Relations entre l'insatisfaction de l'image corporelle et l'IMC, l'estime de soi et les comportements alimentaires chez un groupe de garçons adolescents

Guillaume Morin & Dominique Meilleur, Ph. D.

81 Communication Problems During Laboratory Work: Interaction Professor-Student and Student-Student

Ronald Cárdenas Sabando & Simone Belli, Ph. D.

94 Infrahumanization and Mental Travel: Effects of Temporal Orientation on Perceived Humanness

Mohammad Malik

102 La violence émotionnelle à l'enfance et les symptômes de stress post-traumatiques chez les femmes : le rôle médiateur de la pleine conscience

Stéphanie Laforte, Caroline Dugal, Claude Bélanger, Ph. D., & Natacha Godbout, Ph. D.

Mission

Le *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI) est une revue scientifique internationale publiée annuellement en avril. La mission du JIRIRI est de permettre aux étudiants de premier cycle de faire l'expérience de la démarche scientifique, de la mise sur pied d'idées originales jusqu'à leur diffusion, selon un processus de révision par les pairs.

Le JIRIRI vise également à promouvoir la création et l'expression de nouvelles idées théoriques sur les thèmes de l'identité et des interactions sociales — idées qui pourront éventuellement devenir les prémisses solides de travaux de plus grande envergure.

Le JIRIRI publie des articles théoriques et empiriques. Les étudiants de premier cycle en psychologie ou autre domaine connexe désirant développer et diffuser des idées ou des résultats au sujet de l'identité, des relations interpersonnelles ou intergroupes sont invités à soumettre un manuscrit.

Processus de révision

Premièrement, le rédacteur en chef effectue une sélection préliminaire des manuscrits et ne conserve que ceux qui correspondent à la mission du JIRIRI. Ensuite, les manuscrits sont envoyés à quatre étudiants de premier cycle et à un étudiant des cycles supérieurs. Ils rédigeront une évaluation anonyme à l'auteur et l'enverront au membre de l'équipe éditoriale responsable du manuscrit.

Le responsable du manuscrit fera la synthèse de ces lettres dans une lettre d'édition à l'auteur. La rédaction de la lettre d'édition sera supervisée par des étudiants aux cycles supérieurs (éditeurs consultants). La lettre d'édition devra souligner les critiques les plus importantes et rendre la décision concernant la publication de l'article. Celui-ci peut être accepté, accepté avec révisions mineures, rejeté avec invitation à soumettre ou rejeté.

L'auteur apportera alors les modifications suggérées par le comité de rédaction. Le processus de révision et de correction se poursuivra ainsi jusqu'à ce que le manuscrit soit jugé satisfaisant pour fin de publication.

Consignes pour la soumission d'un manuscrit

Les étudiants de premier cycle de toute université sont invités à soumettre leur manuscrit en français ou en anglais. Dans sa lettre au rédacteur en chef, l'auteur

soumettant un manuscrit devra confirmer qu'il est présentement étudiant au premier cycle et que son article n'a jamais été publié ou soumis pour publication ailleurs. Un étudiant au baccalauréat peut soumettre un article qu'il a coécrit avec un professeur ou un étudiant aux cycles supérieurs seulement s'il en est le premier auteur. Il est impossible de soumettre un article au JIRIRI en tant que premier auteur si le baccalauréat a été complété plus de douze mois avant la soumission du manuscrit.

La première page doit contenir le titre du manuscrit ainsi qu'un titre abrégé de **45 caractères maximum**. La deuxième page doit contenir un résumé de l'article de **150 mots**. L'auteur devra aussi fournir **cinq mots-clés** en lien avec le sujet de l'article. Le texte doit contenir **au maximum 7 500 mots et respecter les règles de l'APA**.

Pour s'impliquer au sein du JIRIRI

Les étudiants de premier cycle qui souhaitent soumettre un manuscrit et les étudiants de tous cycles universitaires qui souhaitent s'impliquer dans le processus de révision sont invités à nous contacter au jiriri@umontreal.ca.

Pour de plus amples renseignements, veuillez consulter notre site Internet: www.jiriri.ca.

Adresse postale

Journal sur l'identité, les relations interpersonnelles et les relations intergroupes (JIRIRI)
a/s Roxane de la Sablonnière, Ph. D.
Rédactrice adjointe séniore
Université de Montréal
Département de psychologie
C.P. 6128, Succursale Centre-Ville
Montréal (Québec), Canada, H3C 3J7

À moins d'indication contraire, les articles publiés dans le JIRIRI sont libres de droits d'auteur. Quiconque souhaitant reproduire ou diffuser un article est autorisé et encouragé à le faire afin que des spécialistes, des organisations étudiantes ou d'autres personnes intéressées aux domaines de l'identité, des relations interpersonnelles et intergroupes puissent en bénéficier. Toute reproduction du JIRIRI en partie ou en totalité est libre de droits d'auteur et ne nécessite aucune permission des éditeurs, à la condition qu'il y ait reconnaissance du JIRIRI comme source et que le ou les noms des auteurs ainsi que les numéros de pages et de volumes soient cités. Nul ne peut s'approprier les droits d'auteur et toute entorse à ces règles doit être signalée à la rédactrice en chef, Céline El-Soueidi, à l'adresse suivante: jiriri@umontreal.ca.

Mission

The *Journal of Interpersonal Relations, Intergroup Relations and Identity* (JIRIRI) is an international scientific journal published annually in April. The mission of the JIRIRI is to offer undergraduate students a unique opportunity to fully experience the scientific method from the development of original ideas to their diffusion, through the peer review process.

The JIRIRI also aims to promote the conception and expression of new theoretical ideas in the fields of identity, interpersonal and intergroup relations — ideas that could eventually become solid bases for large-scale studies.

The JIRIRI publishes both theoretical and empirical articles. Thus, any undergraduate student in psychology or in a related field eager to share and refine his or her ideas or results pertaining to identity, interpersonal or intergroup relations is invited to submit a manuscript.

Reviewing Process

First, the Editor in Chief makes a preliminary selection of the manuscripts and retains those that comply with the JIRIRI's mission. Then, the manuscripts are sent to four undergraduate students and one graduate student. These students will write anonymous reviews to the author and send them to the member of the editorial team responsible of the manuscript.

The editorial team member will write an edition letter to the author, which will synthesize the reviewers' comments. This process will be supervised by the consulting editors, who are graduate students. The edition letter must contain the most important comments and the decision regarding publication. The manuscript may be accepted as it is, accepted with minor modifications, rejected with the invitation to resubmit, or it may be rejected completely.

The author will then carry out the modifications considered necessary by the editorial board. Several rounds of reviews may be undertaken until the manuscript is judged suitable for publication.

Guidelines for Submitting an Article

Undergraduate students of all universities are invited to submit their manuscript in French or in English. In his/her letter to the Editor in Chief, the author submitting an

manuscript must confirm that he/she is an undergraduate student and that his manuscript has neither been published nor submitted for publication elsewhere. An undergraduate student may submit a manuscript that he/she has co-written with a professor or a graduate student only if he/she is first author. It is not possible to be the first author of an article in the JIRIRI if one's degree was completed more than twelve months prior to the submission of the manuscript.

The cover page must include the title of the manuscript and a running head **not exceeding 45 characters**. The second page must include an abstract of **150 words** and the author must also provide **five keywords** that describe the subject of the article. The text must contain a **maximum of 7,500 words and conform to APA standards**.

To Participate in the JIRIRI

Any undergraduate student interested in submitting a manuscript, or any undergraduate or graduate student interested in taking part in the review process is invited to contact us at the following address: jiriri@umontreal.ca.

For more details, please consult our website at the following address: www.jiriri.ca.

Postal Address

Journal of Interpersonal Relations, Intergroup Relations and Identity (JIRIRI)
a/s Roxane de la Sablonnière, Ph.D.
Senior Associate Editor
Université de Montréal
Département de psychologie
C.P. 6128, Succursale Centre-Ville
Montréal (Québec), Canada, H3C 3J7

Unless otherwise indicated, articles published in the JIRIRI are not copyrighted. Anyone wishing to copy or distribute a manuscript is authorized and encouraged to do so for the benefit of other scholars, student organizations, or anyone else interested in the field of identity, interpersonal relations, and intergroup relations. Any intent to republish a part of the JIRIRI, not otherwise copyrighted, requires no permission from the editors as long as such a republication clearly acknowledges the JIRIRI as its source and clearly indicates the full name of the author(s), pages, and volume number. However, no copyright can be claimed, and prompt notice of such a republication must be sent to the Editor in Chief, Céline El-Soueidi, email: jiriri@umontreal.ca.

Remerciements

Nous tenons tout d'abord à remercier le Département de psychologie de l'Université de Montréal et son Directeur, Monsieur Serge Larochele ainsi que Monsieur Gyslain Giguère et les membres du comité organisateur de la 11e Journée scientifique du Département de psychologie de l'Université Montréal. Nous remercions également Madame Sophie Dubois du service d'impression de l'Université de Montréal ainsi que Mesdames Odile Ducharme et Corinne Fioraso, nos conseillères financières, pour leur patience. De même, nous tenons à souligner la contribution financière de l'*Association générale des étudiants et étudiantes de psychologie de l'Université de Montréal* (AGÉPUM), ainsi que celle du *Fonds de recherche du Québec – société et culture* (FRQSC), par l'entremise d'une subvention de soutien aux équipes de recherche intitulée « Identité et dysfonction sociale » (2013-SE-164404). Nous tenons aussi à remercier le *Big Stop St-Liboire* pour leur aide lors de notre campagne de financement du mois d'octobre.

Nous remercions tous les étudiants qui ont collaboré au *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI), ainsi que Simon Coulombe qui a su les guider généreusement dans leurs *lettres d'édition* et dans la révision des épreuves. Cette édition n'aurait pu voir le jour sans la collaboration de tous ces étudiants dévoués qui ont contribué au succès du JIRIRI. Nous aimeraisons aussi remercier Martha E. Mesa Rey et Clemencia Mesa Rey, qui nous ont grandement aidé dans l'épanouissement linguistique d'un de nos manuscrits. Par ailleurs, nous exprimons notre reconnaissance à nos collègues du *Laboratoire de recherche sur les changements sociaux et l'identité* (CSI). Finalement, nous aimeraisons remercier les rédactrices et rédacteurs en chef des éditions précédentes, qui continuent d'agir en tant que guides.

Sur une note un peu plus personnelle, nous tenons à remercier Roxane de la Sablonnière pour son appui continual qui a permis à plus d'une centaine d'étudiants par année de se familiariser avec le domaine de la recherche et de la publication scientifique. Ainsi se concrétise son dictum favori : « Ce sont les idées qui changent le monde ».

Acknowledgments

We would first like to express our gratitude to the Department of Psychology at the Université de Montréal and to its Director, Dr. Serge Larochele. We would also like to thank Mr. Gyslain Giguère and the members of the organizing committee of the 11th annual Scientific Day of the Department of Psychology at the Université de Montréal. We also thank Ms. Sophie Dubois of the Université de Montréal's printing services and Ms. Odile Ducharme and Ms. Corinne Fioraso, our financial counsellors, for their patience. We would like to acknowledge the financial contribution from the *Association générale des étudiants et étudiantes de psychologie de l'Université de Montréal* (AGÉPUM), as well as the contribution from the *Fonds de recherche du Québec – société et culture* (FRQSC) team grant entitled "Identity and social dysfunction" (2013-SE-164404). We would also wish to thank the *Big Stop St-Liboire* for their help with our fundraising campaign in October.

We thank all the students who worked with the *Journal of Interpersonal Relations, Intergroup Relations and Identity* (JIRIRI) this year, as well as Simon Coulombe, who guided them in writing their *Editor's Letter* with great generosity. This volume could not have been published without the participation of all the devoted students who contributed to its success. We also thank Martha E. Mesa Rey and Clemencia Mesa Rey, who greatly helped us in the linguistic development of one of our articles. We have also benefited from the unconditional support of the previous Editors in Chief and associate editors, who continue to offer guidance. We also express our gratitude to our colleagues at the *Social Change and Identity Laboratory*.

Finally, on a more personal note, our heartfelt thanks go to Dr. de la Sablonnière for her continuous support which has provided over a hundred students each year with the opportunity to be involved in research and publication. Indeed, this embodies her favorite saying, "Ideas change the world".

Éditorial

CÉLINE EL-SOUIEDI, B. Sc.

Université de Montréal



C'est avec fierté que je vous présente, après de longs mois de travail acharné, le dixième volume du *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI). Encore une fois, la parution du JIRIRI démontre le talent et le potentiel des étudiants du premier cycle à travers le monde.

Depuis dix ans, le JIRIRI se veut une façon innovatrice d'enseigner et de transmettre des connaissances concrètes aux étudiants du premier cycle. Le contexte académique moderne en est un de compétition féroce pour l'accès aux cycles supérieurs. Les opportunités pour les étudiants au premier cycle de gagner en expérience ne sont pas aussi nombreuses qu'elles le devraient et ne répondent clairement pas à la demande. Cette année, le nombre de membres ayant bénéficié de cette opportunité a doublé. Effectivement, le comité éditorial regroupait vingt-quatre étudiants au premier cycle et onze étudiants des cycles supérieurs. Nous bénéficions aussi du soutien de plus d'une centaine d'évaluateurs provenant de plus d'une vingtaine d'universités à travers le monde.

Cette année, le JIRIRI a reçu un total de quinze manuscrits provenant de quatorze universités différentes. De ceux-ci, dix ont été acceptés et publiés ce qui amène le taux de rejet à 33%, soit le taux le plus faible de l'histoire du JIRIRI. Comme toujours, notre comité éditorial a suivi de multiples formations afin d'assurer la qualité des lettres d'édition que nous envoyons aux auteurs. De plus, notre équipe d'édition, dirigée par la brillante Carolanne Labonté, a préparé une formation complète pour nos évaluateurs, dans le but, d'abord de communiquer nos critères, mais surtout de faire bénéficier un maximum d'étudiants de nos formations.

Nous nous sommes donné comme mission depuis l'an passé de diffuser le concept d'une revue scientifique avec comité de lecture ouverte aux étudiants du premier cycle, que ce soit en tant qu'auteur ou en tant que membre du comité éditorial. Notre équipe de diffusion s'est d'ailleurs mobilisée tout au long de l'année dans le but de guider des étudiants de divers départements à travers le processus de publication scientifique. De plus, ce comité a joué un rôle de soutien important auprès de professeurs de neuropsychologie qui travaillent sur leur propre revue pour les étudiants du premier cycle et des cycles supérieurs, mais aussi pour les cliniciens et chercheurs, soit le *Journal de neuropsychologie clinique et appliquée* (JNCA).

Je tiens à remercier tous les membres de notre équipe grandissante ainsi que nos auteurs qu'ils aient été publiés ou pas. Notre publication dépend de votre travail, de votre dévouement et de votre motivation. Sans votre confiance en nous, le JIRIRI n'existerait pas. Plus particulièrement, je tiens à remercier Roxane de la Sablonnière (Ph. D.), fondatrice du JIRIRI, sans qui je n'aurais jamais cru pouvoir occuper ce poste. Merci pour ton support constant et ta confiance en moi. Merci aussi à Simon Coulombe (Ph. D.) qui vient de rejoindre l'équipe en tant que rédacteur adjoint séniior. Je tiens aussi à souligner le travail immense fait par Carolanne Labonté (Chef d'édition), Camille Bourdeau (Responsable de la diffusion) et Maïlys Laylle (Directrice des communications). Sans leurs efforts constants, à elles et aux équipes qu'elles dirigeaient, la qualité du JIRIRI que nous vous présentons cette année ne serait pas la même. Merci infiniment à vous tous.

Editorial

CÉLINE EL-SOUIEDI, B. Sc.

Université de Montréal



It is with pride that I present to you, after many months of hard work, the tenth volume of the *Journal of Interpersonal Relations, Intergroup Relations and Identity* (JIRIRI). Once again, this volume of the JIRIRI demonstrates the talent and potential of undergraduate students around the world.

For ten years, the JIRIRI has been an innovative way to teach and communicate practical knowledge to undergraduate students. The modern academic context is one of fierce competition when it comes to access to graduate programs. Opportunities for students at the undergraduate level are not as numerous as they should and clearly do not meet the demand. This year, the number of students who benefit from this opportunity has doubled. In fact, the Editorial Board included twenty-four students at the undergraduate level and eleven graduate students. We also benefited from the support of more than a hundred reviewers from more than twenty universities worldwide.

This year, the JIRIRI received a total of fifteen manuscripts from fourteen different universities. Of these, ten have been accepted and published. We have this year a 33% rejection rate – the lowest rate in JIRIRI history. As always, the members of our Editorial Board were trained on multiple occasions to ensure the quality of the editor letter that we send to the authors. Our Managing Team, led by the brilliant Carolanne Labonté, also prepared a full training session for our reviewers in order to communicate our criteria, but also give everyone who wishes to develop their scientific knowledge the opportunity to do so.

Our mission this year was to spread our concept of a scientific journal with a peer-review process open to undergraduate students, either as an author or as a member of the editorial board. Our Broadcasting Team also mobilized its troops throughout the year in order to guide students from various departments through the scientific publication process. In addition, the Broadcasting Team has been supporting a group of neuropsychology professors as they worked on launching a journal of their own. Their upcoming journal, the *Applied and Clinical Neuropsychology Journal* (ACNJ), offers undergraduate and graduate students, as well as clinicians and researchers the chance to publish articles related to neuropsychology.

I would like to thank all the members of our growing team as well as our authors, whether they have been published or not. The publication of every volume of the JIRIRI depends on your work, your dedication and your motivation. Without your trust in us, the JIRIRI would not exist. Most of all, I would like to thank Roxane de la Sablonnière (Ph. D.), founder of the JIRIRI, without whom I would have never believed I could be Editor in Chief. Thank you for your support and your trust in me. I would also like to thank Simon Coulombe (Ph. D.) who just joined the team as a Senior Associate Editor. I also want to highlight the immense work done by Carolanne Labonté (Managing Editor), Camille Bourdeau (Head of Broadcasting) and Maïlys Laylle (Director of Communications). Without their constant efforts, from them and the teams of which they were responsible, the quality of this 10th volume of the JIRIRI would not be this great. Thank you all.

Lettre des rédacteurs adjoints séniors

SIMON COULOMBE¹, PH. D, & ROXANE DE LA SABLONNIÈRE², PH. D.

Wilfrid Laurier University¹, Université de Montréal²



« La réussite appartient à tout le monde. C'est au travail d'équipe qu'en revient le mérite. » - Franck Piccard, skieur alpin

Le JIRIRI célèbre ses dix ans cette année. S'appuyant sur le processus d'évaluation par les pairs développé au cours des neuf années précédentes, le Volume 10 ne fait pas exception aux autres volumes. Ainsi, il a été bâti par les efforts acharnés d'étudiant(e)s, la plupart au premier cycle. C'est grâce à la synergie de leurs efforts, que nous pouvons aujourd'hui présenter au lectorat dix articles de grande qualité apportant un éclairage original sur l'identité humaine ainsi que les relations entre les individus et les groupes.

Le JIRIRI a commencé par un rêve un peu fou de Dre. de la Sablonnière. En tant qu'étudiant, Dr. Coulombe faisait alors aussi partie de l'équipe fondatrice. En rétrospective, le JIRIRI s'est avéré une aventure durable ayant permis à des centaines d'étudiant(e)s d'enrichir leur formation en recherche soit en publiant un article ou en faisant partie de l'équipe éditoriale, ou bien comme évaluateurs. Au cours des années, témoignage du rayonnement du JIRIRI dans les milieux académiques ici et à l'international, nous avons constaté une amélioration significative de la qualité des publications des étudiant(e)s-chercheur(e)s. Nous avons aussi pu voir une amélioration de la qualité des évaluations et des lettres d'édition rédigées par les étudiant(e)s dans le processus d'évaluation. Nous tenons à féliciter les auteur(e)s et étudiant(e)s pour leur excellent travail, leur motivation et leur souci de la rigueur.

Le JIRIRI se fonde sur modèle centré sur l'étudiant(e), à travers lequel les membres de l'équipe éditoriale s'investissent dans leurs apprentissages. Ils participent à des séances de formation à la recherche et la publication, et prennent part à un mode de fonctionnement qui favorise l'autonomie et le partage des savoirs. Ce modèle

commence à inspirer la mise en place d'autres revues scientifiques avec révision par des pairs étudiants. Objectif important de la phase actuelle de notre développement, le JIRIRI souhaite promouvoir ce modèle et faire profiter de l'expertise acquise au cours des dix dernières années.

Le taux de refus a été plus faible cette année. Pour ce faire, malgré les nombreux manuscrits reçus, un nombre plus limité a été retenu pour entamer le processus de révision. Cela a permis aux éditeurs et rédacteurs adjoints d'offrir un soutien constant et personnalisé (par ex., possibilité d'une vidéoconférence pour discuter des commentaires) à travers les tours de révisions, favorisant l'amélioration de la qualité jusqu'à l'atteinte des standards élevés de publication. Grâce au travail de coordination de la rédactrice en chef et à la collaboration de tous, le processus de révision a été particulièrement efficace (mais tout aussi approfondi), alors que plusieurs manuscrits ont été prêts pour publication dès la fin 2016.

Les climats politiques et sociaux actuels sont marqués par des bouleversements et des inquiétudes importantes. Dans ce contexte, l'équipe du JIRIRI reste persuadée qu'il est essentiel d'être solidaire et de travailler ensemble dès le baccalauréat, en suivant un processus de révision par les pairs, pour publier des idées et données sur des enjeux psychologiques et sociaux cruciaux. Avec de telles idées qui carburent à la motivation des étudiant(e)s, nous pouvons contribuer à améliorer la qualité de vie des individus et communautés, et changer le monde... un article à la fois! Cette philosophie du JIRIRI restera, nous l'espérons, centrale pour le JIRIRI, à qui nous souhaitons encore 10 autres années, et bien plus!

Letter from the Senior Associate Editors

SIMON COULOMBE¹, PH. D, & ROXANE DE LA SABLONNIÈRE², PH. D.

Wilfrid Laurier University¹, Université de Montréal²



"Success belongs to everyone. It's the teamwork that gets the credit" - Franck Piccard, alpine skier

The JIRIRI is celebrating its 10 year anniversary this year. Relying on the peer-review process developed in the past nine years, the 10th volume of the JIRIRI is no different from previous volumes. In fact, it was built by hardworking students, mostly at the undergraduate level. It is thanks to the synergy of their efforts that we can now present to the readers ten articles of high quality, shining an original light upon human identity as well as the relationships between individuals and groups.

The JIRIRI began with a rather crazy dream of Dr. de la Sablonnière. As a student, Dr. Coulombe was also part of the founding team. In retrospect, the JIRIRI has proven to be a sustainable adventure that has enabled hundreds of students to enrich their research training either by publishing an article, by being part of the editorial board, or as reviewers. Over the years, as a testimony to the influence of the JIRIRI in academic circles here and abroad, we have seen a significant improvement in the quality of the publications of the student-researchers. We also saw an improvement in the quality of the evaluations and the editor letters written by the students during the reviewing process. We would like to congratulate the authors and students for their excellent work, their motivation, and their concern for rigor.

The JIRIRI is based on a student-centered model, through which the members of the editorial board invest themselves in their own learning. They participate in research and publication training sessions, and participate in a process that promotes their

empowerment and knowledge-sharing. This model is starting to inspire the creation of other peer-reviewed scientific journals. As an important objective of the current phase of our development, the JIRIRI wishes to promote this student-centered model and to make others benefit from the expertise acquired during the last ten years.

The JIRIRI's refusal rate was lower this year. In order to do so, despite the many manuscripts received, a more limited number was selected to begin the revision process. This allowed editors and associate editors to provide ongoing and personalized support (e.g., a videoconference to discuss comments regarding the manuscript) through the revision rounds, therefore achieving high standards of publication. Through the coordination work of the Editor in Chief and the collaboration of all, the reviewing process was particularly effective (but equally thorough), with a lot of manuscripts ready for publication by the end of 2016.

Current political and social climates are marked by major upheaval and concern. In this context, the JIRIRI team remains convinced that it is essential to be in solidarity and to work together at the undergraduate level, following a peer-review process, in order to publish ideas and data on crucial psychological and social issues. With such ideas that fuel the motivation of students, we can help improve the quality of life of individuals and communities, and also change the world... one article at a time! This JIRIRI philosophy will remain, we hope, central to the JIRIRI, to whom we wish another ten years and much more!

Processus de révision par les pairs

Le JIRIRI a mis au point un processus de révision par un comité de pairs adapté aux étudiants universitaires de premier cycle. Chaque membre de l'équipe éditoriale possède des tâches précises, qui visent l'apprentissage et le développement de compétences liées au domaine de la publication scientifique. L'équipe éditoriale est guidée par le *rédacteur en chef*, qui assure le bon déroulement du processus de révision et de publication tout en respectant l'échéancier. Les tâches du *chef d'édition* consistent à mettre à jour les documents du JIRIRI, à organiser des ateliers de formation pour les évaluateurs, et à superviser la mise en page du JIRIRI. La *directrice des communications* est responsable de la promotion et du financement. Par exemple, elle rédige des demandes de bourses pour permettre la publication et l'expansion du JIRIRI. La *responsable de la diffusion* a pour but la diffusion du concept de publication scientifique par un processus de révision par les pairs, entre autres en donnant accès à nos documents à la communauté universitaire. Les *rédacteurs adjoints* sont responsables du processus de révision et de publication des manuscrits soumis.

Le processus d'évaluation des manuscrits se déroule en trois étapes. Le rédacteur en chef amorce le processus en effectuant une sélection parmi les manuscrits soumis, puis envoie ces manuscrits aux rédacteurs adjoints. Ceux-ci

s'assurent que tous les manuscrits font d'abord l'objet d'une évaluation par cinq évaluateurs, quatre étudiants de premier cycle, et un évaluateur invité, étudiant aux cycles supérieurs. Suite à ces évaluations, un des membres du comité éditorial prend en charge l'intégration de l'ensemble des commentaires formulés afin de fournir à l'auteur une synthèse des commentaires par le biais d'une *lettre d'édition*. Ensuite, les éditeurs consultants, des étudiants aux cycles supérieurs ou des étudiants ayant complété leurs études de premier cycle, passent en revue les lettres d'édition dans le but de mieux guider les auteurs et de superviser le travail des éditeurs. De plus, Simon Coulombe, Ph. D., et Roxane de la Sablonnière, Ph. D. agissent à titre de rédacteurs adjoints séniors et supervisent tout le processus en collaboration avec le rédacteur en chef. Suite à une nouvelle soumission du manuscrit par l'auteur, de nouveaux tours d'évaluation se déroulent selon le même principe jusqu'au moment où l'article est jugé convenable pour fin de publication. Plus le processus de révision avance, plus les modifications exigées deviennent spécifiques et détaillées. Ainsi, le premier tour vise principalement à s'assurer de la contribution scientifique du manuscrit. Puis, les étapes subséquentes visent l'amélioration d'aspects précis tels que la correction des analyses statistiques. Durant la totalité du processus, l'équipe éditoriale s'engage à offrir de l'aide et du soutien aux auteurs. Grâce à la collaboration de tous ces gens, le JIRIRI peut atteindre ses objectifs et sa mission.

Peer-Review Process

The JIRIRI has developed a peer-review process that has been adapted for university undergraduate students. Each member of the JIRIRI team is responsible for specific tasks that aim at developing important skills in the field of scientific publication. The editorial board is guided by the *Editor in Chief*, who ensures the smooth progress of the review and correction process by encouraging other team members to respect deadlines. The tasks of the *Managing Editor* consist of updating JIRIRI's documents, organizing workshops for reviewers and supervising the page layout of the JIRIRI. The *Communications Director* promotes and finds financing for the JIRIRI. For example, he submits grant applications that allow for the publication and expansion of the JIRIRI. The *Head of Broadcasting's* mission is to spread the use of a peer-review process in scientific publication, by giving access to our training material and tools to the university community, among other ways. The *Associate Editors* are responsible for the review and publication process of the submitted articles.

The review process has three parts. First, the Editor in Chief makes a preliminary selection of the manuscripts, retaining those that comply with the JIRIRI's mission, and sends them

to the Associate Editors. The Associate Editors ensure that all articles are reviewed by four undergraduate *reviewers* and one *guest reviewer*, who must be a graduate student. Following the reception of the reviews, the Associate Editor provides a summary of the comments to the manuscript's author in an *Editor's Letter*. In addition, the *Consulting Editors*, graduate students or students who have finished their undergraduate degree, review the editor's letter to provide guidance to the authors and the editor in charge of the paper. The entire process is supervised by the *Senior Associate Editors*, Simon Coulombe, Ph. D., & Roxane de la Sablonnière, Ph. D. in collaboration with the Editor in Chief. Several rounds of reviews may be undertaken until the manuscript is judged suitable for publication. As the review process moves from the first to the last round of reviews, the comments and modifications required become more specific and detailed. At first, the reviewing process ensures the overall scientific contribution of the paper. Then, subsequent rounds are aimed at improving more precise and detailed aspects, such as statistical analyses. Throughout the entire process, the editorial team is readily available to offer help and support to the authors. Thanks to the collaboration of the entire team as well as the authors, the JIRIRI has been able to reach its goals and mission.

Communication as a Mediator Between Personal Characteristics – Five-Factor Personality Traits, Emotional Intelligence, Self-Disclosure – and Romantic Relationship Satisfaction

SARAH MACKAY & KENNETH CRAMER, PH. D.
University of Windsor

The present study explored the relation between personal characteristics and romantic relationship satisfaction as mediated by communication. Couples in established heterosexual romantic relationships of at least 3 months ($N = 96$ couples) were recruited from an undergraduate population at a university through a psychology participant pool system. It's been hypothesized that there would be a relation between predicting variables — four of five-factor personality traits, emotional intelligence and self-disclosure — and relationship satisfaction as mediated by communication behaviours. Results indicate that for both genders, conscientiousness is related to one's own relationship satisfaction which is mediated by communication. For women only, communication mediated the relation between emotional intelligence and her relationship satisfaction. For men and women, self-disclosure is related to both one's own and one's partner's relationship satisfaction which is mediated by communication. Collectively, these results suggest that personal characteristics are related to communication which influences the relationship satisfaction of both members of a couple.

Keywords: communication, relationship satisfaction, personality traits, emotional intelligence, self-disclosure

La présente étude explore la relation entre des caractéristiques personnelles et la satisfaction dans une relation romantique telle que médiées par la communication. Des couples étant, depuis au moins trois mois, dans une relation amoureuse hétérosexuelle ($N = 96$ couples) ont été recrutés dans une population d'étudiants au premier cycle à travers un système de recrutement de participants en psychologie. Notre hypothèse suppose qu'il y aura une relation entre des variables prédictives — quatre des cinq traits de personnalité du modèle à cinq facteurs, l'intelligence émotionnelle et l'autorévélation — et la satisfaction dans la relation, telle que médiées par les comportements de communication. Les résultats indiquent que pour les deux sexes, le caractère conscientieux du participant est lié à sa satisfaction dans la relation, ce qui est médiés par la communication. Chez les femmes seulement, la communication agit aussi comme médiateur de la relation entre l'intelligence émotionnelle et la satisfaction dans la relation. Pour les hommes et les femmes, l'autorévélation du participant est liée à sa propre satisfaction dans la relation ainsi qu'à la satisfaction du partenaire, ce qui est médiés par la communication. Dans l'ensemble, ces résultats suggèrent que les caractéristiques personnelles sont liées à la communication qui influence la satisfaction des deux membres du couple dans la relation.

Mots-clés : communication, satisfaction à l'égard de la relation, traits de personnalité, intelligence émotionnelle, autorévélation

Relationships are central to being human, and forming these relationships is an innate and biological component of human behaviour. Research on romantic relationship satisfaction has become increasingly important since people are more easily abandoning long term monogamous relationships and marriages. In Canada, divorce rates as of 2008 have reached 40.70% nationwide, and 42.10% within Ontario (Statistics Canada, 2011). Marital dissolution has become increasingly common and is a serious social

The author would like to thank Dr. Kenneth Cramer for his guidance in data analysis. A special thank you to each member of the JIRIRI team for their valuable feedback and advice during the reviewing process. Please address all correspondence concerning this article to Sarah Mackay (email: mackay111@uwindsor.ca).

issue in terms of the negative consequences for the mental and physical health of spouses. In a four-year longitudinal study, Gottman and Levenson (1992) compared relationship stability and dissolution in regulated and nonregulated married couples. Regulated couples are those who had more positive interactions, whereas nonregulated couples were more likely to be defensive, engage in conflict, be stubborn, and avoid interactions with their significant other. Findings indicated that nonregulated couples experienced lower marital satisfaction and greater risk for marital dissolution and separation than regulated couples. Past studies have indicated inherent connections between personal characteristics and relationship satisfaction. The present study will

explore if communication between partners mediates the relation between romantic relationship satisfaction and three personal characteristic and behavioural variables: (1) the five-factor personality traits (Heller, Watson, & Hies, 2004; Malouff, Thorsteinsson, Schutte, Bhullar, & Rooke, 2010; Zentner, 2005), (2) emotional intelligence (Brackett, Warner, & Bosco, 2005; Gonzaga, Campos, & Bradbury, 2007; Malouff, Schutte, & Thorsteinsson, 2014), and (3) self-disclosure (Luster, Nelson, & Busby, 2013; Uysal, Lin, Knee, & Bush, 2012) and romantic relationship satisfaction.

Influence of Romantic Relationship Satisfaction on Mental Health

Romantic relationship satisfaction is associated with mental and physical health (Beach, Katz, Kim, & Brody, 2003; Prigerson, Maciejewski, & Rosenheck, 1999; Whisman, 1999). Researchers found that marital dissolution was associated with an increase in depressive symptoms, sleep, and foot problems (Prigerson et al., 1999). Results showed that intense grief was linked to significant health impairments such as arthritis and hypertension. Evidence suggests that marital dissatisfaction is related to depressive symptoms in married couples. Whisman (1999) found that marital dissatisfaction was related to major depression and posttraumatic stress disorder for women, and uniquely related to dysthymia for men. In a subsequent study, Whisman, Sheldon, and Goering (2000) examined the relation between psychiatric disorders and dissatisfaction within married participants. After controlling for comorbid disorders, results indicated that romantic relationship dissatisfaction was solely related to major depression, simple phobia, generalized anxiety disorder, and alcohol dependence or abuse for both genders. Clearly, relationship satisfaction is related to well-being.

Two studies have shown a relation between romantic relationship dissatisfaction and psychiatric disorders; however, neither have established causal connections since they were cross-sectional. Whisman and Bruce (1999) examined the association between marital dissatisfaction at baseline (Time-1) and incidence of major depressive episodes (MDE) one year later (Time-2) in a sample of married individuals who did not meet the criteria for MDE at baseline. Results indicated that dissatisfaction at Time-1 was a risk factor for MDE at Time-2, in participants who were not previously depressed. More specifically, dissatisfied spouses were almost 3 times more likely to develop MDE than nondissatisfied couples even after controlling for both demographic characteristics and history of depression. Beach and colleagues (2003) similarly showed that for both husbands and

wives, marital quality at Time-1 predicted their partner's depressive symptoms one year later. Combined, these studies suggest that marital dissatisfaction can be used to predict increases in depressive symptoms over time. In summary, romantic relationship satisfaction can impact mental and physical health, and understanding this connection is important for the maintenance of one's health.

Factors Related to Satisfaction in Romantic Relationships

Five-factor model personality traits. A useful taxonomy for categorizing thousands of personality traits and for integrating the diverse findings about these traits is the five-factor model (Heller et al., 2004). The hierarchical model has five broad factors: openness to experience, neuroticism, extraversion, conscientiousness, and agreeableness (Gosling, Rentfrow, & Swann, 2003).

Studies show that most of the five factor traits are related to marital and relationship satisfaction, with the exception of openness to experience (Heller et al., 2004; Malouff et al., 2010). For example, Heller and colleagues (2004) examined the association between the Big Five personality traits and five satisfaction criteria in a meta-analysis, and found that four of the five traits were associated with marital satisfaction. Neuroticism was negatively associated with self-rated marital satisfaction. On the other hand, agreeableness, conscientiousness, and extraversion were positively associated with self-rated marital satisfaction.

More recently, Malouff and colleagues (2010) conducted a meta-analysis with almost 3900 participants that showed that relationship satisfaction among intimate heterosexual partners was related to scores on four of the five-factor model personality factors: specifically, lower neuroticism, and higher agreeableness, conscientiousness, and extraversion were associated with partner satisfaction. Results did not vary significantly by sex, or from married to unmarried couples, suggesting that the relation between personality traits and relationship satisfaction is generalizable. The main findings of both meta-analyses support the utility of the five-factor model of personality in predicting relationship satisfaction of an individual's intimate partner: an important interpersonal outcome.

Emotional intelligence. Emotional intelligence (EI) has been described as the ability to perceive emotions (e.g., identification of emotion from the facial expression of others), understand emotions (e.g., understanding the transition of emotion from one component to another), use emotions (e.g., using emotion to facilitate thought process) and regulate emotions (or emotion management; Joshi &

COMMUNICATION AND RELATIONSHIP SATISFACTION

Thingujam, 2009; Schutte et al., 1998). These four abilities form a hierarchy, increasing in complexity from emotion perception to emotion management (Brackett et al., 2005); and the fusion of all four abilities provides an overall construct of EI.

EI is a key predictor of romantic relationship satisfaction; Joshi and Thingujam (2009) showed that romantic relationship satisfaction was related to three of the four subscales of EI but not the *Use of Emotion* subscale. After controlling for extraversion, agreeableness, conscientiousness, and social desirability, EI remained correlated with marital adjustment, marital satisfaction, and cohesion, indicating its importance in predicting relationship satisfaction. Gonzaga et al. (2007) found that emotional convergence (i.e., the tendency for two individuals to become more alike across time) mediated the relation between personality convergence and relationship satisfaction among both dating and married couples. This study was important in showing that the associations among personality similarity, emotion similarity, and relationship satisfaction are similar for both married and dating couples.

Brackett et al. (2005) tested the relation between levels of EI and self-reported relationship satisfaction among heterosexual university couples. Results indicated that each person's EI was correlated with their own and their partner's self-reported relationship quality. Interestingly, couples with both partners low on EI tended to have the highest scores on negative relationship quality, whereas couples in which at least one partner (or both) had high EI also had higher relationship satisfaction. Similarly, in a meta-analysis with over 600 participants, Malouff and colleagues (2014) found that EI was correlated with self-reported relationship satisfaction of both members of the couple. The findings of these studies support the utility of EI in predicting one's own and partners' relationship satisfaction.

Self-disclosure. Self-disclosure (SD) is a process of communication by which one person reveals information clearly and regularly to a partner. This is characterized by a willingness to share information which can be thoughts or feelings. SD has been viewed as either a contextual behaviour or an enduring personality trait, but likely depends on both the individual's personality and behaviour (Scapinello, 2004). In this study, SD will be examined as a personal characteristic within the context of romantic relationships. SD is whether or not a person has a personal tendency to communicate; it does not describe how it is happening. Self-concealment, while negatively related to SD, is not simply a lack of self-disclosure; it is rather an active process that involves hiding negative personal information from others

(Uysal et al., 2012). Self-disclosure is an important concept as SD is positively correlated to relationship satisfaction.

Research has shown that SD is positively correlated to romantic relationship satisfaction for both males and females (Meeks, Hendrick, & Hendrick, 1998). Results indicated that both own and partner-perceived disclosure were significantly and similarly correlated with satisfaction, whereas actual SD is considerably less predictive of relationship satisfaction. Similarly to Meeks et al. (1998), Scapinello (2004) found that for males and females, their own — and their partners' — disclosure of personal information was positively related to romantic relationship satisfaction. In other words, couples felt happier in their relationships when they themselves disclosed personal information *and* when their partner did. Interestingly, males' romantic relationship satisfaction was greatest when their own disclosure was high, whereas females' romantic relationship was highest when partners' own SD was high. Collectively, these studies demonstrate that revealing personal information is beneficial to the happiness of the individuals within the couple.

Self-concealment is negatively correlated to romantic relationship satisfaction (Uysal et al., 2012). Uysal and colleagues (2012) examined whether self-concealment from one's partner was associated with relationship satisfaction in a sample of 165 participants currently in romantic relationships. Consistent with their hypothesis, self-concealment was associated with lower relationship satisfaction which was partially mediated by relatedness needs. Past literature suggests that disclosing relational needs provides romantic relationship partners with enough information to meet them (Scapinello, 2004), whereas self-concealment would impair this process. If relational needs in a relationship are not being met, individuals are less likely to be satisfied than those whose needs are being met. Uysal's and colleagues' (2012) findings support the idea that regardless of the reason for not sharing personal information with one's partner, self-concealment is negatively related to romantic relationship satisfaction.

Communication. Communication has been identified as an important determinant in relationship satisfaction (Christensen & Shenk, 1991; Luster et al., 2013; Meeks, Hendrick, & Hendrick, 1998). Early research examined communication from a narrow lens, focusing solely on just a few negative aspects of communication. In recent years, communication has been more clearly defined, and research has gradually included positive communication behaviours as opposed to negative ones exclusively (Lavner &

Bradbury, 2012; Markman, Rhoades, Stanley, Ragan, & Whitton, 2010). Negative communication behaviours include (but are not limited to) criticizing, blaming, being aggressive, manipulating, being distrustful, and being on the defensive. Conversely, positive communication behaviours include sharing emotion, discussing problems, expressing concerns, being supportive, listening and remembering shared information. Examining both negative and positive aspects of communication includes a wider range of relevant behaviours and provides a greater depth of understanding regarding romantic relationships.

Most studies examining communication patterns did so within the context of marriages and used communication as a predictor of divorce. Christensen and Shenk (1991) found that compared to nondistressed couples, distressed couples exhibited less constructive communication, more avoidance, more demand or withdraw, and more conflict over psychological distance. Markman et al. (2010) found that couples with higher levels of premarital negative communication showed lower levels of adjustment over the first five years of marriage, and that negative communication was significantly associated with divorce. Lavner and Bradbury (2012) identified 136 couples that reported high levels of relationship satisfaction in the first four years of marriage. At the 10-year follow-up, they reported that divorced couples displayed more negative communication than those who remained married. Whereas these longitudinal studies have concluded that negative communication is the best predictor of divorce, neither study examined how positive and negative communication was related to satisfaction.

Several studies have identified a relation between communication and relationship satisfaction. Markman (1981) examined marital outcomes and found that couples' own rating of their communication during a conflict discussion predicted marital satisfaction five years later. Even though better communication ratings before marriage were not associated with initial satisfaction, they were related to higher relationship satisfaction five years later. Similarly, Gottman, Coan, Careere, and Swanson (1998) examined newlywed couples' ratings of communication quality and found that it was positively correlated to stability and satisfaction as well as negatively related to divorce and unhappiness six years later. Despite these findings, others have indicated that communication is solely related to later relationship satisfaction, but not to divorce (Markman et al., 2010). Furthermore, wives' communication better predicts satisfaction than husbands', and negative communication is correlated to satisfaction, but only when there are low levels of positive communication.

How Important is Communication Regarding Personal Characteristics?

Despite claims that communication is central to relationship satisfaction, few studies have shown that communication mediates the relation between personal characteristics and romantic relationship satisfaction. The studies that have examined this relation explored communication-related variables that are different from examining couples' self-perceived ability to communicate. For example, Meeks et al. (1998) examined perspective-taking, self-disclosure, conflict tactics, and relationship satisfaction. Whereas this study demonstrated that self-disclosure mediates the relation between romantic relationship satisfaction and self-concealment, there is an important distinction between self-disclosure and communication. Self-disclosure is a personality characteristic; the tendency to communicate does not describe the quality of the communication behaviour itself.

Emotionally intelligent individuals report higher levels of relationship satisfaction. Whereas Malouff and colleagues (2014) suggested that EI was related to constructive communication patterns, Brackett et al. (2005) suggested that emotionally intelligent people tend to communicate more support to their partner. It is likely that emotionally intelligent individuals develop active listening skills, and attend to their partners' nonverbal messages. Furthermore, these individuals might be able to communicate their understanding of their partner's emotion and empathy for their partner's feelings. In these ways, emotionally intelligent individuals contribute to relationship satisfaction.

Although researchers have not yet examined the relation between personality traits and their link to communication, a few have discussed that these variables are related. Christensen and Shenk (1991) suggested that communication as well as personality compatibility/incompatibility distinguishes distressed from nondistressed couples. Similarly, individual traits from the five-factor personality model manifested through communication behaviours can contribute to relationship satisfaction. For instance, extraverted individuals tend to be more talkative and conscientious individuals that avoid confrontation and are more reliable. Agreeable individuals, are more compassionate and cooperative. In some case, they will even compromise. Lastly, individuals who are less neurotic tend to be calmer and more willing to listen. In these ways, personality traits contribute to communication in romantic relationships.

Summary and Hypotheses

Communication is imperative to relationship satisfaction. Past literature has shown that five-factor

COMMUNICATION AND RELATIONSHIP SATISFACTION

personality traits, emotional intelligence, and self-disclosure are related to relationship satisfaction, and that communication is related to each of these concepts. Some researchers have suggested that communication acts as a middle variable between personal characteristics and relationship satisfaction (Usyal et al., 2012). For example, they postulate that the reason why there is a correlation between EI and relationship satisfaction is that partners with high EI utilize a unique communication style. This communication style (i.e., better listening skills and empathy) makes partners feel understood and validated. When conflicts arise in the context of a romantic relationship, the way the couple handles the conflict is key to remain satisfied in the relationship. Whereas conflict is commonly perceived as negative, it is a normal part of romantic relationships. Couples with positive communication skills that foster discussions regarding underlying disagreements can likely overcome certain hurdles. However, those with negative communication patterns are less likely to resolve conflict or will avoid it altogether.

Despite the importance of communication in romantic relationship satisfaction, few studies have examined communication as a mediator between personality traits and romantic relationship satisfaction. It is important to examine this relation to increase knowledge of how communication can impact couples' personal happiness. The current study will determine if communication mediates the relation between three variables — i.e., (a) personality traits, (b) emotional intelligence, and (c) self-disclosure — and relationship satisfaction, the dependent variable. The hypotheses for the current study are;

Hypothesis 1: Based on research by Heller et al. (2004) and Malouff et al. (2010) who found that four of the five traits from the five-factor personality model — neuroticism, agreeableness, conscientiousness and extraversion — were associated with partner relationship satisfaction, it was hypothesized that communication would mediate this relation.

Hypothesis 2: Based on research by Brackett et al. (2005) and Malouff et al. (2014) who found that EI was substantially associated with relationship satisfaction, it was hypothesized that communication would mediate this relation.

Hypothesis 3: Based on research by Meeks et al. (1998) who found that self-disclosure was associated with relationship satisfaction, it was hypothesized that communication would mediate this relation.

Method

Participants

The final sample consisted of 96 heterosexual couples (96 men and 96 women). Each couple was composed of a university student enrolled in a psychology course at the time of the study and his or her romantic partner. Ages ranged from 18 to 39 for female participants ($M = 20.50$, $SD = 2.70$), and 17 to 38 for male participants ($M = 21.50$, $SD = 3.34$). Couples' relationship length by category was 3-6 months (11.50%), 6-12 months (20.80%), 1-2 years (21.90%), and over 2 years (45.80%). Most couples' relationship status was dating (89.50%) followed by engaged (4.20%), married (4.20%), and common law (2.10%).

The inclusion criterion for participation was to currently be in a heterosexual romantic relationship that began at least three months ago. Both members of the couple were required to participate. The reason for this is that couples in short-term relationships have not evaluated their partners' individual characteristics, or have not had time to do so accurately (Brackett et al., 2005). Homosexual couples were excluded since the likelihood that there were enough couples to run a statistical analysis was very low and it would be unethical to ask them to participate if the data were not used. Furthermore, past literature has indicated there are sex differences in EI (Brackett et al., 2005), therefore homosexual couples may have altered results.

Measures

Five questionnaires were used within this study, one for each of the following: personality compatibility, EI, self-disclosure, communication and relationship satisfaction.

The *Ten-Item Personality Inventory* (Gosling et al., 2003) is a 10-item measure that examines the five-factor personality traits. It consists of items that assess one's openness to experience, conscientiousness, extraversion, agreeableness, and emotional stability. Two questions assess each personality trait and the response categories range from 1 (*strongly disagree*) to 5 (*strongly agree*). For conscientiousness, the items are: *dependable/self-disciplined* and *disorganized/careless*. The latter is reverse scored. The correlations to other similar measures exceeded .90 and there was good evidence for construct validity (Gosling et al., 2003). In the current study, inter-item correlations were calculated for each pair of items for the five subscales. Three of five pairs of items had significant inter-item correlations ($p < .01$); extraversion, conscientiousness and neuroticism for males ($r = .77$, .34, and .53, respectively) and females ($r = .62$, .44

and .56, respectively; see Table 1). Inter-item correlations were non-significant ($p > .05$) for agreeableness and openness to experience for males ($r = .05$ and .19, respectively) and females ($r = .13$ and .17, respectively).

The *Schutte Self-Report Inventory* (Schutte et al., 1998) is a 33-item measure testing EI, and is also known as the *Emotional Intelligence Scale (EIS)*. This measure assesses four aspects of EI: (1) perception, (2) appraisal, (3) utilization and (4) regulation of emotion. For example, responses to “*By looking at their facial expressions, I recognize the emotions people are experiencing.*” range from 1 (very inaccurate) to 5 (very accurate). This measure has been shown to have good internal consistency ($\alpha = .87$, Schutte et al., 1998). In the present study, Cronbach’s α was .88 for both men and women.

The *Self-Disclosure Index* (Miller, Berg, & Archer, 1983) is a 10-item Likert measure that assesses the breadth of personal information an individual had revealed to a particular target person. In this study, the target person was the participant’s romantic relationship partner. For instance, one question is “*I discuss what I like and dislike about myself with my partner.*”, where answers range from 1 (strongly disagree) to 5 (strongly agree). Their reliability analysis suggests that the internal consistency is more than adequate, varying from $\alpha = .87$ to .93 for men, and $\alpha = .86$ to .93 for women (Miller et al., 1983). In the present study, Cronbach’s α was .86 for men and .89 for women.

The *Relationship Communication Scale* was adapted from the *Adult Mood and Communication*

Questionnaire (Isaki & Harmon, 2015) as well as the longitudinal version of the *Patient Perceptions of Communication* (Begley et al., 2015). The communication measure also includes information received from Dr. Patti Fritz (personal communication, September 25th 2015) regarding communication faults in romantic relationships. The *Relationship Communication Scale* is a 30-item Likert measure that assesses both positive and negative aspects of communication within romantic relationships. The emphasis on positive and negative types of communication in the literature is reflected in the measures used in the present study. For example, “*I am attending to my partner nonverbally (i.e., looking at my partner, nodding, open body language).*” reflects a positive aspect of communication, whereas “*I get defensive with my partner.*” reflects a negative aspect of communication. Responses ranged from 1 (never) to 5 (all the time) where negative types of communication were reverse coded. In the present study, Cronbach’s α was .85 for men and .87 for women.

The *Relationship Assessment Scale* (Hendrick, 1988) is a 7-item Likert measure of general relationship satisfaction. There are five response categories for each item but their content differs from item to item. For example, the response categories for the item “*In general how satisfied are you with your relationship?*” range from 1 (unsatisfied) to 5 (extremely satisfied), whereas the response categories for the item “*How many problems are there in your relationship?*” range from 1 (very few) to 5 (very many). Negatively worded items (items 4 and 7) were reversed prior to summation so that higher scores indicate greater relationship satisfaction. This measure

Table 1
Correlations Within Gender, Means, Standard Deviations, Cronbach’s Alpha Reliability and Inter-item Correlations for Personal Characteristics, Communication, and Relationship Satisfaction

	1	2	3	4	5	6	7	8	M	SD	r	α
1. Extraversion	-	-.60	.22*	.28**	.29**	.16	.19	.17	3.25	0.94	.62**	-
2. Agreeableness	-.22*	-	.12	.31**	.15	.01	.14	.10	3.41	0.66	.13	-
3. Conscientiousness	-.03	.13	-	.29**	.44**	.35**	.39**	.33**	4.03	0.75	.44**	-
4. Neuroticism	.04	.10	.17	-	.31**	-.17	.27**	.00	3.06	0.87	.56**	-
5. Emotional Intelligence	.43**	.18	.27**	.19	-	.39**	.37**	.25*	3.87	0.40	-	.88
6. Self-disclosure	.29**	.09	.00	-.60	.43**	-	.30**	.45**	4.45	0.52	-	.89
7. Communication	.23*	.05	.24*	.14	.29**	.39**	-	.62**	4.02	0.43	-	.87
8. Relationship Satisfaction	.04	.16	.16	.13	.12	.42**	.39**	-	4.37	0.66	-	.87
M	3.21	3.47	3.79	3.59	3.84	4.16	3.92	4.43				
SD	1.12	0.68	0.81	0.84	0.39	0.56	0.42	0.58				
r	.77**	.05	.34**	.53**	-	-	-	-				
α	-	-	-	-	.88	.86	.85	.84				

Note. N = 96. Statistics above the diagonal correspond to the women subsample and those below correspond to men subsample. * $p < .05$; ** $p < .01$.

COMMUNICATION AND RELATIONSHIP SATISFACTION

has a good internal consistency ($\alpha = .86$; Hendrick, 1988). In the present study, Cronbach's α was .84 for men and .87 for women.

The *Demographic Questionnaire* was also included for information regarding age, gender, relationship status, frequency and modes of interaction, proximity to partner and length of relationship.

The *Information Verification Questions* asked participants to report their efforts and attention during the completion of this study. The scale also asked if the participant feels their data should be used in the analysis.

Procedure

Couples currently in a heterosexual relationship of at least three months signed up for the online study. Only couples who met these inclusion criteria were permitted to complete the survey. After both members indicated interest in participating, they were independently provided with the online survey link and a research identification number. Participants' research identification numbers were linked to their romantic partner's identification number so that their data could be appropriately paired during analyses. Following receipt of the study information, participants were afforded one week to complete the study. Participants who did not complete the study within three days of the deadline were issued a brief reminder email.

Upon opening the survey, participants entered their assigned research identification number which consisted of three numbers and either the letter A or B. This step was required in order to continue to the survey. After entering their research identification number, participants reviewed the conditions for participating in the consent form. Two consent forms were used to reflect different compensation of 0.5 bonus marks and entered into a \$50.00 Visa Gift Card draw for participants registered in the psychology pool and their romantic partner, respectively. Participants

who indicated agreement to participate in the consent form were presented with five questionnaires, followed by the demographic questions and information verification questions. At the end of the survey, participants received an online letter of information, which asked the participant not to discuss the survey until their significant other had completed the survey.

Results

Preliminary Analyses

Correlations between study variables, means and standard deviations were calculated for every scale for males and females.

Further analyses, as shown in Table 2, indicate significant correlations between both genders' relationship satisfaction ($r = .47$), both genders' communication ($r = .26$), male communication and female satisfaction ($r = .30$) and female communication and male satisfaction ($r = .34$).

Hypothesis Testing

A mediation model tests the relation between a predicting variable and a dependent variable by including a mediating variable. A mediating variable serves to clarify the nature of the relationship between the predicting and dependent variables (MacKinnon, 2008). Baron and Kenny (1986) outlined two requirements (Step-1 and Step-2) that must be met for a true mediation to occur in Step-3. In Step-1, the dependent variable is regressed on the predicting variable to establish there is an effect that can be mediated. In Step-2, the predicting variable is regressed on the mediating variable because if this association is non-significant then it cannot act as a mediator. If both steps are significant, Step-3 may be conducted. In Step-3, both the mediator and the predicting variable are regressed onto the dependent variable. This step demonstrates that when the mediator and the predictor variables are used

Table 2

Correlations Between Men's and Women's Responses for Three Personal Characteristics, Communication, and Relationship Satisfaction

Men	Women							
	1	2	3	4	5	6	7	8
1. Extraversion	.09	.04	.19	.17	.20	-.01	.22*	.10
2. Agreeableness	.04	.09	-.08	-.08	-.01	.10	-.07	.00
3. Conscientiousness	.42	.11	-.10	.08	-.01	-.07	.10	.22*
4. Neuroticism	.15	-.11	.01	-.11	-.08	.04	-.02	.06
5. Emotional Intelligence	.08	.11	.16	.19	.09	.06	.19	.18
6. Self-disclosure	-.01	.03	.12	-.09	.01	.20	.06	.24*
7. Communication	.20	-.05	.14	-.01	.03	.10	.26**	.30**
8. Relationship Satisfaction	.07	.25*	.30**	.14	.08	.19	.34**	.47**

Note. $N = 96$. * $p < .05$; ** $p < .01$.

simultaneously to predict the dependent variable, the previously significant path between the predictor and dependent variable (Step-1) is now reduced, if not nonsignificant (Baron & Kenny, 1986).

Five-factor personality traits and one's own relationship satisfaction. A multiple regression analysis was conducted among male respondents to determine if each male respondent's communication mediated the relation between his personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) and his own relationship satisfaction. In Step-1, there were no significant predictors of relationship satisfaction (see Table 3). Thus, male personality traits were not significantly related to his own satisfaction.

Among female respondents, in Step-1, conscientiousness was the only significant predictor (among the five personality factors) of her relationship satisfaction, $F(1, 94) = 11.22, p = .001, \beta = .33$. In Step-2, conscientiousness was a significant predictor of communication, $F(1, 94) = 16.77, p < .001$. In Step-3, conscientiousness was no longer a significant predictor of relationship satisfaction with communication included in the model, $p = .249, \beta = .10$ (see Table 3). The Sobel test was employed to check if the mediating variable significantly carries the influence of the predicting variable (conscientiousness) to the dependent variable (relationship satisfaction). The results suggest that the association between her conscientiousness and her own relationship satisfaction is significantly mediated by her communication ($z = 3.48, p < .001$). Together, these results suggest that female communication mediates the relationship between her conscientiousness and her own relationship satisfaction.

Five-factor personality traits and one's partners' relationship satisfaction. A multiple regression analysis was conducted among male respondents to determine if male communication mediated the relation between their personality traits and their female partner's relationship satisfaction. In Step-1, male conscientiousness was the only significant predictor of female relationship satisfaction, $F(1, 94) = 4.53, p = .036, \beta = .22$. In Step-2, male conscientiousness was a significant predictor of his communication, $F(1, 94) = 5.69, p = .019$. In Step-3, conscientiousness was no longer a significant predictor of female relationship satisfaction after accounting for male communication, $p = .134, \beta = .15$ (see Table 4). Results of the Sobel test suggest that the association between male conscientiousness and his female partner's relationship satisfaction is significantly mediated by male communication ($z = 1.75, p = .040$). Together, these results suggest that male communication mediates the relation between his conscientiousness and his female partner's relationship satisfaction.

Among female respondents, in Step-1, female conscientiousness and agreeableness were the only two significant predictors (among the five personality factors) of male relationship satisfaction, $F(1, 94) = 9.41, p = .003, \beta = .302$ and $F(1, 94) = 6.13, p = .015, \beta = .26$, respectively. In Step-2, female conscientiousness was a significant predictor of her own communication, $F(1, 94) = 16.77, p < .001$. However, in Step-2, female agreeableness was not a significant predictor of her own communication, $F(1, 94) = 1.97, p = .059$. In Step-3, female conscientiousness was no longer a significant predictor of male relationship satisfaction after accounting for her communication, $p > .05, \beta = .20$ (see Table 4). Results of the Sobel test suggest that the association between her conscientiousness and her

Table 3

Summary of Stepwise Multiple Regression Analyses for Predicting Men's and Women's Romantic Relationship Satisfaction Based on Their Own Personality Traits

Predictors	Men				Women			
	R ²	B	SE	β	R ²	B	SE	β
Step 1								
Extraversion	-	0.02	0.05	.04	-	0.12	0.07	.17
Agreeableness	-	0.14	0.09	.16	-	0.10	0.10	.10
Conscientiousness	-	0.11	0.07	.16	-	0.29**	0.09	.33
Neuroticism	-	0.09	0.07	.13	-	0.00	0.08	.00
Openness to experience	-	0.04	0.09	.05	-	0.12	0.10	.12
Step 2								
Conscientiousness					-	0.23**	0.06	.39
Step 3								
Conscientiousness						0.09	0.08	.10
Communication					.39	0.88**	0.13	.58

Note. N = 96. * $p < .05$, ** $p < .01$.

COMMUNICATION AND RELATIONSHIP SATISFACTION

Table 4

Summary of Stepwise Multiple Regression Analyses for Predicting Men's and Women's Romantic Relationship Satisfaction Based on Their Partner' Personality Traits

Predictors	Men				Women			
	R ²	B	SE	β	R ²	B	SE	β
Step 1								
Extraversion	-	0.06	0.06	.10	-	0.04	0.06	.07
Agreeableness	-	0.00	0.10	.00	-	0.22*	0.09	.25
Conscientiousness	-	0.18*	0.08	.22	-	0.23**	0.08	.30
Neuroticism	-	0.05	0.08	.06	-	0.09	0.07	.14
Openness to experience	-	0.13	0.10	.13	-	-0.01	0.09	-.01
Step 2								
Agreeableness					-	0.09	0.07	.14
Conscientiousness	-	0.12*	0.05	.24	-	0.23*	0.06	.39
Step 3								
Conscientiousness		0.13	0.08	.15		0.15	0.08	.20
Communication	.11	0.41*	0.16	.26	.15	0.35*	0.14	.26

Note. N = 96. * p < .05; ** p < .01.

male partner's relationship satisfaction is significantly mediated by her communication ($z = 2.16, p = .015$). Together, these results suggest that female communication mediates the relation between her conscientiousness and her male partner's relationship satisfaction.

Emotional intelligence and one's own relationship satisfaction. Among male respondents, a multiple regression analysis was conducted to determine if his communication mediated the relation between his EI and relationship satisfaction. In Step-1, there were no significant predictors of relationship satisfaction (see Table 5), therefore male EI is not significantly related to his own satisfaction.

Among female respondents, in Step-1, her EI was a significant predictor of her relationship satisfaction, $F(1, 94) = 6.38, p = .013, \beta = .25$. In Step-2, her EI was a significant predictor of communication, $F(1, 94) = 15.21, p = .002$. In Step-3, female EI was no longer a significant predictor of her relationship satisfaction after accounting for communication, $p = .775, \beta = .03$

(see Table 5). The Sobel test was employed to check if the mediating variable significantly carries influence of the predicting variable (EI) to the dependent variable (relationship satisfaction). Results of the Sobel test suggest that the association between EI and relationship satisfaction is significantly mediated by communication ($z = 3.39, p < .001$). Together, these results suggest that female communication mediates the relationship between her EI and her own relationship satisfaction.

Emotional intelligence and one's partner's relationship satisfaction. Among male respondents, a multiple regression analysis was conducted to determine if his communication mediated the relation between his EI and his female partner's relationship satisfaction. In Step-1, his EI was a marginally significant predictor of her relationship satisfaction, $F(1, 94) = 3.17, p = .181, \beta = .18$. In Step-2, his EI was a significant predictor of communication, $F(1, 94) = 8.38, p = .005$. In Step-3, male EI was no longer a significant predictor of her relationship satisfaction after accounting for his communication, $p = .313,$

Table 5

Summary of Stepwise Multiple Regression Analyses for Predicting Men's and Women's Own Romantic Relationship Satisfaction Based on Emotional Intelligence

Predictor	Dependent	Men				Women			
		R ²	B	SE	β	R ²	B	SE	β
Step 1									
Emotional Intelligence	Relationship satisfaction	-	0.18	0.15	.12	-	0.42*	0.17	.25
Step 2									
Emotional Intelligence	Communication	-				-	0.40**	0.10	.37
Step 3									
Emotional Intelligence	Relationship satisfaction						0.04	0.15	.03
Communication						.38	0.93**	0.13	.61

Note. N = 96. * p < .05; ** p < .01.

$\beta = .10$ (see Table 6). Results of the Sobel test suggest that the association between his EI and his female partner's relationship satisfaction is significantly mediated by his communication ($z = 1.93, p = .027$). Together, these results suggest that male communication mediates the relation between his EI and his female partner's relationship satisfaction.

Among female respondents, in Step-1, her EI was not a significant predictor of his relationship satisfaction, $F(1, 94) = .58, p = .449, \beta = .18$ (see Table 6). Thus, female EI is not significantly related to her male partners' satisfaction.

Self-disclosure and one's own relationship satisfaction. Among male respondents, a multiple regression analysis was conducted to determine if communication mediated the relation between male self-disclosure and his own relationship satisfaction. In Step-1, his self-disclosure was a significant predictor of his relationship satisfaction, $F(1, 94) = 19.63, p < .001, \beta = .42$. In Step-2, self-disclosure was a significant predictor of communication, $F(1, 94) = 16.85, p < .001$. In Step-3, male self-disclosure remained a significant predictor of his relationship satisfaction after accounting for his communication, $p = .002, \beta = .31$ (see Table 7). The Sobel test was

employed to check if the mediating variable significantly carries influence of the predicting variable (self-disclosure) to the dependent variable (relationship satisfaction). Results of the Sobel test suggest that the association between self-disclosure and relationship satisfaction is significantly mediated by communication ($z = 2.50, p = .006$). Together, these results suggest that for males, communication mediates the relationship between his self-disclosure and own relationship satisfaction.

Among female respondents, in Step-1, her self-disclosure was a significant predictor of her relationship satisfaction, $F(1, 94) = 23.62, p < .001, \beta = .45$. In Step-2, self-disclosure was a significant predictor of her communication, $F(1, 94) = 9.03, p < .003$. In Step-3, female self-disclosure remained a significant predictor of significant predictor of her relationship satisfaction after accounting for communication, $p < .001, \beta = .29$ (see Table 7). Results of the Sobel test suggest that the association between self-disclosure and relationship satisfaction is significantly mediated by communication ($z = 2.32, p = .010$). Together, these results suggest that for females, communication mediates the relationship between her self-disclosure and own relationship satisfaction.

Table 6

Summary of Stepwise Multiple Regression Analyses for Predicting Men's and Women's Partner Romantic Relationship Satisfaction Based on Emotional Intelligence

Predictor	Dependent	Men				Women			
		R^2	B	SE	β	R^2	B	SE	β
Step 1									
Emotional Intelligence	Relationship satisfaction	-	0.30	0.17	.18	-	0.11	0.15	.08
Step 2									
Emotional Intelligence	Communication	-	0.30**	0.11	.29	-			
Step 3									
Emotional Intelligence	Relationship satisfaction		0.18	0.17	.10				
Communication		.10	0.42*	0.16	.27				

Note. N = 96. Step 1 for men is marginally significant at $p = .078$. * $p < .05$; ** $p < .01$.

Table 7

Summary of Stepwise Multiple Regression Analyses for Predicting Men's and Women's Own Romantic Relationship Satisfaction Based on Self-Disclosure

Predictors	Dependant	Men				Women			
		R^2	B	SE	β	R^2	B	SE	β
Step 1									
Self-disclosure	Relationship satisfaction	-	0.43**	0.10	.42	-	0.57**	0.12	.45
Step 2									
Self-disclosure	Communication	-	0.29**	0.07	.39	-	0.25**	0.08	.30
Step 3									
Self-disclosure	Relationship satisfaction		0.32**	0.10	.31		0.37**	0.10	.29
Communication		.23	0.37**	0.14	.27	.46	0.81**	0.11	.53

Note. N = 96. * $p < .05$; ** $p < .01$.

Self-disclosure and one's partners' relationship satisfaction.

Among male respondents, in Step-1, his self-disclosure was a significant predictor of his female partners' relationship satisfaction, $F(1, 94) = 5.84, p = .018, \beta = .24$. In Step-2, his self-disclosure was a significant predictor of his communication, $F(1, 94) = 16.85, p < .001$. In Step-3, male self-disclosure was no longer a significant predictor of his female partner's relationship satisfaction after accounting for his communication, $p = .166, \beta = .15$ (see Table 8). Results of the Sobel test suggest that the association between male self-disclosure and his female partners' relationship satisfaction is significantly mediated by his communication ($z = 2.15, p = .016$). Together, these results suggest that for males, his communication mediates the relationship between his self-disclosure and his female partners' relationship satisfaction.

Among female respondents, a multiple regression analysis was conducted to determine if her communication mediated the relation between her self-disclosure and her male partners' relationship satisfaction. In Step-1, self-disclosure was a marginally significant predictor of his relationship satisfaction, $F(1, 94) = 3.48, p = .065, \beta = .19$. In Step-2, self-disclosure was a significant predictor of communication, $F(1, 94) = 9.03, p = .003$. In Step-3, female self-disclosure was no longer a significant predictor of his relationship satisfaction after accounting for her communication, $p = .346, \beta = .10$ (see Table 8). Results of the Sobel test suggest that the association between her self-disclosure and her male partners' relationship satisfaction is significantly mediated by her communication ($z = 1.97, p = .024$). Together, these results suggest that for females, her communication mediates the relationship between her self-disclosure and her male partners' relationship satisfaction.

Discussion

Relationship satisfaction is an important and complex aspect of intimate romantic relationships. Previous research has shown correlations between personal characteristics and relationship satisfaction. This study was the first to evaluate communication as a mediator between three personal characteristics — four five-factor personality traits, EI, self-disclosure — and romantic relationship satisfaction. Two of three hypotheses were partially supported and one was fully supported. The findings from these hypotheses collectively suggest that some personal characteristics influence communication which in turn impacts romantic relationship satisfaction.

Five-Factor Personality Traits

The first hypothesis was partially supported in that the relation between conscientiousness and relationship satisfaction was mediated by communication; however, this was not true for agreeableness, extraversion and neuroticism. The finding that one's conscientiousness is correlated to their own relationship satisfaction (Heller et al., 2004) and their partner's relationship satisfaction (Malouff et al., 2010) is consistent with existing literature. The results from the current study suggest that the initial relation found in past studies between conscientiousness and satisfaction can be explained by communication. Researchers of the five-factor traits have emphasized that perseverance is a defining characteristic that conscientious individuals possess (John, Robins, & Pervin, 2008). In the context of a romantic relationship, this quality is important as these individuals are more likely to remain in the relationship despite the difficulties that arise and can persist over long periods of time. Conscientious individuals tend to be dependable, possess impulse control, and have a strong will to achieve and work towards goals (John et al., 2008). These important

Table 8

Summary of Stepwise Multiple Regression Analyses for Predicting Men's and Women's Partner Romantic Relationship Satisfaction Based on Self-Disclosure

Predictors	Dependant	Men				Women			
		$F(R^2)$	B	SE	β	$F(R^2)$	B	SE	β
Step 1									
Self-disclosure	Relationship satisfaction	-	0.29**	0.12	.19	-	0.21	0.11	.24
Step 2									
Self-disclosure	Communication	-	0.29**	0.07	.30	-	0.25**	0.08	.39
Step 3									
Self-disclosure	Relationship satisfaction	0.18	0.13	.10		0.11	0.11	.15	
Communication		5.56(.11)	0.38*	0.17	.31	6.66(.13)	0.42**	0.14	.24

Note. N = 96. Step 1 for men is marginally significant at $p = .065$. * $p < .05$; ** $p < .01$.

tendencies facilitate task- and goal-directed behaviour, such as thinking before speaking with one's partner, delaying gratification, following boundaries established in the relationship, and being dependable when one's partner needs support. Together, these positive communication styles make partners of conscientious individuals happier in their romantic relationship.

Other studies have examined the effects of conscientiousness on communication in contexts other than romantic relationships. In one such study, Khuong, Linh, Toan, and Phuong (2016) found that of the five factors, conscientiousness has the strongest effect on job performance. They argued that conscientious individuals are better communicators in work-related contexts; they are thoughtful and considerate with coworkers, they are able to express their objectives clearly, and they avoid trouble and confrontation. The idea that this personality trait is correlated to the way individuals communicate is consistent with the findings in the current study. Collectively, these studies demonstrate that conscientiousness can be used as a predictor of important life outcomes such as job performance and relationship satisfaction.

Male and female participants' level of agreeableness, extraversion and neuroticism were not significantly correlated to their partner's relationship satisfaction. This is inconsistent with other studies who have found that all three of these personality traits are linked to marital satisfaction in particular (Heller et al., 2004) and relationship satisfaction in general (Malouff et al., 2010). In the current study, the inter-item correlation for agreeableness was non-significant ($p > .05$) for males ($r = .05$) and females ($r = .13$). Therefore, when the mean of the two items was calculated, it was unclear whether it was measuring what was intended. This might have occurred because agreeableness is a problematic label. John and colleagues (2008) state that 'agreeableness' incorrectly implies submissiveness when it simply refers to the behavioural tendency to agree. Furthermore, they believe that the label is too detached — too neutral to label a factor that is supposed to capture intensely affective characteristics, such as love, compassion and sympathy. This may explain why there was no effect to mediate between agreeableness and relationship satisfaction.

Extraversion and neuroticism were not significantly correlated to their partner's relationship satisfaction for either gender. A proposed explanation is that extraversion and neuroticism take longer to correlate to relationship satisfaction in comparison to other personality traits such as conscientiousness. Because the sample had been dating on average 1-2 years, it is possible that these two traits had not had

enough time to significantly influence partner's relationship satisfaction. Brackett and colleagues (2005) stated that couples in relatively short-term relationships do not evaluate their partners in terms of personal characteristics, or do not have time to evaluate them accurately. Alternatively, it is also possible that individuals are more willing to tolerate their partner's negative personality traits when they have not had compounded influences on that person's patience and satisfaction.

Emotional Intelligence

The second hypothesis was partially supported as the relation between female's EI and her relationship satisfaction was mediated by her communication. However, this was not true for males. This is consistent with Smith, Ciarrochi, and Heaven (2008) who found that EI was related to more constructive communication patterns. This suggests that perhaps emotionally intelligent women can communicate, listen and empathically, and perceive unspoken emotion which in turn influences their own relationship satisfaction. This does not imply that men do not possess these abilities, but rather their EI does not have a strong impact on their own satisfaction. In other words, women place more importance on being emotionally attentive to their partner than men do. Consequently, even if men are emotionally attentive this is not what increases their satisfaction. An alternative explanation has to do with past findings which indicate couples in which at least one partner has high EI have greater relationship satisfaction (Brackett et al., 2005). Generally, females score significantly higher than males on trait EI, and they are consequently the member of the pair who typically increases the satisfaction for both themselves and their partner. The gender difference in EI might be due to differences in sex role socialization; for example, women may be more encouraged than men to pay attention to, express and respond to emotions (Brackett et al., 2005).

The findings from the current study are consistent with existing literature. Malouff and colleagues (2014) found EI is significantly correlated to self-reported relationship satisfaction for both males and females. This meta-analysis, however, does not specify the gender distribution of the 600 participants. It is therefore possible that there is a disproportionate number of males versus females. The proportion of each gender is particularly important for this personal characteristic since female participants generally score significantly higher on EI than male participants (Brackett et al., 2005). Thus, in comparison to a predominantly male sample, studies with greater female samples are more likely to find significant correlations between EI and other important life outcomes such as relationship satisfaction.

Self-disclosure

The third hypothesis was supported as communication for both genders mediated the relation between SD and both one's own and one's partner's relationship satisfaction. The finding that SD is related to one's own and one's partner's relationship satisfaction is consistent with past literature (Meeks et al., 1998; Scapinello, 2004). The results of the present study lend further support to the idea that couples feel more satisfied in their relationships when they and their partners disclose personal information and when their partners fell satisfied with their relationship as well. What this study adds to the existing literature is that self-disclosure is necessary for communication to occur. Similarly, without self-disclosure, communication is limited when purposefully concealing information (Uysal et al., 2012).

Interestingly, in the final regression step, SD was a significant predictor of one's own relationship satisfaction but not for one's partner's satisfaction. Despite Sobel test analyses indicating that communication acts as a mediator in all four instances, the discrepancy in the significance between own and partner's satisfaction merits discussion. In the mediations where SD is related to one's own relationship satisfaction, SD might still be an important predictor because they know the information they are not sharing. For example, someone might be satisfied with their relationship because of a given issue or circumstance (e.g., partner completing chores) but do not need to communicate this to be satisfied as he/she already knows. Conversely, in the mediations where SD influences one's partner's satisfaction, SD might no longer be an important predictor in the last regression because they don't know the other partner is not disclosing. For example, someone might be satisfied with his/her romantic relationship because his/her partner does several chores but this needs to be communicated for their partner to be satisfied, otherwise he/she might not know that their partner is appreciative.

Limitations and Future Research

There were a number of limitations to this study. First, our participants were mostly young undergraduate students whose relationships may be different from those in established, long-term relationships. Most couples did not live with their partner, and had been together for one to two years; perhaps the role of five-factor personality traits (i.e., extraversion and neuroticism) surfaces only after couples have been together for extensive periods of time.

Despite the evidence for the value of *The Ten-Item Personality Inventory (TIPI)*, very short measures are subject to psychometric costs. When compared with

standard multi-item measures of the Big Five, the *TIPI* is less reliable and correlates less strongly with other variables (Gosling et al., 2003). Some subscales (i.e., agreeableness and openness to experience) might have lower internal consistency for males and females because the inter-item correlations were non-significant. The results obtained with these subscales in the current study could have been impacted. Future studies should use measures that are longer and more reliable. Furthermore, brief measures do not have the ability to measure individual facets of multi-faceted constructs. Each of the five broad constructs (i.e., agreeableness) has several, more specific facets that are related but distinguishable only by using long measures like the 240-item *NEO-PI-R*. However, other widely used short measures of the five-factor traits (e.g., the 44-item *BFI* and the 60-item *NEO-FFI*) do not provide facet scores either (Gosling et al., 2003). Therefore, in comparison to 44 or 60 items, using only 10 items leaves researchers time to focus on other measures that are also directly related to their research questions.

Exclusively relying on self-reports might have biased the data. Using individual reports of their own personal characteristics and relationship satisfaction relies on the participants' honesty. While participants were instructed to complete the study separately as to not influence each other's ratings of satisfaction, it is still possible they might have artificially increased satisfaction knowing their partner might ask them about their answers. Another problem with self-reported measures is that even honest participants might lack the introspective ability to provide an accurate response to a question. To some extent, all participants are unable to introspectively assess themselves completely accurately.

To address the limitations present in the current study, future research involving communication as a mediator could (a) examine couples who have been together for more extensive periods of time (e.g., married couples); (b) examine the five-factor personality traits with a standard (longer) multi-item measure; (c) examine partners' reports of personal characteristics and relationship satisfaction. Examining couples in well established relationships could demonstrate that some personality traits (i.e., extraversion and neuroticism) correlate to relationship satisfaction only after couples have been together for extensive periods of time. Examining the five-factor personality traits with a longer measure may indicate which specific facets of the broader personality constructs are related to relationship satisfaction. Examining partner reports of personal characteristics and relationship satisfaction would fill a gap in literature that currently relies upon participants' self-reports. Furthermore, the present study examined heterosexual couples which excludes same-sex

couples (male-male, female-female). To address this limitation, additional research might also (d) examine same-sex romantic relationships in order to more comprehensively represent existing couple demographics.

Conclusion

Communication with romantic partners is important for greater relationship satisfaction for both members of a couple and may act as a buffer against life stressors. The current study is the first to examine communication as an agent between personal characteristics and relationship satisfaction. Results indicated that conscientious individuals and their partners tend to be more satisfied in their relationship, and females with greater EI tend to be more satisfied with their own relationship. Lastly, SD increases relationship satisfaction for both individuals in the couple. In conclusion, personal characteristics are related to communication which in turn affects romantic relationship satisfaction. Implications include therapists' focus on fostering better communication in partners of a distressed couple which would likely improve both their mental and physical health. From a broader perspective, this research helps us understand the role that communication plays in successful relationships, and how a breakdown in communication could potentially contribute to divorce rates in our societies.

References

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Beach, S. R. H., Katz, J., Kim, S., & Brody, G. H. (2003). Prospective effects of marital satisfaction on depressive symptoms in established marriages: A dyadic model. *Journal of Social and Personal Relationships, 20*, 355-371.
- Begley, C., Shegog, R., Harding, A., Goldsmith, C., Hope, O., & Newmark, M. (2015). Longitudinal feasibility of MINDSET: A clinic decision aid for epilepsy self-management. *Epilepsy & Behavior, 44*, 143-150.
- Brackett, M. A., Warner, R. M., & Bosco, J. S. (2005). Emotional intelligence and relationship quality among couples. *Personal Relationships, 12*, 197-212.
- Christensen, A., & Shenk, J. L. (1991). Communication, conflict, and psychological distance in nondistressed, clinic, and divorcing couples. *Journal of Consulting and Clinical Psychology, 59*, 458-463.
- Gonzaga, G. C., Campos, B., & Bradbury, T. (2007). Similarity, convergence, and relationship satisfaction in dating and married couples. *Journal of Personality and Social Psychology, 93*, 34-48.
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the big-five personality domains. *Journal of Research in Personality, 37*, 504-528.
- Gottman, J. M., Coan, J., Careere, S., & Swanson, C. (1998). Predicting marital happiness and stability from newlywed interactions. *Journal of Marriage and the Family, 60*, 5-22.
- Gottman, J. M., & Levenson R. W. (1992). Marital processes predictive of later dissolution: Behavior, physiology and health. *Journal of Personality and Social Psychology, 63*, 221-233.
- Heller, D., Watson, D., & Hies, R. (2004). The role of person versus situation in life satisfaction: A critical examination. *Psychological Bulletin, 130*, 574-600.
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family, 50*, 93-98.
- Isaki, E., & Harmon, M. T. (2015). Children and adults reading interactively: The social benefits of an exploratory intergenerational program. *Communication Disorders Quarterly, 36*, 90-101.
- John, O. P., Robins, R. W., & Pervin, L. A. (2008). *Handbook of Personality: Theory and Research* (3rd ed.). New York: Guilford.
- Joshi, S., & Thingujam, N. S. (2009). Perceived emotional intelligence and marital adjustment: Examining the mediating role of personality and social desirability. *Journal of the Indian Academy of Applied Psychology, 35*, 79-86.
- Khuong, M. N., Linh, L. T. M., Toan, N. Q., & Phuong, N. T. M. (2016). The effects of personality and communication skill on employee job performance at multi-national companies in Ho Chi Minh city, Vietnam. *Journal of Economics, Business and Management, 4*, 296-302.
- Lavner, J. A., & Bradbury, T. N. (2012). Why do even satisfied newlyweds eventually go on to divorce? *Journal of Family Psychology, 26*, 1-10.
- Luster, S. S., Nelson, L. J., & Busby, D. M. (2013). Shyness and communication: Impact on self and partner relationship satisfaction. *Journal of Couple and Relationship Therapy, 12*, 359-376.
- MacKinnon, D. P. (2008). *Introduction to Statistical Mediation Analysis*. New York, NY: Erlbaum.
- Malouff, J. M., Schutte, N. S., & Thorsteinsson, E. B. (2014). Trait emotional intelligence and romantic relationship satisfaction: A meta-analysis. *The American Journal of Family Therapy, 42*, 53-66.

COMMUNICATION AND RELATIONSHIP SATISFACTION

- Malouff, J. M., Thorsteinsson, E. B., Schutte, N. S., Bhullar, N., & Rooke, S. E. (2010). The five-factor model of personality and relationship satisfaction of intimate partners: A meta-analysis. *Journal of Research in Personality*, 44, 124-127.
- Markman, H. J. (1981). Prediction of marital distress: a 5-year follow-up. *Journal of Consulting and Clinical Psychology*, 49, 760-762.
- Markman, H. J., Rhoades, G. K., Stanley, S. M., Ragan, E. P., & Whitton, S. W. (2010). The premarital communication roots of marital distress and divorce: The first five years of marriage. *Journal of Family Psychology*, 24, 289-298.
- Meeks, B. S., Hendrick, S. S., & Hendrick, C. (1998). Communication, love and relationship satisfaction. *Journal of Social and Personal Relationships*, 15, 755-773.
- Miller, L. C., Berg, J. H., & Archer, R. L. (1983). Openers: Individuals who elicit intimate self-disclosure. *Journal of Personality and Social Psychology*, 44, 1234-1244.
- Prigerson, H. G., Maciejewski, P. K., & Rosenheck, R. A. (1999). The effects of marital dissolution and marital quality on health and health service use among women. *Medical Care*, 37, 858-873.
- Scapinello, S. S. (2004). *Predicting romantic relationship satisfaction using three self-disclosure variables*. Retrieved from <http://scholar.uwindsor.ca/etd/3154>.
- Schutte, N. S., Malouff, J. D., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25, 167-177.
- Smith, L., Ciarrochi, J., & Heaven, P. C. L. (2008). The stability and change of trait emotional intelligence, conflict communication patterns, and relationship satisfaction: A one-year longitudinal study. *Journal of Personality and Individual Differences*, 45, 738-743.
- Statistics Canada. (2011). [CANSIM table 101-6501]. *Divorces and crude divorce rates, Canada, provinces and territories, annual*. Retrieved from <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=1016501>.
- Uysal, A., Lin, H. L., Knee, C. R., & Bush, A. L. (2012). The association between self-concealment from one's partner and relationship well-being. *Personality and Social Psychology Bulletin*, 38, 39-51.
- Whisman, M. A. (1999). Marital dissatisfaction and psychiatric disorders: Results from the national comorbidity survey. *Journal of Abnormal Psychology*, 108, 701-706.
- Whisman, M. A., & Bruce, M. L. (1999). Marital dissatisfaction and incidence of major depressive episode in a community sample. *Journal of Abnormal Psychology*, 108, 674-678.
- Whisman, M. A., Sheldon, C. T., & Goering, P. (2000). Psychiatric disorders and dissatisfaction with social relationships: Does type of relationship matter? *Journal of Abnormal Psychology*, 109, 803-808.
- Zentner, M. R. (2005). Ideal mate personality concepts and compatibility in close relationships: A longitudinal analysis. *Journal of Personality and Social Psychology*, 89, 242-256.

Received April 23, 2016

Revision received July 28, 2016

Accepted October 24, 2016 ■

Attachment Anxiety as a Barrier to the Benefits of Novel Couple Activities

ADRIENNE A. PAYNTER & CHERYL HARASYMCHUK, PH. D.
Carleton University

Novel and exciting couple activities have been found to increase satisfaction in couples (e.g., Aron, Norman, Aron, McKenna, & Heyman, 2000), but only if both members enjoy the exciting activity (Girme, Overall, & Faingataa, 2014). We hypothesized that attachment anxiety might thwart the enjoyment and effectiveness of novel couple activities because of perceived threats to the security of the relationship. Undergraduate students ($N = 154$) who were in a romantic relationship completed online questionnaires. Consistent with our hypothesis, higher attachment anxiety was associated with decreased couple enjoyment (as perceived by the participant). However, contrary to our hypotheses, higher attachment anxiety was not associated with greater willingness to engage in an unappealing partner-initiated novel couple activity, or with decreased perceived benefits to the relationship. Furthermore, consistent with our guiding hypothesis, in exploratory analyses, we found that people who scored higher on attachment anxiety were more likely to be motivated to engage in the unappealing partner-initiated novel couple activity because of threat-related concerns.

Keywords: relationships, attachment, anxiety, threat, leisure

Des activités de couple nouvelles et excitantes ont pour effet d'augmenter la satisfaction des couples (e.g., Aron, Norman, Aron, McKenna, & Heyman, 2000), mais seulement si les deux membres apprécient ces activités (Girme, Overall, & Faingataa, 2014). Nous avons émis l'hypothèse que l'anxiété d'attachement pourrait contrecarrer l'appréciation et l'efficacité de nouvelles activités de couple dû à des menaces perçues par rapport à la sécurité de la relation. Des étudiants de premier cycle ($N = 154$) étant en relation de couple ont complété des questionnaires en lignes. Conformément à notre hypothèse, des niveaux élevés d'anxiété d'attachement sont associés à moins de plaisir dans le couple (tel que perçu par le participant). Cependant, contrairement à nos hypothèses, un niveau élevé d'anxiété d'attachement n'était pas associé avec une plus grande volonté de s'engager dans une nouvelle activité de couple non intéressante qui a été proposée par le partenaire, ni à une diminution des bénéfices perçus de l'activité pour la relation. De plus, conformément à notre hypothèse, les analyses exploratoires nous ont permis de découvrir que les personnes qui ont des niveaux plus élevés d'anxiété d'attachement sont plus susceptibles d'être motivées à participer dans des activités qui ne les intéressent pas lorsqu'elles sont proposées par le partenaire dû à des préoccupations liées à la menace.

Mots-clés : relation, attachement, anxiété, menace, loisirs

At their beginnings, new romantic relationships are exciting, fun, and self-expanding (e.g., Aron, Aron, & Norman, 2001; Aron, Norman, Aron, McKenna, & Heyman, 2000). But, after a while, the rate of fun and rewards dissipates, leading romantic partners to experience relational boredom (e.g., Aron & Aron, 1986, 1996). Previous research seems to have found a solution to this: trying novel and exciting activities together as a couple (e.g., Aron et al., 2000; Graham, 2008; Reissman, Aron, & Bergen, 1993). However, the limits of novel couple activities as a relational maintenance strategy have yet to be examined. The purpose of this study is to explore attachment anxiety as a factor that might negatively influence *successful* novel couple activity engagement. The guiding hypothesis of this study is that people who are more

anxiously attached view novel couple activities (with their potential risks and unpredictable nature) as security threats and, therefore, derive less benefits from this relational maintenance strategy (e.g., less enjoyment and satisfaction). Another hypothesis is that people who score high on attachment anxiety might be more willing to place themselves in contexts where there is little chance for enjoyment from novel couple activities, such as agreeing to engage in an unappealing partner-initiated novel activity. That is, when people with high attachment anxiety are confronted with a request from their partner to try a novel couple activity that they find unappealing, rather than finding a mutually desirable activity, they might agree out of fear of rejection for declining the request. The results of this study have implications for couples and couples therapists when navigating relational maintenance strategies related to leisure.

Novel Couple Activities

Relational boredom is a common part of the natural trajectory of a romantic relationship (e.g., Aron & Aron, 1986, 1996) which can lead to a host of negative outcomes including decreased relationship satisfaction (Harasymchuk & Fehr, 2012; Tsapelas, Aron, & Orbuch, 2009). Fortunately, researchers have found an effective strategy to negate relational boredom: novel couple activities (e.g., Aron et al., 2000; Graham, 2008; Reissman et al., 1993).

Reissman et al. (1993) were the first to establish novelty as a key factor in acquiring a relational benefit from couple activities. They compared couple activities that were novel with couple activities that were pleasant but mundane and found that novel couple activities significantly increased relationship satisfaction, while pleasant but mundane couple activities actually decreased relationship satisfaction. These results were later replicated by numerous studies using a variety of methodologies (e.g., Aron et al., 2000; Graham, 2008).

However, the aspect of novelty which is so important for creating relational benefits also gives rise to inherent risks. Partners often need to adapt to unexpected challenges (Johnson, Zabriskie, & Hill, 2006), interact in ways they never have, and see each other in new roles or behaviours (Aron et al., 2000). Novel couple activities may therefore introduce the opportunity for immediate and salient negative outcomes such as stress, tension (Girme, Overall, & Faingataa, 2014), self-consciousness, or embarrassment. Although these risks are usually small enough to not be particularly threatening, for some people they may cause enough worry or distress that the benefits of the novel couple activity cannot be achieved. Attachment theory, which has not previously been examined in the context of novel couple activities, provides a framework that may be valuable for identifying individuals who might experience difficulties in achieving the benefits of novel couple activities.

Attachment Theory

Attachment theory, originally developed by John Bowlby and Mary Ainsworth (e.g., Ainsworth, 1964, 1967, 1969; Ainsworth & Bell, 1970; Ainsworth, Bell, & Stayton, 1974; Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1982, 1973, 1980), explains the connection between people's experiences in, beliefs about, and behaviours in relationships with others. People's early experiences in relationships shape their beliefs about the general trustworthiness, supportiveness, predictability, warmth, and availability of others. These beliefs then shape their behaviours. Securely attached individuals, who have

had mostly positive experiences in their past relationships, have positive beliefs about others and will be trusting and comfortable in present and future relationships. Insecurely attached individuals, who have had mostly negative experiences in their past relationships, have various kinds of negative beliefs about others that lead to various kinds of negative behaviours. In adults, these negative beliefs and behaviours fall under two dimensions of insecure attachment: anxiety and avoidance (e.g., Brennan, Clark, & Shaver, 1998; Carver, 1997; Fraley & Shaver, 2000; Griffin & Bartholomew, 1994). This study will focus on attachment anxiety.

People higher in attachment anxiety are characterized by a fear of rejection and abandonment and an intense desire for closeness and intimacy (e.g., Collins & Read, 1990; Hazan & Shaver, 1987). Their behaviour often centers around maintaining closeness to their romantic partner, and when they are unsuccessful, they experience extreme negative emotions (Shaver & Mikulincer, 2002). They tend to be dependent (Feeney & Collins, 2001), obsessive, and jealous (Hazan & Shaver, 1987) within their romantic relationships. Overall, people higher in attachment anxiety are less satisfied with their romantic relationships (e.g., Brennan & Shaver, 1995; Meyer, Jones, Rorer, & Maxwell, 2015; Mikulincer & Shaver, 2007; Simpson, 1990).

People high in attachment avoidance, on the other hand, are characterized by a fear of closeness and intimacy and the belief that romantic love does not last (e.g., Hazan & Shaver, 1987). They have difficulty trusting and depending on others (Hazan & Shaver, 1987; Mohr, Selterman, & Fassinger, 2013; Simpson, 1990). They withdraw and distance themselves from their romantic partner, preferring to remain independent and self-reliant (Fraley & Shaver, 2000; Hazan & Shaver, 1994; Shaver & Mikulincer, 2002). They tend to suppress their feelings and deny the importance of their romantic partner and relationship (Shaver & Mikulincer, 2002).

Attachment is an important context to consider in research on novel couple activities because the effects of attachment on relationships are especially powerful in novel situations (Feeney, 2008). Novel couple activities are a form of exploration, which is defined by Feeney and Thrush (2010) as engaging in "activities that involve adventure, discovery, learning, novelty, challenge, goal striving, and/or self-enhancement" (Feeney & Van Vleet, 2010, p. 9). Having a secure base – a person who provides encouragement for one's exploration, will not interfere, and will be available for support if things go wrong – affects the ways in which individuals behave and feel during exploration (Feeney & Thrush, 2010).

People who perceive their partner to be a secure base show increased enthusiasm, enjoyment, self-esteem, and positive mood, as well as decreased anxiety, frustration, self-consciousness, and hostility toward their partner during exploration activities (Feeney & Thrush, 2010). Since people higher in attachment anxiety are less likely to perceive their partners as a secure base than securely attached people (Feeney & Thrush, 2010), attachment anxiety is an important consideration in the context of novel couple activities. This will be the first study to examine attachment anxiety in this context with an additional focus on unappealing partner-initiated activities.

Hypotheses

The main goal of this study was to examine the limits of the benefits of novel couple activity engagement for people who have higher attachment anxiety. Three hypotheses as well as exploratory questions were generated. The reasoning behind each of these hypotheses will be explained in more details below.

Hypothesis 1. It is not uncommon for couples to engage in activities together that one partner is not interested in, normally out of a healthy sense of compromise (Aron et al., 2000; Crawford, Houts, Huston, & George, 2002). However, people higher in attachment anxiety are especially likely to make sacrifices of their self-interest in order to please their partner (Mattingly & Clark, 2012) and they consider their relationship to be more important than leisure activities (Carnelley & Ruscher, 2000). Furthermore, although people higher in attachment anxiety are less likely to engage in novel activities of their own accord (Carnelley & Ruscher, 2000), they will do them with their romantic partner when they think it may increase intimacy with their partner, increase approval from their partner, and/or regulate negative affect.

People higher in attachment anxiety, who intensely desire to keep their romantic partner close, may be especially concerned that if they decline a partner's novel activity request, it will lead their partner to think more negatively of them or of their relationship. Based on this reasoning, our first hypothesis is that people higher in attachment anxiety will be more likely to sacrifice self-interest by engaging in a partner-initiated novel couple activity they perceive as unappealing. In other words, attachment anxiety will predict agreeing to do the novel activity they do not find appealing.

Hypothesis 2. Securely attached individuals – those who are low in both attachment anxiety and attachment avoidance – are usually comfortable with novelty within their relationship because they are confident that their partner will be supportive and still

love them even if things go wrong (Feeney & Thrush, 2010). People higher in attachment anxiety, on the other hand, are not certain about their partner's support and love (Feeney & Thrush, 2010), so they likely see novelty as a threat. This issue is likely exacerbated by the fact that people higher in attachment anxiety are more sensitive to threat (e.g., Davis, Shaver, & Vernon, 2003; Meyer, Olivier, & Roth, 2005; Shaver & Mikulincer, 2002).

Although securely attached people may find novel couple activities to be exciting and fun, those higher in attachment anxiety may be too focused on the risks to enjoy the activities, instead experiencing a host of negative affect states. Furthermore, when one romantic partner is not enjoying a couple activity, it often leads to less enjoyment for the other partner as well (Girme et al., 2014). Based on this reasoning, our second hypothesis is that people higher in attachment anxiety will experience poorer affect and less enjoyment during an unappealing partner-initiated novel couple activity, and will also perceive that their partner and the couple as a whole experienced less enjoyment of the activity. In other words, there will be negative correlations between attachment anxiety and perceived couple enjoyment as well as between attachment anxiety and positive affect during the activity, and there will be a positive correlation between attachment anxiety and negative affect during the activity.

Hypothesis 3. Although sacrifices of self-interest can be good for relationships (Mattingly & Clark, 2010; Van Lange, Agnew, Harinck, & Steemers, 1997; Van Lange, Rusbult et al., 1997; Wieselquist, Rusbult, Foster, & Agnew, 1999), they can be harmful when the sacrifice is perceived as difficult (Ruppel & Curran, 2012; Whitton & Stanley, 1999, 2000, as cited in Whitton et al., 2002; Whitton, Stanley, & Markman, 2007). In the case of people higher in attachment anxiety, however, sacrifices of self-interest are negatively associated with benefits to the relationship even if the sacrifice is not perceived as difficult (Ruppel & Curran, 2012). Furthermore, there is some evidence that people higher in attachment anxiety make sacrifices of self-interest out of the motivation to avoid negative outcomes (Carnelley & Ruscher, 2000; Feeney & Collins, 2003; Mattingly & Clark, 2012), which is associated with less benefits to the relationship and greater negative affect (Impett, Gable, & Peplau, 2005; Mattingly & Clark, 2012; Neff & Harter, 2002). Therefore, if people higher in attachment anxiety are more likely to sacrifice self-interest by engaging in an unappealing partner-initiated novel couple activity, as proposed in hypothesis 1, the activity may be less likely to benefit the relationship due to the sacrifice involved.

ATTACHMENT ANXIETY IN NOVEL COUPLE ACTIVITIES

Novel couple activities also do not benefit relationships unless the activity itself is enjoyed by both partners (e.g., Berg, Trost, Schneider, & Allison, 2001; Crawford et al., 2002; Girme et al., 2014; Holman & Jacquart, 1988; Johnson et al., 2006). Therefore, if individuals higher in attachment anxiety experience less enjoyment of an unappealing partner-initiated novel couple activity, as proposed in hypothesis 2, it is likely that the activity will benefit their relationship less due to the lack of enjoyment.

Based on this reasoning, our third hypothesis is that people higher in attachment anxiety will be less likely to perceive that their romantic relationship has benefitted from engaging in a partner-initiated novel couple activity they perceive as unappealing. In other words, attachment anxiety will be negatively correlated with perceived positive effects of activity on the relationship.

Exploratory questions. Previous research have found that the motivation behind people's decisions are strong predictors of the outcomes of those decisions (e.g., Impett et al., 2005; Mattingly & Clark, 2012; Neff & Harter, 2002). In particular, avoidance-related motives are associated with negative outcomes (Impett et al., 2005). For this reason, we included as exploratory questions three possible avoidance motives that could have played a role in participants' decisions of whether or not to do an unappealing activity with one's partner: "avoiding an argument", "worry about my partner's feelings for me", and "worry about negative effects on our relationship". We are interested in learning which of these motives play a part in the decision-making process in this context.

Method

Participants

Participants were undergraduate students at Carleton University who were enrolled in an introductory psychology course. To be eligible, participants must have been in a romantic relationship and their romantic partner must have recently suggested engaging in a partner-initiated novel activity together that the participant perceived as unappealing. Participants were recruited through Carleton University's psychology department with an

online sign-up system (SONA) and they received 0.25% credit towards the final grade of their introductory psychology course.

The original sample consisted of 328 participants; 167 were excluded due to not meeting the eligibility criteria described above, and seven were excluded due to not having completed the full questionnaire. The final sample consisted of 154 participants (81% female, 76% white). The age range was 18-47 years ($M = 20.70$, $SD = 4.91$). Most were in a monogamous relationship (90%), with the remaining 10% either engaged, married, or common-law. The duration of relationship ranged from one month to 28 years ($M = 2.20$ years, $SD = 3.59$ years). Relationship satisfaction scores were high ($M = 4.10$, $SD = 0.64$), attachment anxiety was moderate ($M = 2.70$, $SD = 0.51$), and attachment avoidance was low ($M = 1.80$, $SD = 0.61$). Refer to Table 1 for a full summary of descriptive statistics.

The full final sample ($N = 154$) was used to examine hypothesis 1. For hypotheses 2 and 3, only those participants who agreed to engage in the unappealing partner-initiated activity were used ($n = 84$; 54.50% of the final sample).

Materials

Relationship satisfaction. The *Relationship Assessment Scale* (Hendrick, 1988) was used to measure relationship satisfaction. Participants rated seven items on a five-point Likert-type scale (e.g., "How well does your partner meet your needs?"; "How often do you wish you hadn't gotten into this relationship?", reverse coded). The reliability of the scale was high ($\alpha = .86$). The mean of the seven items was used as an index of relationship satisfaction.

Attachment anxiety and avoidance. The *Experiences in Close Relationships Scale-Short Form* (Wei, Russell, Mallinckrodt, & Vogel, 2007) was used to measure adult attachment anxiety and avoidance. Participants rated 12 items on a five-point Likert-type scale (e.g., "I need a lot of reassurance that I am loved by my partner" to assess anxiety; "I try to avoid getting too close to my partner" to assess avoidance). The reliability of the scale was good ($\alpha = .78$ for anxiety and $\alpha = .84$ for avoidance). The mean of the six items assessing anxiety was used as an index of

Table 1
Descriptive Statistics

	<i>M</i>	<i>SD</i>	Median	Min	Max
Age	20.70	4.91	19.00	18.00	47.00
Relationship duration	2.17	3.59	1.17	0.08	28.00
Relationship satisfaction	4.14	0.64	4.29	1.14	5.00
Attachment anxiety	2.73	0.51	2.67	1.67	4.00
Attachment avoidance	1.81	0.61	1.67	1.00	3.67

attachment anxiety and the mean of the six items assessing avoidance was used as an index of attachment avoidance.

Decision motivations. To measure decision motivations, participants who agreed to engage in the unappealing partner-initiated novel activity rated the degree to which each of the following concerns motivated their decision to engage in the activity on a Likert-style scale ranging from 1 (*no influence*) to 5 (*very strong influence*): “*avoiding an argument*”, “*worry about my partner’s feelings for me*”, and “*worry about negative effects on our relationship*”.

Perceived relational benefit. To measure perceived relational benefit, participants used a Likert-style scale ranging from 1 (*very negatively*) to 5 (*very positively*) to respond to the following single face-valid question: “How do you think doing the activity together affected your relationship overall?” (for those who decided to engage in the activity); or “How do you think declining to do the activity together affected your relationship overall?” (for those who decided not to engage in the activity).

Affect. A shortened version of the *Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988) was used to assess participants’ positive and negative affect during the activity (retrospectively). Of the original 20 items, 14 were selected and used, including *interested*, *enthusiastic*, *worried*, and *embarrassed*. Items that were conceptually irrelevant to the purpose of our study were eliminated in order to reduce the risk of attrition. Our shortened version remained highly reliable ($\alpha = .88$ for positive affect and $\alpha = .91$ for negative affect). Participants rated the degree to which they remembered feeling each emotion while engaging in the activity on a five-point Likert-type scale ranging from 1 (*not at all*) to 5 (*very strongly*). The mean of the seven items assessing positive affect states was used as an index of positive affect and the mean of the seven items assessing negative affect states was used as an index of negative affect.

Enjoyment. To measure participants’ enjoyment, perceived partner enjoyment, and perceived couple enjoyment, participants rated the following items using a Likert-style scale ranging from 1 (*disliked it a lot*) to 5 (*enjoyed it a lot*): “How much did you enjoy yourself during the activity?”, “How much do you think your partner enjoyed him- or herself during the activity?”, and “How much did you *both* enjoy yourselves during the activity?”.

Procedure

Participants completed an online questionnaire at the location of their choice. The questionnaire began with self-report measures of demographics,

relationship satisfaction, and attachment anxiety and avoidance. Participants were then given the following instructions and question:

“Think of a time within the past month when your current romantic partner suggested you try a new activity together, but it was an activity you weren’t interested in or disliked (e.g., maybe he or she suggested you go to an NHL game together but you don’t care at all for sports; or maybe he or she suggested you see a musical together but you don’t like theatre.) Although these specific examples may not have happened to you, try to think of a similar situation that has happened to you. Can you think of a time in the past month when your partner asked you to engage in a new leisure activity together that you weren’t interested in or disliked?”

Participants who answered “yes” were asked the following open-ended questions: “What was the activity?”, “How did your partner suggest it?”, “What about the activity were you not interested in?”, and “If you let your partner know you weren’t interested in the activity, how did you do it?”. These questions were intended to increase salience of the experience in order to gain more accurate retrospective responses throughout the remainder of the questionnaire (i.e., data were not examined).

Next, participants rated their decision motivations and perceived relational benefit. Then, only participants who decided to engage in the activity rated their affect and enjoyment, perceived partner enjoyment, and perceived couple enjoyment.

Results

The descriptive statistics for the variables in the study are listed in Table 1. Just over half of the participants (54.50%; $n = 84$) sacrificed self-interest by engaging in an unappealing partner-initiated novel couple activity.

Hypothesis 1. We used a logistic regression analysis to assess whether people who score higher on anxious attachment would be more likely to agree to go along with the unappealing partner-initiated novel couple activity. Contrary to our predictions, we found that people who scored higher on attachment anxiety were not more likely to agree to go along with the activity ($\beta = -.05$, $p = .879$).

Hypothesis 2. We used Pearson correlations to determine the relationships between attachment anxiety and subjective enjoyment and affect for those participants who engaged in the activity ($n = 84$). Higher attachment anxiety was associated with lower enjoyment of the activity for both partners as a couple as perceived by the participant ($r = -.28$, $p = .001$), but was not associated with participant individual

ATTACHMENT ANXIETY IN NOVEL COUPLE ACTIVITIES

enjoyment of the activity ($r = -.17, p = .12$), or partner individual enjoyment of the activity as perceived by the participant ($r = -.16, p = .16$). The ratings of affect during the novel activity displayed a trend that was consistent with our hypotheses; however, the associations were not statistically significant (positive affect, $r = -.15, p = .17$; negative affect, $r = .15, p = .20$).

Hypothesis 3. We used a Pearson correlation to assess whether, for those who agreed to engage in the unappealing partner-initiated novel activity, people who scored higher on attachment anxiety would be more likely to perceive the activity as having less positive effects on the relationship, and found that the two variables were not related ($r = -.05, p = .63$). We also assessed, using an independent-sample t -test, whether participants who decided to engage in the unappealing partner-initiated novel couple activity perceived more positive effects of their decision on the relationship than those who decided not to. We found that people who went along with the unappealing partner-initiated novel couple activity perceived more benefits to the relationship ($M = 3.79, SD = 0.76$) than those who decided not to ($M = 2.95, SD = 0.64; t(152) = 7.33, p < .01$).

Exploratory questions. We used Pearson correlations to determine the relationships between attachment anxiety and motivations for sacrificing self-interest by engaging in a partner-initiated novel couple activity perceived as unappealing. Attachment anxiety was significantly associated with being motivated to do the activity by desire to avoid an argument ($r = .33, p = .01$), and worry about the relationship ($r = .28, p = .01$), but not by worry about partner's feelings towards self ($r = .09, p = .43$).

Because attachment anxiety and attachment avoidance tend to have some similar effects on relational processes (e.g., Li & Chan, 2012), all statistical analyses were re-run using partial correlations to control for attachment avoidance; all significant effects remained significant. Refer to Table 2 for a full summary of correlations.

Discussion

Although there is some evidence to suggest that novel couple activities are an effective solution to the problem of relational boredom, the limits of novel couple activities as a relational maintenance strategy have not been previously examined. This study explored attachment anxiety and unappealing activities as contexts in which novel couple activities may be unbeneficial or even harmful to couples.

Contrary to our first hypothesis, attachment anxiety did not predict likeliness to sacrifice self-interest by engaging in an unappealing partner-initiated novel couple activity. However, consistent with our second hypothesis, higher attachment anxiety was associated with less enjoyment of said activity by the couple as a whole (as perceived by the participant). Our third hypothesis was not supported; there was no correlation between attachment anxiety and relational benefits derived from the decision to engage in the unappealing partner-initiated novel couple activity.

Consistent with our guiding hypothesis, exploratory questions revealed that the decision to sacrifice self-interest by engaging in an unappealing partner-initiated novel couple activity was motivated more by desire to avoid an argument and worry about the relationship for participants higher in attachment anxiety.

Table 2
Correlations Between Main Variables and Attachment Anxiety

	Attachment anxiety
Enjoyment of novel activity	-.28**
Couple	-.17
Participant	-.16
Partner	-.15
Affect during activity	.15
Positive	.15
Negative	.09
Motivation to sacrifice self-interest	.33**
Desire to avoid an argument	.28**
Worry about relationship	.09
Worry about partner's feelings towards self	.09
Relationship	
Perceived benefit from engaging in activity	-.05

Note. * $p < .05$; ** $p < .01$.

In this section, possible explanations for the lack of support for Hypotheses 1 and 3 will be explored. Then, limitations of the current study and directions for future research will be considered.

Attachment Anxiety and Willingness to Sacrifice

Contrary to our prediction, attachment anxiety did not predict likeliness to sacrifice self-interest by engaging in an unappealing partner-initiated novel couple activity. This also contradicts Mattingly and Clark's (2012) finding that attachment anxiety is associated with greater sacrifice of self-interest for the interests of a romantic partner. Mattingly and Clark examined romantic partners' willingness to sacrifice in general, not in novel couple activities specifically. However, Impett et al. (2005) found that recreation is the second most common area in which romantic partners make sacrifices, implying that Mattingly and Clark's (2012) finding is likely applicable to the current study's focus on novel couple activities.

There are many factors that might shape agreement to engage in an unappealing partner-initiated novel activity. Attachment anxiety likely influences this decision-making process alongside numerous other variables that were not examined in this study, such as partner responsiveness, power differences, and stage of relationship. Without consideration of these other variables, however, the effect of attachment anxiety may be more difficult to detect. As such, future research should continue to explore novel couple activity initiation and the role of attachment anxiety with these additional factors.

Other possible reasons why the predicted association was not found relate to methodological limitations of the current study, which will be discussed in detail in a later section.

Attachment Anxiety and Outcomes of Engaging in Activity

Contrary to our hypothesis, attachment anxiety was not correlated with perceived benefits to the relationship from the decision to engage in the activity. This finding is inconsistent with previous research that suggests relational sacrifice is negatively associated with relational benefits for people higher in attachment anxiety (Ruppel & Curran, 2012). In fact, this finding should have been exacerbated rather than reduced in the current study because engaging in a novel couple activity perceived as unappealing may be perceived as an especially difficult or harmful sacrifice by people higher in attachment anxiety due to their sensitivity to the threat of novelty (Ruppel & Curran, 2012, as cited in Whitton et al., 2002; Whitton et al., 2002, 2007). However, upon examining the open-ended responses about the actual activities that participants engaged in, a possible explanation became

evident. Many participants reported on couple activities that were not novel, despite it being a requirement. The lack of novelty likely dramatically reduced the level of personal sacrifice experienced by the participants, which may have led to the lack of correlation between attachment anxiety and benefit from engaging in the couple activity. Suggestions for how to ameliorate this issue in future research are in the next section.

Limitations and Directions for Future Research

The current study contains several limitations worth noting. First, the study used a convenience sample consisting of psychology undergraduate students from a single university in Ottawa, Canada, the majority of whom were Caucasian women. This limits the ability to generalize these findings to people of other demographics. Future research should attempt to replicate these findings using samples with more men and more cultural diversity. Furthermore, the mean length of participants' romantic relationships was just over 2 years and, therefore, it would be beneficial to examine the hypotheses in more established relationships that are past the "honeymoon" phase in the relationship. This concern is further validated by the high mean relationship satisfaction reported by this sample (4.10 on a scale of 1 to 5).

Future samples should also be larger; Hypotheses 2 and 3 were tested on only the portion of the total sample who sacrificed self-interest by engaging in an unappealing partner-initiated novel couple activity ($n = 84$). The lack of correlation between attachment anxiety and relational benefits may have simply been due to a lack of power to find significance rather than a true lack of association. This lack of power may have also prevented other correlations from acquiring statistical significance.

Another limitation of the current study is its correlational design. Because of this, the direction of causality between the variables examined cannot be determined. The design also allowed for potential retrospective bias, given that participants reported on an event that occurred in the past. It is possible that participants' memories of the activities that they engaged in were inaccurate due to the time passed between its occurrence and their reporting on it. It is also possible that participants' reports on the activities may have been affected by other events that occurred between them and their romantic partners since engaging in the activity. Future research should examine these hypotheses using an experimental design in order to more accurately understand the nature of the relationship between attachment anxiety and novel couple activities. An experimental design would also reduce the possibility that romantic

ATTACHMENT ANXIETY IN NOVEL COUPLE ACTIVITIES

partners' presence affected the reports of the participants, since they would be completing the questionnaires in the lab rather than in the location of their choice.

Additionally, some variables in this study were measured using the participants' perceptions rather than with more direct measures. For example, participants rated their perception of their partners' enjoyment of the activity (rather than have the partner make the rating). Also, participants rated their perception of the effect of the decision of whether or not to do the activity on their relationship. Future research should recruit both partners of a couple to assess the before and after effects of novel activity engagement for a more accurate report of each partner's enjoyment of the activity.

Furthermore, multiple variables that may influence the relationship between attachment anxiety and novel couple activities were not controlled for in this study. For example, there is evidence that commitment plays an important factor in willingness to sacrifice (Powell & Van Vugt, 2003; Van Lange et al., 1997; Van Lange et al., 1997; Wieselquist et al., 1999). It is also likely that power balance in the relationship and personality traits such as openness to experience and agreeableness would also affect willingness to sacrifice and enjoyment of novel couple activities. Future research should attempt to replicate the findings about attachment anxiety and novel couple activities while controlling for these additional variables.

Finally, as mentioned in an earlier section, the lack of novelty in the actual activities on which many participants reported is a serious limitation because the aspect of novelty was a main focus of this study. Future research should ensure that participants report on activities that are, in fact, novel, either by using an experimental design in which the allowable activities are provided by the researchers, or by asking participants about the activity in an interview setting where they can be prompted accordingly by a researcher.

Concluding Remarks

The research on novel couple activities may provide an exciting solution to a seldom considered problem: relational boredom. However, there is still much to be done before novel couple activities as a relational maintenance strategy are fully understood. This study served as a preliminary examination of one context in which novel couple activities may not be as effective as previously presumed. We hope that this study will encourage further research on the benefits and limits of novel couple activities as a relational maintenance strategy, using improved methodology in order to produce more decisive conclusions.

References

- Ainsworth, M. D. (1964). Patterns of attachment behavior shown by the infant in interaction with his mother. *Merrill-Palmer Quarterly*, 10, 51-58.
- Ainsworth, M. D. (1967). *Infancy in Uganda: Infant care and the growth of love*. Baltimore, MD: Johns Hopkins Press.
- Ainsworth, M. D. (1969). Object relations, dependency, and attachment: A theoretical review of the infant-mother relationship. *Child Development*, 40, 969-1025.
- Ainsworth, M. D., & Bell, S. M. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development*, 41, 49-67.
- Ainsworth, M. D., Bell, S. M., & Stayton, D. (1974). Infant-mother attachment and social development. In M. Richards (Ed.), *The integration of a child into a social world* (pp. 9-135). Cambridge, UK: Cambridge University Press.
- Ainsworth, M. D., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. New York, NY: Lawrence Erlbaum Associates.
- Aron, A., & Aron, E. N. (1986). *Love and the expansion of self: Understanding attraction and satisfaction*. Carlsbad, CA: Hemisphere.
- Aron, A., & Aron, E. N. (1996). Love and the expansion of the self: The state of the model. *Personal Relationships*, 3, 45-58.
- Aron, A., Aron, E. N., & Norman, C. (2001). Combating boredom in close relationships by participating together in self-expanding activities. In J. H. Harvey & A. E. Wenzel (Eds.), *Close romantic relationship maintenance and enhancement*. (pp. 47-66) Mahwah, NJ: Lawrence Erlbaum.
- Aron, A., Norman, C. C., Aron, E. N., McKenna, C., & Heyman, R. (2000). Couples' shared participation in novel and arousing activities and experienced relationship quality. *Journal of Personality and Social Psychology*, 78, 273-283.
- Berg, E. C., Trost, M., Schneider, I. E., & Allison, M. T. (2001). Dyadic exploration of the relationship of leisure satisfaction, leisure time, and gender to relationship satisfaction. *Leisure Sciences*, 23, 35-46.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation, anxiety, and anger*. London, UK: Hogarth Press.
- Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss*. London, UK: Hogarth Press.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment*. London, UK: Hogarth Press.

- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson and W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York, NY: Guilford Press.
- Brennan, K. A., & Shaver, P. R. (1995). Dimensions of adult attachment, affect regulation, and romantic relationship functioning. *Personality and Social Psychology Bulletin, 21*, 267-283.
- Carnelley, K. B., & Ruscher, J. B. (2000). Adult attachment and exploratory behavior in leisure. *Social Behavior and Personality, 15*, 153-165.
- Carver, C. S. (1997). Adult attachment and personality: Converging evidence and a new measure. *Personality and Social Psychology Bulletin, 23*, 865-883.
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology, 58*, 644-663.
- Crawford, D. W., Houts, R. M., Huston, T. L., & George, L. J. (2002). Compatibility, leisure, and satisfaction in marital relationships. *Journal of Marriage and Family, 64*, 433-449.
- Davis, D., Shaver, P. R., & Vernon, M. L. (2003). Physical, emotional, and behavioral reactions to breaking up: The roles of gender, age, emotional involvement, and attachment style. *Personality and Social Psychology Bulletin, 29*, 871-884.
- Feeney, B. C., & Collins, N. L. (2001). Predictors of caregiving in adult intimate relationships: An attachment theoretical perspective. *Journal of Social and Personality Psychology, 80*, 972-994.
- Feeney, B. C., & Collins, N. L. (2003). Motivations for caregiving in adult intimate relationships: Influences on caregiving behavior and relationship functioning. *Personality and Social Psychology Bulletin, 29*, 950-968.
- Feeney, B. C., & Thrush, R. L. (2010). Relationship influences on exploration in adulthood: The characteristics and function of a secure base. *Journal of Personality and Social Psychology, 98*, 57-76.
- Feeney, B. C., & Van Vleet, M. (2010). Growing through attachment: The interplay of attachment and exploration in adulthood. *Journal of Social and Personal Relationships, 27*, 226-234.
- Feeney, J. A. (2008). Adult romantic attachment: Developments in the study of couple relationships. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment theory and research* pp. 456-481). New York, NY: Guilford Press.
- Fraley, C. R., & Shaver, P. R. (2000). Attachment theory and caregiving. *Psychological Inquiry, 11*, 109-114.
- Girme, Y. U., Overall, N. C., & Faingataa, S. (2014). "Date nights" take two: The maintenance function of shared relationship activities. *Personal Relationships, 21*, 125-149.
- Graham, J. M. (2008). Self-expansion and flow in couples' momentary experiences: An experience sampling study. *Journal of Personality and Social Psychology, 95*, 679-694.
- Griffin, D., & Bartholomew, K. (1994). Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Journal of Personality and Social Psychology, 67*, 430-445.
- Harasymchuk, C., & Fehr, B. (2012). Development of a prototype-based measure of relational boredom. *Personal Relationships, 19*, 162-181.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511-524.
- Hazan, C., & Shaver, P. (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry, 5*, 1-22.
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family, 50*, 93-98.
- Holman, T. B., & Jacquart, M. (1988). Leisure-activity patterns and marital satisfaction: A further test. *Journal of Marriage and the Family, 50*, 69-77.
- Impett, E. A., Gable, S. L., & Peplau, L. A. (2005). Giving up and giving in: The costs and benefits of daily sacrifice in intimate relationships. *Interpersonal Relations and Group Processes, 89*, 327-344.
- Johnson, H. A., Zabriskie, R. B., & Hill, B. (2006). The contribution of couple leisure involvement, leisure time, and leisure satisfaction to marital satisfaction. *Marriage and Family Review, 40*, 69-91.
- Li, T., & Chan, D. K.-S. (2012). How anxious and avoidant attachment affect romantic relationship quality differently: A meta-analytic review. *European Journal of Social Psychology, 42*, 406-419.
- Mattingly, B. A., & Clark, E. M. (2010). The role of activity importance and commitment on willingness to sacrifice. *North American Journal of Psychology, 12*, 51-66.
- Mattingly, B. A., & Clark, E. M. (2012). Weakening relationships we try to preserve: Motivated sacrifice, attachment, and relationship quality. *Journal of Applied Social Psychology, 42*, 373-386.
- Meyer, D. D., Jones, M., Rorer, A., & Maxwell, K. (2015). Examining the associations among attachment, affective state, and romantic relationship quality. *The Family Journal: Counseling and Therapy for Couples and Families, 23*, 18-25.

ATTACHMENT ANXIETY IN NOVEL COUPLE ACTIVITIES

- Meyer, B., Olivier, L., & Roth, D. A. (2005). Please don't leave me! BIS/BAS, attachment styles, and responses to a relationship threat. *Personality and Individual Differences*, 38, 151-162.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York, NY: Guilford Press.
- Mohr, J. J., Selterman, D., & Fassinger, R. E. (2013). Romantic attachment and relationship functioning in same-sex couples. *Journal of Counseling Psychology*, 60, 72-82.
- Neff, K. D., & Harter, S. (2002). The authenticity of conflict resolutions among adult couples: Does women's other-oriented behavior reflect their true selves? *Sex Roles*, 47, 403-417.
- Powell, C., & Van Vugt, M. (2003). Genuine giving or selfish sacrifice? The role of commitment and cost level upon willingness to sacrifice. *European Journal of Social Psychology*, 33, 403-412.
- Reissman, C., Aron, A., & Bergen, M. R. (1993). Shared activities and marital satisfaction: Causal direction and self-expansion versus boredom. *Journal of Social and Personal Relationships*, 10, 243-254.
- Ruppel, E. K., & Curran, M. A. (2012). Relational sacrifices in romantic relationships: Satisfaction and the moderating role of attachment. *Journal of Social and Personal Relationships*, 29, 508-529.
- Shaver, P. R., & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment and Human Development*, 4, 133-161.
- Simpson, J. A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology*, 59, 971-980.
- Tsapelas, I., Aron, A., & Orbuch, T. (2009). Marital boredom now predicts less satisfaction 9 years later. *Psychological Science*, 20, 543-545.
- Van Lange, P. A. M., Agnew, C. R., Harinck, R., & Steemers, G. E. (1997). From game theory to real life: How social value orientation affects willingness to sacrifice in ongoing close relationships. *Journal of Personality and Social Psychology*, 73, 1330-1344.
- Van Lange, P. A. M., Rusbult, C. E., Drigotas, S. M., Arriaga, X. M., Witcher, B. S., & Cox, C. L. (1997). Willingness to sacrifice in close relationships. *Journal of Personality and Social Psychology*, 72, 1373-1395.
- Watson, A., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.
- Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). The experiences in close relationship scale (ECR)-short form: Reliability, validity, and factor structure. *Journal of Personality Assessment*, 88, 187-204.
- Whitton, S. W., Stanley, S. M., & Markman, H. J. (2002). Sacrifice in romantic relationships: An exploration of relevant research and theory. In A. L. Vangelisti, H. T. Reis, & M. A. Fitzpatrick (Eds.), *Stability and change in relationships* (pp. 156-181). Cambridge, UK: Cambridge University Press.
- Whitton, S. W., Stanley, S. M., & Markman, H. J. (2007). If I help my partner, will it hurt me? Perceptions of sacrifice in romantic relationships. *Journal of Social and Clinical Psychology*, 26, 64-92.
- Wieselquist, J., Rusbult, C. E., Foster, C. A., & Agnew, C. R. (1999). Commitment, pro-relationship behavior, and trust in close relationships. *Journal of Personality and Social Psychology*, 77, 942-966.

Received May 12, 2016
Revision received August 8, 2016
Accepted October 18, 2016 ■

Profil alimentaire et conjugal selon l'asymétrie du poids des partenaires

JESSICA PHILIPPE, MARIE-ÈVE BERGERON, MARILOU CÔTÉ, PH. D., & CATHERINE BÉGIN, PH. D.
Université Laval

Cette étude compare des couples dont les partenaires présentent des poids corporels asymétriques (un partenaire en surpoids et un partenaire avec un poids normal) avec ceux dont les partenaires ont un poids similaire sur leur fonctionnement conjugal et leur comportement alimentaire. Les 174 couples adultes hétérosexuels recrutés ont été groupés selon leur indice de masse corporelle (IMC). Ils ont répondu à plusieurs questionnaires portant sur des variables alimentaires et conjugales. Il est attendu que les couples aux poids asymétriques présentent un moins bon fonctionnement conjugal et plus de difficultés alimentaires que les couples aux poids similaires et ce, plus particulièrement au sein des couples où l'IMC de la femme est supérieur à celui de son conjoint. Les résultats montrent que les hommes des couples aux poids asymétrique sont moins satisfaits conjointement et sexuellement que les hommes des couples aux poids symétrique. Ces insatisfactions pourraient être liées à l'écart entre les poids des partenaires et ce, peu importe quel membre du couple est en surpoids. La satisfaction des femmes n'a pas été affectée par cette asymétrie. Les résultats de cette étude ajoutent aux connaissances actuelles sur les impacts de l'asymétrie du poids des partenaires au sein du couple.

Mots-clés : couple, satisfaction conjugale et sexuelle, comportements alimentaires, stratégies d'adaptation, asymétrie de poids

This study aimed to compare heterosexual mixed-weight (one overweight and one healthy weight partner) and matched-weight couples on their relationship functioning and eating behaviors. One hundred seventy-four adult couples were recruited and grouped based on their body mass index. They completed a survey online. It was expected that mixed-weight couples would report poorer marital satisfaction and more eating related problems than matched-weight couples, especially among couples with overweight women and healthy weight men. Results showed that men from mixed-weight couples were less satisfied of their relationship and their sexuality compared to men from matched-weight couples. Thus, dissatisfaction could be related to a gap between partners' weight, no matter which partner is overweight. Women's satisfaction was not affected by weight asymmetry. These findings add to our knowledge on the impact of weight asymmetry in marital relationships.

Keywords: couple, marital and sexual satisfaction, eating behaviors, coping, mixed-weight couples

La population atteinte de surpoids ou d'obésité est de plus en plus importante. Plus de la moitié des Canadiens présente un excès de poids (Statistique Canada, 2015). Cette problématique grandissante n'est pas sans conséquences. Effectivement, des associations négatives ont été notées entre l'excès de poids et la santé physique et psychologique (Must et al., 1999; McElroy et al., 2004). Ces conséquences ont, jusqu'à maintenant, été largement documentées dans une perspective individuelle. Cependant, de plus en plus de chercheurs s'y intéressent d'un point de vue dyadique. En effet, le lien entre le poids corporel et les relations conjugales est de plus en plus étudié dans la littérature, le poids pouvant contribuer à la formation même des couples de par son influence sur

Les auteurs tiennent à remercier l'équipe du JIRIRI pour leur soutien et leurs commentaires toujours pertinents à l'amélioration du manuscrit. Ils remercient également Hélène Paradis de les avoir guidées et assistées dans la réalisation des analyses statistiques. Merci d'adresser toute correspondance concernant cet article à Catherine Bégin, Ph. D. (courriel : catherine.begin@psy.ulaval.ca).

l'évaluation de l'attraction physique (Tovée & Cornelissen, 2001). Plus précisément, il semble que les gens en surpoids ou présentant de l'obésité sont généralement considérés comme étant moins attrayants que les gens ayant un poids normal (Boyes & Latner, 2009), et que les femmes plus minces sont davantage choisies par les hommes pour former un couple (Averett, Sikora, & Argys, 2008). Le phénomène est toutefois différent chez les hommes. Ceux qui présentent un surpoids ont plus de chances que les femmes de se trouver un partenaire amoureux (Bove & Sobal, 2011). Le poids des individus ne semble toutefois pas intervenir uniquement dans la formation des unions, mais également dans les aspects associés à la vie conjugale. En ce sens, la présente étude se situe dans ce contexte et vise à évaluer de quelle façon la symétrie/l'asymétrie du poids dans un couple est associée au fonctionnement conjugal et aux comportements alimentaires des partenaires en fonction de leur sexe.

La satisfaction conjugale en lien avec le poids

Bien que le poids puisse influencer le fait d'être sélectionné ou non par un partenaire, des questionnements émergent quant aux impacts que peut avoir le poids des individus lorsqu'ils sont en couple. Des chercheurs se sont donc intéressés à savoir si le poids d'un individu en couple peut être relié à sa satisfaction conjugale, soit son évaluation de la qualité générale de la relation basée sur divers indicateurs tels que le consensus, la satisfaction, la cohésion et l'expression affective (Baillargeon & Marineau, 1986). Dans la littérature actuelle, le lien entre la satisfaction conjugale et le poids est plutôt inconsistante. En effet, certaines études transversales montrent un lien entre ces deux variables (Boyes & Latner, 2009; Sheets & Ajmere, 2005) alors que d'autres suggèrent plutôt qu'il n'y en a pas (Carr & Friedman, 2006; Sobal, Rauschenbach, & Frongillo, 2009). Récemment, afin de mieux comprendre les liens unissant le poids et la satisfaction conjugale, une étude a démontré, à l'aide d'un devis longitudinal, que la satisfaction conjugale des conjoints est associée à une prise de poids dans le temps alors que l'insatisfaction est associée à une perte de poids chez les deux sexes (Meltzer, Novak, McNulty, Butler, & Karney, 2013). La relation entre le poids et la satisfaction serait médiée par le fait d'envisager le divorce, c'est-à-dire que les conjoints qui sont plus insatisfaits de leur couple ont tendance à davantage considérer le divorce et sont, ainsi, plus enclins à perdre du poids. Il a donc été proposé qu'en envisageant le divorce, les conjoints entreverraient davantage la possibilité de retourner sur le marché des célibataires, ce qui amènerait ces derniers à perdre du poids en vue d'améliorer leurs chances de séduire à nouveau (Averett, Sikora, & Argys, 2008).

L'influence du poids des partenaires sur la relation amoureuse : relation dyadique

Bien que plusieurs études aient porté sur le lien entre le poids et la satisfaction conjugale, très peu d'entre elles se sont intéressées aux interrelations entre les partenaires d'un même couple. Pourtant, étudier les conjoints de façon individuelle peut entraîner la sous-estimation de certains effets qui pourraient résulter de l'interaction entre les deux membres du couple. Une étude réalisée par Markey et Markey (2011) illustre la pertinence d'utiliser un angle dyadique afin d'avoir une vision juste de la provenance de certaines problématiques au sein des couples. Ils ont démontré que les partenaires qui sont en relation avec un individu plus mince qu'eux tendent à avoir plus de préoccupations par rapport à leur propre poids que ceux qui ont un partenaire avec un poids égal ou supérieur au leur. C'est donc la comparaison entre son propre poids et celui de son partenaire qui pourrait devenir problématique et non pas le poids de façon

individuelle (Markey & Markey, 2011). Ceci démontre ainsi l'importance de considérer l'asymétrie des poids des partenaires pour bien comprendre la provenance des préoccupations. Étant donné que la plupart des études portant sur la satisfaction conjugale et le poids jusqu'à présent n'ont pas considéré cette asymétrie, cela pourrait notamment expliquer les inconsistances retrouvées au sein de cette littérature. Récemment, deux études se sont intéressées aux liens entre la satisfaction conjugale et le poids sous un angle dyadique. Elles tentent d'expliquer comment le poids des deux partenaires peut influencer le niveau de satisfaction de ces derniers.

D'abord, l'étude de Meltzer, Novak, McNulty, Butler, & Karney (2011) s'est intéressée, de façon longitudinale, à l'impact de la satisfaction conjugale sur le poids, et ce, en tenant compte de l'indice de masse corporel (IMC) des deux conjoints. L'IMC se définit par le rapport entre le poids (en kg) et la taille en mètre carré (m^2). Il s'agit de la mesure la plus fréquemment utilisée pour évaluer le poids. Les résultats montrent que les deux conjoints évaluent leur relation conjugale comme étant plus satisfaisante au début de l'étude, de même que quatre ans plus tard, lorsque la femme a un IMC inférieur au celui de son conjoint. De plus, les hommes rapportent plus d'insatisfaction conjugale, et ce, au début de l'étude et même quatre ans plus tard, quand la femme a un IMC supérieur à celui de son mari. Pour ce qui est des femmes, bien que le niveau de satisfaction conjugale de ces dernières ne soit pas relié au fait qu'elles présentent un IMC plus élevé que leur conjoint, il n'en demeure pas moins que leur trajectoire de satisfaction conjugale descend plus abruptement dans le temps lorsqu'elles présentent un IMC plus élevé que leur conjoint (Meltzer et al., 2011). Ces résultats montrent que la satisfaction conjugale semble être liée à l'interaction entre le poids des deux conjoints, et que l'impact de l'asymétrie du poids des partenaires sur la satisfaction conjugale diffère selon le sexe. Cette étude met en évidence l'importance de se pencher sur cette interaction entre les conjoints afin de mieux cerner l'association entre le poids et la satisfaction conjugale. Cependant, l'étude de Meltzer et ses collaborateurs (2011) ne fait état que des résultats obtenus chez des partenaires de poids différents (asymétriques), les résultats se rapportant aux partenaires de poids similaires (symétriques) n'étant pas mentionnés.

Une étude subséquente a été menée auprès de 43 couples hétérosexuels (Burke, Randall, Corkery, Young, & Butler, 2012). Ces derniers ont été interrogés en laboratoire et ont rempli des questionnaires ainsi qu'un journal de bord quotidien visant à mesurer différentes variables telles que l'IMC et les conflits généraux au sein du couple. L'étude

visait à comparer les couples dont les partenaires avaient un poids similaire à ceux dont les partenaires avaient des poids asymétriques. Les résultats indiquent que les partenaires de poids asymétriques vivent plus de conflits conjugaux que les partenaires présentant des poids similaires. Plus spécifiquement, il a été démontré que chez les partenaires de poids asymétriques, les conflits sont plus présents lorsque l'IMC de la femme indique un surpoids et que celui de l'homme correspond à un poids normal. Encore une fois, il semble que l'impact de l'asymétrie du poids des partenaires sur la fréquence des conflits conjugaux diffère selon le sexe. L'une des explications suggérées par les auteurs est que les hommes souhaiteraient que leur femme, dont l'IMC est supérieur au leur, soit plus mince. Ce serait cet écart entre ce qu'ils désireraient et la réalité quotidienne qui créerait des conflits. Les auteurs ajoutent que les femmes seraient conscientes du désir de leur conjoint, ce qui ferait en sorte qu'elles seraient moins confiantes par rapport à leur apparence, générant ainsi encore plus de conflits (Burke et al., 2012). Bien que ces résultats soient très pertinents, l'étude présente certaines limites. En effet, les différences qui pourraient exister entre les deux sous-groupes de couple avec des poids similaires, soit deux partenaires présentant un poids normal comparativement à deux partenaires en surpoids ou obèses, ne sont pas évaluées. La taille de l'échantillon est aussi problématique, celui-ci étant composé de 43 couples seulement. Étant donné qu'un petit échantillon peut être moins représentatif de la population générale, les résultats doivent être pris avec circonspection.

Ces deux études montrent clairement l'importance de considérer les aspects dyadiques dans l'étude du poids et des relations conjugales. De fait, certaines associations auraient pu être omises en évaluant les partenaires de façon indépendante. Le fait de considérer la présence ou l'absence d'écart de poids entre les deux partenaires d'un couple, de même que le sens de cet écart en fonction du sexe du partenaire permet de mieux comprendre la relation entre le poids et l'insatisfaction et/ou les conflits conjugaux. Une limite importante des études présentées à ce jour est que les résultats se rapportant aux couples ayant des poids similaires ne sont pas pris en compte.

Asymétrie du poids des partenaires et autres variables liées à la satisfaction conjugale

À ce jour, les études sur l'asymétrie du poids se sont principalement concentrées sur le niveau de satisfaction conjugale des conjoints et la présence de conflits au sein du couple. Il serait donc intéressant de pousser plus loin cette analyse du lien entre le fonctionnement conjugal et l'écart de poids entre les

partenaires en s'intéressant à d'autres variables hautement corrélées avec la satisfaction conjugale. Par exemple, plusieurs études ont trouvé des liens entre la satisfaction conjugale et la satisfaction sexuelle des partenaires (Burri, Radwan, & Bodenmann, 2015; Byers, 2015). De même, il a été démontré que l'insatisfaction conjugale est reliée à l'utilisation de mécanismes d'adaptation, c'est-à-dire des stratégies utilisées par les individus afin de faire face aux événements stressants (Endler & Parker, 1994), plus dysfonctionnels, comme l'évitement. Par ailleurs, l'évitement serait aussi relié à la compulsion alimentaire, particulièrement chez les femmes en surpoids (Butler, Young, & Randall, 2010; Gagnon-Girouard et al., 2010).

Outre le fonctionnement conjugal, il serait aussi intéressant de mieux documenter le lien entre l'asymétrie du poids des partenaires et les comportements alimentaires de ces derniers. Deux études ont porté sur cette association jusqu'à maintenant (Markey, Gomel, & Markey, 2008; Markey, Markey, August, & Nave, 2015). Les auteurs ont démontré que les membres d'un couple peuvent avoir tendance à monitorer les comportements alimentaires de leur partenaire, et ce, encore plus lorsqu'il y a asymétrie des poids dans le couple. Le partenaire ayant un poids normal aura tendance à réguler les comportements alimentaires de son partenaire en surpoids. Ces études suggèrent que l'interaction entre les poids des conjoints puisse aussi influencer le rapport à la nourriture de chacun des partenaires. Toutefois, aucune étude ne s'est penchée spécifiquement sur le lien entre l'asymétrie du poids des partenaires et l'adoption de comportements alimentaires problématiques, tels que la désinhibition alimentaire (surconsommation d'aliments en réponse à des influences extérieures associée à une perte de contrôle sur la prise alimentaire), la susceptibilité à la faim (consommation d'aliments en présence de déclencheurs qui stimulent la faim ou l'impression d'avoir faim), ainsi que la restriction (préoccupation à l'égard du poids et tentative de contrôle de la prise alimentaire) (Stunkard & Messick, 1985; Provencher, 2007).

Donc, considérant que plusieurs variables sont associées à des aspects pouvant être influencés par l'asymétrie du poids des partenaires, il s'avère intéressant de les inclure afin de mieux comprendre le fonctionnement des couples dans leur ensemble. Ainsi, en s'intéressant aux comportements alimentaires, aux mécanismes d'adaptation et à la satisfaction conjugale et sexuelle des couples ayant des poids asymétriques ou similaires, il sera possible d'avoir une meilleure idée de l'effet de l'asymétrie du poids des conjoints.

ASYMÉTRIE DE POIDS ET ENJEUX CONJUGAUX

Objectif et hypothèses

La présente étude vise à approfondir le lien entre les poids des conjoints et le fonctionnement conjugal et alimentaire en ayant recours à une perspective dyadique. Plus spécifiquement, le but de l'étude est de vérifier de quelle façon la symétrie/asymétrie du poids dans un couple est associée au fonctionnement conjugal et aux comportements alimentaires, en fonction du sexe des partenaires. Il est d'abord attendu que les couples aux poids asymétriques aient un moins bon fonctionnement conjugal que les couples aux poids similaires, et ce, tant chez les hommes que chez les femmes. Plus particulièrement, au sein des couples où l'IMC de la femme est supérieur à celui de son conjoint, il est envisagé que le fonctionnement conjugal soit moindre par rapport aux trois autres groupes: 1) lorsque les deux partenaires ont un poids normal, 2) lorsque les deux partenaires ont un surplus de poids, et 3) lorsque que l'homme a un surplus de poids, mais que la femme a un poids normal. De plus, il est attendu que ces femmes présenteraient plus de comportements alimentaires problématiques et feraient plus d'évitement que les femmes des trois autres groupes. Ces hypothèses qui suggèrent un moins bon fonctionnement des femmes à l'IMC supérieur à celui de leur conjoint s'appuient sur les résultats des études précédemment citées. Elles s'inscrivent dans un contexte social qui promeut les idéaux de minceur chez les femmes pouvant induire des insatisfactions au sein du couple et avoir des répercussions sur les comportements alimentaires des femmes qui se considèrent insatisfaisantes.

Méthode

Participants

L'échantillon est composé de couples hétérosexuels qui ont rempli des questionnaires en ligne. Le recrutement s'est fait à l'aide d'un courriel envoyé aux étudiants et employés d'une université du Québec, ainsi qu'à une liste de volontaires à la recherche issus de la population générale. Dans le courriel, il leur a été proposé de participer à une étude qui porte sur les liens entre le fonctionnement conjugal, les stratégies d'adaptation et les comportements alimentaires. Pour participer, les individus devaient être en couple hétérosexuel, être âgés de 18 ans ou plus et cohabiter avec leur conjoint depuis au moins six mois. Les deux membres du couple devaient remplir les questionnaires séparément. Au total, 295 femmes et 228 hommes ont répondu au sondage. Sur ce nombre, 202 couples ont été jumelés. Par la suite, 28 couples ont été exclus de l'étude, majoritairement en raison du non-respect du critère d'inclusion stipulant que les partenaires devaient cohabiter depuis au moins six mois ($n = 9$). D'autres couples ont été retirés puisqu'un des partenaires

présentait un IMC improbable ($n = 4$), c'est-à-dire une taille ou un poids invraisemblable (p. ex., une taille de 30 cm pour un poids de 300 kg), ou encore parce que les données concernant le poids et la taille étaient manquantes ($n = 2$). Finalement, les participants ayant un IMC dans la catégorie sous-poids ont été exclus puisque leur nombre trop faible ($n = 13$) ne permettait pas de les inclure dans les analyses des catégories de couples incluant des personnes en sous-poids. L'échantillon final est donc composé de 174 couples dont la moyenne d'âge chez les femmes est de 30.32 ans ($\bar{E}.-T. = 11.42$) et celle des hommes est de 32.52 ans ($\bar{E}.-T. = 12.71$). La durée moyenne des relations est de 7.51 ans ($\bar{E}.-T. = 9.20$). Pour le reste des données sociodémographiques, voir le Tableau 1.

Matériel

Indice de masse corporelle (IMC). Le poids ainsi que la taille ont été recueillis afin de calculer l'IMC des participants. Pour départager les poids normaux du surpoids, un point de rupture a été établi à 25 kg/m^2 , tel que recommandé par les critères de l'Organisation mondiale de la santé (Organisation Mondiale de la Santé, 2015).

Satisfaction conjugale. La qualité de la relation a été évaluée à l'aide de la traduction francophone du *Dyadic Adjustment Scale* (Spanier, 1976), l'*Échelle d'ajustement dyadique* (Baillargeon & Marineau, 1986). Ce questionnaire auto-rapporté comprend 32 items mesurant le consensus, la satisfaction, la cohésion et l'expression affective dans le couple, et ce, principalement avec des échelles de type Likert (Baillargeon & Marineau, 1986). Plus le score total obtenu est élevé, plus l'ajustement dyadique est considéré comme étant positif. Il s'agit du test le plus utilisé pour mesurer la qualité de la relation dans la littérature (Graham, Liu, & Jeziorski, 2006). En ce qui concerne les qualités psychométriques de ce questionnaire, il possède une très bonne fidélité. Le niveau de cohérence interne mesuré à l'aide de l'alpha de Cronbach pour la présente étude est de .90, ce qui est très satisfaisant.

Satisfaction sexuelle. Afin de mesurer la satisfaction sexuelle, la sous-échelle *Satisfaction sexuelle* constituée de 10 items provenant du questionnaire *Derogatis Sexual Functioning* a été utilisée (Derogatis & Melisaratos, 1979). Pour ce qui est de ses qualités psychométriques, la consistance interne de cette sous-échelle est adéquate (Derogatis & Melisaratos, 1979). Dans la présente étude, l'alpha de Cronbach est de .60, ce qui est acceptable.

Comportements alimentaires. Afin d'évaluer les comportements alimentaires problématiques, la version francophone du *Three-Factor-Eating Questionnaire* développée par Stunkard et Messick

Tableau 1
Caractéristiques démographiques selon le sexe

Caractéristiques	Femmes	Hommes
	% (n)	% (n)
Statut conjugal		
Marié	20.70 (36)	21.70 (36)
Union libre	79.30 (138)	79.30 (138)
Langue première		
Français	95.40 (166)	96.00 (167)
Anglais	1.70 (3)	0.60 (1)
Autres	2.90 (5)	3.40 (6)
Ethnicité		
Blanc	96.00 (167)	95.40 (166)
Noir	1.10 (2)	0.00 (0)
Asiatique	1.10 (2)	0.00 (0)
Latino	0.00 (0)	2.30 (4)
Autochtone	0.00 (0)	0.60 (1)
Autres	1.70 (3)	1.10 (2)
Préfère ne pas répondre	0.00 (0)	0.60 (1)
Occupation*		
Étudiant temps plein	58.60 (102)	35.60 (62)
Étudiant temps partiel	7.50 (13)	5.70 (10)
Travailleur temps plein	34.50 (60)	47.10 (82)
Travailleur temps partiel	21.80 (38)	12.10 (21)
Scolarité		
Aucune ou primaire non complétée	0.00 (0)	0.60 (1)
Secondaire	2.90 (5)	17.20 (30)
Collégial	33.90 (59)	26.40 (46)
Université	63.20 (110)	55.70 (97)
Couple avec enfant(s)	26.40 (46)	25.30 (44)
Revenu familial annuel		
0 - 19 999\$	27.00 (47)	22.40 (39)
20 000 - 39 999\$	21.30 (37)	23.00 (40)
40 000 - 59 999\$	13.80 (24)	16.70 (29)
60 000 - 79 999\$	8.00 (14)	8.60 (15)
80 000 - 99 999\$	8.60 (15)	9.20 (16)
100 000\$ et plus	14.40 (25)	16.10 (28)
Préfère ne pas répondre	6.90 (12)	40.00 (7)

Note.* Les participants pouvaient choisir plus d'une occupation.

(1985) a été utilisée. Ce test de 51 items comprend différents types de questions qui évaluent trois comportements alimentaires problématiques, soit la désinhibition alimentaire (16 items), la restriction (21 items) et la susceptibilité à la faim (14 items). La désinhibition alimentaire est évaluée avec trois sous-échelles portant sur la désinhibition habituelle, situationnelle et émotionnelle. La restriction, quant à elle, comprend deux sous-échelles, soit le contrôle cognitif rigide et le contrôle cognitif flexible. La susceptibilité à la faim comprend aussi deux sous-échelles, soit la susceptibilité à la faim provoquée par un stimulus interne ou externe (Bond, McDowell, & Wilkinson, 2001). Ce questionnaire est composé de 36

questions de type vrai ou faux et de 15 questions à réponses variées (Van Strien, Hermen, Engels, Larsen, & Van Leeuwe, 2007). Un haut score signifie un niveau élevé de comportements alimentaires problématiques (Bond, McDowell, & Wilkinson, 2001). Il possède de bonnes qualités psychométriques (Bond, McDowell, & Wilkinson, 2001). Pour la présente étude, l'alpha de Cronbach obtenu est de .84, ce qui est satisfaisant.

Stratégies d'adaptation. Afin d'évaluer les stratégies d'adaptation des participants, la version francophone du *Coping Inventory for Stressful Situations* a été administrée (Endler & Parker, 1994). Ce questionnaire mesure les diverses façons de faire

ASYMÉTRIE DE POIDS ET ENJEUX CONJUGAUX

face aux situations stressantes. Il comprend 48 items et se divise en trois sous-échelles, soit les stratégies d'adaptation orientées vers la tâche (faire face au problème), orientées vers les émotions (apaiser les émotions négatives causées par le problème) et orientées vers l'évitement (éviter les affects négatifs par la distraction ou la diversion sociale). Il est demandé aux répondants d'indiquer jusqu'à quel point ils utilisent cette stratégie d'adaptation à l'aide d'une échelle de type Likert en cinq points allant de « Pas du tout » à « Beaucoup ». Ce test possède de très bonnes qualités psychométriques (Hatchett & Park, 2004). L'alpha de Cronbach obtenu dans le cadre de la présente étude est de .79.

Régulation émotionnelle. La régulation émotionnelle des participants a été évaluée à l'aide du *Emotion Regulation Questionnaire*. Ce test évalue deux façons distinctes de réguler les émotions, soit la réévaluation cognitive et la suppression cognitive (Gross & John, 2003) à l'aide de dix items mesurés avec des échelles de type Likert. Ce questionnaire possède de bonnes qualités psychométriques (Christophe, Antoine, Leroy, & Delelis, 2009). Pour la présente étude, l'alpha de Cronbach est de .80.

Procédure

Les gens intéressés à participer à l'étude ont été dirigés vers un sondage en ligne. L'ensemble des questionnaires devait être rempli dans un ordre préétabli par chacun des membres du couple, et ce, de manière individuelle. Cela permettait d'éviter que les réponses ne soient biaisées par la présence de l'autre partenaire durant la passation. Il était aussi indiqué aux participants comment créer un code de couple, dans le but d'apparier ultérieurement les réponses des partenaires d'un même couple.

Analyses statistiques

Les quatre groupes ont été créés à partir de l'IMC des conjoints selon les normes établies par l'OMS ($IMC \geq 25$ = surpoids/obésité, $18,5 \leq IMC < 25$ = poids normal) (Organisation Mondiale de la Santé, 2015). Le premier groupe est composé de 69 couples dont les deux partenaires ont un poids normal (NN) et le deuxième groupe de 34 couples dont les deux partenaires souffrent de surpoids ou d'obésité (SS). Le troisième groupe est composé de 49 couples dont la femme présente un poids normal et dont l'homme est en surpoids ou obèse (NS) tandis que le dernier groupe est composé de 22 couples dont la femme est en surpoids ou obèse et dont l'homme présente un poids normal (SN). Afin de vérifier les différences entre les groupes en fonction du sexe des participants sur les différentes variables d'intérêt reliées au couple (satisfaction conjugale, satisfaction sexuelle et stratégies d'adaptation) et reliées aux comportements

alimentaires (désinhibition, restriction et susceptibilité à la faim), une série d'analyses de variance multivariée (MANOVAs) et d'analyses de variance univariée (ANOVAs) à mesures répétées a été effectuée, où le sexe est traité comme un facteur de mesure répétée. Les analyses à mesures répétées sont utiles pour investiguer les processus dyadiques, puisque considérer le sexe comme facteur de mesure répétée permet de tenir compte de l'interdépendance des deux membres du couple (Kenny, Kashy, & Cook, 2006). L'exploration préalable des données a permis de confirmer le respect des postulats de base pour la réalisation de ces analyses (absence de données extrêmes, homogénéité des variances-covariances, normalité des distributions). Après vérification, la durée de la relation et l'âge des participants ne corrèlent pas de façon significative aux variables d'intérêt. Elles n'ont donc pas été incluses comme covariables dans les analyses.

Résultats

Les moyennes et écarts-types des variables à l'étude sont rapportés dans le Tableau 2 en fonction du sexe et du groupe des participants.

La satisfaction conjugale et sexuelle des participants étant modérément corrélées entre elles ($r = 0.51$, $p < .001$), une MANOVA à mesures répétées a été effectuée. Les résultats révèlent un effet multivarié significatif indiquant une différence significative sur le sexe, Wilks $\lambda = .922$, $F(6, 338) = 2.33$, $p = .032$. L'examen des effets univariés signalent une interaction significative entre le groupe et le sexe pour la satisfaction conjugale ($F(3, 170) = 3.13$, $p = .027$). En accord avec la première hypothèse qui stipulait que les couples aux poids similaires auraient un meilleur fonctionnement conjugal que celui des couples aux poids asymétriques, l'analyse d'effets simples révèle que les hommes du groupe NN sont significativement plus satisfaits conjugalement que ceux du groupe NS ($p = .005$) et du groupe SN ($p = .018$). Aucune différence significative n'a été notée chez les femmes. Pour la satisfaction sexuelle, les résultats montrent qu'il y a également une interaction significative entre le groupe et le sexe ($F(3, 170) = 2.85$, $p = .039$). Également en accord avec la première hypothèse, les effets simples révèlent que les hommes du groupe NN sont significativement plus satisfaits sexuellement que les hommes des groupes NS ($p = .030$) et SN ($p = .002$). Aussi, les hommes du groupe SS sont significativement plus satisfaits que les hommes du groupe SN ($p = .014$). Les effets simples révèlent que les femmes du groupe NN sont, de façon marginalement significative, plus satisfaites sexuellement que les femmes du groupe SN ($p = .068$).

Tableau 2

Moyennes et écart-types selon le sexe, le groupe et la variable

Variables	Groupes (Femme/Homme)	<i>M</i> (<i>E.-T.</i>)	<i>M</i> (<i>E.-T.</i>)
		Hommes	Femmes
Satisfaction conjugale	Normal/Normal (NN)	121.19 (13.47)	120.66 (12.94)
	Surpoids/Surpoids (SS)	118.03 (17.940)	117.88 (18.37)
	Normal/Surpoids (NS)	113.20 (15.42)	119.77 (14.87)
	Surpoids/ Normal (SN)	112.36 (14.13)	117.00 (15.31)
Satisfaction sexuelle	Normal/Normal (NN)	7.85 (1.49)	7.91 (2.11)
	Surpoids/Surpoids (SS)	7.68 (1.70)	7.26 (2.44)
	Normal/Surpoids (NS)	7.14 (1.95)	7.89 (1.73)
	Surpoids/Normal (SN)	6.50 (1.99)	6.95 (2.46)
Régulation émotionnelle (suppression)	Normal/Normal (NN)	14.28 (4.61)	11.68 (4.82)
	Surpoids/Surpoids (SS)	13.32 (4.70)	9.91 (5.56)
	Normal/Surpoids (NS)	16.55 (5.46)	11.78 (5.63)
	Surpoids/Normal (SN)	15.86 (4.33)	11.91 (5.67)
Stratégies d'adaptation (émotion)	Normal/Normal (NN)	39.70 (8.48)	44.97 (8.98)
	Surpoids/Surpoids (SS)	42.30 (10.24)	44.94 (11.64)
	Normal/Surpoids (NS)	38.18 (8.59)	45.39 (11.28)
	Surpoids/Normal (SN)	38.86 (9.11)	46.95 (9.13)
Stratégies d'adaptation (diversion)	Normal/Normal (NN)	13.45 (4.69)	15.65 (4.37)
	Surpoids/Surpoids (SS)	13.26 (4.33)	14.73 (3.27)
	Normal/Surpoids (NS)	13.49 (3.97)	13.47 (4.80)
	Surpoids/Normal (SN)	12.09 (4.96)	14.60 (5.46)
Comportements alimentaires problématiques (désinhibition)	Normal/Normal (NN)	6.01 (2.65)	6.35 (3.36)
	Surpoids/Hurpoids (SS)	5.38 (2.72)	7.47 (3.72)
	Normal/Surpoids (NS)	6.53 (3.00)	5.12 (2.91)
	Surpoids/Normal (SN)	4.86 (2.96)	7.86 (3.38)
Comportements alimentaires problématiques (restriction)	Normal/Normal (NN)	4.80 (2.80)	7.28 (4.57)
	Surpoids/Surpoids (SS)	5.56 (4.05)	7.97 (4.52)
	Normal/Surpoids (NS)	6.24 (4.13)	7.44 (4.84)
	Surpoids/Normal (SN)	4.18 (3.02)	7.41 (4.63)

En ce qui a trait aux comportements alimentaires, puisque la désinhibition alimentaire et la susceptibilité à la faim corrèlent modérément entre elles ($r = 0.45$, $p < .001$), une MANOVA à mesures répétées a été effectuée. Les résultats révèlent un effet multivarié significatif indiquant une différence significative sur le sexe, Wilks $\lambda = .872$, $F(6, 338) = 3.98$, $p = .001$. L'examen des effets univariés signalent une interaction groupe par sexe significative pour la désinhibition alimentaire ($F(3, 170) = 7.86$, $p < .001$). Les analyses d'effets simples révèlent que les femmes du groupe NS se désinhibent significativement moins au plan alimentaire que les femmes des groupes NN, SS et SN (respectivement, $p = .050$, $p = .002$, $p = .002$). Ce résultat va à l'encontre de la deuxième hypothèse qui stipulait que les femmes du groupe composé d'une femme en surpoids avec un homme de poids normal présenteraient plus de comportements alimentaires problématiques. De plus, les hommes du groupe NS se désinhibent significativement plus que les hommes du groupe SN ($p = .022$). Pour la susceptibilité à la faim, aucune différence significative entre les groupes, le sexe et l'interaction groupe par

sexe n'a été trouvée. Pour la variable restriction (peu corrélée avec les autres variables alimentaires), une ANOVA à mesures répétées a été effectuée. Seule une différence significative entre les sexes est trouvée ($F(1, 170) = 26.23$, $p < .001$). Les femmes se restreignent significativement plus que les hommes.

En ce qui concerne la régulation émotionnelle et les stratégies d'adaptation, comme les différentes variables qui y sont associées corrélaient peu ou pas entre elles, des ANOVAs à mesures répétées ont été effectuées pour chacune des variables. En ce qui a trait à la suppression émotionnelle, les résultats montrent uniquement un effet significatif du sexe ($F(1, 170) = 33.74$, $p < .001$). Plus spécifiquement, les hommes suppriment significativement plus leurs émotions que les femmes, sans égard au groupe. Pour la réévaluation cognitive, aucun effet n'a été noté. Pour ce qui est des stratégies d'adaptation orientées vers les émotions, les résultats montrent que seul l'effet du sexe est significatif ($F(1, 170) = 29.75$, $p < .001$). Les femmes utilisent significativement plus ce type de stratégies que les hommes. La troisième hypothèse

ASYMÉTRIE DE POIDS ET ENJEUX CONJUGAUX

stipulait que les femmes du groupe composé d'une femme en surpoids avec un homme de poids normal feraient plus d'évitement. Cette hypothèse est infirmée pour ce qui est des stratégies orientées vers la diversion (évitement), car, encore une fois, seul l'effet du sexe est significatif ($F(1, 170) = 8.68, p = .004$). Les femmes adoptent significativement plus ce type de stratégies que les hommes. Concernant les stratégies d'adaptation orientées vers la tâche et la distraction sociale, aucun effet n'est noté.

Discussion

L'objectif principal de cette étude est de vérifier de quelle façon la symétrie/asymétrie du poids dans un couple est associée au fonctionnement conjugal et aux comportements alimentaires, en fonction du sexe des partenaires. Pour ce faire, nous avons comparé quatre groupes de couples qui varient selon le poids des partenaires, soit les hommes en surpoids avec les femmes de poids normal, les femmes en surpoids avec les hommes de poids normal, les partenaires présentant un surpoids et les partenaires présentant un poids normal. La première hypothèse stipulait que les couples aux poids asymétriques auraient un moins bon fonctionnement conjugal que les couples au poids similaires, et ce, tant chez les hommes que chez les femmes. Cette hypothèse est partiellement confirmée, car les résultats s'appliquent principalement aux hommes. En effet, nos résultats montrent des différences entre les hommes et les femmes dans leur rapport face au poids de leur conjoint. Les hommes qui sont en couple avec une partenaire ayant un poids différent du leur sont moins satisfaits conjugalement et sexuellement que les hommes des couples qui ont des partenaires au poids semblable au leur. Les résultats obtenus suggèrent que la présence d'un écart de poids entre les partenaires semble être liée à un fonctionnement conjugal moindre chez les hommes. Ces résultats sont cohérents avec la littérature, car Meltzer et ses collaborateurs (2011) ont démontré que l'asymétrie du poids des partenaires était liée à l'insatisfaction conjugale des hommes présentant un poids normal en couple avec une femme en surpoids. De plus, Burke et ses collaborateurs (2012) avaient démontré que les couples aux poids asymétriques vivaient plus de conflits conjugaux que les couples aux poids similaires. En ce qui concerne la satisfaction sexuelle aucune étude n'avait jusqu'à maintenant fait le lien avec l'asymétrie du poids des partenaires. Étant donné que la satisfaction sexuelle est fortement corrélée à la satisfaction conjugale, il n'est pas étonnant de constater que des résultats similaires sont obtenus pour ces deux variables.

Une hypothèse plus spécifique avait été formulée à savoir que le fonctionnement conjugal serait moindre chez les couples aux poids asymétriques où l'IMC de la femme serait supérieur à celui de son conjoint.

Cette hypothèse est partiellement confirmée, car d'un côté, comme mentionné précédemment, les hommes de ce type de couple sont moins satisfaits conjugalement et sexuellement que les hommes des groupes où les poids sont symétriques. Toutefois, les résultats montrent que ce groupe ne diffère pas significativement du groupe composé d'un homme en surpoids avec une femme au poids normal sur leur satisfaction, ce qui va à l'encontre de l'hypothèse formulée et des résultats obtenus par Meltzer et ses collaborateurs (2011). Chez les femmes, bien que les résultats soient marginalement significatifs, il est intéressant de mentionner que les femmes en surpoids en couple avec des hommes au poids normal étaient moins satisfaites sexuellement comparativement aux femmes des couples aux poids normaux, ce qui va dans le sens de l'hypothèse formulée.

Dans l'ensemble, ces résultats indiquent que pour les hommes, c'est l'asymétrie du poids qui est associée à un moins bon fonctionnement conjugal, peu importe le sens de cette asymétrie, c'est-à-dire quel membre du couple présente un surpoids. Toutefois, les motifs qui créent de l'insatisfaction chez l'homme pourraient changer selon le sens de cette asymétrie, c'est-à-dire en fonction du fait que ce soit la femme ou l'homme qui est en surpoids. D'une part, lorsque c'est l'homme qui est en surpoids par rapport à la femme, il est possible de penser que la moins grande satisfaction des hommes serait due à un effet de comparaison entre son propre poids et celui de sa conjointe, comme suggéré dans l'étude de Markey et ses collaborateurs (2011). En effet, il a été démontré qu'être en surpoids par rapport à son partenaire serait associé à davantage de préoccupations (Markey & Markey, 2011). Cette même explication pourrait aussi permettre de comprendre la plus grande insatisfaction sexuelle (résultat marginalement significatif) des femmes en surpoids par rapport à leur partenaire ayant un poids normal. D'autre part, lorsque c'est la femme qui présente un surpoids et l'homme un poids normal, cela pourrait aussi créer de l'insatisfaction chez l'homme tel que proposé par Burke et ses collaborateurs (2012). Ces auteurs mentionnent que le fait que les femmes soient en surpoids et, donc, qu'elles ne correspondent pas aux standards de beauté véhiculés par la société, entraînerait des conflits au sein du couple et contribuerait à l'insatisfaction de l'homme qui souhaite avoir une femme mince. De façon générale, il semblerait donc que les hommes réagissent négativement à l'asymétrie de poids, mais pour des raisons différentes.

Concernant les comportements alimentaires, la deuxième hypothèse stipulait que ce serait les femmes du groupe composé d'une femme en surpoids avec un homme de poids normal qui présenteraient le profil le plus détérioré. Cette hypothèse est infirmée. D'abord,

aucune différence significative n'a été retrouvée quant à la susceptibilité à la faim et seul un effet du sexe a été noté concernant la restriction alimentaire; les femmes ayant l'habitude de restreindre davantage leur alimentation que les hommes peu importe à quel groupe elles appartenaient. Cette différence du sexe sur la restriction est cohérente avec la littérature actuelle selon laquelle les femmes sont plus préoccupées par leur poids que les hommes, ce qui les amène à se restreindre davantage au plan alimentaire (Aruguet, Yates, & Edman, 2006). Toujours en lien avec les comportements alimentaires problématiques, les résultats concernant la désinhibition alimentaire montrent que c'est seulement le groupe où la femme a un poids normal et l'homme un surpoids qui diffère des autres tant chez les hommes que chez les femmes. En effet, les femmes de ce groupe se désinhibent moins au plan alimentaire que les femmes des trois autres groupes tandis que les hommes de ce groupe se désinhibent plus que le groupe où l'homme a un poids normal et la femme un surpoids. Une fois de plus, l'asymétrie du poids des conjoints semble être liée à des dysfonctions. La moins grande désinhibition chez les femmes de poids normal en couple avec des hommes en surpoids est possiblement attribuable à un désir de réguler les comportements alimentaires du conjoint via le modeling, c'est-à-dire l'apprentissage qui se produit par l'acte de regarder ou d'imiter une autre personne ou un modèle (Bukatko & Daehler, 2012). En effet, selon Markey, Markey, August et Nave (2015), les femmes auraient particulièrement tendance à réguler les comportements alimentaires de leur conjoint lorsqu'elles sont minces et que celui-ci est en surpoids, probablement parce qu'elles sont insatisfaites du corps de celui-ci (Markey, Gomel, & Markey, 2008). De surcroit, il appert que les individus qui sont minces valoriseraient la minceur et chercheraient à avoir un partenaire qui partage cette valeur. Les femmes de poids normal pourraient donc essayer d'être un modèle pour leur conjoint en se désinhibant moins. Afin d'expliquer pourquoi les hommes de ce groupe présentent plus de désinhibition, il est possible de penser que devant les efforts de la femme pour réguler le comportement alimentaire de l'homme, ces derniers sentiraient encore plus l'écart de poids qui est, selon Markey et ses collaborateurs (2011), préoccupant. Cela, combiné au fait qu'ils échouent à se réguler, pourrait augmenter les préoccupations par rapport au poids et la prise alimentaire.

Finalement, en ce qui concerne les stratégies d'adaptation et de régulation émotionnelle, il était attendu que chez les couples où la femme présente un surpoids et l'homme un poids normal, les femmes feraient plus d'évitement que celles des trois autres groupes. Cette hypothèse est infirmée, car aucune différence n'a été trouvée entre les groupes des poids

des partenaires quant aux stratégies d'évitement. Les hommes et les femmes se distinguaient toutefois sur leurs façons de s'adapter au stress et de réguler leurs émotions, c'est-à-dire que les femmes utilisent plus des stratégies orientées vers les émotions et la diversion sociale tandis que les hommes utilisent plus la suppression émotionnelle. Ces différences sur le sexe sont cohérentes avec d'autres études ayant trouvé des résultats similaires (Matud, 2004; Sigmon, Stanton, & Snyder, 1995).

Limites, forces et implications

Cette étude comporte certaines limites. Tout d'abord, étant donné que les participants devaient rapporter eux-mêmes leur poids et leur taille, il faut considérer la possibilité que certains participants aient pu surévaluer ou sous-évaluer ces mesures. D'ailleurs, des études ont démontré que les personnes en surpoids ont tendance à rapporter un poids inférieur à leur poids réel (Mogre, Aleyira, & Nyaba, 2015). En ce sens, des possibilités d'inexactitudes peuvent avoir provoqué une surestimation du nombre de personnes présentant un poids normal par rapport aux personnes présentant un surpoids. À cet égard, le groupe composé de femmes en surpoids et d'hommes au poids normal est moins prévalent que les trois autres groupes (12,64 % des couples). Cela pourrait notamment expliquer que ce groupe se soit moins clairement distingué des autres dans la présente étude tel qu'initialement présumé. Finalement, une autre limite de cette étude concerne la façon de classifier les groupes. Ceux-ci ont été faits sur la base des critères de l'OMS qui propose un point de rupture afin de déterminer si l'IMC est normal ou en surpoids, tel que l'avaient fait Burke et ses collaborateurs (2012). Par contre, ces critères sont statiques et peuvent occulter des différences de poids entre les partenaires. À titre d'exemple, les membres d'un couple pourraient présenter un écart important d'IMC (p. ex., IMCs = 19 et 24.5, donc 5.5 points d'écart), mais être considérés comme ayant un poids similaire, puisque leur poids sont tous les deux considérés comme normal. À l'inverse, les partenaires peuvent présenter un petit écart d'IMC, mais être considérés comme étant asymétriques (p. ex., IMCs = 24 et 25, donc 1 point d'écart). Pour de futures recherches, d'autres méthodes plus sophistiquées s'avèrent prometteuses pour contrer ce problème. Notamment, Markey et Markey (2011) ont testé un modèle d'interdépendance acteur-partenaire (APIM) en évaluant l'effet de l'asymétrie de poids du couple en tenant compte de l'interaction entre l'IMC des deux partenaires. Ce faisant, c'est l'écart réel entre l'IMC des deux membres du couple qui est analysé, ce qui permet d'obtenir des résultats plus précis.

Au-delà de ces limites, cette étude a plusieurs forces. La taille de l'échantillon était importante,

ASYMÉTRIE DE POIDS ET ENJEUX CONJUGAUX

constituée de 348 personnes, soit 174 couples. Cela a certainement favorisé la puissance statistique des analyses effectuées comparativement aux tailles d'échantillons de certaines études précédentes sur le même sujet. De plus, les questionnaires utilisés sont tous validés empiriquement. L'inclusion de plusieurs autres variables que la satisfaction conjugale dans cette étude, variable essentiellement investiguée dans la recherche sur l'asymétrie du poids des partenaires, présente un aspect particulièrement novateur. En effet, plusieurs comportements alimentaires, stratégies d'adaptation en plus de la satisfaction sexuelle ont été évalués, ce qui a permis d'obtenir une vision plus globale de l'impact de l'asymétrie du poids au sein du couple.

En terminant, cette étude contribue à une meilleure compréhension de l'impact du poids dans le couple. Certains consensus semblent se dégager de cette littérature. Entre autres, il semble que l'asymétrie des poids des partenaires soit reliée à une moins bonne satisfaction conjugale. De plus, il semble que l'impact de cette asymétrie de poids sur la satisfaction conjugale diffère selon le sexe des individus, les hommes étant plus particulièrement affectés. Par contre, il est évident que l'étude du fonctionnement conjugal en lien avec des poids asymétriques chez des partenaires est relativement récente et que d'autres études seront nécessaires afin d'établir des constats solides sur le sujet. À long terme, l'association de certains profils de couple à plus d'insatisfaction et de comportements problématiques pourra être utilisée afin de sensibiliser les intervenants aux implications de l'écart de poids entre les partenaires.

Références

- Aruguete, M. S., Yates, A., & Edman, J. (2006). Gender differences in attitudes about fat, *North American Journal of Psychology*, 8, 183-192.
- Averett, S. L., Sikora, A., & Argys, L. M. (2008). For better or worse: Relationship status and body mass index. *Economics and Human Biology*, 6, 330-349.
- Baillargeon, J., Dubois, G., & Marineau, R. (1986). Traduction française de l'Échelle d'ajustement dyadique. *Revue canadienne des sciences du comportement*, 18, 25-34.
- Bond, M., McDowell, A., & Wilkinson, J. (2001). The measurement of dietary restraint, disinhibition and hunger: An examination of the factor structure of the Three Factor Eating Questionnaire (TFEQ). *International Journal of Obesity*, 25, 900-906.
- Bove, C. F., & Sobal, J. (2011). Body weight relationships in early marriage: Weight relevance, weight comparisons, and weight talk. *Appetite*, 57, 729-742.
- Boyes, A. D., & Latner, J. D. (2009). Weight stigma in existing romantic relationships. *Journal of Sex & Marital Therapy*, 35, 282-293.
- Bukatko, D., & Daehler, W. M. (2012). *Child Development: A Thematic Approach* (6ème éd.). Belmont, CA: Wadsworth.
- Burke, T. J., Randall, A. K., Corkery, S. A., Young, V. J., & Butler, E. A. (2012). "You're going to eat that?" Relationship processes and conflict among mixed-weight couples. *Journal of Social and Personal Relationships*, 29, 1109-1130.
- Burri, A., Radwan, S., & Bodenmann, G. (2015). The role of partner-related fascination in the association between sexual functioning and relationship satisfaction: The role of partner-related fascination in the association between sexual functioning and relationship satisfaction. *Journal of Sex and Marital Therapy*, 41, 672-679.
- Butler, E. A., Young, V. J., & Randall, A. K. (2010). Suppressing to please, eating to cope: The effect of overweight women's emotion suppression on romantic relationships and eating. *Journal of Social and Clinical Psychology*, 29, 599-623.
- Byers, E. S. (2015). Relationship satisfaction and sexual satisfaction: A longitudinal study of individuals in long-term relationships. *Relationship Satisfaction and Sexual Satisfaction: A Longitudinal Study of Individuals in Long-Term Relationships*, *Journal of Sex Research*, 44, 133-118.
- Carr, D., & Friedman, M. a. (2006). Body Weight and the quality of interpersonal relationships. *Social Psychology Quarterly*, 69, 127-149.
- Christophe, V., Antoine, P., Leroy, T., & Delelis, G. (2009). Évaluation de deux stratégies de régulation émotionnelle : la suppression expressive et la réévaluation cognitive. *Revue Européene de Psychologie Appliquée*, 59, 59-67.
- Derogatis, L. R., & Melisaratos, N. (1979). The DSFI: A multidimensional measure of sexual functioning. *Journal of Sex & Marital Therapy*, 5, 244-281.
- Endler, N. S., & Parker, J. D. A. (1994). Assessment of multidimensional coping: Task, emotion, and avoidance strategies. *Psychological Assessment*, 6, 50-60.
- Gagnon-Girouard, M.-P., Gagnon, C., Bégin, C., Provencher, V., Tremblay, A., Boivin, S., & Lemieux, S. (2010). Couple dissatisfaction and eating profile: A mediation effect of coping style. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity*, 15, 240-246.
- Graham, J. M., Liu, Y. J., & Jeziorski, J. L. (2006). The dyadic adjustment scale: A reliability generalization meta-analysis. *Journal of Marriage and Family*, 68, 701-717.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being theoretical background: A process model of emotion regulation. *Journal of Personality and Social Psychology*, 85, 348-362.

- Hatchett, G. T., & Park, H. L. (2004). Relationships among optimism, coping styles, psychopathology, and counseling outcome. *Personality and Individual Differences*, 36, 1755–1769.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York, NY: Guilford.
- Markey, C. N., Gomel, J. N., & Markey, P. M. (2008). Romantic relationships and eating regulation: An investigation of partners' attempts to control each other's eating behaviors. *Journal of Health Psychology*, 13, 422–432.
- Markey, C. N., & Markey, P. M. (2011). Romantic partners, weight status, and weight concerns: An examination using the actor-partner interdependence model. *Journal of Health Psychology*, 16, 217–225.
- Markey, C. N., Markey, P. M., August, K. J., & Nave, C. S. (2015). Gender, BMI, and eating regulation in the context of same-sex and heterosexual couples. *Journal of Behavioral Medicine*, 39, 398–407.
- Matud, M. P. (2004). Gender differences in stress and coping styles. *Personality and Individual Differences*, 37, 1401–1415.
- McElroy, L. S., Kotwal, R., Malhotra, S., Nelson, B. E., Keck, E. P., & Nemeroff, B. C. (2004). Are mood disorders and obesity related? A review for the mental health professional. *Journal of Clinical Psychiatry*, 65, 634–651.
- Meltzer, A. L., McNulty, J. K., Novak, S. A., Butler, E. A., & Karney, B. R. (2011). Marriages are more satisfying when wives are thinner than their husbands. *Social Psychological and Personality Science*, 2, 416–424.
- Meltzer, A. L., Novak, S. A., McNulty, J. K., Butler, E. A., & Karney, B. R. (2013). Marital satisfaction predicts weight gain in early marriage. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association (APA)*, 32, 824–827.
- Mogre, V., Aleyira, S., & Nyaba, R. (2015). Misperception of weight status and associated factors among undergraduate students. *Obesity Research & Clinical Practice*, 9, 466–474.
- Must, A., Spadano, J., Coakley, E. H., Field, A. E., Colditz, G., & Dietz, W.H. (1999). The disease burden associated with overweight and obesity. *Journal of American Medical Association*, 282, 1523–1529.
- Organisation Mondiale de la Santé. (2015). Obésité et surpoids. Récupéré sur <http://www.who.int/mediacentre/factsheets/fs311/fr/>
- Provencher, R. (2007). *Comportements alimentaires et profil psychologique chez la femme : le nouveau paradigme en matière de gestion du poids peut-il être une alternative de choix*. (Thèse de doctorat non publiée), Université Laval, Québec, Canada.
- Sheets, V., & Ajmere, K. (2005). Are romantic partners a source of college students' weight concern? *Eating Behaviors*, 6, 1–9.
- Sigmon, S. T., Stanton, A. L., & Snyder, C. R. (1995). Gender differences in coping: A further test of socialization and role constraint theories. *Sex Roles*, 33, 565–587.
- Sobal, J., Rauschenbach, B. S., & Fronillo, E. A. (2009). Body weight and relationship quality among women: Associations of obesity and underweight with relationship communication, conflict, and happiness. *International Journal of Sociology of the Family*, 35, 25–44.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Source Journal of Marriage and Family*, 38, 15–28.
- Statistique Canada. (2015). *Enquête canadienne sur les mesures de la santé : composition corporelle et condition physique*. Récupéré au <http://www.statcan.gc.ca/daily-quotidien/100113/dq100113a-fra.htm>
- Stunkard, A., & Messick, S. (1985). The three-factor eating questionnaire to measure dietary restraint, disinhibition and hunger. *Journal of Psycholomatic Research*, 29, 71–83.
- Tovée, M. J., & Cornelissen, P. L. (2001). Female and male perceptions of female physical attractiveness in front-view and profile. *British Journal of Psychology*, 92, 391–402.
- Van Strien, T., Herman, C. P., Engels, R. C. M. E., Larsen, J. K., & Van Leeuwe, J. F. J. (2007). Construct validation of the Restraint Scale in normal-weight and overweight females. *Appetite*, 49, 109–121.

Reçu le 23 avril 2016
Révision reçue le 28 juillet 2016
Accepté le 24 octobre 2016 ■

Intimate Partner Violence and Sexual Communication

TASHA FALCONER
University of Guelph

Intimate partner violence and sexual communication are two areas of research that have been extensively studied, but only few findings connect these areas. This literature review will examine the research that has been done on intimate partner violence, sexual communication and the connections between these two variables. In the light of the discoveries in this field of research, a U shape model is proposed to explain the connection between sexual communication and intimate partner violence. With this information, preventive interventions could be created to stop intimate partner violence before it happens.

Keywords: intimate partner violence, sexual communication, power imbalance, sexual satisfaction, sexual assertiveness, contraceptive

La violence conjugale et la communication sexuelle sont deux domaines de recherche qui ont été étudiés de façon approfondie, mais il n'y a que peu de résultats qui relient ces domaines. Cette revue de littérature examinera la recherche qui a été menée sur la violence conjugale et sur la communication sexuelle ainsi que les liens entre ces deux variables. Un modèle en U est proposé pour expliquer le lien entre la communication sexuelle et la violence conjugale. Grâce à cette information, des interventions préventives pourraient être créées pour arrêter la violence conjugale avant qu'elle ne se produise.

Mots-clés : violence conjugale, communication sexuelle, déséquilibre de pouvoir, satisfaction sexuelle, affirmation sexuelle, contraceptif

Violence is "the intentional use of physical force or power [...] which either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation" (World Health Organization). From intimidation to homicides, there is just as large a range of negative outcomes when violent actions are perpetrated. Therefore, studying the various expressions of violence appears to be necessary, in order to allow society to better prevent these negative outcomes. One type of violence that is important to study because of its alarming prevalence is intimate partner violence. Statistics show that one in three women, and one in four men will experience violence during the course of a relationship. Such happenings usually result in psychological distress and physical harm (National Coalition Against Domestic Violence, 2016). With so many people experiencing the negative side effects of violence within an intimate relationship, it is crucial to find ways to prevent violence from occurring. Sexual communication may be an important component in preventing violence within relationships due to its possible correlation with intimate partner violence. Although both of these areas of research have been extensively studied, findings connecting these two variables are still scarce. A model to explain the relationship between

intimate partner violence and sexual communication will be proposed in the hopes that it will assist the creation of preventive interventions and further investigations.

Intimate Partner Violence

Intimate partner violence (IPV) is "violence committed within an intimate relationship" (Statistics Canada, 2015, p. 22). This can include psychological and physical violence as well as sexual abuse. For example, a women's partner may either continuously tell her that she is worthless or hit her (or both) if dinner is not ready when he gets home. IPV can be perpetrated by a spouse, dating partner or ex-partner. Abuse is often part of a cycle (Adolescents Working for Awesome Relationship Experiences, n.d.). Tensions start to build and the victim then tends to be careful not to set off the abuser. Then there is an incident of verbal, emotional, or physical abuse. Next there is a reconciliation stage, in which the abuser apologizes: he or she may buy gifts to make things better. Then it remains relatively calm before tension starts to build up again and the cycle starts again (Adolescents Working for Awesome Relationship Experiences, n.d.).

IPV is often symptomatic of an imbalance of power in the relationship (Domestic Abuse Intervention Project, 1984). The abuser has more power than the victim in some area of their

I would like to thank the anonymous reviewers and the JIRIRI team for their invaluable feedback and support. Please address all correspondence concerning this article to Tasha Falconer (email: tasha.falconer@hotmail.com).

relationship, which allows him or her to be able to perpetrate violent behaviours. IPV can cause an enormous amount of distress for its victims, their families and society as a whole. It is seen as a public health issue by the World Health Organization (Statistics Canada, 2015).

There are six main areas of research on IPV: prevalence, consequences, effects on children, risk factors, condom use, and interventions. IPV occurs across different ages and genders. Research in this area has focused on subjects between 15-90 years of age. Although IPV is prevalent at all ages, rates are lower in older populations. No matter the age bracket, women are on average at least two to three times more likely to experience IPV in comparison to men. It seems like IPV reaches summits between the ages of 20 and 24 years old, where women are six times more likely to experience IPV than men (1,127.7 per 100,000 women, versus 197.3 per 100,000 men) (Statistics Canada, 2015). Considering this, it is no surprise that IPV is prevalent at post-secondary institutions. DeKeserdy and Kelly (1993) studied abuse in dating relationships of post-secondary students and found that 35% of women had experienced physical IPV and 86% of women had experienced psychological IPV. They also found that 17% of men had experienced physical IPV and 81% of men had experienced psychological IPV. Even though DeKeserdy and Kelly (1993) did not measure sexual IPV, they measured sexual abuse since leaving high school, which is related to IPV. They found 45% of women and 20% of men had been sexually abused since leaving high school. These statistics show that IPV is an important issue across genders and throughout the lifespan.

There is a variety of physical and psychological consequences to being an IPV victim (Plitcha, 2004; Statistics Canada, 2015). Being beaten on a regular basis has both short and long term physical consequences. Short-term physical consequences include scratches, bruises, and broken bones. Long-term physical consequences include chronic pain, disability, and brain injury (Plitcha, 2004). Being a victim or perpetrator of IPV also puts you at a higher risk of depression and suicide ideation (Larris, Leenaars, Jahn, & Lester, 2013). Victims may also feel hopeless and turn to substance abuse (Larris et al., 2013).

A large area of IPV research looks at its impact on children. Children's exposure to IPV can have a range of short and long-term consequences. Children who witness violence tend to feel like it's their fault and blame themselves (Groves, 1999; Holt, Buckley, & Whelan, 2008; Stern, 2014). Furthermore, witnessing violence can have a negative effect on a child's mental health, such as triggering PTSD and depression

(Groves, 1999; Holt et al., 2008; Overbeek, Clasien de Schipper, & Lamers-Winkelmann, 2013; van Heugten, & Wilson, 2008). Additionally, witnessing violence often indicates that future relationships will involve violence, whether the witness is the primary victim or is the perpetrator of the said violence (van Heugten, & Wilson, 2008). Moreover, a child may not only be a witness, but also a victim of violence from one or both parents. The problems that children experience often manifest themselves in behavioural problems (Holt et al., 2008; Overbeek et al., 2013; van Heugten, & Wilson, 2008). Overall, exposure to IPV negatively affects a child's emotional well-being, mental health, and behaviour.

Research has identified a number of risk factors of being a victim of IPV. Sexual coercion, sexual assault, IPV, and anticipated negative partner response are all highly positively correlated with each other (Quina, Harlow, Morokoff, Burkholder, & Deiter, 2000). Furthermore, people who experience IPV are also more likely to be victims of reproductive coercion, birth control sabotage, and pregnancy coercion (Bergmann, & Stockman, 2015). Additionally, having previously been in a relationship with IPV or having witnessed IPV as a child are indicators of experiencing violence in the future (Green & Navarro, 1998; Van Heugten, & Wilson, 2008). Revictimization has a wealth of research that consistently finds that being a victim of one type of sexual abuse seems to increase the likelihood of being a victim of other types of sexual abuse. Many theories have been put forward. For instance, there may be certain vulnerability factors shared by these victims, or a power influence that is silencing women. Risky behaviours such as a high amount of lifetime partners, excessive alcohol use, and young age at first intercourse are also a risk factor for IPV (Green & Navarro, 1998; Quina et al., 2000). Besides, women who do not believe they have power in their relationship are more likely to experience IPV (Green & Navarro, 1998; Quina et al., 2000). It's important to be aware of the risk factors of IPV since they can help in creating effective interventions.

Condom use has been studied in relation to IPV as well. It seems that if a woman chooses to ask for a condom, her partner may get violent. Studies show that asking for a condom may lead to being threatened (Bergmann, & Stockman, 2015). This may be because the man feels that trust has been broken. In other words, if she is asking for a condom, either she must have been unfaithful, or she thinks he has been. Additionally, it has been found that these requests are disapproved of by perpetrators (Bergmann, & Stockman, 2015). Knowing there is a possibility of a negative partner response may create fear. This fear may discourage women from asking for a condom in

the first place (East, Jackson, O'Brien, & Peters, 2011). This fear also limits women's confidence in their ability to negotiate condom use (Bergmann & Stockman, 2015). The serious repercussions of trying to negotiate condom use are related to the power imbalance present in relationships involving violence (Bergmann & Stockman, 2015; Peasant, Parra, & Okwumabua, 2015). This imbalance makes women feel disempowered, and as though they are unable to speak up about their preference for the use of protection (East et al., 2011). The consensus in these studies is that people in a relationship with IPV are less likely to use contraceptives than people whose relationship does not involve violence (Bergmann & Stockman, 2015; Swan & O'Connell, 2012).

Interventions for both the victims of IPV and the children exposed to it have also been studied. The research tends to focus on protecting children, with the goal of reducing their exposure to IPV (MacMillian, Wathen, & Varcoe, 2013). Because of the complexity of IPV, many different interventions have been proposed. However, researchers have found minor or unclear results (MacMillian, Wathen, Barlow, Fergusson, Leventhal, & Taussig, 2009). Additionally, the interventions are actually treatments, meaning that they deal with the problem after it has happened. Therefore, violence has already occurred, and these interventions are trying to stop it, but it would be beneficial to find ways to prevent violence in the first place. The link between sexual communication and IPV may help to create interventions that prevent violence rather than treat it.

Sexual Communication

Sexual communication is the "process of discussing aspects of one's sex life with one's partner" (Holmberg & Blair, 2009, p. 59). Research on sexual communication has mainly focused on two objectives: to improve safe sex practices and to improve sexual satisfaction. Sexual communication is a broad subject and there are many subcategories. For the purpose of this review, sexual communication will be discussed as a whole, in addition to two main subcategories: protective sexual communication, which refers to discussing the use of contraceptives and sexual history, and preference sexual communication, which in turn refers to partners discussing what they like and do not like under the bed sheets. Although these categories are split up in this paper and in most of the research, it is important to note that protective and preference sexual communication are highly correlated with each other, so discussing one often means discussing the other (Quina et al., 2000). Meaning people who discuss protective sexual communication are likely to also discuss preference sexual communication and vice versa.

Sexual communication has a number of benefits, including increased use of protection, increased relationship and sexual satisfaction, increased self-esteem, and increased sexual well-being. Although self-esteem and satisfaction are also positively correlated to each other, Babin (2012) found that communication, specifically non-verbal, mediates this relationship. Preference sexual communication increases sexual well-being, including satisfaction (Byers, 2011). Byers (2011), notes two reasons for this connection: an instrumental one and an expressive one. The instrumental path states that communicating about preferences allows for partners to better understand each other's wants and desires which leads to the creation of mutually satisfying sexual scripts. The expressive path states that sexual communication enhances intimacy, which increases sexual well-being.

While communicating about sexual aspects of a relationship has its benefits, limited communication can lead to several negative consequences. Not discussing protection decreases its overall use, which can lead to unwanted pregnancy or Sexually Transmitted Infections (STIs; Byers, 2011). Furthermore, some researchers argue that a lack of sexual communication can contribute to sexual coercion. In fact, a lot of sexual coercion is verbal, which suggests that a difficulty to communicate plays a role in this phenomenon (Byers, 2011). Overall, the benefits of sexual communication and the adverse effects of not doing so show how important it is for couples to discuss the sexual aspects of their relationship. When the benefits of sexual communication and the harms of avoiding it now appear to be so clear, why is it that couples do not talk about their sexuality?

Research on the barriers to sexual communication indicates there are a variety of reasons that couples do not discuss sexuality. Sexual communication apprehension (SCA) is one of these reasons. SCA is a fear or anxiety of discussing sexual topics with a partner (Babin, 2012). Babin (2012) found that men are more likely to experience SCA. There are a few characteristics that impact one's ability to communicate about sexual topics. Individuals who are avoidant are less likely to discuss sexual aspects of their relationship (Khoury & Findlay, 2014). Anxious individuals had poorer communication once they had been in a relationship for more than nine months (Khoury & Findlay, 2014). Moreover, having sexual problems, such as dyspareunia or vulvovaginal disorders, can contribute to avoidance of sexual communication because of fear or discomfort caused by discussing aspects of their abnormal sex life (Pazmany, Bergeron, Verhaeghe, Van Oudenhove, & Enzlin, 2014).

There are many factors that influence protective sexual communication based on people's own insight such as people's perceptions of its importance, their own confidence, and aspects of their relationships. Protective sexual communication is related to the belief that it is important to discuss this issue, if someone feels it is important to discuss protection, they are more likely to do so (Dilorio, Dudley, Lehr, & Seot, 2000). Secondly, sexual communication is more likely to be discussed if the person is confident in their ability to communicate about sexual topics. The quality of communication with parents and discussing aspects of sexuality with parents positively correlates with protective sexual communication with a partner (Dilorio et al., 2000). Additionally, the perception that their partner desires to discuss aspects of their sexual life is associated with actually discussing protection (Dilorio et al., 2000).

Up until now, researchers have debated the ways in which sexual communication influences couples' sexual lives. Dilorio and colleagues (2000) and Quina and colleagues (2000) found that communication is positively correlated to condom use, meaning that the more partners discuss, the more they are likely to engage in protected sexual intercourse. Alternatively, Greene and Faulkner (2005) found them to be negatively correlated, suggesting that the more partners communicate, the less likely they are to use condoms. When looking further into this, Wildman, Moar, Choukas-Bradley, and Francis (2014) and Johnson, Sieving, Pettingell, and McRee (2014) found that the relationship is moderated by topic. Specifically, contraceptive communication was found to increase the use of hormonal contraceptives (Johnson et al., 2014). Wildman et al. (2014) found that contraceptive communication increases condom use, while Johnson et al. (2014) found no significant increase. The two studies did agree that discussing sexual history or general sexual topics have little to no effect on contraceptive use. It was also found that if they were in a relationship, hormonal contraceptive was consistently used, even when only general sexual topics were discussed (Johnson, 2014). More research with larger sample sizes would help to clarify such mixed results. Additionally, researchers should investigate how different types of sexual discussion influence various aspects of couple's sexual lives.

One variable that may have an impact on the connection between communication and condom use is condom self-efficacy. Condom self-efficacy is how confident people are in their ability to deal with condoms, which includes purchasing them, suggesting their use and using them persistently (Sterk, Klein, & Elifson, 2003). Quina et al. (2000) found that condom self-efficacy predicted discussions about protection. Condom self-efficacy was found to be higher in

people who have higher self-esteem and better communication with their partner (Sterk et al., 2003). Quina et al. (2000) also found that women who believed that their partner would have a negative response to protective communication were less likely to discuss protection. Therefore, sexual communication seems to lead to self-efficacy, which in turn, leads to contraceptive use. Overall, these studies indicate that protective sexual communication increases the use of contraceptives, while preference sexual communication does not affect its use.

In addition, sexual assertiveness predicts sexual communication (Greene & Faulkner, 2005). The former is split into three areas: initiation, refusal and sexual talk (Greene & Faulkner, 2005; Quina et al., 2000). Initiation assertiveness is how much someone initiates intimate physical contact. Refusal assertiveness is being able to refuse of "unwanted, nonforced sexual contact" (Quina et al., 2000, p. 531). Lastly, sexual talk assertiveness is the capacity to initiate sexual discussions. Although Greene and Faulkner (2005) found that each area of sexual assertiveness, and therefore sexual assertiveness as a whole, impacted sexual communication, Quina et al. (2000) noticed that it was specifically initiation and refusal assertiveness that led to both protective and preference sexual communication. Overall, research indicates that people who are sexually assertive communicate more about their sexual lives.

Even though sexual communication research has focused on two main objectives, which are to improve safe sex practices and sexual satisfaction, sexual communication may also be influential in other areas. One of them that still has few findings is the connection between sexual communication and IPV.

Impact of Sexual Communication on Intimate Partner Violence

Although research in the area of sexual communication and IPV has been scarce, many connections can be made. As discussed earlier, it has been argued that deficient communication can lead to sexual coercion (Byers, 2011). Since sexual coercion and IPV are also correlated, poor communication may also increase IPV. Additionally, sexual coercion in the context of a relationship can be considered as IPV. Negative partner reaction has also been found to limit sexual communication. For instance, people with higher condom self-efficacy are more likely to discuss protection, but having experienced violence can decrease condom self-efficacy, indicating that people in a relationship with violence are less likely to communicate about sexual aspects of their life to their partner. These connections indicate that there may be a relationship between sexual communication and IPV.

It has also been noted that sexual assertiveness may predict sexual communication, suggesting that its increase could result in a greater amount of sexual communication, which would, in turn, decrease IPV. In fact, research has shown that there is a reciprocal relationship between sexual assertiveness and IPV (Stoner et al., 2008). It is therefore possible that sexual communication is a mediator in this relationship. Sexual assertiveness has also been proposed as a protective factor of various types of sexual victimization which suggests that it may also be a protective factor for IPV, considering its correlation with sexual communication (Green & Navarro, 1998).

When looking at these studies, it seems that sexual communication has an effect on IPV through many different angles. Although in many instances more sexual communication indicates a decrease in IPV, too much sexual communication may, on the contrary, create a fertile environment for violence. As discussed earlier, the simple act of asking for a condom can sometimes lead to violence, whether verbal or physical (Bergmann & Stockman, 2015). A partner might also get annoyed with excessive information or not approve of a sexual fantasy. In these instances, communication may actually increase IPV.

Therefore, the relationship between sexual communication and IPV can be explained using a U shape (see Figure 1). The proposed model indicates that there is an ideal amount of sexual communication under which or over which IPV may occur. If our model on the relationship between sexual communication and IPV is true, relationships with the ideal amount of sexual communication will see less instances of IPV. Additionally, relationships with too much or too little sexual communication will see more instances of IPV.

Theoretical and Social Implications

This model shows that relationships that lack sexual communication or have too much sexual communication are at risk of IPV. Therefore, increasing women's abilities to discuss sexual aspects of their relationship with their partner may prevent IPV. Moreover, there are a number of other positive outcomes related to sexual communication, such as sexual satisfaction and increased use of protection. It seems like those who are in relationships involving violence tend to communicate too little or too much about sexual aspects of their life to their partner, which makes them unable to reap the benefits of a healthy sexual discussion. A connection between sexual communication and IPV has yet to be solidified. This model offers a better understanding of the relation between these two variables. The variables that have an impact on sexual communication can therefore open up new possibilities of variables that also affect IPV. This will enable the creation of better and more varied interventions. For example, research indicates that sexual assertiveness positively impacts sexual communication. If sexual communication helps to decrease instances of IPV, then interventions targeting sexual assertiveness would be beneficial.

More information in this area will help IPV survivors and perpetrators to get the assistance they need by creating efficient preventive interventions. For example sexual education could benefit those involved by including information on sexual communication. Teaching this in high school could create a preventive intervention for IPV, and allow the general public to take advantage of the many benefits of a healthy sexual communication. For instance, programs that increase predictors (e.g., confidence, knowledge of sexual health) and decrease deterrents

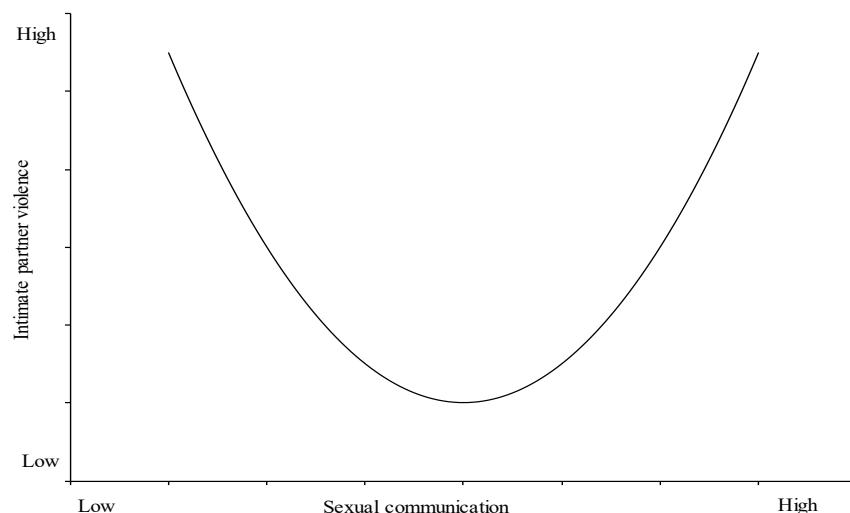


Figure 1. Proposed U-form model between sexual communication and intimate partner violence.

(e.g., SCA) to sexual communication would be beneficial. More research on the connection between sexual communication and IPV would also help create optimal treatments for those who have experienced IPV. Developing skills associated with sexual communication, such as sexual assertiveness, will assist in breaking the cycle of victimization. All in all, interventions that help to increase sexual communication will not only assist in preventing the occurrence of IPV, but also help IPV victims.

Future Research

Research should be done to look at the connection between sexual communication and IPV, specifically if increased sexual communication decreases IPV, and if decreased sexual communication increases IPV. In order to do this, researchers should look at both preference and protection communication, together and separately. Although this model indicates that all sexual communication has an impact on IPV, it is possible that one of them has more weight than the others. A longitudinal study following high school students up until their early 30s with periodic tests of sexual communication levels and rates of IPV could fill some gaps in sexual communication and IPV research.

It would also certainly be beneficial to look at possible mediators and moderators. Moderators could include socioeconomic status, education level, previous victimization or condom self-efficacy. Mediators could include self-esteem, confidence or feelings of power/worth. Additionally, looking at the quality of sexual communication versus the quantity of the sexual communication would indicate if amount or quality of the communication has more of an impact on IPV. This in turn leads to the importance of considering the limits to increasing sexual communication in avoiding IPV. For example, if one partner has a substance abuse problem, resolving this issue before increasing sexual communication is important. Research looking at the conditions needed to attain healthy sexual communication would be beneficial, as some situations may need the assistance of professionals.

Conclusion

Sexual communication has a number of benefits, such as increased satisfaction, and increased contraceptive use. Nonetheless, not everyone is able to take advantage of the benefits of sexual communication because of various barriers. While sexual communication research is valuable in its two main objectives of increasing satisfaction and contraceptive use, it has yet to realize its full potential. The connection between sexual communication and IPV can help to prevent future victimization. IPV is a

serious problem that affects a large range of individuals and society as a whole. A U-form model was presented to better understand this connection so that those who have been victims of IPV and those that are at risk can take advantage of the benefits of sexual communication. This model as yet to be tested. Understanding the connection between sexual communication and IPV will allow researchers to know what aspects are important to target when preventing it and supporting its victims and perpetrators. Additionally, this understanding can be used to create interventions that can assist victims in improving their communication, which in turn can help increase relationship satisfaction.

References

- Adolescents Working for Awesome Relationship Experiences. (n.d.). [graphic illustration]. *Cycle of abuse*. Retrieved from <http://www.awaren.org/www/docs/127>.
- Babin, E. A. (2012). An examination of predictors of nonverbal and verbal communication of pleasure during sex and sexual satisfaction. *Journal of Social and Personal Relationships*, 30, 270-292.
- Bergmann, J. N., & Stockman, J. K. (2015). How does intimate partner violence affect condom and oral contraceptive use in the united states? A systematic review of literature. *Journal of Contraception*, 91, 438-455.
- Byers, E. S. (2011). Beyond the birds and the bees and was it good for you?: Thirty years of research on sexual communication. *Canadian Psychology*, 52, 20-28.
- DeKeserdy, W., & Kelly, K. (1993). The incidence and prevalence of women abuse in Canadian university and college dating relationships. *Canadian Journal of Sociology*, 18, 137-159.
- Dilorio, C., Dudley, W. N., Lehr, S., & Seot, J. (2000). Correlates of safer sex communication among college students. *Journal of Advanced Nursing*, 32, 658-665.
- Domestic Abuse Intervention Project. (1984). *Power and Control Wheel*. Retrieved from: <http://www.theduluthmodel.org/training/wheels.html>.
- East, L., Jackson, D., O'Brien, L., & Peters, K. (2011). Condom negotiation: Experiences of sexually active young women. *Journal of Advanced Nursing* 67, 77-85.
- Green, D., & Navarro, R. (1998). Situation-specific assertiveness in the epidemiology of sexual victimization among university women. *Psychology of Women Quarterly*, 22, 589-604.
- Greene, K., & Faulkner, S. K. (2005). Gender, belief in the sexual double standard and sexual talk in heterosexual dating relationships. *Sex Roles*, 53, 239-251.

- Groves, B. M. (1999). Mental health services for children who witness domestic violence. *The Future of Children*, 9, 122-132.
- Holmberg, D., & Blair, K. L. (2009). Sexual desire, communication, satisfaction, and preferences of men and women in same-sex versus mixed-sex relationships. *Journal of Sex Research*, 46, 57-66.
- Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature. *Child Abuse and Neglect*, 32, 797-810.
- Johnson, A. Z., Sieving, R. E., Pettingell, S. L., & McRee, A. (2014). The roles of partner communication and relationship status in adolescent contraceptive use. *Journal of Pediatric Health Care*, 29, 61-69.
- Khoury, C., & Findlay, B. (2014). What makes for good sex? The associations among attachment style, inhibited communication and sexual satisfaction. *Journal of Relationships Research*, 5, 1-11.
- Larris, D. A., Leenaars, L. S., Jahn, D. R., & Lester, D. (2013). Intimate partner violence: Are perpetrators also victims and are they more likely to experience suicide ideation? *Journal of Interpersonal Violence*, 28, 3109-3128.
- MacMillian, H. L., Wathen, C. N., Barlow, J., Fergusson, D. M., Leventhal, J. M., & Taussig, H. N. (2009). Interventions to prevent child maltreatment and associated impairment. *The Lancet*, 373, 250-266.
- MacMillian, H. L., Wathen, C. N., & Varrcoe, C. (2013). Intimate partner violence in the family: Considerations for children's safety. *Child Abuse & Neglect*, 37, 1186-1191.
- National Coalition Against Domestic Violence. (2016). *Domestic violence national statistics*. Retrieved from <http://ncadv.org/learn-more/statistics>.
- Overbeek, M. M., Clasien de Schipper, J., & Lamers-Winkelman, C. S. (2013). Effectiveness of specific factors in community-based intervention for child-witnesses of interparental violence: A randomized trial. *Child Abuse and Neglect*, 37, 1202-1214.
- Pazmany, E., Bergeron, S., Verhaeghe, J., Van Oudenhove, L., & Enzlin, P. (2014). Sexual communication, dyadic adjustment, and psychosexual well-being in premenopausal women with self-reported dyspareunia and their partners: A controlled study. *Journal of Sexual Medicine*, 11, 1786-1797.
- Peasant, C., Parra, G. R., & Okwumabua, T., M. (2015). Condom negotiation: Findings and future directions. *Journal of Sex Research*, 34, 470-483.
- Plichta, S. B. (2004). Intimate partner violence and physical health consequences: Policy and practice implications. *Journal of Interpersonal Violence*, 19, 1296-1323.
- Quina, K., Harlow, L. L., Morokoff, P. J., Burkholder, G., & Deiter, P. J. (2000). Sexual communication in relationships: When words speak louder than actions. *Sex Roles*, 42, 523-549.
- Statistics Canada. (2015). Intimate partner violence. In *Family violence in Canada: A statistical profile*, 2013. Retrieved from: <http://www.statcan.gc.ca/pub/85-002-x/2014001/article/14114-eng.htm>.
- Stern, D. M. (2014). "He won't hurt us anymore": A feminist performance of healing for children who witness domestic violence. *Women's Studies in Communication*, 37, 360-378.
- Sterk, C. E., Klein, H., & Elifson, K. W. (2003). Perceived condom use self-efficacy among at-risk women. *Journal of AIDS and Behaviour*, 7, 175-182.
- Stoner, S. A., Norris, J., George, W. H., Morrison, D. M., Zawacki, T., Davis, K. C., & Hessler, D. M. (2008). Women's condom use assertiveness and sexual risk-taking: Effects of alcohol intoxication and adult victimization. *Journal of Addictive Behaviours*, 33, 1167-1176.
- Swan, H., & O'Connell, D. J. (2012). The impact of intimate partner violence on women's condom negotiation efficacy. *Journal of Interpersonal Violence*, 24, 775-792.
- Van Heugten, K., & Wilson, E. (2008). Building resilience in young people who have witnessed intimate partner violence. *Te Awatea Review*, 6, 9-13.
- Wildman, L., Moar, S. M., Choukas-Bradley, S., & Francis, D. B. (2014). Adolescent sexual health communication and condom use: A meta-analysis. *Health Psychology*, 23, 1113-1124.
- World Health Organization. (2014). *Violence*. Retrieved from <http://www.who.int/topics/violence>.

Received May 26, 2016
 Revision received October 23, 2016
 Accepted January 4, 2017 ■

The Influence of Perception on Student-Athletes' Motivation and Relationship with Coaches — Student-Athlete's Perception

ZIPPORAH FOSTER & AMBER DEBONO, PH.D.
Winston-Salem State University

The present study was created to better understand the influence of coaches on student-athlete's motivation. The goal of this study was to determine how the student-athlete's motivation level is affected by the type of relationship between the coach and the student-athlete in comparison to non-athletes. The hypothesis is that athlete status (student-athlete or non-athlete) impacts perceived motivation when faced with a particular coach ("supportive" or "non-supportive"). The approach was to conduct a two-group experiment providing participants with two different scenarios. One of two scenarios was presented to manipulate the perception of a coach. Forty participants participated in this study. The recruited participants were either student-athletes or non-athletes. All participants were recruited from a Historically Black Institution: 58% were male, 42% female. The results indicate that the type of coach will differently impact a student-athlete's motivation than a non-athlete. More specifically, both student-athletes and non-athletes perceive a "supportive" coach to be more supportive; however student-athletes perceive "non-supportive" coaches to be less encouraging than non-athletes. The findings from this study suggest that student-athletes and non-athletes perceive a non-supportive coach differently.

Keywords: student-athlete, motivation, non-athlete, coach, perception

La présente étude a été conçue pour mieux comprendre l'influence des entraîneurs sur la motivation des étudiants-athlètes. Le but de cette étude était de déterminer comment le niveau de motivation de l'étudiant-athlète est affecté par le type de relation entre l'entraîneur et l'étudiant-athlète, en comparaison aux non-athlètes. L'hypothèse est que le statut d'athlète (étudiant-athlète ou non-athlète) influence la motivation perçue en présence d'un type d'entraîneur particulier (« soutenant » ou « non-soutenant »). L'approche consistait à mener une expérience en deux groupes fournissant aux participants deux scénarios différents. L'un des deux scénarios était présenté dans le but de manipuler la perception de l'entraîneur. Quarante participants ont participé à cette étude. Les participants recrutés étaient des étudiants-athlètes ou des non-athlètes. Tous les participants ont été recrutés dans une institution historiquement noire : 58% étaient des hommes, 42% des femmes. Les résultats indiquent que le type d'entraîneur aura une incidence différente sur la motivation d'un étudiant-athlète qu'un non-athlète. Plus précisément, les étudiants-athlètes et les non-athlètes perçoivent un entraîneur « soutenant » comme étant plus encourageant. Cependant, les étudiants-athlètes estiment, comparativement aux non-athlètes, que les entraîneurs « non-soutenants » sont moins encourageants. Les résultats de cette étude suggèrent que les étudiants-athlètes et les non-athlètes perçoivent un entraîneur « non-soutenant » différemment.

Mots-clés : étudiant-athlète, motivation, non-athlète, entraîneur, perception

Many individuals tend to focus on how positive a student-athlete's competitive experience can be, without acknowledging the difficulties that may occur, such as long practices, losing games, and overcoming an injury. The reason student-athletes are apt to enjoying challenges that push them to their limits is because they are highly motivated individuals. However, research shows that the level of motivation of student-athletes is potentially influenced by many external factors, such as their relationship with the coach. These same factors may not impact the motivation of non-athletes in the same way, as they are inherently less motivated to play sports.

The authors would like to thank Willis R. Foster Jr. and LaTonya D. Foster for their support in writing this paper. Please address all correspondence concerning this article to Zipporah Foster (email: zfoster113@rams.wssu.edu).

The present study will expand on the student-athlete's perception of their coach and how it influences their motivation. The goal of this study is to determine how the athletic status of a student, whether they are student-athletes or non-athletes, will impact the perceived motivation to play after being presented with either a supportive or unsupportive coach.

Motivation

There are two major factors that can make a student-athlete successful. These factors are motivation and the relationship of the student-athlete with the coach. In the present article, we first focus on motivation. In general, most student-athletes who tend to be successful are at least somewhat intrinsically motivated. According to Ryan and Deci (2000),

STUDENT-ATHLETE'S PERCEPTION

intrinsic motivation is defined as engaging in an activity for the enjoyment rather than for outside motivation, outcomes, or rewards. Furthermore, research has shown that many individuals who are student-athletes experience intrinsic motivation (Adie & Jowett, 2010). In other words, student-athletes are self-motivated, leading to a higher likelihood to participate in sports because of their passion for the sport rather than the rewards that are associated to it.

Additionally, previous research has looked into the hierarchy of intrinsic and extrinsic motivation. According to Vallerand (2007), both intrinsic and extrinsic motivations differ depending on factors that affect the student-athlete. To understand how these factors impact an individual, one must understand the characteristics that make up intrinsic and extrinsic motivation. For example, athletes that take on a new sport usually display intrinsic motivation because they enjoy learning new skills. Additionally, if an individual is more intrinsically motivated, he is more likely to connect with his desire. In the case of an athlete, he would be more motivated to achieve a set goal. According to Vallerand (2007), athletes that are extrinsically motivated are more likely to participate in a sport because of an outside influence, not because of their passion for the game. Moreover, extrinsic motivation is driven by contextual factors such as rewards and negative incentives such as fear and anxiety. External relationships such as coaches can impact student-athletes, therefore impacting their intrinsic and extrinsic motivation.

Relationships with Coaches

According to Heird and Steinfeldt (2013), many student-athletes can build close relationships with coaches and teammates in a short amount of time. Jowett, O'Broin, and Palmer (2010) argue that the coach-athlete relationship is a bond that influences the mental, physical, and emotional reaction of student-athletes to a coach's behavior. The coach-athlete relationship can also have an effect on the expectancies that have been determined by the student-athlete. These are based on the coach's behavioral response to how the student-athlete acts on a day to day basis (Manley, Greenlees, Smith, Batten, & Birch, 2014). It has been noted that many student-athletes have experienced both positive and negative interactions with their coaches. When examining the coach-athlete relationship, one must understand the effects that both the coaching style and the student-athletes' interpretation of that style have on the dyad.

Sagar and Jowett (2012) stated that when looking at coaching styles, there are five important behaviours that depict coaching styles: 1) democratic style, where a coach requests more interaction and participation from student-athletes when it comes to making

decisions during games; 2) autocratic style, in which a coach tries to display a level of power over student-athletes; 3) training and instruction style, where a coach demonstrates more actions that focus on knowledge and skill levels of the particular sport; 4) positive feedback style, in which a coach focuses more on making sure the student-athlete understands the gratitude that the coach has for them and for the effort/participation that they are bringing to a practice or a game; 5) social support style, where the coach looks at the personal needs of a player to make them a better player. Knowledge of these styles is important because they define the different techniques that are identified in most coaches. It also impacts the perception of student-athletes about the coach and hence their motivation.

In general, student-athletes that have encouraging and inspirational coaches that display training and instruction, positive feedback, and social supportive styles have higher performance and learning levels than student-athletes playing for coaches practicing democratic and autocratic styles (Sagar & Jowett, 2012). Furthermore, Sagar and Jowett (2012) found that coaches who tend to display more degrading actions such as ignoring or shouting tend to leave a negative impression, resulting in an ineffective interaction with the student-athlete. Their research also suggests that coaches who lack good communication skills have a negative effect on a student-athlete's perception of a coach (Sagar & Jowett, 2012). Thus, both negative and positive behaviours that are demonstrated by a coach can change how a student-athlete perceives them. From a student-athlete's viewpoint, some of the behaviours that a coach displays could come off as negative which can negatively affect the student-athlete's motivation and the performance.

The coach-athlete relationship can have either a positive or negative effect on a student-athlete. Sometimes when student-athletes face challenges, a coach's overall demeanor can play a role in the player's performance and student-athlete's motivation. Previous research has found that dominant behaviours such as yelling, manipulation, and assertive communication, displayed by authoritative figures decrease the student-athlete's level of self-determination, leading to a decrease in intrinsic motivation (Sagar & Jowett, 2012). In comparison, coaches who are less controlling increase the student-athletes' intrinsic motivation and improve one's attitude on self-determination. For example, Amorose and Horn's (2001) research shows that athletes who perceive their coaches to be more authoritative tend to report lower levels of intrinsic motivation and higher levels of external regulation. Clearly, coaches can strongly impact student-athletes' motivation.

While much research has been conducted to thoroughly understand motivation and the coach-athlete relationship, the present study focuses on further understanding whether student-athletes are different from the general student population in relation to their motivation to play. This study will be assessing how differences in motivation emerge between student-athletes and non-athletes after reading a scenario in which the coach is supportive or another scenario with a non-supportive coach. The main hypothesis for this study is that athlete status (student-athlete vs. non-athlete) will moderate the relationship between the type of coach (supportive vs. non-supportive) and athletes' motivation. More specifically, student-athletes are predicted to have lower motivation with a non-supportive coach as compared to non-athletes. This is best explained by student-athletes feeling more self-efficacious with their identity within their social group (i.e., student-athlete). Overall, the results in this study can provide information related to further understanding student-athletes' motivation. Furthermore, this study will help distinguish the different perceptions that are demonstrated by both student-athletes and non-athletes in relation to their motivation to play. Student-athletes and non-athletes may not perceive a coach the same way which can impact their perceived motivation to play. This study may contribute to the literature by providing new information in regards to the influence of coaches on student-athletes.

Method

Participants

Forty participants from Winston-Salem State University, a historically black university, participated in the study. Most of the participants were college-aged ($M = 20.50$, $SD = 1.55$). In this study, the participants were fairly distributed in terms of gender, with male 58% and 42% female. When looking at the race, the majority of the participants were Black (75%), then Hispanic (15%), and Biracial and Multiracial (10%). Lastly, out of the 40 participants, 15 were collegiate student-athletes (demographic question was asked by the experimenter about their participation in sports at the institution while debriefing).

Procedure and Measures

The experiment involved presenting one of two scenarios to participants where the independent variable was manipulated (supportive coach manipulation and non-supportive coach manipulation). The dependent variable was the perceived motivation.

Participants were randomly assigned to either the "supportive" coach group or the "non-supportive"

coach group prior to recruitment. The experimenter introduced the participants to the general subject of the study. The experimenter then explained the consent form and had the participants sign their name. Then the participants were given separate scenarios depending on the assigned group. For the "supportive" coach group, the scenario presented Taylor as the head coach of an athletic sports team. Taylor's coaching style was presented as instructive and his personality as supportive and understanding. For the "non-supportive" coach group, the scenario presented Taylor's coaching style as hard and firm. The coach's personality was described as being detached and cold-hearted. In both scenarios, Taylor's players are hardworking and great students. After reading the scenario aloud to the participant, the experimenter asked five questions and participants answered on a seven point scale, 1 being '*not at all*' and 7 being '*very much*'. The questions asked were: "*How nice is Taylor?*" "*How mean is Taylor?*", "*How motivated are the athletes to play for Taylor?*", "*How supportive is Taylor?*", "*How encouraging is Taylor?*". The first two questions were manipulation check questions and the last three were the dependent variable questions (i.e., motivation). After writing-down the responses for each question, the experimenter asked them three demographic questions focusing on age, sex, and race.

Results

Manipulation Checks

Two independent *t*-tests were conducted to examine if the experimental manipulation had an effect on the two manipulation check questions. First, the individuals in the supportive coach group ($M = 5.85$, $SD = 1.38$) reported that the coach was significantly nicer than the people in the non-supportive coach group, ($M = 3.10$, $SD = 1.83$), $t(38) = 5.35$, $p < .001$, $d = 0.66$. Second, the individuals in the non-supportive coach group ($M = 5.40$, $SD = 1.72$) reported that the coach was significantly nicer than the people in the supportive coach group ($M = 2.55$, $SD = 1.35$), $t(38) = 5.80$, $p < .001$, $d = 0.69$. An effective manipulation is evident from these statistics conveying that our scenarios portrayed differently and as expected the assigned coach.

Primary Analysis

The level of activity (student-athlete vs. non-athlete) is predicted to moderate the relation between the type of coach (supportive vs. non-supportive) and students' motivation. A 2 x 2 (student-athlete versus non-athlete * supportive versus non-supportive coach) ANOVA was conducted to test whether student-athletes reacted differently to a supportive versus unsupportive coach. Results show that there is a significant interaction between the participants'

STUDENT-ATHLETE'S PERCEPTION

athletic status and the type of coach they read about, $F(1, 36) = 6.76, p = .013$.

Student-athletes ($M = 6.50, SD = 0.75$) in the supportive coach group reported being more motivated by Taylor than the non-student-athletes ($M = 6.25, SD = 0.75$), but this difference is not significant, $t(18) = 0.73, p = .477, d = 0.17$. Student-athletes ($M = 2.86, SD = 1.35$) in the non-supportive coach group reported being significantly less motivated by Taylor than the non-athletes ($M = 4.62, SD = 1.56$), $t(18) = -2.52, p = .021, d = 0.510$. This finding is mainly due to the student-athletes who read about a non-supportive coach.

Discussion

The overall goal of this study was to determine whether student-athletes and non-athletes (athlete status) will differ in the perceived motivation to play based on the type of coach. There is some evidence to support the hypothesis – the athlete status (student-athlete vs. non-athlete) moderated the relationship between the type of coach (supportive vs. non-supportive) and students' motivation (as measured by the question "How encouraging is Taylor?"). The results in this study reveal that there is a significant difference in how student-athletes and non-athletes perceive a coach. Specifically, a significant difference was found in the non-supportive coach group when comparing how motivated students were to play for this coach.

The present results sustain the idea that student-athletes' motivation is not impacted in the same way by unsupportive coaches than non-athletes' motivation is. This suggests that either because of experience (i.e., injury or losing a game) or personal characteristics (a stronger intrinsic motivation), student-athletes are particularly attuned to unsupportive coaches. On a theoretical level, this means that intrinsic motivation can be influenced by behaviorism (Huber, 2013). Although Adie and Jowett (2010) suggested that student-athletes are more likely to have higher levels of intrinsic motivation, research also suggests that the coach-athlete relationship can impact several internal variables and expectancies (i.e., thoughts, behaviours, need for positive feedback, confidence, and athletic ability; Jackson, Grove, & Beauchamp, 2010; Manley, Greenless, Smith, Batten, & Birch, 2014). Behaviorism speaks to the notion of positive or negative reinforcement influencing one's motivation based on recurring patterns (Huber, 2013). The study presented in this article focuses on how the perception of a coach as non-supportive by student-athletes affects their motivation. Therefore, student-athletes that are constantly exposed to external reinforcement (i.e., setting goals) appear more likely to view the role of a negative coach more strongly

than non-athletes, probably because of their relationships with previous coaches. This study answers why student-athletes and non-athletes' motivation differs based on the perception of a coach. Ultimately, literature used throughout this article and results from this study suggest that there is a difference between student-athletes and non-athletes' perception of coaches and how it affects their motivation.

Strengths and Limitations

These findings are important because they examine perceived motivation based on a manipulated scenario. The results add evidence to present literature by offering the chance to examine the differences between student-athletes and non-athletes in how they react to different coaching styles. Furthermore, the demographics of participants in the present study are important because previous studies used male, white collegiate-athletes as participants whereas the participants in this study were fairly distributed in relation to gender and recruited participants identified as minority. Therefore, this study provides insight from underrepresented social groups inferring that the gathered information is vital to advancing the growing knowledge on athletic motivation and performance across different demographics. Moreover, this study found that student-athletes' motivation differ from non-athletes' motivation and hence it is likely that other differences between these groups exist such as differences between perceptions and behaviours. Other recognized differences between these two groups may include openness to experience, academic success, or outgoing and sociable personality.

However, there are a few limitations to this study. First, only one measure of motivation was significantly predicted by both types of coaches presented and the athlete status. It is possible that the results were not consistently found for all three measures of the dependent variable because the sample size recruited for this study was small. As such, future research should attempt to replicate these findings with a larger sample size. Additionally, the scenario did not state how long the athlete had been playing for the coach which could affect how the participants perceived the athletes' motivation to play. Therefore, the length of time that a student-athlete has played for a coach may affect how participants perceive the coach-athlete relationship in the scenario.

Future Directions

The strength of this study is that it compares student-athletes and non-athletes' perceived motivation in relation to the type of coach. Future studies could focus on understanding differences in motivation to play for a supportive or non-supportive

coach between underclassman and upperclassman student-athletes because student-athlete's motivational levels may differ based on the time that they have played at a competitive level. Additionally, future studies could also determine if there is a difference between a student-athletes' motivation when they are in-season and out-of-season. More specifically the coach-athlete relationship (and hence the student-athlete's motivation) could vary based on external variables (i.e., scheduling, academic success, playing time, pressure to win, etc.) that are present in and out of season. Lastly, researchers can replicate this study and assess if there is a difference between males and females' motivation to participate in a sport. Researchers should study this due to possible gender biases and stereotypes that are prevalent in today's society.

Ultimately, many people argue that athletes have a great impact on our society. As stated by Macri (2012), this is because today's society is impacted by the morals and ethics of our popular athletes. For example, success is correlated with the idea of "winning" which is linked to control and authority. The author went on to state that an individual's cognitive processes are affected when participating in a sport. Therefore, by understanding the origin of an athlete's motivation, society's view of an athlete may change. These findings provide future research with the opportunity to examine how social status affects student-athlete's mindset on how society views them.

In summary, there is no difference between how student-athletes and non-athletes perceive a supportive coach. However, there is a difference between how student-athletes and non-athletes perceive a non-supportive coach. Consequently, student-athletes are more likely to be less motivated by a non-supportive coach than non-athletes. This evidence provides psychologists with an opportunity to examine how student-athlete's perception of a coach may differ in comparison to society's perception. Ultimately, if a student-athlete's motivation is established, psychologists will be able to determine what separates a student-athlete's drive from their peers.

References

- Adie, J. W., & Jowett, S. (2010). Meta-perceptions of the coach-athlete relationship, achievement goals, and intrinsic motivation among sport participants. *Journal of Applied Social Psychology, 40*, 2750-2773.
- Amorose, A. J., & Horn, T. S. (2001). Pre- to post-season changes in the intrinsic motivation of first year college athletes: Relationships with coaching behavior and scholarship status. *Journal of Applied Sport Psychology, 13*, 355-373.

- Heird, E. B., & Steinfeldt, J. A. (2013). An interpersonal psychotherapy approach to counseling student athletes: Clinical implications of athletic identity. *Journal of College Counseling, 16*, 143-157.
- Huber, J. (2013). Applying educational psychology in coaching athletes. Human Kinetics.
- Jackson, B., Grove, J. R., & Beauchamp, M. R. (2010). Relational efficacy beliefs and relationship quality within coach-athlete dyads. *Journal of Social and Personal Relationships, 27*, 1035-1050.
- Jowett, S., O'Briain, A., & Palmer, S. (2010). On understanding the role and significance of a key two-person relationship in sport and executive coaching. *Sport and Exercise Psychology Review, 6*, 19-30.
- Macri, K. J. (2012). Not just a game: Sport and society in the United States. *Inquires Journal/Student Pulse, 4*. Retrieved from <http://www.inquiresjournal.com/a?id=676>.
- Manley, A. J., Greenlees, I. A., Smith, M. J., Batten, J., & Birch, P. J. (2014). The influence of coach reputation on the behavioral responses of male soccer players. *Scandinavian Journal of Medicine & Science in Sports, 2*, 111-120.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*, 54-67.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78.
- Sagar, S. S., & Jowett, S. (2012). Communicative acts in coach-athlete interactions: When losing competitions and when making mistakes in training. *Western Journal of Communication, 76*, 148-174.
- Vallerand, R. J. (2007). Intrinsic and extrinsic motivation in the sport and physical activity: A review and a look at the future. *Handbook of Sports Psychology, 3*, 59-83.

Received July 28, 2016
Revision received October 10, 2016
Accepted February 23, 2017 ■

Gamers and Video Games Users: What's the Difference?

AMANDA ARGENTO, DEVIN MILLS, VICTORIA CARMICHAEL, JESSICA METTLER, & NANCY HEATH, PH. D.
McGill University

The term “gamer” is commonly used to refer to individuals who play video games frequently. However, building on Self-Determination theory (SDT) and the Dualistic Model of Passion (DMP), we argue that it may be more theoretically and practically useful to operationalize individuals as “gamers” versus “non-gamers” based on their identification and passion for gaming rather than based on how frequently individuals play video games. Thus, the purpose of the present study is to compare four groups, those who identify as gamers or non-gamers with those who have frequent use or not, on independent variables of gaming engagement, motivation, and problematic gaming. Participants ($N = 1,050$; 70.10% men; $M_{\text{age}} = 23.74$ years, $SD = 6.48$ years) completed measures online. Results revealed that identifying as a gamer was a stronger predictor of levels of gaming engagement, motivation, and problematic gaming compared to frequent use. Findings highlight the potential of SDT and DMP for understanding gamer characteristics.

Keywords: gamer, identification, motivation, engagement, problematic gaming

Le terme « gamer » est communément utilisé afin de faire référence aux individus qui jouent aux jeux vidéos de façon fréquente. Par contre, en nous appuyant sur la théorie de l'autodétermination et le modèle dualistique de passion, nous argumentons qu'il serait théoriquement et pratiquement utile d'opérationnaliser les individus comme étant des « gamer » et des « non-gamers » sur la base de leur identification et passion pour les jeux vidéos plutôt que sur la fréquence à laquelle ils jouent aux jeux vidéos. Ainsi, le but de la présente étude est de comparer 4 groupes, ceux qui s'identifient comme « gamers » ou « non-gamers » avec ceux qui ont une utilisation fréquente ou non, sur les variables indépendantes de l'engagement dans le jeu, la motivation de jouer et le jeu problématique. Les participants ($N = 1,050$; 70.10% hommes; $M_{\text{âge}} = 23.74$ années, $\bar{E.T.} = 6.48$ années) ont complété un questionnaire en ligne. Les résultats démontrent que s'identifier comme étant un « gamer » était un fort prédicteur des niveaux d'engagement, de motivation et de jeu problématique comparé à l'utilisation fréquente des jeux. Ces résultats soulignent le potentiel de la théorie de l'autodétermination et du modèle dualistique de passion pour la compréhension des caractéristiques des « gamers ».

Mots-clés : « gamer », identification, motivation, engagement, jeu problématique

The term gamer elicits in most a stereotyped idea of an adolescent male who plays video games excessively (i.e., 20+ hours of gaming per week). But who really is a gamer, and more specifically, how does a gamer differ from a video game user? There is an important increase in popularity of video gaming and heightened discourse surrounding problematic gaming. Therefore, the operationalization of gamers as having a strongly endorsed social identity, the process by which research classifies these individuals as gamers, and the factors that differentiate them from a video game user are methodologically important to establish. Vallerand (2010, 2015) suggests that individuals who engage passionately with an activity will present a different pattern of engagement and motivation toward the activity than those who do not socially identify with the activity. Furthermore, greater passion toward gaming may elicit a stronger endorsement of an unhealthy or problematic style of

gaming engagement compared to playing video games frequently. The purpose of the present study is to compare gamers (defined by their level of passion toward video games) and video game users (defined as individuals reporting a frequent use of video games) across indices of gaming engagement, gaming motivation, and problematic gaming.

The first section of this paper reviews the current literature surrounding previous measures used to operationalize video game playing, which focus largely on differing measures of time spent playing and pinpoints problems associated with this method. Then, the importance of social identification toward gaming is addressed, followed by a discussion of the criteria for Internet gaming disorder. The literature review concludes with a section on Self-Determination Theory as this theoretical framework represents the pillar for the present study's differentiation between a gamer and a video game user.

Previous Definitions of Gamers

In deciding how to define gamers, previous researchers have used different measures of gaming to classify gamers. These primarily include a measurement of time spent playing (e.g., Winn & Heeter, 2009) and social identification toward gaming (e.g., Neys, Jansz, & Tan, 2014); however, endorsement of problematic gaming symptomatology may also contribute to the definition of gamer (e.g., spending a lot of time thinking about games even when not playing). Researchers have generally relied on one measurement approach, although there are some studies that have used more than one method (e.g., Kowert & Oldmeadow, 2015). As discussed below, each of these methodologies have some inherent difficulties.

The use of time spent playing can be assessed in different ways. For instance, Winn and Heeter (2009) focused on the relationship between available free time and the quantity of video game use. They found that college students with less leisure time spend less time playing video games. An issue with using time spent gaming is that individuals may still socially identify with an activity even though they do not have as much free time to engage in video games as they would prefer. Moreover, Williams and colleagues (2009) found self-reported estimates of time spent gaming to be incorrect when compared to hours that had been logged by the computer. Taken together, two issues arise from using a measure of time spent gaming in defining gamers. First, it is problematic to assume that the definition of a gamer requires large quantities of use due to varying levels of free time across individuals. Second, estimates of time spent gaming have been shown to be inaccurate at times.

A measure of social identification toward gaming has also been used in recent research. Neys and colleagues (2014) asked participants to classify themselves as hard core, heavy, or casual gamers. Although their findings provided some validity showing that hard core gamers reported more time spent gaming than heavy or casual gamers, based on the results from Williams, Consalvo, Caplan, and Yee (2009) these differences may not be accurate. Moreover, as Shaw (2012) points out, females are less likely to classify themselves as gamers if asked, resulting in the possible exclusion of females from the gamer category when this methodology is employed. Another method of acquiring a level of participants' social identification toward gaming, which extends beyond a single item question, resides in applying the Dualistic Model of Passion. For example, if an individual indicates a passion for gaming they are indicating that gaming is integral to their sense of self (Vallerand, 2010, 2015). Currently, this more complex

method of distinguishing gamers from frequent but non-socially identified gamers has not been utilized.

Finally, although studies of problematic gaming are common, few examine the relationship between problematic gaming and social identification toward gaming. Recently, the American Psychiatric Association (APA) has recognized problematic gaming in the *Diagnostic and Statistical Manual for Mental Disorders* (DSM; APA, 2013) as an emerging construct. It is broadly defined as the inability to adequately meet day-to-day responsibilities due to video game use (although frequency per se is not the sole determinant; Brunborg, Mentzoni, & Froyland, 2014; King, Haagsma, Delfabbro, Gradisar, & Griffiths, 2013; Lemmens, Valkenburg, & Peter, 2011; Wei, Chen, Huang, & Bai, 2012). Specifically, Internet gaming disorder, as it is referred to in the DSM, is based on a set of nine criteria, such as experiencing withdrawal symptoms when one is unable to play video games, a loss of interest in hobbies or activities that are not video gaming as well as playing video games to stop experiencing negative moods (APA, 2013).

Essentially, problematic gaming can be described as the detrimental impact of gaming on a person's well-being in various aspects of their life. Several scholars have suggested that problematic behaviours, such as problematic gaming, differ in large part from substance addictions in that the activity is so strongly integrated to the self, implying a positive correlation between gamer identification and gaming disorder (King et al., 2013; Lafreniere, Vallerand, Donahue, & Lavigne, 2009). Moreover, Charlton (Charlton, 2002; Charlton, & Danforth, 2007) suggests that several symptoms of problematic gaming, referred to as peripheral criteria, can be associated with high engagement rather than with a disorder. In other words, people engaging problematically in video games differs from people with a substance addiction because they socially identify with video games, suggesting that their sense of self is inextricably linked with the activity, whereas the people with a substance addiction are motivated by the euphoric experience of the drug.

Therefore, endorsing one or two symptoms of gaming disorder that correspond to Charlton's peripheral criteria could possibly suggest enthusiastic engagement without necessarily engaging in problematic gaming. Following this logic, reporting zero symptoms might imply a complete lack of engagement towards gaming. On the other hand, similar to self-reports of time spent and social identification toward gaming, males generally report a greater quantity of problematic gaming symptoms than females, implying an inherent gender bias

GAMERS VERSUS VIDEO GAME USERS

(Lemmens, Valkenburg, & Gentile, 2015; Muller et al., 2015; Rehbein, Kliem, Baier, Möble, & Petry, 2015).

To summarize, research in the area of gaming has tended to use a definition of socially identified gamers that at times is arbitrary and may even be biased toward male gamers. Thus, it may be helpful to refer to theory to establish a new operationalization of a social identification toward gaming. Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000), as described in the following section, provides a framework from which to study activity engagement, and may serve well in establishing key elements within the gamer definition.

Self-Determination Theory and Gaming

SDT is a theory of human motivation that broadly supposes humans to be inherently motivated to engage in activities in environments that support the satisfaction of basic psychological needs (competence, autonomy, and relatedness; Ryan & Deci, 2000). Previous research has shown that individuals may, in fact, experience needs satisfaction while gaming (e.g., Ryan, Rigby, & Przybylski, 2006; Tamborini, Bowman, Eden, Grizzard, & Organ, 2010). Founded on SDT, Vallerand (2010, 2015), in his Dualistic Model of Passion (DMP), proposes passion to be a psychological construct defined as a meaningful, self-defining activity. Individuals are assumed to be strongly motivated to engage in their passions due to deriving a sense of self-engagement as well as through the satisfaction of competence, autonomy, and relatedness needs (Mageau et al., 2009; Vallerand, 2010, 2015; Vallerand et al., 2003).

Although previous research has successfully applied DMP to video game engagement, research has not assessed differences between passionate and non-passionate gamers (Lafrenière, Vallerand, Donahue, & Lavigne, 2009; Przybylski, Weinstein, Ryan, & Rigby, 2009; Utz, Jonas, & Tonkens, 2012). Due in part to the sense of self that is derived from gaming engagement, differences between passionate and non-passionate gamers are expected, as a passionate gamer is one that has a strong social identity as a gamer. The pattern of video game engagement, for instance, is expected to differ between passionate and non-passionate gamers, with passionate gamers reporting greater gaming engagement compared to non-passionate gamers. Further differences may include reports of problematic gaming symptomology and gamers' overall motivations for engaging in video games, with passionate gamers reporting greater problematic gaming and stronger motivation toward gaming relative to non-passionate gamers.

Importantly, differences in reports of gaming motivation between gamers and non-gamers are expected, given the assumed intrinsic draw toward gaming experienced by gamers, although this has yet to be directly examined. Indeed, motivation toward gaming have been studied using different frames of reference. Yee (2006) and Fuster and colleagues (2012), for example, explored gaming motivation from a use and gratification perspective, suggesting gamers are motivated to play to socialize, compete, escape, and explore through gaming. Alternatively, King, Delfabbro, and Griffiths (2009) explored gaming motivation as it relates to specific characteristics of video games, such as humor within the game, control options, or multiplayer features. Both perspectives have added insight into gaming motivations, but they do not investigate beyond individual gamers or specific video games. SDT, on the other hand, provides a framework from which to understand gaming motivation as it relates to the extent gaming engagement is regulated by the self in a way that is not limited to specific gamers or video games (Deci & Ryan, 2000; Ryan, 1995).

According to SDT, motivation exists upon a continuum of self-regulation of activity engagement (Deci & Ryan, 2000; Ryan, 1995). Engagement in an activity that is intrinsically motivated reflects engagement for the sake of the activity itself without consideration of possible rewards. An extrinsic motivation reflects engagement in an activity for reasons beyond the activity itself (e.g., rewards, punishment). Unlike intrinsic motivation, extrinsic motivation vary in activity engagement, resulting in four subtypes of extrinsic motivation: external regulation, introjected regulation, identified regulation, and integrated regulation. External regulation is the prototypic case of extrinsic motivation where engagement is directly related to the possibility of earning rewards or avoiding punishments from an authority figure. Introjected regulation consists of uncontrollable internal pressures such as guilt or anxiety to engage in the activity. Identified regulation implies that engagement in the activity is related to reasons that do not relate directly to the activity itself but that are perceived as important to the individual. Finally, an integrated regulation reflects engagement in an activity representing an extension of self. Beyond both intrinsic and extrinsic motivations is amotivation toward activity engagement. This form of regulation suggests the individual is disinterested in their engagement as well as unable to pinpoint why they are engaging in the activity at all (Deci & Ryan, 2000; Ryan, 1995).

Previous research has successfully applied SDT to video game engagement in several recent studies

(Beard & Wickham, 2016; Johnson, Gardner, & Sweetser, 2016; Przybylski, Rigby, & Ryan, 2010). Lafrenière and colleagues (2012) developed *The Gaming Motivation Scale (GAMS)* to assess each of the six motivation types for gaming engagement in SDT. In validating their items, gaming hours per week was weakly correlated with all motivations except amotivation. In another study by Neys and colleagues (2014), an adapted version of *The Situational Motivation Scale* was used to assess gaming motivation differences between individuals who classified themselves among casual, heavy, or hardcore gamers (i.e., *select which best describes your level of gaming engagement*). Individuals socially identifying as hardcore gamers reported stronger intrinsic and extrinsic motivations than casual and heavy video game users, but weaker amotivation. Although this study provides some indication that motivation varies across social gaming identities, further research is needed with a more comprehensive measure of social identification toward gaming.

Thus, the overarching objective of the present study is to compare four groups: those who socially identify as gamers or non-gamers (i.e., do or do not report a passion for gaming; G, NG) with those who have frequent use or not (i.e., game most days of week or not; FU, NFU) on variables of gaming engagement, motivation, and problematic gaming. However, prior to addressing this objective, gender differences were assessed for gaming engagement, motivation, and problematic gaming, in order to determine whether gender should be considered as a covariate.

Hypotheses

Combining Vallerand's (2010, 2015) work on passion and identity as well as Neys and colleagues' (2014) research on identity and frequency of play, it was hypothesized that self-identified gamers will report greater gaming engagement (H1a), problematic gaming (H2a), and motivation toward gaming (H3a) than non-gamers. It is also expected that users who report engaging in video games most days of the week will report more hours per week gaming and greater frequency of gaming during their free time than those not engaging in video games most days of the week. It is also hypothesized that frequent users will report greater gaming engagement (H1b), problematic gaming (H2b), and motivation toward gaming (H3b) than non-frequent users. However, the greatest gaming engagement is expected for individuals who report a frequent use of video games as well as a strong social identification toward gaming. As a result, individuals classified as both a gamer and a frequent user will report the greatest level of gaming engagement (H1c), problematic gaming (H2c), and motivation toward gaming (H3c).

Method

Participants

Participants ($N = 1,352$; 70.10% males; $M_{age} = 23.74$ years, $SD = 6.48$ years) were recruited via email invitations and advertisements on social media websites (e.g., Reddit, Facebook) and a large university campus. The ad specified that this study would examine video game motivation with video games including casual games played through online gaming and social media websites as well as on cell phones and other devices. Out of this sample, 302 (22.30%) submitted online questionnaires with missing values that could not be imputed and were therefore excluded, resulting in a final sample of 1,050 participants (69.60% males; $M_{age} = 23.88$ years, $SD = 6.32$ years).

Measures

Demographics. At the beginning of the Video Game Use measure, participants were asked for their age, gender, and whether they play video games most days of the week or not.

Gaming frequency. A series of items assessed participants' video game use. Participants provided (1) an estimation of their average gaming hours per week, which was used as a dichotomous categorizing variable (whether participants gamed most days of the week or not), for frequent and non-frequent groups, and (2) reported the frequency with which they play video games in their free time on a 5-point scale ranging from 1 (*Never*) to 5 (*Always*). Another two items addressed the frequency with which participants use video games to manage their stress ("How frequently do you use video games to cope with stress?") as well as the quantity of their video game use perceived to manage their stress ("How frequently do you use video games to cope with stress?"). The last two items were rated on 4-point scales ranging from *Never* to *Always* for frequency, and from *None, I don't find video game use helps me cope* to *Almost whenever I play video games* for quantity use. The last two items were found to be highly correlated ($r = .71$); therefore, the average between the two items was used as an overall measure of individuals' use of video games to manage stress.

Gaming Motivation Scale. Lafrenière and colleagues (2009) developed the 18-item *Gaming Motivation Scale (GAMS)* to assess levels of motivation toward gaming across the six identified motivation types (intrinsic, integrated, identified, introjected, and external). Items were rated on a 7-point Likert scale ranging from 1 (*Not at all agree*) to 7 (*Very strongly agree*). Each motivation type was

GAMERS VERSUS VIDEO GAME USERS

assessed with three items. The internal consistency of the six subscales ranged from $\alpha = .62$ to $\alpha = .86$.

Internet Gaming Disorder Scale. This scale consists of nine items developed by Lemmens and colleagues (2015). Each item corresponds to one of the proposed criteria for Internet gaming disorder and to the extent it was experienced during the last year (e.g., “*During the last year, how often have there been periods when all you could think of was the moment that you could play a game?*”). Participants were asked to rate each item on an adapted 6-point scale ranging from 1 (*Almost never*) to 6 (*Almost always*). The internal consistency of the *Internet Gaming Disorder Scale* for the present sample was $\alpha = .85$.

Passion. Four items from Vallerand’s (2010) *Passion Scale* were used to assess the extent to which participants reported video game engagement to be a meaningful, self-defining activity (e.g., “*This activity is very important to me*”). Each item was rated on a 7-point Likert scale ranging from 1 (*Not at all agree*) to 7 (*Very strongly agree*). The internal consistency of these four items for the present sample was $\alpha = .89$. Average scores equal to or greater than four were classified as gamers, whereas average scores less than four were classified as non-gamers based on Mageau and colleagues’ classifications of passion (2009).

Results

Seventy-seven participants (7.30%) were detected as either univariate outliers ($-/+ 3 SDs$) on one or more measures or a multivariate outlier across all measures, and therefore excluded from further analyses. The final sample consisted of 973 participants (69.90% male; $M_{age} = 23.32$ years, $SD = 4.70$) including 843

frequent video game users (86.60%) and 670 gamers (68.90%). Not surprisingly, a large majority of frequent video game users (76%) were also classified as gamers. Finally, no violations of normality were observed with skew statistics ranging from -0.81 to 1.55 (George & Mallery, 2010). All analyses were performed on SPSS version 22 with Type III sums of squares to account for expected imbalance in the cell sizes (Lewsey, Gardiner, & Gettinby, 1997).

Preliminary Analyses

Prior to conducting the primary analyses, gender differences were explored to determine if gender should be included as a covariate in the planned analyses. Table 1 presents the averages for gaming engagement, gaming motivation, and problematic gaming. As evidenced, significant gender differences were observed across all variables of interest except for reports of amotivation toward gaming. Furthermore, as shown in Table 2, gender was found to be significantly associated with membership to both groups such that more males were classified as passionate gamers and frequent users than females. These findings suggest gender indeed may influence the results of the objective of the study and should therefore be included as a covariate.

Primary Analyses

A 2×2 (gamer, non-gamer * frequent user, non-frequent user) MANCOVA was conducted for gaming engagement (i.e., hours gaming per week, frequency playing in free time, and frequency of gaming to manage stress) with gender entered as a covariate. Prior to conducting the MANCOVA, the correlations of the dependent variables were assessed to determine

Table 1

Crosstabulation of the Means and Standard Deviations of Gaming Engagement, Gaming Motivation, and Problematic Gaming across Gender

Variable	Gender differences				Total sample				
	Male		Female		<i>t</i> -tests				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		<i>df</i>	<i>p</i>	<i>M</i>	<i>SD</i>
Gaming engagement									
Free time play	3.91	0.72	3.33	0.92	9.66	456.18	< .001	3.74	0.83
Hours of gaming per week	19.94	14.16	10.12	10.85	11.77	716.01	< .001	16.97	13.99
Stress management	2.37	0.71	2.20	0.76	3.45	971	.001	2.32	0.73
Gaming motivation									
Intrinsic	4.39	1.20	3.88	1.42	5.38	482.38	< .001	4.23	1.29
Integrated	3.00	1.57	2.42	1.50	5.29	971	< .001	2.82	1.57
Identified	3.27	1.46	2.76	1.49	4.97	971	< .001	3.12	1.49
Introjected	1.82	0.98	1.66	1.00	2.35	971	.02	1.77	0.99
Extrinsic	3.47	1.48	3.03	1.55	4.28	971	< .001	3.34	1.52
Amotivation	1.81	1.14	1.72	1.05	1.20	971	.23	1.78	1.11
Problematic gaming									
Gaming disorder	2.15	0.80	1.96	0.82	3.27	971	.001	2.09	0.81

Table 2

Crosstabulation of Gamer Classification and Frequency of Video Game Usage Across Genders

Variable	Gender		Total n (%)
	Men n (%)	Women n (%)	
Gamer classification			
Gamer	521 (76.73)	149 (50.68)	670 (68.86)
Non-gamer	158 (23.27)	145 (49.32)	303 (31.14)
Frequency of use			
Frequent user	626 (92.19)	217 (73.81)	843 (86.64)
Non-frequent user	53 (7.81)	77 (26.19)	130 (13.36)

Note. Gamer classification, $\chi^2(1) = 64.93, p < .001$; Frequency of use, $\chi^2(1) = 59.91, p < .001$.

any issues with multicollinearity. Significant associations were found between frequency playing in free time and hours per week gaming, $r(971) = .62, p < .001$, frequency playing in free time and frequency of gaming to manage stress, $r(971) = .33, p < .001$, and hours per week gaming and frequency of gaming to manage stress, $r(971) = .44, p < .001$. The correlations do not suggest issues with multicollinearity resulting in the MANCOVA being conducted as planned.

Note that Box's M test suggested the assumption of equal variances had been violated ($p < .001$). Results revealed significant main effects for the gamer/non-gamer classification, Wilk's $\lambda = .85, F(3, 966) = 57.00, p < .001$, partial $\eta^2 = .15$, and frequent/non-frequent user classification, Wilk's $\lambda = .84, F(3, 966) = 52.28, p < .001$, partial $\eta^2 = .16$, as well as a significant interaction effect, Wilk's $\lambda = .97, F(3, 966) = 9.96, p < .001$, partial $\eta^2 = .03$. The results from follow-up univariate analyses are shown in Table 3 (gamer, non-gamer) and in Table 4 (frequent user, non-frequent user). Greater gaming engagement was reported by gamers and frequent users relative to non-gamers and non-frequent users, respectively, thus

supporting the hypothesis that gamers will report greater gaming engagement than non-gamers (H1a) and that frequent users will report greater gaming engagement than non-frequent users (H1b). Finally, univariate analyses revealed the interaction between the social identification toward gaming and frequent user groups to be significant for hours gaming per week $F(3, 968) = 13.51, p < .001$, partial $\eta^2 = .01$, and frequency of use during free time, $F(3, 968) = 4.43, p = .04$, partial $\eta^2 = .01$, partially supporting the hypothesis that individuals identifying both as gamers and frequent users will report the greatest level of gaming engagement (H1c). As shown in Figure 1, participants classified as both a socially identified gamer and frequent user reported the most hours gaming per week as well as the most frequent use of gaming in free time. The interaction for the frequency of gaming to manage stress was not significant, $F(3, 968) = 1.41, p = .24$.

Additionally, a 2×2 (gamer, non-gamer * frequent user, non-frequent user) ANCOVA was conducted for reports of problematic gaming, with gender entered as a covariate. As with the previous analysis, results from Levene's test suggested the assumption of equal

Table 3

Univariate Tests and Effect Sizes for Gamer Classification

Variables	Gamer		Non-gamer		Univariate tests and effect sizes		
	M	SD	M	SD	F	p	η_p^2
Gaming engagement							
Free time play	4.07	0.58	3.01	0.85	153.32 ^a	< .001	.14
Hours per week gaming	21.51	14.01	6.93	6.90	28.57 ^a	< .001	.03
Stress management	2.50	0.69	1.91	0.66	51.45 ^a	< .001	.05
Gaming motivation							
Intrinsic	4.67	1.04	3.25	1.26	220.67 ^b	< .001	.19
Integrated	3.43	1.49	1.49	0.64	347.56 ^c	< .001	.26
Identified	3.67	1.37	1.90	0.90	312.60 ^c	< .001	.24
Introjected	2.00	1.07	1.26	0.46	92.69 ^c	< .001	.09
Extrinsic	3.73	1.45	2.48	1.28	96.81 ^c	< .001	.09
Amotivation	1.78	1.13	1.78	1.07	0.69 ^c	.41	-
Problematic gaming							
Gaming disorder	2.29	0.81	1.65	0.61	93.65 ^d	< .001	.09

Note. ^a $F(3, 968)$, ^b $F(1, 971)$, ^c $F(1, 972)$, ^d $F(1, 968)$.

GAMERS VERSUS VIDEO GAME USERS

Table 4

Univariate Tests and Effect Sizes for Frequency of Use

Variables	Gamer		Non-gamer		Univariate tests and effect sizes		
	M	SD	M	SD	F	p	η^2_p
Gaming engagement							
Free time play	3.92	0.65	2.53	0.87	165.99 ^a	< .001	.15
Hours per week gaming	19.16	13.73	2.80	3.07	67.47 ^a	< .001	.07
Stress management	2.40	0.71	1.77	0.64	20.58 ^a	< .001	.02
Gaming motivation							
Intrinsic	4.39	1.20	3.20	1.39	17.82 ^b	< .001	.02
Integrated	3.00	1.57	1.67	0.99	6.24 ^b	.01	.01
Identified	3.28	1.47	2.06	1.13	6.32 ^b	.01	.01
Introjected	1.85	1.02	1.26	0.55	6.62 ^b	.01	.01
Extrinsic	3.51	1.48	2.26	1.29	21.47 ^b	< .001	.02
Amotivation	1.81	1.13	1.61	0.95	0.78 ^b	.38	-
Problematic gaming							
Gaming disorder	2.18	0.81	1.55	0.58	18.92 ^c	< .001	.02

Note. ^aF(3, 968), ^bF(1, 972), ^cF(1, 968).

variances had been violated ($p < .001$). The interaction effect was found to be non-significant, $F(1, 968) = 0.20$, $p = .65$, not supporting the hypothesis that suggests identifying as a gamer and a frequent user will lead to greater reports of problematic gaming (H2c). Thus, prior to reviewing the main effects, the

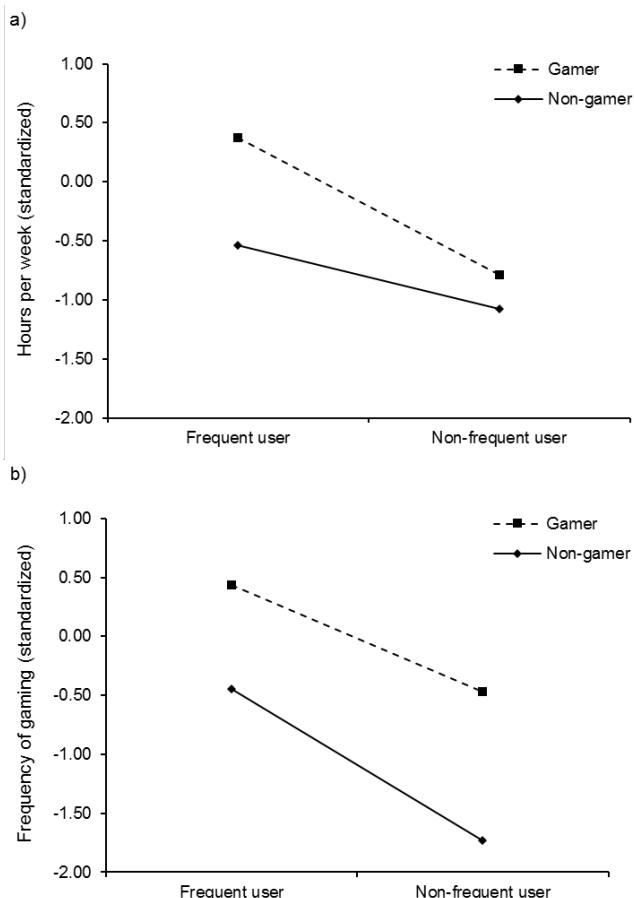


Figure 1. Interactions for hours per week gaming (A) and frequency gaming in free time (B).

ANCOVA was conducted again as a main effects model. Results revealed significant main effects for both the gamer classification, $F(1, 968) = 93.65$, $p < .001$, partial $\eta^2 = .09$, and frequent user classification, $F(1, 968) = 18.92$, $p < .001$, partial $\eta^2 = .02$. The averages are reported in Tables 3 and 4, which supported the hypothesis that suggests that gamers will report greater levels of problematic gaming than non-gamers (H2a) and that frequent users will report greater levels of problematic gaming than non-frequent users (H2b).

Finally, a 2×2 (gamer, non-gamer * frequent user, non-frequent user) MANCOVA was conducted for gaming motivations, with gender entered as a covariate. Once again, Box's M test suggested that the assumption of equal variances had been violated ($p < .001$). Due to the interaction effect not being significant, Wilk's $\lambda = .99$, $F(6, 963) = 1.93$, $p = .07$, thus not supporting H3b. This suggested that individuals identifying as both gamers and frequent users will report the greatest levels of motivation towards gaming, the MANCOVA was conducted again as a main effects model. Results revealed significant main effects for both the gamer classification, Wilk's $\lambda = .68$, $F(6, 964) = 76.3$, $p < .001$, partial $\eta^2 = .32$, and frequent user classification, Wilk's $\lambda = .97$, $F(6, 964) = 4.96$, $p < .001$, partial $\eta^2 = .03$. The results from the follow-up univariate analyses revealed that, compared to non-gamers, gamers reported a strong motivation overall to engage in video games (see Table 3). Similarly, compared to non-frequent users, frequent users reported a stronger motivation to engage in video games (see Table 4). These results largely support the hypotheses that stated that gamers will report greater motivation toward gaming than non-gamers (H3a) and that frequent users will report greater motivation towards gaming than non-frequent users (H3b).

Discussion

The present paper sought to examine the differences between gamers and video game users on gaming engagement (i.e., time spent playing per week, frequency of gaming in free time, and frequency of gaming to manage stress), the level of problematic gaming, and the motivation towards gaming. This is the first study to apply reports of passion toward gaming as a method of classifying gamers, highlighting the methodological importance of considering an individual's identification with gaming beyond reports of frequency of gaming. The following section discusses the findings in the context of previous studies and interprets the potential impact these findings have on theory and methodological considerations for future gaming research.

Although not a primary objective, the first step in the analyses was to investigate possible gender differences across variables to consider if gender should be controlled for in the main analyses. A pattern consistent with previous literature was found, whereby males reported greater gaming engagement and problematic gaming compared to females (Lucas & Sherry, 2004; Muller et al., 2015; Padilla-Walker, Nelson, Carroll, & Jensen, 2010; Winn & Heeter, 2009). Furthermore, compared to females, males were found to report higher levels of all types of motivation toward gaming except for amotivation and were more likely to identify socially as a gamer. It is possible that the differences in motivation toward gaming between males and females is explained by the overt sexism and misogyny observed in the gaming culture, which might decrease females' motivation for and social identification toward gaming (e.g., Fox & Tang, 2014; McClean & Griffiths, 2013). In other words, despite using reports of passion for classifying gamers and non-gamers, this study was still unable to counter the effects of gender stereotypes and sexism in gaming on females' identification as gamers. Therefore, future research may benefit to build on the results from Fox and Tang (2014) in addressing the extent to which the experience of sexism during gaming deters female gamers from identifying with, developing a passion for, and reporting a strong motivation for gaming.

As noted above, the primary goal of the present paper was to compare reports of gaming engagement, level of problematic gaming, and gaming motivation across two dichotomous classifications representing socially identified gamers versus non-gamers and frequent versus non-frequent users. Given the gender differences that were observed, gender was included as a covariate. The findings largely supported the hypotheses. First, although not surprisingly, gamers and frequent video game users reported greater gaming engagement and problematic gaming than non-gamers and non-frequent video game users,

respectively. Furthermore, in line with expectations, being classified as both a socially identified gamer and a frequent video game user was associated with the highest level of gaming engagement, specifically greater time spent playing and frequency of gaming in free time, but not frequency using gaming to cope.

Importantly, some individuals still reported being passionate towards gaming despite being non-frequent video game users. Therefore, by focusing only on time spent playing in the classification of gamers, as it has been done in previous literature, research may miss those passionate gamers who do not frequently play video games. Although they are only a small percentage, including the non-frequent gamer category still provides a deeper understanding of these categorizations. Specifically, the existence of the passionate gamer who is also a non-frequent user counters assumptions that one must frequently engage in an activity to identify with it, which extends beyond just video gaming research. Moreover, in line with expectations surrounding problematic gaming, there was a greater effect size for differences between gamers and non-gamers compared to the effect size for the differences between frequent and non-frequent video game users, suggesting passionate engagement might play a more meaningful role in explaining increased problematic gaming. Future research is needed to address this finding more rigorously, however, as a simple comparison of effect sizes is not sufficient evidence in itself to support one dependent variable over another.

Finally, the present findings support the hypothesis that gamers and frequent video game users are more strongly motivated to play video games than non-gamers and non-frequent video game users, respectively. Of particular interest are the high effect sizes for differences between gamers and non-gamers for the motivations representing more autonomously motivated gaming. This is in line with perspectives of passionate engagement as a self-defining activity in an individual's life, suggesting it matches that individual's values and goals (Vallerand, 2010, 2015). Interestingly, the effect sizes for the differences between frequent and non-frequent video game users were small according to standards developed by Cohen (1988), whereas differences between socially identified gamers and non-gamers surpassed a large effect. Therefore, differences in motivation between gamers and non-gamers based on an individual's identification toward gaming could potentially be a more informative classification procedure rather than previously used measures of time spent playing or one item measures as used in previous research (Gordon, Juang, & Syed, 2007; Kowert & Oldmeadow, 2013; Neys et al., 2014). However, future research would be needed to compare these various measures.

GAMERS VERSUS VIDEO GAME USERS

Overall, these findings have important methodological and practical implications for future research and clinicians to take into account. First, using the four items of the Vallerand's (2010) *Passion Scale* to classify participants in terms of their social identification as gamers and non-gamers in conjunction with an assessment of their frequency of gaming each week provides a much more detailed and objective approach at teasing apart the different types of video game players. Not only are the classifications much more specific for research purposes, but they are also more helpful in a practical context when examining behaviours related to each type of player and possibly which groups might be more at risk of developing Internet gaming disorder.

This study is limited in the following ways. First, data were collected through convenience sampling such as advertisements on social media sites and on a college campus, suggesting that this sample may not be representative. Moreover, this study relied on self-report data which, although convenient, assumes all participants interpreted each item correctly and responded truthfully. Finally, violations of equal variances within several of the present analyses does limit the interpretation of the corresponding effect sizes. However, these violations do not void the significant results given the robustness of the *F* test (Bird, 2004; Lindman, 1992). Notwithstanding these limitations, the present results add to the existing literature and future research by highlighting some of the more detailed differences between gamers and video game users.

The present study was unable to include gender as a third independent variable due to issues concerning cell sizes. Therefore, a primary recommendation for future research is the inclusion of gender as an independent variable to assess for possible interactions instead of controlling for gender differences. Finally, future research may want to focus on additional variables other than frequency and identification that further differentiate gamers and users. For instance, exploring the potential differences in the problematic patterns of engagement of each of the groups examined in the present study may help to further conceptualize and target specific needs of problematic gamers during treatment.

In conclusion, the present study is the first to demonstrate the validity of using the four-item subscale of the *Passion Scale* (Vallerand, 2010) in the classification of gamers versus non-gamers. Through the application of SDT, the definition of a socially identified gamer is suggested to include a perception that gaming is a meaningful and self-defining activity, which stems from a largely autonomous regulation of

gaming engagement. Therefore, unlike non-passionate users who may play frequently, for passionate gamers video gaming aligns with their values and goals representing an element of their identity.

References

- American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders- Text Revision* (5th ed.). Arlington, VA: American Psychiatric Association (APA).
- Beard, C. L. & Wickham, R. E. (2016). Gaming-contingent self-worth, gaming motivation, and Internet Gaming Disorder. *Computers in Human Behaviour*, 61, 507-515.
- Bird, K. (2004). *Analysis of variance via confidence intervals*. Thousand Oaks: SAGE Publishing.
- Brunborg, G. S., Mentzoni, R. A., & Froyland, L. R. (2014). Is video gaming, or video game addiction, associated with depression, academic achievement, heavy episodic drinking, or conduct problems *Journal of Behavioural Addictions*, 3, 27-32.
- Charlton, J. P. (2002). A factor-analytic investigation of computer 'addiction' and engagement. *British Journal of Psychology*, 93, 329-344.
- Charlton, J. P., & Danforth, I. D. W. (2007). Distinguishing addiction and high engagement in the context of online game playing. *Computers in Human Behaviour*, 23, 1531-1548.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Hillsdale: Routledge.
- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, 19, 109-134.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry*, 11, 227-268.
- Fox, J., & Tang, W. J. (2014). Sexism in online video games: The role of conformity to masculine norms and social dominance orientation. *Computers in Human Behaviour*, 33, 314-320.
- Fuster, H., Oberst, U., Griffiths, M., Carbonell, X., Chamarro, A., & Talarn, A. (2012). Psychological motivation in online role-playing games: A study of Spanish World of Warcraft players. *Annals of Psychology*, 28, 274-280.
- George, D., & Mallory, P. (2010). *SPSS for Windows step by step: A simple guide and reference 17.0 Update*. (10th ed.), Boston: Pearson.
- Gordon, C. F., Juang, L. P., & Syed, M. (2007). Internet use and well-being among college students: Beyond frequency of use. *Journal of College Student Development*, 48, 674- 688.

- Johnson, D., Gardner, J., & Sweetser, P. (2016). Motivations for videogame play: Predictors of time spent playing. *Computers in Human Behaviour*, 63, 805-812.
- King, D. L., Delfabbro, P., & Griffiths, M. (2009). The psychological study of video game players: Methodological challenges and practical advice. *International Journal of Mental Health and Addiction*, 7, 555- 562.
- King, D. L., Haagsma, M. C., Delfabbro, P. H., Gradisar, M., & Griffiths, M. D. (2013). Toward a consensus definition of pathological video-gaming: A systematic review of psychometric assessment tools. *Clinical Psychology Review*, 33, 331-342.
- Kowert, R., & Oldmeadow, J. A. (2013). Social reputation: Exploring the relationship between video game involvement and social competence. *Computers in Human Behaviour*, 29, 1872-1878.
- Lafrenière, M. K., Vallerand, R. J., Donahue, E. G., & Lavigne, G. L. (2009). On the costs and benefits of gaming: The role of passion. *Cyber Psychology and Behaviour*, 12, 285-290.
- Lafrenière, M. K., Verner-Filion, J., Vallerand, R. J. (2012). Development and validation of the Gaming Motivation Scale (GAMS). *Personality and Individual Differences*, 53, 827- 831.
- Lemmens, J. S., Valkenburg, P. M., & Peter, J. (2011). Psychosocial causes and consequences of pathological gaming. *Computers in Human Behaviour*, 27, 144-152.
- Lemmens, J. S., Valkenburg, P. M., & Gentile, D. A. (2015). The internet gaming disorder scale. *Psychological Assessment*, 27, 567-582.
- Lewsey, J. D., Gardiner, W., & Gettinby, G. (1997). A study of simple unbalanced factorial designs that use type ii and type iii sums of squares. *Communications in Statistics- Simulation and Computation*, 26, 1315-1328.
- Lindman, H. (1992). *Analysis of variance in experimental designs*. New York, NY: Springer.
- Lucas, K., & Sherry, J. L. (2004). Sex differences in video game play: A communication-based explanation. *Communication Research*, 31, 499- 523.
- Mageau, G. A., Vallerand, R. J., Charest, J., Salvy, S., Lacaille, N., Bouffard, T., & Koestner, R. (2009). On the development of harmonious and obsessive passion: The role of autonomy support, activity specialization, and identification with the activity. *Journal of Personality*, 77, 601-646.
- McLean, L., & Griffiths, M. D. (2013). Female gamers: A thematic analysis of their gaming experience. *International Journal of Game-Based Learning*, 3, 54-71.
- Müller, K. W., Janikian, M., Dreier, M., Wölfig, K., Beutel, M. E., Tzavara, C., Richardson, C., & Tsitsika, A. (2015). Regular gaming behaviour and internet gaming disorder in European adolescents: Results from a cross-national representative survey of prevalence, predictors, and psychopathological correlates. *European Child and Adolescent Psychiatry*, 24, 565-574.
- Neys, J. L. D., Jansz, J., & Tan, E. S. H. (2014). Exploring persistence in gaming: The role of self-determination and social identity. *Computers in Human Behaviour*, 37, 196-209.
- Padilla-Walker, L. M., Nelson, L. J., Carroll, J. S., & Jensen, A. C. (2009). More than just a game: Video game and internet use during emerging adulthood. *Journal of Youth and Adolescence*, 39, 103-113.
- Przybylski, A. K., Ryan, R. M., & Rigby, C. S. (2010). A motivational model of video game engagement. *Review of General Psychology*, 14, 154- 166.
- Przybylski, A. K., Weinstein, N., Ryan, R. M., & Rigby, C. S. (2009). Having to versus wanting to play: Background and consequences of harmonious versus obsessive engagement in video games. *Cyberspace and Behaviour*, 12, 485- 492.
- Rehbein, F., Kliem, S., Baier, D., Möble, T., & Petry, N. M. (2015). Prevalence of internet gaming disorder in German adolescents: Diagnostic contribution of the nine DSM-5 criteria in a state-wide representative sample. *Addiction*, 110, 842- 851.
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, 63, 397-427.
- Ryan, R. M., & Deci, E. L. (2000). Self- determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78
- Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion*, 30, 344-360.
- Shaw, A. (2012). Do you identify as a gamer? Gender, race, sexuality, and gamer identity. *New Media & Society*, 14, 28-44.
- Tamborini, R., Bowman, N. D., Eden, E., Grizzard, M., & Organ, A. (2010). Defining media enjoyment as the satisfaction of intrinsic needs. *Journal of Communication*, 60, 758- 777.
- Utz, S., Jonas, K. J., Tonkens, E. (2012). Effects of passion for massively multiplayer online role-playing games on interpersonal relationships. *Journal of Media Psychology*, 24, 77- 86.
- Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M., Gagné, M., & Marsolais, J. (2003). Les passions de l'âme: On obsessive and harmonious passion. *Journal of Personality and Social Psychology*, 85, 756-767.

GAMERS VERSUS VIDEO GAME USERS

- Vallerand, R. (2010). On passion for life activities: The dualistic model of passion. *Advances in Experimental Social Psychology*, 42, 97-193.
- Vallerand, R. (2015). *The psychology of passion: A dualistic model*. New York, NY: Oxford University Press.
- Wei, H., Chen, M., Huang, P., & Bai, Y. (2012). The association between online gaming, social phobia, and depression: An internet survey. *BioMed Central Psychiatry*, 12, 92-99.
- Williams, D., Consalvo, M., Caplan, S., & Yee, N. (2009). Looking for gender: Gender roles and behaviours among online gamers. *Journal of Communication*, 59, 700-725.
- Winn, J. & Heeter, C. (2009). Gaming, gender, and time: Who makes time to play? *Sex Roles*, 61, 1-13.
- Yee, N. (2006). The demographics, motivations and derived experiences of users of massively multi-user online graphical environments. *Presence*, 15, 309-329.

Received July 26, 2016
Revision received October 7, 2016
Accepted November 8, 2016 ■

Relations entre l'insatisfaction de l'image corporelle et l'IMC, l'estime de soi et les comportements alimentaires chez un groupe de garçons adolescents

GUILLAUME MORIN & DOMINIQUE MEILLEUR, PH. D.
Université de Montréal

Plusieurs auteurs soutiennent que l'insatisfaction de l'image corporelle serait liée au poids, à l'estime de soi et aux attitudes et comportements inappropriés à l'égard de l'alimentation chez les garçons adolescents. Toutefois, les études sur le sujet sont peu nombreuses et elles ont rapporté des résultats contradictoires. Le but de la présente étude était d'explorer les liens entre l'insatisfaction de l'image corporelle et l'indice de masse corporelle (IMC), l'estime de soi et les attitudes et comportements alimentaires restrictifs et boulimiques chez un échantillon de 85 garçons adolescents recrutés dans quatre écoles secondaires de la région de Montréal. Une corrélation positive entre l'insatisfaction de l'image corporelle et les attitudes et comportements alimentaires restrictifs a été observée. Aucun lien significatif n'a été noté entre l'insatisfaction de l'image corporelle et l'IMC, l'estime de soi et les attitudes et comportements boulimiques. Ces résultats suggèrent que l'IMC ne serait pas un bon indicateur de l'insatisfaction de l'image corporelle chez les garçons adolescents. Ces résultats appuient l'idée que les attitudes et comportements alimentaires restrictifs devraient être évalués chez les garçons adolescents insatisfaits de leur image corporelle.

Mots-clés : insatisfaction de l'image corporelle, désir de minceur, boulimie, estime de soi, garçons adolescents

Several researchers have suggested an association between body image dissatisfaction and weight, self-esteem and eating concerns in adolescent boys. However, studies on the topic are scarce and results are contradictory. The aim of the current study was to explore the relation between body image dissatisfaction and body mass index (BMI), self-esteem, food restriction and bulimic attitudes and behaviors in a group of 85 adolescent boys recruited through four high schools located in Montreal. A positive correlation was observed between body image dissatisfaction and food restriction. No significant associations were noted between body image dissatisfaction and BMI, self-esteem and bulimic attitudes and behaviors. The results of the present study suggest that BMI might not be an adequate indicator of adolescent boys' body image dissatisfaction. Moreover, these results suggest that attitudes and food restriction behaviours should be evaluated in adolescent boys dissatisfied with their body image.

Keywords: body image dissatisfaction, drive for thinness, bulimia, self-esteem, adolescents boys

L'adolescence est une étape importante dans le développement de l'image corporelle compte tenu des changements physiques, psychologiques et sociaux associés à cette période (Cash & Smolak, 2011; Ferreiro, Seoane, & Senra, 2014). L'image corporelle correspond à la représentation mentale multidimensionnelle qu'un individu possède de son corps (Cash & Smolak). L'une des composantes de cette représentation est l'insatisfaction de l'image corporelle qui est définie comme l'évaluation subjective négative de son corps (Stice & Shaw, 2002). L'insatisfaction de l'image corporelle chez les adolescents masculins semble avoir augmenté au cours des dernières décennies (Neumark-Sztainer et al., 2012). Au

Les auteurs remercient Myriam Blanchette-Sylvestre pour son implication dans la collecte des données. Cette recherche a reçu l'appui d'une subvention du CRSH de l'Université de Montréal. Merci d'adresser toute correspondance concernant cet article à Guillaume Morin (courriel : guillaume.morin@umontreal.ca).

Québec, entre 45% et 55% des garçons adolescents seraient insatisfaits de leur image corporelle (Dion et al., 2015; Institut de la statistique du Québec, 2012). Des études soulignent que l'insatisfaction de l'image corporelle chez les adolescents masculins serait associée à diverses problématiques, notamment aux symptômes dépressifs, aux difficultés interpersonnelles et à l'usage de stéroïdes (Jampel, Murray, Griffiths, & Blashill, 2016; Kerremans, Claes, & Bijttebier, 2010; Rojo-Moreno et al., 2013). L'insatisfaction de l'image corporelle dépend largement de l'adéquation entre l'image perçue de son corps et celle désirée (Cash & Smolak, 2011). Des recherches suggèrent que l'idéal social du corps masculin possède une forme en «V» (des épaules larges et une taille mince), une forte musculature et peu de masse adipeuse afin d'exacerber l'apparence musculaire (Cash & Smolak; Grogan, 1999).

L'IMAGE CORPORELLE CHEZ LES GARÇONS ADOLESCENTS

Chez les filles adolescentes, des études ont mis de l'avant des liens entre l'insatisfaction de l'image corporelle et le poids, l'estime de soi et les attitudes et comportements inappropriés à l'égard de l'alimentation (Murray, Rieger, & Byrne, 2015; Stice & Shaw, 2002). Chez les garçons adolescents, les relations entre ces variables sont moins claires. Les études portant sur les liens entre ces variables sont peu nombreuses et ont eu recours à des instruments de mesure variés pour évaluer l'insatisfaction de l'image corporelle. Par conséquent, les résultats qui en ressortent sont parfois divergents et difficiles à comparer : certaines études rapportent des liens entre ces variables alors que d'autres ne répliquent pas ces résultats (Francisco et al., 2015; Gitau, Micklesfield, Pettifor, & Norris, 2014; Papp, Urban, Czegledi, Babusa, & Tury, 2013). Plusieurs auteurs soulignent la nécessité de poursuivre les travaux de recherches dans ce domaine. La clarification de ces relations pourrait contribuer, d'une part, à mieux cerner le rôle de l'insatisfaction de l'image corporelle dans le développement des adolescents masculins et, d'autre part, à guider les efforts de dépistage et de prévention à son égard.

Il apparaît donc pertinent d'explorer davantage les liens entre l'insatisfaction de l'image corporelle et le poids, l'estime de soi et les attitudes et comportements inappropriés à l'égard de l'alimentation chez les garçons adolescents. Plus spécifiquement, le but de la présente étude est d'observer quelle est l'association entre le poids et l'insatisfaction de l'image corporelle chez les garçons adolescents. Comment l'insatisfaction de l'image corporelle s'associe-t-elle à l'estime de soi et aux attitudes et comportements inappropriés à l'égard de l'alimentation chez les adolescents masculins?

L'insatisfaction de l'image corporelle et le poids

L'idéal corporel recherché par les garçons adolescents est associé à une silhouette moyenne et un indice de masse corporelle (IMC) modéré (Bully & Elosua, 2013; Dion et al., 2015). L'IMC est un indicateur standardisé du poids relatif à la taille (National Obesity Observatory, 2009). Les garçons adolescents possédant un IMC plus faible ou plus élevé, donc qui sont plus minces ou en surpoids comparativement à la moyenne, rapportent une différence plus grande entre leur silhouette perçue et celle désirée que ceux possédant un IMC médian (Cortese et al., 2010; Dion et al., 2015). Certains auteurs ont proposé que les hommes plus minces seraient d'avantage insatisfaits de leur image corporelle puisqu'ils ont moins de masse musculaire que ceux possédant un IMC modéré (Calzo et al., 2012; Cortese et al., 2010). Les hommes en surpoids seraient, quant à eux, plus insatisfaits de leur image corporelle puisqu'ils ont plus de masse adipeuse que

ceux possédant un IMC moyen (Calzo et al., 2012; Cortese et al., 2010). Ainsi, plusieurs études notent qu'il y a autant d'adolescents masculins qui désirent prendre du poids que d'adolescents qui désirent en perdre (Dion et al., 2015; McCabe & Ricciardelli, 2001).

Cependant, les résultats des études sont divergents lorsque l'insatisfaction de l'image corporelle repose sur l'évaluation de diverses parties et caractéristiques du corps. Certaines études notent encore une relation curvilinéaire où les garçons adolescents possédant un IMC plus faible ou plus élevé sont davantage insatisfaits de leur image corporelle que ceux possédant un IMC médian (Makinen, Puukko-Viertomies, Lindberg, Siimes, & Aalberg, 2012; Van Den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010). D'autres études identifient plutôt une augmentation de l'insatisfaction de l'image corporelle associée à l'augmentation de l'IMC (Papp et al., 2013; Paxton, Neumark-Sztainer, Hannan, & Eisenberg, 2006; Rojo-Moreno et al., 2013). Les résultats de ces études suggèrent que les garçons plus minces seraient les plus satisfaits de leur image corporelle. Enfin, certaines études n'ont pas observé de corrélation entre l'insatisfaction de l'image corporelle et l'IMC chez des garçons adolescents (Gitau et al., 2014; Makinen et al., 2012; Murray et al., 2015), mais ont plutôt noté que la relation entre l'évaluation de diverses parties du corps et l'IMC variait selon la catégorie d'IMC : l'insatisfaction de l'image corporelle était associée à une augmentation de l'IMC chez les garçons adolescents possédant un IMC moyen ou élevé, mais pas chez les adolescents plus minces.

Les études portant sur le sujet ont eu recours à des méthodologies divergentes et ont obtenu des résultats contradictoires. La majorité des recherches recensées n'ont évalué qu'un seul aspect spécifique de l'insatisfaction de l'image corporelle : la perception. Toutefois, étant donné les caractéristiques de l'idéal social masculin, les hommes possédant un IMC modéré devraient être moins insatisfaits de leur image corporelle que ceux possédant un IMC plus faible ou plus élevé. (Calzo et al., 2012; Cortese et al., 2010). La clarification de cette relation est importante afin de préciser la relation entre le développement et l'insatisfaction de l'image corporelle chez les garçons adolescents.

L'insatisfaction de l'image corporelle et l'estime de soi

L'image corporelle semble occuper une place importante dans l'estime de soi des adolescents (Ackard, Fulkerson, & Neumark-Sztainer, 2007; Crocker & Wolfe, 2001). L'estime de soi correspond à l'évaluation subjective de sa valeur personnelle (Orth & Robins, 2014). Les résultats d'une étude rapportent que 33,5% des garçons adolescents détiendraient une

faible estime de soi (Gitau et al., 2014). La faible estime de soi est associée entre autres à davantage de symptômes internalisés, de difficultés interpersonnelles ainsi qu'à un succès et un bien-être diminués (Dakanalis, Timko, Clerici, Zanetti, & Riva, 2014; Orth & Robins, 2014; Sowislo & Orth, 2013). Certains auteurs rapportent que les garçons adolescents plus insatisfaits de leur image corporelle accorderaient plus d'importance à l'atteinte de leur idéal corporel que ceux moins insatisfaits (Brechan & Kvalem, 2015). Étant donné la valeur accordée à l'apparence corporelle chez les garçons adolescents, plusieurs auteurs ont postulé que l'insatisfaction de l'image corporelle seraient associée à une faible estime de soi chez cette population (Brechan & Kvalem; Cash & Smolak, 2011; Francisco et al., 2015).

Plusieurs études, dont celles de Makinen et collègues. (2012), Murray et al. (2015), Papp et al. (2013) et Paxton et al. (2006), ont relevé une diminution de l'estime de soi associée à l'augmentation de l'insatisfaction vis-à-vis diverses parties du corps chez des garçons adolescents. Toutefois, cette relation n'a pas été observée chez un échantillon de garçons adolescents sud-africains malgré l'utilisation d'une méthodologie comparable aux études précédentes. Toutefois, cette relation n'a pas été observée chez un échantillon de garçons adolescents sud-africains malgré l'utilisation d'une méthodologie comparable aux études précédentes (Gitau et al., 2014). Les études s'intéressant à la relation entre l'estime de soi et l'écart entre la silhouette perçue et celle désirée chez les garçons adolescents rapportent des résultats divergents. Alors que Furnham, Badmin et Sneade (2002) n'ont pas observé d'association entre l'estime de soi et cette mesure de l'insatisfaction de l'image corporelle, Francisco et al. (2015) ont rapporté, dans le cadre d'une même étude, une corrélation positive entre ces variables chez des garçons adolescents espagnols et une absence de corrélation chez des garçons adolescents portugais.

Les instruments utilisés pour évaluer l'insatisfaction de l'image corporelle dans le cadre de ces études s'intéressaient surtout à l'aspect perceptuel plutôt qu'aux composantes affectives de l'image corporelle. Bien que plusieurs auteurs suggèrent que l'évaluation de l'image corporelle serait étroitement liée à l'évaluation de sa valeur globale (Brechan & Kvalem, 2015; Cash & Smolak, 2011; Fairburn, Cooper, & Shafran, 2003), les résultats des études sont contradictoires chez les adolescents masculins. Cette relation mérite d'être clarifiée et ainsi permettre de mieux orienter les efforts de dépistage et de prévention de ces problématiques.

L'insatisfaction de l'image corporelle et les attitudes et comportements alimentaires

L'insatisfaction de l'image corporelle a été identifiée comme un facteur important dans le développement et le maintien des problèmes alimentaires par plusieurs auteurs (Cash & Smolak, 2011; Stice & Shaw, 2002). Une vaste étude populationnelle américaine rapporte que 33% des garçons adolescents ont adhéré dans la dernière année à des comportements malsains de contrôle du poids (restriction, jeûne et substitution), 6,7% à des comportements dangereux de contrôle du poids (auto vomissement, purgation et pilules amaigrissantes) et 5% à des crises hyperphagiques (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006). Les attitudes et comportements inappropriés relatifs à l'alimentation sont notamment associés aux symptômes dépressifs, à l'abus d'alcool, aux difficultés sociales et aux troubles alimentaires (Dominé, Berchtold, Akré, Michaud, & Suris, 2009; Núñez-Navarro et al., 2012). Chez les garçons adolescents, la hausse de la disparité entre sa silhouette perçue et celle désirée est associée à l'augmentation des attitudes et comportements inappropriés à l'égard de l'alimentation (Gutierrez et al., 2015). Francisco et al. (2015) observent ce même effet chez des adolescents masculins espagnols, mais pas chez des garçons adolescents portugais. La hausse de l'insatisfaction vis-à-vis diverses parties et caractéristiques du corps semble aussi être liée à une augmentation des attitudes et comportements alimentaires inappropriés chez cette population (Makinen et al., 2012). Gitau, Mickelsfield, Pettifor et Norris (2014) observent quant à eux que ce lien est présent uniquement chez les participants caucasiens de leur échantillon d'adolescents masculins sud-africains et non chez les participants noirs.

Les attitudes et comportements inappropriés à l'égard de l'alimentation comprennent principalement les comportements alimentaires restrictifs, les diètes, l'activité physique intensive visant la perte de poids, l'ingestion d'aliments en grande quantité et de manière compulsive, la prise de laxatifs et les vomissements provoqués. La fréquence et l'intensité de ces comportements peuvent varier considérablement chez les individus. Certaines études se sont attardées plus spécifiquement à la relation entre l'insatisfaction de l'image corporelle et les attitudes et comportements alimentaires restrictifs chez des garçons adolescents. Stice et Shaw (2002) proposent que les individus insatisfaits de leur image corporelle cherchent à s'approcher de leur idéal corporel par le biais des conduites restrictives. Cash et Smolak (2011) soulignent que les conduites restrictives peuvent occasionner un biais attentionnel négatif sur les aspects corporels insatisfaisants. L'évaluation de l'image corporelle serait ainsi

L'IMAGE CORPORELLE CHEZ LES GARÇONS ADOLESCENTS

davantage influencée négativement par les aspects corporels insatisfaisants (Cash & Smolak). Une mesure fréquemment utilisée des attitudes et comportements alimentaires restrictifs est le désir de minceur, c'est-à-dire un ensemble de préoccupations corporelles et de conduites alimentaires associées à la peur de grossir et au désir de maigrir (Garner, 2004). Une seule étude portant sur l'association entre l'insatisfaction de l'image corporelle et le désir de minceur chez les garçons adolescents a été recensée. Rojo-Moreno et al. (2013) ont observé que l'insatisfaction vis-à-vis diverses parties du corps était associée à un désir de minceur plus élevé. Alors que ce résultat a été répliqué à l'aide d'un indicateur similaire chez un groupe de jeunes adultes masculins (Dakanalis et al., 2014), une autre étude n'a pas rapporté d'association entre l'insatisfaction de l'image corporelle et les attitudes et comportements alimentaires restrictifs chez les jeunes adultes masculins (Brechan & Kvalem, 2015).

D'autres études se sont intéressées plus précisément à l'association entre l'insatisfaction de l'image corporelle et les attitudes et comportements boulimiques chez les hommes. Les attitudes et comportements boulimiques comprennent les tendances à l'hyperphagie (p. ex., perte de contrôle alimentaire, absorption d'une quantité supérieure de nourriture dans un temps limité) ainsi que les tendances à l'usage de comportements compensatoires (p. ex., auto-vomissement, prise de laxatifs, exercice excessif; Fairburn & Beglin, 1994; Garner, 2004). Selon le modèle du *dual pathway*, l'insatisfaction de l'image corporelle exacerbé les attitudes et comportements boulimiques par le biais de la restriction alimentaire et des émotions négatives (Stice & Shaw, 2002). Aucune étude examinant l'association entre l'insatisfaction de l'image corporelle et les attitudes et comportements boulimiques chez des adolescents masculins n'a été identifiée dans la littérature sur le sujet. Chez les jeunes adultes masculins, l'insatisfaction vis-à-vis diverses parties du corps a été liée à l'augmentation des tendances hyperphagiennes dans une étude (Dakanalis et al., 2015). Cette relation n'a toutefois pas été confirmée dans d'autres études (Brechan & Kvalem, 2015; Dakanalis et al., 2014). La fréquence des comportements compensatoires ne semble pas, quant à elle, associée à l'insatisfaction de l'image corporelle chez des jeunes adultes masculins (Brechan & Kvalem, 2015; Dakanalis et al., 2014).

Pour plusieurs auteurs, l'insatisfaction de l'image corporelle serait associée aux attitudes et comportements alimentaires restrictifs et boulimiques (Cash & Smolak, 2011; Stice & Shaw, 2002). Toutefois, peu d'études se sont intéressées à ces relations chez les garçons adolescents. Les quelques

résultats rapportés dans les études sont contradictoires. Cependant, étant donné la prévalence de ces problématiques et leurs conséquences importantes sur la santé des adolescents masculins, ces liens méritent d'être clarifiés.

Les études examinant les liens entre l'insatisfaction de l'image corporelle et ces divers facteurs physiques et psychologiques chez les garçons adolescents sont, à ce jour, peu nombreuses et leurs résultats sont contradictoires. De plus, les instruments utilisés pour évaluer l'insatisfaction de l'image corporelle sont très variés, ce qui restreint la comparaison possible des résultats entre les études. Par exemple, certaines études ont eu recours au test de silhouette (l'écart entre sa silhouette perçue et celle désirée), d'autres ont utilisé l'évaluation de diverses parties ou caractéristiques du corps qui varient entre les études, alors que d'autres se sont servis de divers énoncés concernant la satisfaction de son corps. Il est à noter que dans toutes les études recensées sur le sujet, aucune n'a eu recours à un instrument de mesure évaluant l'insatisfaction de l'image corporelle qui tienne compte de la détresse et du dysfonctionnement associés au jugement négatif de son corps, éléments qui peuvent influencer le niveau de satisfaction. La présente étude tentera de remédier à certaines de ces lacunes méthodologiques.

La présente étude

L'objectif de la présente étude est d'explorer chez un groupe d'adolescents masculins les liens entre l'insatisfaction de l'image corporelle et l'IMC, l'estime de soi, et les attitudes et comportements à l'égard de l'alimentation. L'étude souhaite examiner ces variables chez un groupe de garçons âgés de 12 à 19 ans. Étant donné la rareté des études sur le sujet et les résultats contradictoires rapportés par ces dernières, les hypothèses de cette étude sont principalement fondées sur les différentes propositions théoriques. A) Étant donné les caractéristiques de l'idéal social du corps masculin, il est avancé que la relation entre l'insatisfaction de l'image corporelle et l'IMC sera curvilinéaire, c'est-à-dire que les individus possédant un IMC faible ou élevé seront plus insatisfaits de leur image corporelle que les individus possédant un IMC modéré. B) En raison de l'importance qu'occupe l'apparence physique chez les hommes, comme démontré dans les études antérieures (Ackard, Fulkerson, & Neumark-Sztainer, 2007; Crocker & Wolfe, 2001) il est proposé que la relation entre l'insatisfaction de l'image corporelle et l'estime de soi sera négative. C) Conformément aux propositions de Cash et Smolak (2011) et Stice et Shaw (2002), il est attendu que la relation entre l'insatisfaction de l'image corporelle et les attitudes et comportements alimentaires restrictifs sera positive. D) Enfin, il est proposé que la relation entre l'insatisfaction de l'image

corporelle et les attitudes et comportements boulimiques sera positive conformément au modèle du *dual pathway*.

Le choix des outils de mesure a été effectué en tenant compte des différentes études recensées afin de favoriser la sélection d'instruments de mesure possédant de bonnes propriétés psychométriques et qui évaluent les concepts à l'étude. Dans notre étude, l'évaluation de l'insatisfaction de l'image corporelle sera effectuée à l'aide d'un outil robuste comportant un grand nombre d'items et qui intègre un volet affectif à sa mesure. L'instrument utilisé estime les préoccupations quant à sa silhouette et diverses parties du corps ainsi que la détresse et le dysfonctionnement associés à ces préoccupations. Des attitudes et comportements inappropriés à l'égard de l'alimentation spécifiques (restrictifs et boulimiques) sont évalués grâce à des échelles attitudinales plutôt que la fréquence comportementale.

Méthode

Participants

Les participants de cette étude sont 85 garçons âgés entre 12 et 19 ans ($M = 13.9$; $\bar{E}.-T. = 1.3$). La majorité des participants sont en secondaire 2 (57.60%) et une plus faible proportion est en secondaire 1 (11.80%), en secondaire 3 (17.60%), en secondaire 4 (7.10%), en secondaire 5 (3.50%), au collégial (1.20%) ou n'a pas indiqué son niveau de scolarité (1.20%). L'échantillon est composé à 68.20% de répondants d'origine caucasienne, 9.40% d'origine africaine, 8.20% d'origine hispanique, 13% d'une autre origine et 1.20% des participants n'ont pas indiqué leurs origines ethniques. L'IMC des participants est décrit dans la section résultats.

Procédures

Cette étude a reçu l'approbation du Comité d'éthique à la recherche de la faculté des arts et sciences (CERFAS) de l'Université de Montréal. Elle fait partie d'un projet plus vaste portant sur les attitudes et les comportements des adolescentes et des adolescents face à leur alimentation, leur poids et leur image corporelle. Les sujets ont été recrutés en 2012 via quatre écoles secondaires du Québec ayant accepté de participer à l'étude. Les établissements provenaient de la région de Montréal. Deux établissements étaient des écoles privées et deux étaient publiques. Le déroulement et l'objectif de l'étude ont été présentés aux participants avant qu'ils aient été invités à participer. Afin de pouvoir participer à l'étude, les adolescents ainsi qu'un de leurs parents ou tuteurs devaient avoir signé un formulaire d'informations et de consentement. Le questionnaire pouvait être complété en classe ou à la maison et nécessitait environ 45 minutes afin de le remplir.

Instruments de mesure

Un questionnaire auto-rapporté traitant d'informations socio démographiques et de caractéristiques personnelles a été développé aux fins du projet. Celui-ci a permis de recueillir des informations quant à l'âge, l'année de scolarité, l'origine ethnique, la taille et le poids des participants. La taille et le poids rapportés par les participants dans ce questionnaire ont été utilisés afin de calculer l'indice de masse corporelle (IMC). Ce dernier a été calculé en divisant le poids en kilogramme par la taille en mètre au carré (kg/m^2 , Santé Canada, 2003).

La version francophone du *Body Shape Questionnaire* (BSQ; Cooper, Taylor, Cooper, & Fairburn, 1987; Rousseau, Knotter, Barbe, Raich, & Chabrol, 2005) a été utilisée afin de mesurer l'insatisfaction de l'image corporelle. Il s'agit d'un questionnaire auto-rapporté évaluant les sentiments concernant le poids et la forme corporelle ainsi que la détresse et le dysfonctionnement associés au cours des quatre dernières semaines. Celui-ci contient 34 items (p. ex., « *Avez-vous honte de votre silhouette ?* ») auxquels les sujets répondent à l'aide d'une échelle de Likert allant de 1 (*jamais*) à 6 (*toujours*). Le score global est obtenu en additionnant tous les items et peut se situer entre 34 et 204. Un score plus élevé reflète une plus grande insatisfaction de l'image corporelle. Les items ont été développés et validés pour une population féminine. La version francophone du *Body Shape Questionnaire* possède de bonnes propriétés psychométriques chez les femmes jeunes adultes (Rousseau et al., 2005). Dans la présente étude, l'alpha de Cronbach de cet instrument est de .95.

Les échelles *Faible estime de soi* (*Low Self-Esteem*), *Désir de minceur* (*Drive for Thinness*) et *Boulimie* (*Bulimia*) provenant du *Eating Disorder Inventory-3* (*EDI-3*; Garner, 2004) ont servi à mesurer respectivement la qualité de l'estime de soi, les attitudes et comportements alimentaires restrictifs, et les attitudes et comportements boulimiques. Les participants répondent aux énoncés à l'aide d'une échelle de Likert allant de 1 (*toujours*) à 6 (*jamais*). Le score à chacune des échelles provient de la sommation de ses items et peut varier entre 0 et 36 pour *Faible estime de soi*, 0 et 42 pour *Désir de minceur* et 0 et 48 pour *Boulimie*. Un score plus élevé à ces échelles reflète une estime de soi plus faible et davantage d'attitudes et comportements restrictifs et boulimiques. Bien que l'*EDI-3* ait été développé pour une population féminine, sa fidélité a été démontrée chez les hommes (Elosua & Hermosilla, 2013; Pearson, 2006; Spillane, Boerner, Anderson, & Smith, 2004). La version francophone utilisée dans le cadre de ce projet a été obtenue par un processus de traduction à rebours (*back translation*). L'échelle *Faible estime de soi* (6 items; p. ex., « *J'ai une*

L'IMAGE CORPORELLE CHEZ LES GARÇONS ADOLESCENTS

mauvaise opinion de moi-même ») évalue les sentiments d'inadéquation, d'insécurité, de manque de valeur personnelle et d'incapacité à atteindre ses objectifs personnels. L'alpha de Cronbach de cette échelle est de .76 dans notre étude. L'échelle *Désir de minceur* (7 items; p. ex., « Je suis terrifiée de prendre du poids ») évalue les préoccupations envers le poids et la restriction ainsi que la peur de prendre du poids et le désir d'être mince. L'alpha de Cronbach de cette échelle est de .70 dans notre étude. Finalement, l'échelle *Boulimie* (8 items; p. ex., « Je me gave de nourriture ») évalue la surconsommation alimentaire, l'alimentation émotionnelle et le sentiment de perte de contrôle lors de l'ingestion alimentaire. Dans la présente étude, l'alpha de Cronbach de cette échelle est de .72. Tous les indices de Cronbach sont jugés suffisants dans la présente étude.

Analyses statistiques

La première hypothèse a été vérifiée à l'aide d'une régression multiple. L'insatisfaction de l'image corporelle a été définie comme variable dépendante alors que l'IMC et l'IMC² ont été intégrés au modèle comme variables indépendantes. La significativité du coefficient de régression standardisé (β) de l'IMC² a été utilisé afin de vérifier la présence d'une relation curvilinéaire entre l'insatisfaction de l'image corporelle et l'IMC. Trois corrélations de Pearson ont été réalisées afin de vérifier les hypothèses subséquentes entre l'insatisfaction de l'image corporelle et la faible estime de soi, le désir de minceur et la boulimie. Un seuil alpha bilatéral de .05 a été utilisé pour ces tests d'hypothèse.

Résultats

Analyses préliminaires

La vérification des données extrêmes a révélé la présence de huit participants possédant des scores extrêmes à l'un des questionnaires ou l'une des échelles, soit au *Body Shape Questionnaire* ($n = 2$), à l'IMC ($n = 1$), à la *Faible estime de soi* ($n = 1$), au *Désir de minceur* ($n = 2$) et à la *Boulimie* ($n = 2$). Tous les scores extrêmes aux échelles attitudinales (*Body Shape Questionnaire*, *Faible estime de soi*, *Désir de minceur* et *Boulimie*) ont été transformés en scores z =

± 3.29 , alors que l'unique IMC extrême a été retiré. L'analyse des données manquantes a indiqué que toutes les variables possèdent plus de 5% de données manquantes (voir le tableau 1).

À chacune des échelles attitudinales (*Body Shape Questionnaire*, *Faible estime de soi*, *Désir de minceur* et *Boulimie*), les participants devaient avoir répondu à tous les items de cette échelle afin d'obtenir un score global et ne pas être considérés comme une donnée manquante à celle-ci. Comparativement aux participants ayant complété tous les items au *Body Shape Questionnaire*, les participants avec des données manquantes à ce même questionnaire possèdent un score significativement plus élevé à l'échelle *Désir de minceur* (respectivement $M = 2.03$, $M = 3.92$, $t(76) = -2.44$, $p = .017$) et à l'échelle *Boulimie* (respectivement $M = 1.87$, $M = 4.25$, $t(77) = -3.40$, $p = .001$). Comparativement aux participants ayant complété tous les items à l'échelle *Faible estime de soi*, les participants avec des données manquantes à cette échelle possèdent un score significativement plus élevé à l'échelle *Désir de minceur* (respectivement $M = 2.06$, $M = 5.00$, $t(76) = -2.07$, $p = .042$) et à l'échelle *Boulimie* (respectivement $M = 1.91$, $M = 6.21$, $t(77) = -3.41$, $p = .001$). La forte proportion de données manquantes et les différences entre les participants n'ayant pas complété tous les items du *Body Shape Questionnaire* et à l'échelle *Faible estime de soi* et ceux ayant répondu à tous les items de ces questionnaires limitent la généralisation des résultats. Il est aussi possible que les résultats puissent être biaissés par l'abstention de ces participants possédant des comportements et attitudes supérieurs aux échelles *Désir de minceur* et *Boulimie*. La distribution des scores des participants à chacune des échelles respecte les critères de normalité selon Kline (2011). Enfin, il semble que les résiduels (l'erreur de prédiction) se distribuent inégalement en ce qui concerne la relation entre l'insatisfaction de l'image corporelle et l'IMC, indiquant que la relation entre ces variables n'est possiblement pas linéaire.

La moyenne, l'écart-type et l'étendue de chacune des variables sont présentés dans le tableau 1. À l'exception de l'IMC, la moyenne de l'échantillon aux différentes variables est faible et son écart-type

Tableau 1

Statistiques descriptives et données manquantes pour chacune des variables

Variable	<i>M</i>	<i>É.-T.</i>	Min – Max	<i>n</i>	Données manquantes (%)
BSQ	44.21	17.66	34.00 – 102.50	68	20.00
IMC	20.29	5.09	14.16 – 36.00	75	11.80
FES	2.47	3.77	0.00 – 14.80	74	12.90
DM	2.41	3.97	0.00 – 15.50	76	10.60
B	2.39	3.75	0.00 – 14.50	77	9.40

Note. BSQ : insatisfaction de l'image corporelle; IMC : indice de masse corporelle; FES : faible estime de soi; DM : désir de minceur; B : boulimie.

restreint. La distribution de l'échantillon aux quatre échelles attitudinales (*Body Shape Questionnaire*, *Faible estime de soi*, *Désir de minceur* et *Boulimie*) est aussi condensée à des niveaux inférieurs, ce qui peut refléter un effet plancher. Cette distribution peu élevée peut aussi indiquer un bas niveau d'insatisfaction de l'image corporelle, de faible estime de soi, de désir de minceur et de boulimie chez le groupe de garçons à l'étude. Néanmoins, la distribution de l'échantillon aux échelles *Faible estime de soi*, *Désir de minceur* et *Boulimie* ne divergent pas de celles rapportées par Garner (2004) pour des adolescents masculins non cliniques. Enfin, la distribution des IMC en percentile adhère aux normes établies par l'Organisation mondiale de la santé (OMS, 2007) pour des adolescents masculins, $\chi^2(74) = 7.62, p > .05$.

Analyses principales

Afin de vérifier la présence d'une relation curvilinéaire entre l'insatisfaction de l'image corporelle et l'IMC, une régression multiple a été réalisée. L'insatisfaction de l'image corporelle a été définie comme variable dépendante alors que l'IMC et l'IMC² ont été intégrés comme variables indépendantes. L'IMC² des participants ne prédit pas significativement leur score au *Body Shape Questionnaire* $\beta = .57, p = .504$. Ainsi, la relation entre l'insatisfaction de l'image corporelle n'est pas curvilinéaire. Conséquemment, la présence d'une relation linéaire a été vérifiée à l'aide d'une corrélation de Pearson. Le résultat de cette analyse est présenté dans le tableau 2. Le score des participants au *Body Shape Questionnaire* n'est pas significativement corrélé à l'IMC, $r = .05, p = .702$. Ainsi, l'IMC des garçons qui se disent davantage insatisfaits de leur image corporelle ne se différencie pas de celui des garçons moins insatisfaits. Autrement dit, les participants qui ont obtenu un score élevé à l'insatisfaction de leur image corporelle pouvaient avoir un IMC soit bas (mince), normal ou élevé (surpoids).

La seconde hypothèse selon laquelle l'augmentation de l'insatisfaction de l'image corporelle serait liée à une diminution de l'estime de soi a été testée grâce à une corrélation de Pearson entre les scores au *Body Shape Questionnaire* et ceux à l'échelle *Faible estime de soi* (voir tableau 2). Le score des participants au *Body Shape Questionnaire* n'est pas corrélé significativement au score à l'échelle *Faible estime de soi*, $r = .15, p = .227$. Ainsi, les garçons qui ont obtenu un score élevé à l'insatisfaction de l'image corporelle obtenaient des scores divers (faibles, moyens ou élevés) à l'échelle *Faible estime de soi*.

Il a par ailleurs été proposé que l'augmentation de l'insatisfaction de l'image corporelle serait associée à une augmentation des attitudes et comportements alimentaires restrictifs. Une corrélation de Pearson entre les scores au *Body Shape Questionnaire* et ceux à l'échelle *Désir de minceur* a été effectuée afin de vérifier cette hypothèse (voir tableau 2). Le score des participants au *Body Shape Questionnaire* est corrélé significativement au score à l'échelle *Désir de minceur*, $r = .61, p = .001, r^2 = .37$. Selon les normes de Cohen (1988), cette relation est forte et explique une grande part de la variance de chacune des variables. Ainsi, l'augmentation de l'insatisfaction de l'image corporelle s'accompagne d'une augmentation des attitudes et comportements alimentaires restrictifs. Les garçons qui sont davantage insatisfaits de leur image corporelle possèdent plus de préoccupations corporelles envers la minceur, telles que le désir d'être mince et la peur de grossir, et plus de préoccupations alimentaires envers la minceur, telles que la culpabilité et la rumination associées à la quantité et à la qualité des aliments ingérés.

Enfin, afin de vérifier l'hypothèse selon laquelle l'augmentation de l'insatisfaction de l'image corporelle serait liée à une augmentation des attitudes et comportements boulimiques, une corrélation de Pearson a été effectuée entre les scores au *Body Shape Questionnaire* et ceux à l'échelle *Boulimie* (voir tableau 2). Le score des participants au *Body Shape Questionnaire* n'est pas significativement corrélé au score à l'échelle *Boulimie*, $r = .16, p = .21$. Ainsi, l'évaluation de la satisfaction corporelle chez ces garçons n'est pas associée à la tendance à s'alimenter en réaction à des émotions négatives, à surconsommer et à perdre le contrôle lors de l'ingestion alimentaire.

Tableau 2
Relation entre le BSQ et les différentes variables

Variables	<i>n</i>	<i>r</i>	<i>r</i> ²	<i>p</i>
IMC	61	.05	.00	.70
FES	62	.15	.02	.23
DM	63	.61	.37	.001
B	62	.16	.03	.21

Note. BSQ : insatisfaction de l'image corporelle; IMC : indice de masse corporelle; FES : faible estime de soi; DM : désir de minceur; B : boulimie.

Discussion

L'objectif de cette étude était d'examiner les relations entre l'insatisfaction de l'image corporelle et l'IMC, la faible estime de soi et les comportements et attitudes à l'égard de l'alimentation chez un groupe de garçons adolescents. Pour ce faire, quatre hypothèses ont été formulées.

L'IMAGE CORPORELLE CHEZ LES GARÇONS ADOLESCENTS

L'insatisfaction de l'image corporelle et l'IMC

D'abord, contrairement à ce qui avait été avancé, l'insatisfaction de l'image corporelle n'est pas associée curvilinéairement, ni linéairement à l'IMC chez le groupe d'adolescents masculins à l'étude. Ces résultats étaient ceux de Gitau et al. (2014) et Murray et al. (2015) qui n'ont pas observé de relation entre l'insatisfaction de l'image corporelle et l'IMC chez des échantillons d'adolescents masculins plus vastes. Ces deux études ont calculé l'IMC à l'aide du poids et de la taille mesurés par les expérimentateurs plutôt que d'utiliser des indices rapportés par les participants dans la présente étude. Les résultats de notre étude s'opposent cependant à ceux obtenus dans plusieurs autres recherches similaires qui ont noté une association linéaire positive (Papp et al., 2013; Paxton et al., 2006; Rojo-Moreno et al., 2013) ou une relation curvilinéaire dans laquelle l'insatisfaction de l'image corporelle est supérieure chez les participants ayant des IMC plus faibles ou plus élevés que chez les participants ayant un IMC médian (Makinen et al., 2012; Van Den Berg et al., 2010). Les différences relatives à la taille et l'âge de l'échantillon, l'usage de mesures anthropomorphiques auto-rapportées ainsi que les questionnaires utilisés afin d'évaluer l'insatisfaction de l'image corporelle ne semblent pas pouvoir rendre compte de ces importantes variations de résultats dans la littérature.

Afin d'expliquer les résultats de la présente étude, tout en considérant les nombreuses divergences relevées dans la littérature, il est possible d'émettre l'hypothèse que l'IMC serait un faible indicateur de certaines composantes de l'idéal social du corps masculin, notamment l'apparence musculaire. Tel que mentionné précédemment, cette apparence musculaire reposeraient sur une forte musculature et une faible proportion de masse adipeuse (Cash & Smolak, 2011; Grogan, 1999). L'atteinte de cette apparence musculaire dépendrait par conséquent de la taille et de la constitution de sa masse corporelle. Or, l'IMC ne reflète pas directement la constitution corporelle (National Obesity Observatory, 2009). Un même IMC peut correspondre à des rapports différents entre la masse adipeuse et la masse musculaire (National Obesity Observatory, 2009), donc à des silhouettes d'apparence musculaire diverses et à une évaluation différente de son image corporelle. D'autres aspects physiques liés à l'insatisfaction de l'image corporelle chez les hommes, tels que la taille (Bergeron & Tylka, 2007), pourraient aussi ne pas être reflétés adéquatement par l'IMC. Enfin, il est possible que la perception subjective de son corps influence davantage le niveau de satisfaction de son image corporelle que son corps objectif (Wilson, Tripp, & Boland, 2005). Papp et al. (2013) ont observé que la perception subjective de son corps était un médiateur

complet de l'effet de l'IMC sur l'insatisfaction de l'image corporelle.

L'insatisfaction de l'image corporelle et l'estime de soi

Ensuite, en désaccord avec l'hypothèse mise de l'avant, les résultats de notre étude montrent que l'insatisfaction de l'image corporelle n'est pas corrélée à la faible estime de soi chez ce groupe de garçons adolescents. Ces résultats appuient ceux de trois autres études (Francisco et al., 2015; Furnham, Badmin, & Sneade, 2002; Gitau et al., 2014), mais divergent de ceux de plusieurs recherches ayant identifié un lien négatif entre l'insatisfaction de l'image corporelle et l'estime de soi chez des adolescents masculins (Francisco et al., 2015; Makinen et al., 2012; Murray et al., 2015; Papp et al., 2013; Paxton et al., 2006). Une seule autre étude parmi celles recensées a évalué la faible estime de soi avec la même échelle que celle utilisée dans la présente étude. Cette dernière rapporte une corrélation positive entre l'insatisfaction de l'image corporelle et la faible estime de soi chez un groupe d'hommes adultes (Dakanalis et al., 2014).

Certaines considérations méthodologiques importantes pourraient rendre compte du contraste entre les résultats de notre étude et ceux de la majorité des autres études sur le sujet. La variabilité des participants quant à la faible estime de soi est restreinte dans la présente étude : 45,9% d'entre eux ont obtenu un score global de 0 sur l'échelle *Faible estime de soi*. Aucun participant n'a obtenu un score global au-delà du score global médian possible à cette échelle. Ainsi, il est possible que ce manque de variance entre les scores des participants ait biaisé les résultats. Ce manque de variabilité pourrait, entre autres, être dû à l'évaluation incomplète du continuum de l'estime de soi par l'échelle *Faible estime de soi*. Garner (2004) rapporte une corrélation de -.82 entre l'échelle *Faible estime de soi* et le *Rosenberg Self-Esteem Scale* qui a majoritairement été utilisé dans les autres études recensées sur le sujet. Ainsi, alors que ce dernier instrument mesure tant les sentiments positifs que négatifs vis-à-vis de soi-même, l'échelle *Faible estime de soi* pourrait s'attarder davantage aux sentiments négatifs. L'échelle *Faible estime de soi* différencierait plus difficilement les individus possédant une bonne estime de soi de ceux possédant une estime de soi modérée.

L'insatisfaction de l'image corporelle et les attitudes et comportements alimentaires restrictifs

Par ailleurs, conformément à ce qui avait été avancé, l'insatisfaction de l'image corporelle est positivement corrélée au désir de minceur chez ce groupe d'adolescents masculins. Ces résultats corroborent ceux trouvés dans l'unique autre étude

recensée portant sur ce sujet chez des adolescents masculins (Rojo-Moreno et al., 2013). Chez les hommes adultes, alors qu'une étude observe cette même relation (Dakanalis et al., 2014), une autre ne note aucun lien entre l'insatisfaction de l'image corporelle et les attitudes et comportements alimentaires restrictifs (Brechan & Kvalem, 2015). Cependant, contrairement aux autres études, l'évaluation de l'insatisfaction de l'image corporelle utilisée par Brechan et Kvalem incluait des éléments corporels ne pouvant être influencés par l'alimentation (p. ex., cheveux, traits faciaux), ce qui pourrait expliquer les résultats différents obtenus.

Plusieurs hypothèses peuvent être avancées afin de rendre compte de ces résultats. D'abord, les attitudes et comportements alimentaires restrictifs chez les garçons pourraient servir à s'approcher de l'apparence musculaire socialement idéalisée (Stice & Shaw, 2002). Il s'agirait du désir d'abaisser et d'éviter d'augmenter sa masse adipeuse dans le but d'augmenter la saillance de sa musculature. Plusieurs études rapportent cependant que, parmi les garçons insatisfaits de leur image corporelle, certains désirent perdre du poids puisqu'ils se perçoivent trop gros, alors que d'autres souhaitent prendre du poids puisqu'ils se jugent trop maigres (Dion et al., 2015; Furnham et al., 2002; McCabe & Ricciardelli, 2001). L'hypothèse proposée se concilierait différemment à ces deux groupes de garçons insatisfaits de leur image corporelle qui ont été identifiés dans la littérature, mais qui n'ont pas été explorés dans l'échantillon présent. Les garçons insatisfaits de leur image corporelle qui désireraient perdre du poids rapporteraient plus d'attitudes et comportements alimentaires restrictifs puisqu'ils souhaiteraient perdre de la masse adipeuse. Les garçons insatisfaits de leur image corporelle qui désireraient gagner du poids rapporteraient plus d'attitudes et comportements alimentaires restrictifs puisqu'ils souhaiteraient éviter activement d'augmenter leur masse adipeuse lors de cette prise de poids. Chez les garçons plus minces, l'apparence musculaire serait potentiellement plus facilement dissimulée par le gras puisqu'elle repose sur une moins grande masse musculaire. Ces garçons plus minces et plus insatisfaits de leur image corporelle qui possèdent plus d'attitudes et comportements alimentaires restrictifs seraient possiblement aussi plus à risque de développer des distorsions de leur image corporelle ou un trouble alimentaire selon les observations faites chez des adolescents diagnostiqués d'un trouble alimentaire (Bayes & Madden, 2011; Mangweth et al., 2004). Par ailleurs, il est possible que l'augmentation des attitudes et comportements alimentaires restrictifs entraîne une hausse de l'insatisfaction de l'image corporelle chez les adolescents masculins. Selon Cash et Smolak (2011), les préoccupations corporelles

seraient associées à une attention accrue pour les caractéristiques corporelles insatisfaisantes. Ainsi, ces caractéristiques occuperaient une importance disproportionnée dans l'évaluation de l'image corporelle (Cash & Smolak, 2011).

L'insatisfaction de l'image corporelle et la boulimie

Enfin, contrairement à l'hypothèse formulée au départ, l'insatisfaction de l'image corporelle n'est pas corrélée aux attitudes et comportements boulimiques chez ce groupe de garçons adolescents. Aucune autre étude recensée n'a examiné cette relation auprès de cette population. Les résultats de notre étude sont similaires à ceux obtenus dans deux autres études effectuées auprès d'hommes adultes (Brechan & Kvalem, 2015; Dakanalis et al., 2014). Par ailleurs, Dakanalis, Favagrossa et al. (2015) ont, quant à eux, rapporté une forte relation positive entre l'insatisfaction de l'image corporelle et la boulimie. Ces derniers auteurs notent aussi la présence de plusieurs variables modératrices à cette relation, notamment l'estime de soi.

Plusieurs hypothèses peuvent être avancées afin de rendre compte de ces résultats. D'abord, les attitudes et comportements boulimiques pourraient avoir été mal évalués dans la présente étude. Les énoncés du questionnaire utilisé pourraient avoir été non-adaptés à la réalité des garçons adolescents ou encore le sens de certains énoncés a pu être difficile à saisir par certains participants (Katzman, Wolchik, & Braver, 1984; Neumark-Sztainer & Story, 1998). Les épisodes fréquents de consommation alimentaire supérieure à la moyenne, c'est-à-dire de surconsommation alimentaire associée à la poussée de croissance chez les garçons adolescents, pourraient rendre difficile l'identification de comportements et attitudes boulimiques (surconsommation). Plusieurs auteurs questionnent la capacité des outils auto-rapportés disponibles à déceler les comportements boulimiques, et ce, particulièrement chez les adolescents (Fairburn & Beglin, 1994). Par ailleurs, la relation entre l'insatisfaction de l'image corporelle et la boulimie pourrait être influencée par de tierces variables telles que l'affectivité négative, la restriction alimentaire et le perfectionnisme (Dakanalis et al., 2015; Stice & Shaw, 2002). La présente étude ne permet toutefois pas de rendre compte de celles-ci.

Limites et conclusions

Il est pertinent de souligner certaines limites qui ont pu influencer les résultats obtenus dans la présente étude. Dans un premier temps, étant donné la nature auto-rapportée des différentes mesures utilisées, la sensibilité des thèmes abordés et les changements physiques rapides à l'adolescence, les sujets ont pu répondre de manière erronée aux divers questionnaires et mal estimer leur poids et leur taille. Les instruments

L'IMAGE CORPORELLE CHEZ LES GARÇONS ADOLESCENTS

de mesure utilisés ont par ailleurs été développés pour une population féminine et peuvent omettre certaines composantes propres aux hommes des différents phénomènes évalués. La fiabilité (bien que suffisante) des échelles *Faible estime de soi* (alpha de Cronbach = .76), *Désir de minceur* (alpha de Cronbach = .70) et *Boulimie* (alpha de Cronbach = .72) ainsi que leur manque possible de discrimination entre les sujets (c.-à-d., effet plancher) posent aussi une limite à l'interprétation de nos résultats. Le nombre restreint de participants, la proportion de données manquantes (c.-à-d., plus de 5% à chacune des échelles) et les différences entre les sujets n'ayant pas complété tous les items au *Body Shape Questionnaire* et à l'échelle *Faible estime de soi* et ceux ayant complété tous les items à ces mêmes échelles limitent la validité externe de l'étude. Les conclusions de la présente étude ne peuvent se généraliser aux garçons ayant des attitudes et comportements alimentaires restrictifs ou boulimiques élevés. Enfin, il s'agit d'une étude corrélationnelle et la causalité ne peut en aucun cas en être inférée.

Dans la présente étude, l'insatisfaction de l'image corporelle est positivement et fortement corrélée au désir de minceur chez un groupe de garçons adolescents. L'insatisfaction de l'image corporelle n'est pas corrélée significativement à l'IMC, à la faible estime de soi et aux attitudes et comportements boulimiques. À la lumière de ces résultats, il a été avancé que l'IMC est possiblement un faible indicateur de certaines composantes de l'idéal social du corps masculin et que la perception de son corps pourrait influencer davantage l'évaluation de l'insatisfaction de son image corporelle que le corps objectif. Il a aussi été proposé que l'augmentation des attitudes et comportements alimentaires restrictifs associée à la hausse de l'insatisfaction de l'image corporelle chez les adolescents masculins puisse représenter le souhait d'abaisser et d'éviter d'augmenter sa proportion de masse adipeuse afin de se rapprocher de l'idéal social du corps masculin.

Les résultats de la présente étude suggèrent que les efforts et stratégies visant à prévenir ou dépister l'insatisfaction de l'image corporelle chez les garçons adolescents ne devraient pas se limiter à cibler uniquement des garçons présentant certaines catégories d'IMC. Les résultats suggèrent aussi que les attitudes et comportements alimentaires restrictifs devraient être évalués auprès des garçons adolescents insatisfaits de leur image corporelle. Les résultats de cette étude permettent de dégager certaines pistes pour des recherches futures. Il serait intéressant de valider les hypothèses explicatives avancées dans la présente étude. Pour ce faire, il faudrait comparer la relation entre l'insatisfaction de l'image corporelle et diverses mesures objectives du corps et de la silhouette (telles

que l'IMC et le pourcentage de gras) et des mesures subjectives du corps et de la silhouette (telles que la perception de son apparence et de son corps) chez un groupe de garçons adolescents masculins. Il serait aussi intéressant de comparer la relation entre l'insatisfaction de l'image corporelle et les attitudes et comportements alimentaires restrictifs chez des adolescents masculins désirant perdre du poids et ceux désirant plutôt prendre du poids. Il pourrait être pertinent d'ajouter un volet qualitatif à une telle étude afin d'explorer de manière plus détaillée les motivations entourant le désir de modifier son apparence ou son poids chez les adolescents. Enfin, il serait pertinent d'explorer l'effet de certaines variables intermédiaires, notamment celles mentionnées plus haut (c.-à-d., estime de soi, affectivité négative, restriction alimentaire, perfectionnisme), entre l'insatisfaction de l'image corporelle et les attitudes et comportements boulimiques.

Références

- Ackard, D. M., Fulkerson, J. A., & Neumark-Sztainer, D. (2007). Prevalence and utility of DSM-IV eating disorder diagnostic criteria among youth. *International Journal of Eating Disorders*, 40, 409-417.
- Bayes, A., & Madden, S. (2011). Early onset eating disorders in male adolescents: A series of 10 inpatients. *Australasian Psychiatry*, 19, 526-530.
- Bergeron, D., & Tylka, T. L. (2007). Support for the uniqueness of body dissatisfaction from drive for muscularity among men. *Body Image*, 4, 288-295.
- Brechan, I., & Kvalem, I. L. (2015). Relationship between body dissatisfaction and disordered eating: Mediating role of self-esteem and depression. *Eating Behaviors*, 17, 49-58.
- Bully, P., & Elosua, P. (2013). Changes in body dissatisfaction relative to gender and age: The modulating character of BMI. *The Spanish Journal of Psychology*, 14, 313-322.
- Calzo, J. P., Sonneville, K. R., Haines, J., Blood, E. A., Field, A. E., & Austin, S. B. (2012). The development of associations among BMI, body dissatisfaction, and weight and shape concern in adolescent boys and girls. *Journal of Adolescence Health*, 51, 517-523.
- Cash, T. F., & Smolak, L. (2011). *Body image: A handbook of science, practice, and prevention*. (2^e éd.). New York, NY: Guilford Press.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NY: Lawrence Erlbaum Associates.
- Cooper, P., Taylor, M., Cooper, Z., & Fairburn, C. G. (1987). The development and validation of the body shape questionnaire. *International Journal of Eating Disorders*, 6, 485-494.

- Cortese, S., Falissard, B., Pigaiani, Y., Banzato, C., Bogoni, G., Pellegrino, M., . . . Maffeis, C. (2010). The relationship between body mass index and body size dissatisfaction in young adolescents: Spline function analysis. *Journal of American Dietetic Association, 110*, 1098-1102.
- Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review, 108*, 593-623.
- Dakanalis, A., Favagrossa, L., Clerici, M., Prunas, A., Colmegna, F., Zanetti, M. A., & Riva, G. (2015). Body dissatisfaction and eating disorder symptomatology: A latent structural equation modeling analysis of moderating variables in 18-to -28-year-old males. *Journal of Psychology, 149*, 85-112.
- Dakanalis, A., Timko, C. A., Clerici, M., Zanetti, M. A., & Riva, G. (2014). Comprehensive examination of the trans-diagnostic cognitive behavioral model of eating disorders in males. *Eating Behaviors, 15*, 63-67.
- Dakanalis, A., Zanetti, A. M., Riva, G., Colmegna, F., Volpato, C., Madeddu, F., & Clerici, M. (2015). Male body dissatisfaction and eating disorder symptomatology: Moderating variables among men. *Journal of Health Psychology, 20*, 80-90.
- Dion, J., Blackburn, M.-E., Auclair, J., Laberge, L., Veillette, S., Gaudreault, M., . . . Touchette, E. (2015). Development and aetiology of body dissatisfaction in adolescent boys and girls. *International Journal of Adolescence and Youth, 20*, 151-166.
- Dominé, F., Berchtold, A., Akré, C., Michaud, P.-A., & Suris, J.-C. (2009). Disordered eating behaviors: What about boys? *Journal of Adolescent Health, 44*, 111-117.
- Elosua, P., & Hermosilla, D. (2013). Does body dissatisfaction have the same meaning for males and females? A measurement invariance study. *European Review of Applied Psychology, 63*, 315-321.
- Fairburn, C. G., & Beglin, S. J. (1994). Assessment of eating disorders: Interview or self-report questionnaire? *International Journal of Eating Disorders, 16*, 363-370.
- Fairburn, C. G., Cooper, Z., & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: A "transdiagnostic" theory and treatment. *Behaviour Research and Therapy, 41*, 509-528.
- Ferreiro, F., Seoane, G., & Senra, C. (2014). Toward understanding the role of body dissatisfaction in the gender differences in depressive symptoms and disordered eating: A longitudinal study during adolescence. *Journal of Adolescence, 37*, 73-84.
- Francisco, R., Espinoza, P., Gonzalez, M. L., Penelo, E., Mora, M., Roses, R., & Raich, R. M. (2015). Body dissatisfaction and disordered eating among Portuguese and Spanish adolescents: The role of individual characteristics and internalisation of sociocultural ideals. *Journal of Adolescence, 41*, 7-16.
- Furnham, A., Badmin, N., & Sneade, I. (2002). Body image dissatisfaction: Gender differences in eating attitudes, self-esteem, and reasons for exercise. *The Journal of Psychology: Interdisciplinary and Applied, 136*, 581-596.
- Garner, D. M. (2004). *Eating Disorder Inventory-3: Professional manual*. Odessa, FL: Psychological Assessment Ressources.
- Gitau, T. M., Micklesfield, L. K., Pettifor, J. M., & Norris, S. A. (2014). Eating attitudes, body image satisfaction and self-esteem of South African Black and White male adolescents and their perception of female body silhouettes. *Journal of Child and Adolescent Mental Health, 26*, 193-205.
- Grogan, S. (1999). *Body image: Understanding body dissatisfaction in men, women and children*. New York, NY: Routledge.
- Gutierrez, T., Espinoza, P., Penelo, E., Mora, M., Gonzalez, M. L., Roses, R., & Raich, R. M. (2015). Association of biological, psychological and lifestyle risk factors for eating disturbances in adolescents. *Journal of Health Psychology, 20*, 839-849.
- Institut de la statistique du Québec. (2012). *L'enquête québécoise sur la santé des jeunes du secondaires 2010-2011 : Le visage des jeunes d'aujourd'hui : leur santé physique et leurs habitudes de vie*. Récupéré au <http://www.stat.gouv.qc.ca/statistiques/sante/enfants-ados/alimentation/sante-jeunes-secondaire1.pdf>
- Jampel, J. D., Murray, S. B., Griffiths, S., & Blashill, A. J. (2016). Self-perceived weight and anabolic steroid misuse among US adolescent boys. *Journal of Adolescent Health, 58*, 397-402.
- Katzman, M. A., Wolchik, S. A., & Braver, S. L. (1984). The prevalence of frequent binge eating and bulimia in a nonclinical college sample. *International Journal of Eating Disorders, 3*, 53-62.
- Kerremans, A., Claes, L., & Bijttebier, P. (2010). Disordered eating in adolescent males and females: Associations with temperament, emotional and behavioral problems and perceived self-competence. *Personality and Individual Differences, 49*, 955-960.
- Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York, NY: Guildford Press.

L'IMAGE CORPORELLE CHEZ LES GARÇONS ADOLESCENTS

- Makinen, M., Puukko-Viertomies, L.-R., Lindberg, N., Siimes, M. A., & Aalberg, V. (2012). Body dissatisfaction and body mass in girls and boys transitioning from early to mid-adolescence: Additional role of self-esteem and eating habits. *BioMed Central Psychiatry*, 12, 1-8.
- Mangweth, B., Hausmann, A., Walch, T., Hotter, A., Rupp, C. L., Biebl, W., . . . Pope, H. G. J. (2004). Body fat perception in eating-disordered men. *International Journal of Eating Disorders*, 35, 102-108.
- McCabe, M. P., & Ricciardelli, L. A. (2001). Body image and body change techniques among young adolescent boys. *European Eating Disorders Review*, 9, 335-347.
- Murray, K., Rieger, E., & Byrne, D. (2015). The relationship between stress and body satisfaction in female and male adolescents. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 31, 13-23.
- National Obesity Observatory. (2009). *Body mass index as a measure of obesity*. Récupéré au http://www.noo.org.uk/uploads/doc789_40_noo_BMI.pdf.
- Neumark-Sztainer, D., Paxton, S. J., Hannan, P. J., Haines, J., & Story, M. (2006). Does body satisfaction matter? Five-year longitudinal associations between body satisfaction and health behaviors in adolescent females and males. *Journal of Adolescence Health*, 39, 244-251.
- Neumark-Sztainer, D., & Story, M. (1998). Dieting and binge eating among adolescents: What do they really mean? *Perspectives in Practice*, 98, 446-450.
- Neumark-Sztainer, D., Wall, M. M., Larson, N., Story, M., Fulkerson, J. A., Eisenberg, M. E., & Hannan, P. J. (2012). Secular trends in weight status and weight-related attitudes and behaviors in adolescents from 1999 to 2010. *Preventive Medicine*, 54, 77-81.
- Núñez-Navarro, A., Agüera, Z., Krug, I., Jiménez-Murcia, S., Sánchez, I., Araguz, N., . . . Karwautz, A. (2012). Do men with eating disorders differ from women in clinics, psychopathology and personality? *European Eating Disorders Review*, 20, 23-31.
- Organisation mondiale de la santé. (2007). *BMI-for-age boys*. Récupéré au http://www.who.int/growthref/bmifa_boys_5_19years_per.pdf?ua=1
- Orth, U., & Robins, R. W. (2014). The development of self-esteem. *Current Directions in Psychological Science*, 23, 381-387.
- Papp, I., Urban, R., Czegledi, E., Babusa, B., & Tury, F. (2013). Testing the tripartite influence model of body image and eating disturbance among Hungarian adolescents. *Body Image*, 10, 232-242.
- Paxton, S. J., Neumark-Sztainer, D., Hannan, P. J., & Eisenberg, M. E. (2006). Body dissatisfaction prospectively predicts depressive mood and low self-esteem in adolescent girls and boys. *Journal of Clinical Child and Adolescent Psychology*, 35, 539-549.
- Pearson, C. A. (2006). *Measuring eating disorder attitudes and behaviors: A reliability generalization study*. (Doctorat de Philosophie, Texas A&M University, Texas). Récupéré au <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3984738/>.
- Rojo-Moreno, L., Rubio, T., Plumed, J., Barbera, M., Serrano, M., Gimeno, N., . . . Livianos, L. (2013). Teasing and disordered eating behaviors in Spanish adolescents. *Eating Disorders*, 21, 53-69.
- Rousseau, A., Knotter, R. M., Barbe, R. M., Raich, R. M., & Chabrol, H. (2005). Étude de validation de la version française du Body Shape Questionnaire. *L'Encéphale : Revue de psychiatrie clinique biologique et thérapeutique*, 31, 162-173.
- Santé Canada. (2003). *Lignes directrices canadiennes pour la classification du poids chez les adultes*. Repéré à http://www.hc-sc.gc.ca/fn-an/nutrition/weights-poids/guide-lid-adult/cg_quick_ref-lcd_rapide_ref-fra.php.
- Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin*, 139, 213-240.
- Spillane, N. S., Boerner, L. M., Anderson, K. G., & Smith, G. T. (2004). Comparability of the Eating Disorder Inventory-2 between women and men. *Assessment*, 11, 85-93.
- Stice, E., & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis. *Journal of Psychosomatic Research*, 53, 985-993.
- Van Den Berg, P. A., Mond, J., Eisenberg, M., Ackard, D., & Neumark-Sztainer, D. (2010). The link between body dissatisfaction and self-esteem in adolescents: Similarities across gender, age, weight status, race/ethnicity, and socioeconomic status. *Journal of Adolescent Health*, 47, 290-296.
- Wilson, J. M., Tripp, D. A., & Boland, F. J. (2005). The relative contributions of subjective and objective measures of body shape and size to body image and disordered eating in women. *Body Image*, 2, 233-247.

Reçu le 1 juin 2016
Révision reçue le 16 août 2016
Accepté le 23 octobre 2016 ■

Communication Problems During Laboratory Work: Interaction Professor-Student and Student-Student

RONALD CÁRDENAS SABANDO & SIMONE BELLÍ, PH. D.
Yachay Tech University

One of the most basic aspects in laboratory is communication. The way researchers communicate could affect the outcomes of their research. This article will investigate how problems related to communication can hinder the accomplishment of laboratory objectives. Also, we will present what behaviours, actions or measures during communication influence a laboratory practice development. For this research, the laboratories of Yachay University for Experimental Technology and Research were visited to witness different laboratory practices in the fields of biology and chemistry. Communication interactions between professor-student and student-student were recorded and analyzed. We discovered four communication problems that interfere with the normal development of the practices: (1) disrupted communication process, (2) lack of communication, (3) assumptions, and (4) non-verbal communication. Ways of increasing the possibility of success by controlling these problems, as well as factors that affect laboratory research are discussed.

Keywords: laboratory, teamwork, problems, communication, professor-student

L'un des aspects les plus fondamentaux en laboratoire est la communication. La façon dont les chercheurs communiquent pourrait affecter les résultats de leurs recherches. Cet article étudiera comment les problèmes liés à la communication peuvent conduire un laboratoire à atteindre ses objectifs. De plus, nous présenterons quels comportements, actions ou mesures au cours de la communication peuvent influencer le développement d'une pratique de laboratoire. Pour cette recherche, les laboratoires de l'Université Yachay pour la technologie expérimentale et la recherche ont été visités pour observer différentes pratiques de laboratoire dans les domaines de la biologie et de la chimie. Les interactions de communication entre professeur-étudiant et étudiant-étudiant ont été enregistrées et analysées. Nous avons découvert quatre problèmes de communication qui interfèrent avec le développement normal des pratiques: (1) le processus de communication perturbé, (2) le manque de communication, (3) les suppositions et, (4) la communication non verbale. Des moyens d'accroître les chances de réussite en contrôlant ces problèmes, ainsi que les facteurs qui influent sur la recherche en laboratoire sont abordés.

Mots-clés : laboratoire, travail d'équipe, problèmes, communication, professeur-étudiant

This research aims to contribute to establish communication as a crucial factor during the performance of laboratory practices. This will be done by presenting four communication problems found in the analysis of performance during laboratory practices. These problems interfere with the normal development of laboratory practices and thus their success. The goal of this research is to determine the actions and measures that can influence communication as well as to identify solutions that reduce those influences, in order to guarantee or at least facilitate the success of laboratory research.

The author wishes to thank Professor Simone Bellí for allowing him to participate in the development of this project as well as his colleague Brian Corella for helping him correct the content of the present article. The author would also like to thank Juan Burbano, Sebastian Rodriguez, Marlon Gancino, Carlos Brito, Maria Arteaga, Francisca Mosquera, Hugo Betancourt, Luis Seminario, Domenica Merchan, Juan Shangoluisa and Wellington Cabezas, for their assistance regarding data. Please address all correspondence concerning this article to Ronald Cardenas Sabando (email: ronald.cardenas@yachaytech.edu.ec).

Laboratory Work

Laboratory Work (LW) is widely used in different areas related to science and technology development. It is usually viewed as a didactical tool in teaching since it aims to join theoretical knowledge with practical experience in order to develop skills of experimentation. LW can be present in any area where the implementation of scientific knowledge is necessary to solve problems through practical experimentation. LW includes preparing the apparatus, equipment, and substances required for an experiment, planning the experiment, carrying out the experiment itself, and obtaining and analyzing the outcomes.

The outcomes of LW are relevant because they lead to the improvement or development of products, processes or knowledge. In research and development laboratories, for example, the outcomes are indicators of success. To achieve these outcomes in the most efficient and reliable way, people involved in the

COMMUNICATION PROBLEMS DURING LABORATORY WORK

laboratory must perform and act in specific ways. These actions play an important role in the success or failure of the LW.

One place to start developing efficiency and reliability is in high level educational laboratory practices, which are primarily based on people's interactions and performances. Moreover, educational laboratory practices have other positives aspects. Teamwork not only helps increase performance and efficiency but also generates an affective experience, which leads to a greater cohesion among team members (Galegher & Kraut, 1994). In the case of laboratory work in teaching settings, all these benefits facilitate the progression of students into highly-skilled workers that perform efficiently in laboratories as members of a team.

Galegher and Kraut's work (1994), based on Hackman's work (1983), stated that success is ordinarily viewed as multidimensional, involving not only instrumental achievements but also individual satisfaction and the maintenance of the group as a performing unit. Thus, a successful laboratory practice can help increase well-being and satisfaction of the people involved in the laboratory. Lang, Wong and Fraser (2005), following the study of positive attitudes (e.g., leadership, understanding, helping/befriend a fellow student), established that they were directly related to the disposition of participating students.

Despite these positive features of LW in education settings, several studies have presented problems related to the use of laboratory practices for teaching purposes. They asserted that the cost of conducting experiments in current laboratories is higher compared to the one of classical lecture (e.g., facilities, materials and staff time; Gordillo, Guerrero, Gurtubay, & Gude, 2008; Reid & Shah, 2007). One solution proposed is the implementation of virtual laboratories. This idea is attractive when considering their accessibility, grade level of security and cost. Nevertheless, these types of laboratories present inconveniences since they are limited by model simplifications, such as the reduction of variables and/or elements to decrease the level of complexity of an experiment. Calvo, Zulueta, Gangoiti, López, Cartwright, and Valentine (2009) highlight that experimentation in real-life laboratories, even in limited conditions, is a value added to the learning process.

The question hence remains of what can be done to solve the problems of cost without compromising practical experience in education.

Different aspects are present during LW, which can influence its outcomes and potentially lead to its failure due to an accumulation of minor events or

errors. Wiegmann, ElBardissi, Dearani, Daly, and Sundt (2007) showed that a proper approach to study errors must consider: 1) environmental factors such as equipment design and/or environmental distractions; 2) social factors such as teamwork and communication; 3) supervisory issues such as training, staffing, and scheduling; and 4) organizational variables such as procedures, policies, and resources.

In our approach, we considered those four characteristics; nonetheless, we focused on social factors as the main aspect. It is necessary to understand teamwork and communication due to their relevance since these factors depend on a proper education development.

Teamwork

According to Kaifi and Noori (2011), teamwork is essential to every daily activity. That's why in the last half century, it has been studied in various contexts. Most modern organizations are multidimensional, including professionals from different areas. It is therefore primordial to understand the role of teamwork in these organizations. The concept of teamwork comprises various elements. Tambe (1997) explained that teamwork cannot be only considered as the union of simultaneous coordinated activities. Thus, it is first necessary to define teamwork to understand its important roles.

Kaifi and Noori (2011, p. 88) treat it as: "a tale of people with different skills coming together with a common purpose. [...] A team is composed of two or more individuals who possess any number of common goals. Exhibiting skill and workflow interdependencies, members combine their differing roles in the completion of a given task." Based on this, we simply define teamwork as the pursuit of common goals by two or more individuals, combining skills, knowledge, and resources; in addition to coordinating activities and interacting with each other in the same physical space.

As it was already expressed, laboratory involves more than just professionals working in the same room. Hoegl and Gemuenden (2001) analyzed several factors such as effort, communication, performance, mutual support and coordination during teamwork. They found a direct relation between teamwork quality and their performance. It should be noted that LW also involves daily interaction between professionals. Indeed, Kaifi and Noori (2011) mentioned that teams include social interactions as its main component. Social interactions are mainly based on communication, especially in LW settings. Kozlowski and Ilgen (2006) state that it is necessary for teams to coordinate and combine skill sets to increase their ability to solve tasks efficiently. To

adequately assess the quality of teamwork, it is imperative to identify behaviours that can affect this partnership (Manser, 2009). These behaviours can negatively influence team performance during LW, leading to unnecessary high cost outcomes or even not obtaining any outcome.

Communication

During teamwork, communication plays the important role of facilitating team coalition and interaction. Therefore, it leads to accomplishing the different objectives. On the other hand, a poor communication process can cause complications that can affect the team's effort to achieve its goals. Indeed, Katz and Tushman (1979) showed that communication and high performance are directly related to problem-solving in R&D laboratories.

Kraut, Egido, & Galegher, (1988) differentiated two types of communication. The first one is interactive communication which involves the ability to exchange information rapidly and adjust message responses to one's communication partners. The second one is expressive communication which requires the capacity to convey ideas considering not only semantic meaning but also contextual meaning (body language, intonation, background, etc.). Both types of communication are present during LW.

Expressive communication is used for project initiation-settling, interpretation of problems, goals definition and work planning (Galegher & Kraut, 1994). It is used to create a common mental model in the group (Leonard, Graham, & Bonacum, 2004). At the beginning of laboratory practices, expressive communication directly helps set objectives, establish how to achieve them and distribute responsibilities and work.

Interactive communication is mainly present during the development of LW. Thus, it can be related to the development and accumulation of errors, which can lead to poor laboratory practices and poor results. Nevertheless, it has not yet been treated in the laboratory setting although other settings have been examined, including aviation and health care, in which teamwork is an inherent element. Leonard, Graham and Bonacum (2004), Manser (2009) and Lingard et al. (2004) showed the importance of effective communication in teamwork to provide appropriate health care. They found a direct relation between communication failures and patient harm. Other studies such as Sexton, Thomas and Helmreich (2000) also examined the repercussions of stress, errors and teamwork in health care and aviation contexts. They found that hierarchy and differences in power between team members negatively affected communication. Nevertheless, to understand the importance of

communication in teamwork, it is necessary to see some quantitative examples:

Aviation example. Mosier et al. (2012) analyzed data incidents from June 2009 to October 2011 from the Aviation Safety Reporting System (ASRS) and the National Transportation Safety Board (NTSB). In the ASRS data, communication problem factors appeared in 32% of the reports (out of 116) while in the NTSB's, 20% (out of 60 reports). They concluded that lack of good communication in teamwork might feed into procedural and decision errors. They emphasized the importance of communication in decision making since an inadequate communication process can jeopardize the sharing of critical information.

Health care example. Leonard, Graham and Bonacum (2004) showed that sentinel events (unexpected occurrence involving serious physical harm or death) reported to the Joint Commission for Hospital Accreditation were directly related to communication failures. Most of the occurrences (i.e., 75%) lead to patients' death.

These examples may be perceived as distinct from LW since LW is not directly responsible for people's lives as it is the case with health care. However, they show the importance of communication during teamwork.

Communication can also play an important role in the replication of experiments. Indeed, communication is essential in order to announce findings and methods and assure the possible replication of the research by any other research team. Vegas, Juristo, Moreno, Solari, and Letelier (2006) study the capacity to replicate when communication is limited or eliminated. They concluded that communication is needed to ensure successful replication, even if communication is limited to a couple of meetings.

Lastly, it is necessary to consider another factor such as the hierarchical relationship between students and teachers, and how it impacts LW.

Students and Professors' Relationship

Many researchers have corroborated that the interaction between students can change if they are interacting only with students or with students and professors. Zahn (1991) studied the effects of hierarchical relationships and physical arrangements on face-to-face communication. He emphasized the importance of communication in information processes and decision-making and how proximity, position, and exposure affect them. Two of his hypotheses focused on how status distance due to hierarchy structure was negatively related to exposure and communication time. Since laboratory settings can

COMMUNICATION PROBLEMS DURING LABORATORY WORK

also be considered as a hierarchy structure, this negative relation can exist. For example, the interaction time in a laboratory setting is more limited in the case of student-professor interaction than in students' interaction. This is due to fewer interactions between the student-professor since courses and laboratory time are limited. However, the interaction between students is greater because it includes overtime hours due to extracurricular activities.

Lang, Wrong, and Fraser (2005) pointed out the importance of analyzing teachers' behaviour and its influence on students' attitudes, since it has been understudied. Their work indicates that strict professors' behaviour is negatively related to students' attitudes. This strictness could complicate the interaction between students and professors which, in turn, can hinder expressive and interactive communication.

To summarize, teamwork has been studied in several settings showing the importance of communication as an inherent factor. The lack of communication in these settings has been related to hindering workflow, leading to errors and failures. Nonetheless, this analysis has been superficially made in LW, where unlike the health care and aviation settings, there is no qualitative or quantitative data. For this reason, this article focuses on analyzing communication, team work and hierarchical relations, and their relation to error and failures in LW. It also has the objective of considering the factors that can cause these failures.

Method

This research is part of a bigger ethnographic research with the goal of highlighting what makes a research team successful. This project analyzes nineteen international centers in nine countries to organize innovative strategies transferable to Ecuador's social and cultural context.

During the first semester of 2015, for this research, we visited the laboratories of Yachay University for Experimental Technology and Research. Yachay Tech is a university created with the goal of changing the productive matrix of Ecuador — based on limited resources such as petroleum — to another one — based on unlimited resources like knowledge and technological development. For this reason, its educational program is based on the development of the characteristics of researchers with a vast experience in a laboratory environment.

Participants

The participants are students from the first semester of Yachay Tech University. Their main objectives are introducing and developing the main cognitive and

motor skills used in LW (e.g., material use and procedures). Each training course involved thirty students, a head professor and a teaching assistant; and lasted from one and a half hours to two and a half hours. The participants' context information presented in this section was gathered with a survey.

The mean age of the students was 18.90 years (range 17 to 26; $SD = 1.40$). In total, the number of students that participated in the study was 148. Out of the 148 participants, 38.50% ($n = 57$) were females and 61.50% ($n = 91$) were males. The leveling course (optional course where students learn the basics in math, chemistry and physics) was taken by 76.40% ($n = 113$) of the students, 23.60% ($n = 35$) were working for the first time at the university, and 9.50% ($n = 14$) of the students took the first semester for a second time.

In total, 73.60% ($n = 109$) of the students reported that they had prior work experience in real laboratory conditions. Of these 109 students, 40.50% ($n = 47$) reported that they only performed microscope observations; 6% ($n = 7$) exclusively worked with chemical reactions; 50.90% ($n = 59$) had done both and 2.60% ($n = 3$) performed a different type of LW. Finally, 26.40% ($n = 39$) of the students reported to have not worked at all in a laboratory.

Procedure

This research aims to explore different communication problems that may occur during teamwork in laboratory internship. This study was based on ethnographic observations; it included the content analysis and the recording of laboratory internships, interviews with students and professors and the implementation of a survey. It facilitated the discovery of different problems within a context that can help elaborate possible explanations and solutions.

The observations of different laboratory practices were divided into five phases:

(1) Interviews with the head professor and with one or two students before the practical training. In this phase, the main information was obtained through open questions such as what practical trainings were about, what objectives to achieve, what the professor expects from the students' behaviour and performance and what innovative component was included in the practical trainings. There were also questions regarding the summary of the procedure and the importance of the correct use of tools given by the university.

(2) The second phase was the recording of the training courses. In this phase, two or more students pay particular attention to recording the training time while not interfering. The recordings were focused on

the material that was used, the students and professors' participation as well as the communicative interactions between student-student and professor-student.

(3) The third phase was interviews with the professor and two students after the practical training. The reason for the previous interview was to understand what the objectives and goals were. The subsequent focused on confirming achievements and reporting any problem found by either the professor or students.

(4) The fourth phase was the analysis of records to find communication problems and failures.

(5) The fifth phase was the explanation of identified problems. Students filled out a survey in which they explained the possible causes of these communication problems.

The main objective in these phases was to find the common difficulties related to communication that could emerge in any laboratory internships and the way these difficulties are faced by the participants (students and professors). The ethnography approach allowed us to observe different communication and behaviour facets that were common among the various work teams.

Analysis

The program ATLAS.ti (Scientific Software Development GmbH, 2017) was used for analyzing all gathered data. This software allows analysis of qualitative data such as interviews, field notes and audio-visual sources. It enables coding that is used to tag fragments of all collected data. It is also possible to comment on these fragments. Once all documents have been coded, this information can be categorized into qualitative findings based on a *Conventional Content Analysis* because it is best fitting for this type of research (Hsied & Séhannon, 2005).

In a first stage, the analysis of recorded laboratory internships was necessary to eliminate irrelevant data. It was made according to the steps illustrated in Figure 1 as explained below. It also enabled us to come up with the proper codes that were used for this research.

First, we eliminated any non-communicative interactions such as students' preparation for their internships, "logbook" preparation (i.e., a notebook where students wrote about the process, used materials and substances, obtained results and changes or faced problems related to materials and procedure during the laboratory internship), materials arrangement and the setting of used machines.

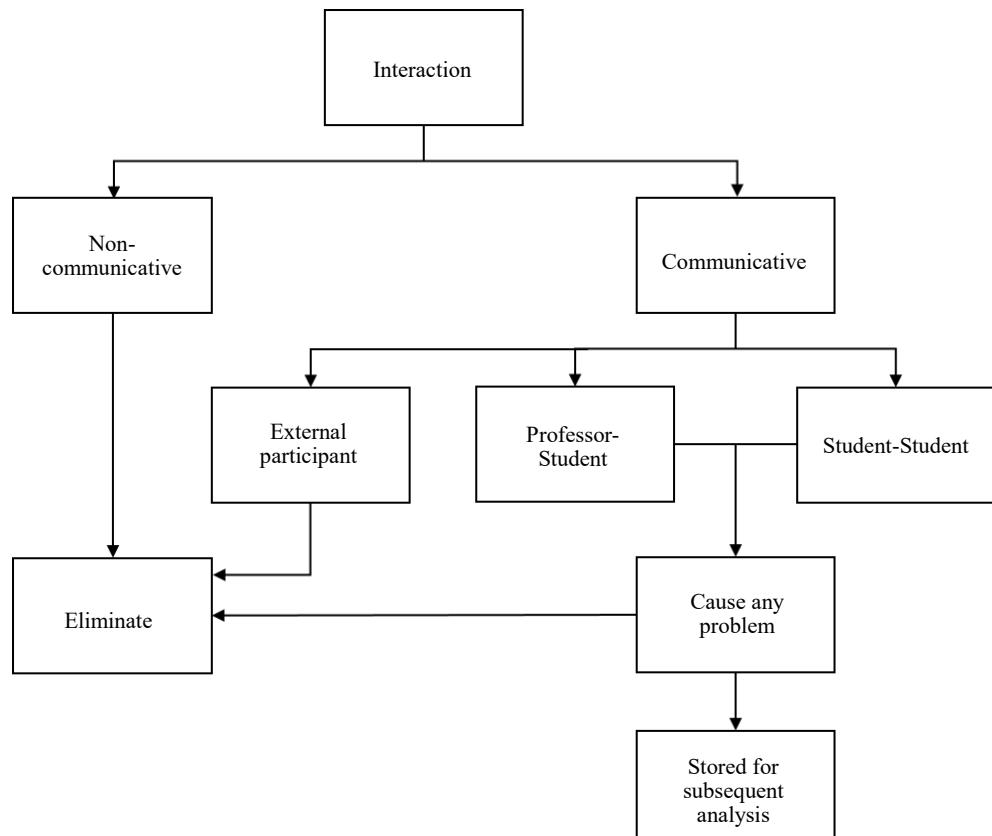


Figure 1. Steps for the analysis of laboratory practices.

COMMUNICATION PROBLEMS DURING LABORATORY WORK

Then, we eliminated any communicative interactions with external participants as they were not involved in the practical training. Additionally, any conversations among the students that was not related to the development of the practical training was also eliminated.

Finally, we analyzed the remaining communication interactions between students and professor-students in order to find the ones that interfered with the practical training. For this research, we considered these interferences as situations involving two or more participants performing an activity together, where communication was necessary but its implementation was not included or performed in a proper way, compromising the expressed information and the procedure. For example, a discussion among students on how to proceed once they did not obtain the expected results forces the students to communicate the possible causes or solutions to this problem. This situation illustrates a communication interaction that was not well performed. So, it did not end up in a solution or explanation of the raised problem.

The data was divided into four main categories: (1) disrupted communication process, (2) lack of communication, (3) assumptions and (4) non-verbal communication (see Table 1).

Table 1
Categories and Codes Used in Content Analysis

Categories	Codes
Disrupted communication process	Unfinished ideas
	Distraction
	Silence
Lack of communication	Lack of attention
Assumptions	Disinterest
	Noise
	Doubts
Non-verbal communication	Solutions
	Inquiring
	Meaningless sounds
Non-verbal communication	Hand signs
	Exchange glances

Based on this analysis, these communication problems were identified and named as the categories shown in the *Results* section. Nevertheless, until this point, there was not any possible causes suggesting an explanation of these findings. Thus, a survey was made to gather the students' opinion on the laboratory context since a laboratory is a dynamic environment with a hierarchical structure. It was filled anonymously to avoid any bias.

The survey consisted of fourteen questions, including open and closed questions. The first five questions were related to background information

(age, sex, semester, exoneration and repeaters). The next two questions were related to previous laboratory experiences and the type of performed practicals (microscopy, chemical reactions or another type of LW). The last seven questions asked the students' opinion on laboratory hierarchy, trust development, expressiveness, communication and the possible causes of found problems depending on the involved participants (students, professors or both).

Since some of the questions were open-ended questions, a content analysis technique was employed. We used a *Content Analysis Technique* (Yıldırım, & Simsek, 2005) as it is considered a proper tool to analyze qualitative information (Dikmenli, 2009; Kaleli-Yilmaz, 2015). This technique enables the separation of the information into its components, and then it analyzes its components for similarities or common factors. Dikmenli (2009) also showed that this data analysis technique provides reliable results in many studies (Hirvonen & Viiri, 2002; Kaleli-Yilmaz, 2015; Pekmez et al., 2005).

Data

At the end of the laboratory internships, over 140 forty minutes of video, 200 pictures and 148 surveys were collected. This data were saved into an online database that can be accessed by any student with the authorization of the head professor. It made the analyzing, commenting and sharing of information easier. Through the database, other documents were shared such as requests for visitation, papers regarding similar studies, encryption codes and timetables.

To organize the data obtained, an intuitive encryption code was presented and implemented. It took into consideration the initial type of data (images, videos or audio), type of laboratory (chemistry or biology) and type of information source (preliminary professor interview, preliminary student interview, practices development, latter professor interview or latter student interview).

The contribution of the data collected can be divided into three main groups. First, interviews (videos and audio) helped the contextualization of the laboratory internship. Second, the laboratory practice recordings were the main source of qualitative data related to the real-life interaction of the participants (students and professors) in a laboratory condition; thus, they helped to find the communicative behaviour and problems that could be recognized. Lastly, the survey filled out after the laboratory internships was about the students' background information and their ideas related to hierarchy, trust and communication development. This qualitative and quantitative information gathered in the survey helped explain the problems that emerged.

Results

Once the analyzing process finished, four different communication aspects that could influence the laboratory internship were determined: (1) disrupted communication process, (2) lack of communication, (3) assumptions and (4) non-verbal communication.

Disrupted Communication Process

Disrupted communication process was defined as any aspect causing the communication process to end or causing an interference with its normal flow. Students and professors demonstrated this when they tried to perform the practical training. In the survey, students reported many causes of hindrance in communication between professors and students (see Table 2 for an exhaustive list).

The main responses from the students were: fear of being wrong or mocked (19.60%, $n = 29$), lack of trust with the professor or other students (15.50%, $n = 23$), lack of organization and equipment (14.90%, $n = 22$), professor's attitude (13.50%, $n = 20$) and lack of knowledge or topic misunderstanding (10.80%, $n = 16$). They also reported that the number of students is related to the lack of organization and equipment (13.50%, $n = 23$).

For example, during a laboratory internship, the professor tried to explain to a group why they were using a specific material (i.e., powder to absorb moisture). During the explanation period, the professor visited another group (group B) in order to obtain more material to give to group A, perceiving lack of organization in that group. She then proceeded to distribute the material. During the time the first group of students was without her supervision, they started talking among themselves. When the professor came back, she had to repeat her explanation.

Lack of Communication

Lack of communication is defined as a problem in the transmission of a message to a recipient. Lack of communication can be caused, for instance, when one seeks the attention of another person or simply because one feels unable to express an idea. In fact, 55.40% ($n = 82$) of students reported to have experienced trying to express an idea, but they felt not being heard.

Among the most significant responses are distractions (21.70%, $n = 32$), unimportance and disinterest from their colleagues (22.30%, $n = 33$) as well as not expressing concerns in a proper way (16.90%, $n = 25$). Distraction, in this case, is also linked to the number of students per internship. Students reported that they did listen to some concerns, but did not answer them because they were

considered insignificant or unimportant. Among others reasons, one reported that students ignored the concern when it was not clearly expressed.

An example of distraction was found during the performance of a reactive-product laboratory internship. In this internship, students had to manipulate some substances required in a precise amount. Students were unsure about having the right information although they had received it at the beginning of the internship. A first possible reason for their uncertainty was that during their different tasks, students became immersed and did not pay attention to the professor's speech. A second possible reason was that the professor would have had to assist every student, which was impossible due to lack of time. A third possible source of this problem could be observed when several students tried to find a solution when an issue occurred. Consequently, they started to share their ideas and did not pay attention to what others were saying.

An example of a concern not properly expressed along disinterest from colleagues was evident in internships where students expected certain results. Some students reported, in the survey, that they do not express themselves due to fear of derision or to being intimidated by their colleagues and other figures of authority. In fact, as it is shown in Table 2, 57.40% ($n = 85$) of students reported this situation as being caused by lack of trust among classmates and 31.80% ($n = 47$) reported that the cause could be fear of derision.

In the case of students-professor students reported in the survey that they did not pay attention to the professor's directions due to distractions (39.20%, $n = 58$) or to disorganization (12.20%, $n = 18$). In addition, 19.60% ($n = 29$) did not understand the professor's instructions. For instance, disorganization was caused when students did not pay attention to a classmate's speech in which he was trying to communicate a problem and give possible explanations.

Nevertheless, once these barriers were removed, students started to set aside these problems and began to express their concerns. This situation was illustrated when one student decided to ask a common question that the majority of classmates also had regarding the setting of a machine. Once he asked his question, the others continued with theirs.

Assumptions

The third aspect is a result of the two previous problems (disrupted communication process and lack of communication). When the students did not ask, nor express any problems, they tried to keep the

COMMUNICATION PROBLEMS DURING LABORATORY WORK

Table 2

Frequencies (and Percentages) of Answers to the Survey Questions

Answer	<i>n (%)</i>
What can hinder communication between students and professors?	
Fear of being wrong or mocked	29 (19.60)
Lack of trust in the professor or other students	23 (15.50)
Lack of organization and equipment	22 (14.90)
Professor's attitude	20 (13.50)
Lack of knowledge and comprehension about the topic	16 (10.80)
Other	15 (10.10)
No reason	11 (7.40)
Eloquence	8 (5.40)
Distraction/Disinterest for the class	4 (2.70)
Did you ever express a concern and nobody else listened/answered you?	
Yes	82 (55.40)
No	66 (44.60)
Why would someone not listen/answer someone else's concerns?	
Distractions	32 (21.70)
Other reasons	31 (20.90)
Unimportance and disinterest	33 (22.30)
Not clearly expressing the concern	25 (16.90)
Noise	13 (8.80)
Inopportune moment	8 (5.40)
Fear of being wrong or derision	5 (3.40)
Not knowing the answer	1 (0.70)
What can cause students not to express their concerns to their classmates?	
Lack of trust	85 (57.40)
Fear of derision	47 (31.80)
Other reasons	16 (10.80)
Why would you not pay attention to your professor's instructions?	
Distraction	58 (39.20)
Do not understand	29 (19.60)
Disorganization	18 (12.20)
Others	16 (10.80)
Boredom	14 (9.50)
Fatigue	11 (7.40)
Disinterest	2 (1.40)
Do you think there is any distance created by power differences between students and professors that can hinder students from expressing their concerns?	
Yes	26 (17.60)
No	122 (82.40)
With whom do you tend to develop trust, your classmates or professor?	
Classmates	129 (87.20)
Professor	19 (12.80)

Note. N = 148.

internship going on. The problem gets worse when the assumptions are accepted by the group. This becomes an issue as students are more likely to trust their classmates than the professor.

In fact, the majority of students reported that they preferred expressing their doubts among themselves before expressing them to the professor. Nevertheless, 82.40% ($n = 122$) of students think that

communication between them and professors is not affected by the hierarchical structure and the difference in power (see Table 2). So, why do students prefer to express their doubts to other students?

This was explained in the survey where 87.20% ($n = 129$) of students reported to be likely to develop more trust with their classmates than with their professor (see Table 2).

This is an example of this problem: the students were unsure if they had the correct amounts of reactive products, so one of them assumed that the measurement A was wrong. If the rest of the group had agreed with the student, they would have obtained wrong results. This time, the group did not agree with her, and they verified every measurement leading them to realize that she was wrong and that it was actually measurement B that was wrong.

Non-verbal communication

In the present research, non-verbal communication is defined as any way to express an idea among participants without being stated literally. This definition thus includes cases where incomplete sentences communicate an idea.

During their LW, some students asked questions to the professor. During these specific verbal communications, three different examples of non-verbal communication were observed: (1) a student completed a professor's sentence before the professor did; (2) a student understood a professor's request without being completely stated; and (3) communication between the professor and students involved only affirmative statements to express an idea. Even if these three cases are a consequence of a verbal communication process, the information transmitted was unclear.

In the first example, the professor explained what material was necessary to use. The student relied on context to understand what the professor was about to say. She acted accordingly before the professor finished his explanation. Then, the professor confirmed what the student had already assumed. In the second example, the professor asked a student to go to a certain page. Nevertheless, she did not finish her request nor did she state the page number. However, the student understood what the professor was referring to. As for the third example, the professor explained to the student what he was supposed to do. However, after a certain period, both the student and professor stopped talking and did not mention what the task was; they simply began to make affirmative statements.

Discussion

Our study supports the finding that failure of teamwork communication is one factor that contributes significantly to errors and team performance degradation (Wiegmann, ElBardissi, Dearani, Daly, & Sundt, 2007; Tambe, 1997). The results of the current study established a parallel between communication problems found during teamwork in LW and other well studied settings, such as aviation and health care, where analyses of reports of sentinel events indicate that teamwork failure are caused by communication problems (Leonard et al., 2004; Manser, 2009; Sexton et al., 2000; Mosier et al., 2012). The current work also supports Vegas et al.'s (2006) conclusion of communication as a necessary and indispensable element for experiment replication. The problems found in the current work ended in changes in process, which are not reported and leading to lower chance of experiment replication.

At last, the following problems were found: (1) disrupted communication process, (2) lack of communication, (3) assumptions, and (4) non-verbal communication.

Why Are They Problematic?

The problems found in the current work can be linked to Lingard et al.'s (2004) work, which explained why communication failures are problematic during teamwork in the operating room. These problems are summarized in Table 3.

In the case of disrupted communication process, students' loss of attention can lead to delays and inefficiency problems since the professor has to resume the activities and repeat information already stated. Another problem is the students' lack of attention resulting in a loss of interest in achieving the task and, in turn, affecting the internship flow. Moreover, the time lost was unnecessarily increased due to these problems and pushed students to accomplish the laboratory internship in less time than the one originally assigned, thus increasing their chances of failure.

Table 3
Problems Found by Lingard et al. (2004) During Teamwork

Problem	Consequences
Inefficiency	Communication failure requires team members to redo or undo a procedural step; step requires more action or discourse than usual
Tension	Emotional responses to a communication failure; may ripple to other members/environments

COMMUNICATION PROBLEMS DURING LABORATORY WORK

The problem related to lack of communication is that relevant information is not expressed since some students do not express their doubts or they prefer to do it away from the group, which is not beneficial for the internship. The amount of shared information in a group has shown to be related to the success of such group (Orasanu & Fischer, 1992). This unexpressed information can lead to procedural errors, inefficiency, tension and inconvenience. In this case, inconvenience may affect students, which can make them feel despised. Some causes of this problem, according to students, are linked to the attitude of other students or professors, short duration of the internship, lack of organization, great number of students, lack of interest, external noise, and lack of other people's attention.

The realization of assumptions leads the laboratory internship to obtain different unreliable results due to the possible changes made during the process. These changes are not usually reported because students think either they are right or they do not want to be exposed to possible repercussions from other students or the professor. The source of this mistrust comes from the lack of trust and the fear of derision. It reduces the reliability of the obtained results and the possible replication of the experiment causing procedural error and resource waste. It can cause a workaround problem since students may accept these practices of making assumptions as a standard practice.

Non-verbal communication involves information that is not explicitly stated, leading to assumptions. For example, a professor and a student do not express which substance should be changed. Lingard et al. (2004) found a similar communication failure named as a content failure. These problems mainly included cases where relevant information was missing, or inaccurate information was exchanged, which led to inefficiency and resource waste.

Non-verbal communication can be also related to a strong relation among people and often facilitates the communication process as shown in the next section. However, in a sensitive and changing environment as a laboratory, it is necessary to express and record any interaction that can lead to a change in procedure.

Are They Always Problematic?

Some problems allowed students to improve and reaffirm their knowledge because they could also be used as indicators of other problems as it was shown in Lingard et al. (2004). These problems forced the students to go over the procedure and material in order to find what was wrong, which led to finding other problems that had not been considered until that point of the procedure.

For example, a problem resulting from lack of communication led a student to make an assumption regarding the right measurement of a substance. Even though the student was wrong in her assumption, she decided to go over all the measurements, leading her to find another problem. This demonstrates that problems or concerns that are stated worked as a useful tool in finding other errors and reassert the right information since a problem was noticed during the procedure.

Another similar beneficial situation can be seen when doubts are expressed to the whole group: they allow the students to clarify those doubts. It also encourages other students to discuss other problems with the professor. In that way, it improves their knowledge in addition to the laboratory internship. Being said, an important aspect that can help the laboratory internship to be successful is to express, correct and reaffirm information in front of the whole group involved.

Finally, there is a behaviour that has not been yet discussed in any field even though it can be seen in various contexts besides laboratory internships. In this case, the student completed beforehand the professor's sentences. This was beneficial since it obliged the professor to confirm whether or not the information was correct. In this situation, the student was right and the professor confirmed the information by repeating it. However, if the student had been wrong, the professor would have had to correct her and thus understanding would have been ensured.

Possible Solutions

Wiegmann, ElBardissi, Dearani, Daly, and Sundt (2007) pointed out that errors captured immediately are more likely to be detected by the same person who committed the error. Nonetheless, when these errors are not immediately captured, they are more likely to be recognized by someone else. In both of these cases, it is necessary that involved people feel free to speak up. Leonard, Graham and Bonacum (2004) state that hierarchy, power distance, lack of psychological safety, and cultural norms frequently inhibit people from speaking up. Thus, it is necessary to improve the relation between student- and professor-student.

As it was shown in the results section, students tend to develop trust more easily with other students than with their professors. Thus, it is necessary to focus more on the latter. As a result of developing trust with the professor in charge, students would feel more comfortable in expressing concerns that would have felt embarrassed to communicate before. Additionally, it can also increase cooperation and promote higher performance and competitive advantages (Jones & George, 1998).

It is also important to monitor team performance to avoid teamwork failures in order to reorganize and reallocate resources to meet any contingencies (Tambe, 1997). LW students and professor should go over and confirm information several times during the procedure to make sure it is right. This is common in health settings where standard protocols are used in order to verify the correct development of procedure.

As it was shown in the lack of communication example, the appropriate assertion was not used, which resulted in no one realizing the problem they were having. Leonard, Graham and Bonacum (2004) showed a useful figure that illustrates a model to guide and improve assertion in the interest of patient safety that can be extrapolated to LW. The first step of this model directs the attention to the person that tries to express a concern — attention that is often not given as demonstrated in our results. This is the way for assuring that the information is correctly emitted and received.

In the internship, we saw that if the information needed for everyone was given to the entire group in an understandable manner, there would be no need to repeat it. Thus, it is required that the presentation of necessary information be done during less critical times, where students are more available in order to reach more students.

Another thing to focus on is the necessary material for research internship. It should be prepared and distributed correctly on time. Lack of preparation and incorrect distribution of material caused professors to lose students' attention. To avoid this, it could be suggested to create a previous request/delivery register process. This process must include information about the material needed and used, its quantity, people or groups of people who require it as well as the dates it will be needed. This process ensures that the material would be on time and correctly distributed.

Assumptions can be avoided by giving the necessary information for the internship and allowing participants to have access to it during work time. Students in laboratory internships did have this kind of resource, but the frequency of its usage was negligible. It is therefore necessary to develop a different form of this particular resource. It could be, for instance, writing information easily seen from any point, such as a board. Hence, any change made could be noticed by anyone. Nevertheless, this must be checked from time to time to ensure that the information is correct.

Finally, another possible solution is the implementation of pre-laboratory exercises. These exercises aim to reduce information load for students. They must be able to stimulate the students' thinking,

encourage students to express themselves, verify that procedures have been read and understood, link procedure and concepts with the knowledge taught, offer experiences in planning as well as reducing the gap among LW, lecture experiment, and application (Reid & Shah, 2007).

Different Backgrounds

Up to now, it has been shown that it is necessary to avoid communication problems during any laboratory internship or research because they are detrimental to time and resource management. However, this can be contrasted with different cases; one of them is practices focused on knowledge dissemination.

Practices performed to instruct and acquire new knowledge or even to encourage people for science usually do not care about these problems. It is because in order to teach something, professors give greater freedom during performance of practices. It allows students to become more aware of LW. It could not be possible if practices just consisted on tracing predetermined steps. In research practices, it is different due to the protocols researchers have to follow to standardize the obtained outcomes. Another reason for giving this freedom is because materials typically used in these laboratory internships are not so expensive. One of the main reasons to allow students to make mistakes during internship is to let them repeat the experiment until the expected result is observed; they become more experienced and confident. This kind of practice is focused on calling the attention of students' curiosity. However, once the students got to a higher position in their career, the cost of materials and substances increases, thus the freedom given to them is reduced.

Another laboratory field that is not affected by these communication problems is medical LW for the analysis of medical samples. In these laboratories, people must follow strict protocols that have been established beforehand. Then, communication does not play an important role in the development of analysis, but it is important in sample collections and in the result report. Problems that arise in this type of laboratory are related to material management.

Limitation of the Research

In the previous part, different communication problems that affected the performance in the laboratory internships at Yachay Tech were presented. This data from various groups in similar laboratory internships helped describe, in a superficial way, problems that appear during the development of each practice. In order to obtain more data to improve and reaffirm the results of this research, it is necessary to have a larger frame that includes participation of

COMMUNICATION PROBLEMS DURING LABORATORY WORK

university laboratories from other fields and other socio-cultural contexts. Nevertheless, the data collected in this particular study can serve as a stepping-stone to improve the way laboratory internships function.

It is necessary to mention that this is a qualitative research; thus, it has inherent limitations due to its nature. The information gathered in this research depends on the conditions of the setting and the participants. Therefore, it is difficult to extrapolate produced knowledge to other contexts. Rigor is harder to maintain, measure, and demonstrate despite the researchers' proximity to the subject of study. It is not easy to ensure validity of obtained results unless there is a large enough data from a disparate group of subjects. Additionally, the results may have been influenced by researchers and participants' personal biases and idiosyncrasies. These limitations can be reduced by replicating the research with larger groups and different conditions. By doing so, it could help generalize the obtained results.

Conclusion and Future Work

Four different communication problems were found: (1) disrupted communication process, (2) lack of communication, (3) assumptions, and (4) non-verbal communication. To solve these problems, we suggest the establishment of rules before any internship in order to create an organized environment as well as to encourage researchers' participation.

This research was limited to the short sample of laboratory researches we had access to due to the development of Yachay Tech. Another problem was the lack of literature related to this topic. On the other hand, this research gives a basic idea of present communication problems in different field practices. In the future, as part of a bigger ethnographic research, we wish to analyze a more significant data supplied by witnesses in different laboratory internships for research groups in various universities.

References

- Calvo, I., Zulueta, E., Gangoiti, U., López, J. M., Cartwright, H., & Valentine, K. (2009). Laboratorios remotos y virtuales en enseñanzas técnicas y científicas, 3, 1-21, Ikastorratzatza.
- Dikmenli, M. (2009). Biology student teachers' ideas about purpose of laboratory work. *Asia-Pacific Forum on Science Learning and Teaching*, 10, 1-14.
- Galegher, J., & Kraut, R. E. (1994). Computer-mediated communication for intellectual teamwork: An experiment in group writing. *Information Systems Research*, 5, 110-138.

- Hackman, J. R. (1983). *A normative model of work team effectiveness*. (Tech. Rep. No. 2, Contract No. N00014-80-C-0555, NR 170-912): New Haven, CT: Yale University
- Hirvonen, P. E., & Viiri, J. (2002). Physics student teachers' ideas about the objectives of practical work. *Science and Education*, 11, 305-316.
- Hoegl, M., & Gemuenden, H. G. (2001). Teamwork quality and the success of innovative projects: A theoretical concept and empirical evidence. *Organization science*, 12, 435-449.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15, 1277-1288.
- Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of Management Review*, 23, 531-546.
- Kaifi, B. A., & Noori, S. A. (2011). Organizational behaviour: A study on managers, employees, and teams. *Journal of Management Policy and Practice*, 12, 88-97.
- Kaleli-Yilmaz, G. (2015). The views of mathematics teachers on the factors affecting the integration of technology in mathematics courses. *Australian Journal of Teacher Education*, 40, 132-148.
- Katz, R., & Tushman, M. (1979). Communication patterns, project performance, and task characteristics: An empirical evaluation and integration in an R&D setting. *Organizational Behaviour and Human Performance*, 23, 139-162.
- Kraut, R., Egido, C., & Galegher, J. (1988). Patterns of contact and communication in scientific-research collaboration. *Proceedings of the 1988 ACM conference on computer-supported cooperative work* (pp. 1-12). ACM.
- Lang, Q. C., Wong, A. F., & Fraser, B. J. (2005). Teacher-student interaction and gifted students' attitudes toward chemistry in laboratory classrooms in Singapore. *Journal of Classroom Interaction*, 40, 18-28.
- Leonard, M., Graham, S., & Bonacum, D. (2004). The human factor: The critical importance of effective teamwork and communication in providing safe care. *Quality and Safety in Health Care*, 13, i85-i90.
- Lingard, L., Espin, S., Whyte, S., Regehr, G., Baker, G. R., Reznick, R., ... Grober, E. (2004). Communication failures in the operating room: An observational classification of recurrent types and effects. *Quality and Safety in Health Care*, 13, 330-334.

- Manser, T. (2009). Teamwork and patient safety in dynamic domains of healthcare: A review of the literature. *Acta Anaesthesiologica Scandinavica*, 53, 143-151.
- Mosier, K. L., Fischer, U., Cunningham, K., Munc, A., Reich, K., Tomko, L., & Orasanu, J. (2012, September). Aviation decision making issues and outcomes: Evidence from ASRS and NTSB reports. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* 56, (pp. 1794-1798). Thousand Oaks, CA: Sage Publications.
- Orasanu, J., & Fischer, U. (1992). Distributed cognition in the cockpit: Linguistic control of shared problem solving. In *Proceedings of the Fourteenth Annual Conference of the Cognitive Science Society* (pp. 189-194). Hillsdale, NJ: Erlbaum.
- Pekmez, E. S., Johnson, P., & Gott, R. (2005). Teachers' understanding of the nature and purpose of practical work. *Research in Science and Technological Education*, 23, 3-23.
- Reid, N., & Shah, I. (2007). The role of laboratory work in university chemistry. *Chemistry Education Research and Practice*, 8, 172-185.
- Sexton, J. B., Thomas, E. J., & Helmreich, R. L. (2000). Error, stress, and teamwork in medicine and aviation: Cross sectional surveys. *Bio-Medical Journal*, 320, 745-749.
- Yıldırım, A., & Şimşek, H. (2005). Qualitative research methods in social sciences. Ankara: Seçkin Publishing.
- Tambe, M. (1997). Towards flexible teamwork. *Journal of Artificial Intelligence Research*, 7, 83-124.
- Vegas, S., Juristo, N., Moreno, A., Solari, M., & Letelier, P. (2006). Analysis of the influence of communication between researchers on experiment replication. In *Proceedings of the 2006 ACM/IEEE international symposium on Empirical software engineering* (pp. 28-37). ACM.
- Wiegmann, D. A., ElBardissi, A. W., Dearani, J. A., Daly, R. C., & Sundt, T. M. (2007). Disruptions in surgical flow and their relationship to surgical errors: An exploratory investigation. *Surgery*, 142, 658-665.
- Zahn, G. L. (1991). Face-to-face communication in an office setting: The effects of position, proximity, and exposure. *Communication Research*, 18, 737-754.

Received March 4, 2016
 Revision received July 1, 2016
 Accepted October 26, 2016 ■

Infrahumanization and Mental Travel: Effects of Temporal Orientation on Perceived Humanness

MOHAMMAD MALIK
Stony Brook University

According to the self-centric future hypothesis, mental simulations of future events, future-oriented mental time-travel may incorporate mental representations of the self. This experiment tests the self-centric future hypothesis in the context of infrahumanization. Mental simulations with current self-knowledge are constructed when people think of the future, which may influence the level of humanness they would attribute to strangers. It was predicted that participants in a future-oriented mindset, given their self-centric mental representation of the future, would be less likely than participants in a past-oriented mindset to infrahumanize strangers. There was not a significant direct effect of temporal focus on perceived humanness found. Effects of temporal focus on level of rated humanness were moderated by valence of emotional experiences attributed to others, such that the hypothesis was supported for negatively valenced emotional experiences only. Perceived humanness ratings were significantly higher in the future-oriented than in the past-oriented condition for negatively valenced indicators.

Keywords: dehumanization, infrahumanization, self-centered-future, intergroup, construal

Selon l'hypothèse autocentrique de l'avenir, les simulations mentales des événements futurs, les voyages temporels mentaux axés sur l'avenir peuvent incorporer des représentations mentales du soi. Cette expérience teste l'hypothèse autocentnée de l'avenir dans le contexte de l'infra humanisation. Des simulations mentales basée sur la connaissance de soi actuelle sont construites quand les gens pensent à l'avenir, ce qui peut influer sur le niveau d'humanité qu'ils attribuerait aux étrangers. Il a été prédit que les participants ayant une mentalité orientée vers l'avenir seraient moins susceptibles que les participants axés sur le passé à infra humaniser les étrangers. Il n'y a pas eu d'effet direct important de la focalisation temporelle sur l'humanité perçue. Les effets de la focalisation temporelle sur le niveau de perception de l'humanité ont été modérés par la valence des expériences émotionnelles attribuées aux autres, de sorte que l'hypothèse était soutenue uniquement pour les expériences émotionnelles de valence négative. Les scores d'humanité perçue étaient significativement plus élevés dans la condition d'état d'esprit axé sur l'avenir que dans la condition axée sur le passé, pour les indicateurs de valence négatives.

Mots-clés : déshumanisation, infra-humanisation, futur centré sur soi, intergroupe, interprétation

Instances of people denying humanness to others are ubiquitous. For example, a person denying a homeless man spare change in the city streets may be the result of feelings of disgust and dehumanization (Harris & Fiske, 2006).

Dehumanization was originally addressed in the context of mass violence, particularly in the context of genocidal conflicts referred to as “sanctioned massacres” (Kelman, 1973). Kelman (1973) describes the violence facilitated by dehumanization as an act that “lacks the conditions normally perceived as providing some degree of moral justification for violence” (p. 25). Specifically, dehumanization is described as the victimizer denying identity and community to the victim. Identity refers to one's

distinct individuality and community refers to his or her belonging to a network of individuals (Kelman, 1973).

A denial of humanness, may be seen as a harsh punishment, or as a facilitator of mass violence and intergroup conflict. Though the phenomena of dehumanization has been studied extensively throughout history, it has not thoroughly been looked at through the lens of temporal construal. If infrahumanization is a function of time, we may gain insight into how to manipulate dehumanization and infrahumanization by altering the temporal context in which we envision other people.

For example, it may be the case that a person would dehumanize another person more or less as a result of thinking of that person in the context of the past compared to the future. Shedding light on the processes that cause dehumanization may lead to measures and practices that will help to mitigate such unjustified actions.

This work was part of an honors thesis project completed by the author under mentorship and guidance of Dr. Antonio L. Freitas. The author would like to thank Dr. Antonio Freitas for his guidance with data analysis and feedback on his work. Please address all correspondence concerning this article to Mohammad Malik (email: mohammad.malik@alumni.stonybrook.edu).

Infrahumanization, is a lesser form of dehumanization (Leyens et al., 2000). This concept is not attributed to mass violence, but to subtler, perhaps more implicit discriminatory behavior (Pereira, Vala, & Leyens, 2009). This type of behavior is more common in an era when legal segregation and discrimination are progressively becoming things of the past, and subtler, unconscious discriminatory practices are replacing them.

In order to examine the effect of time on infrahumanization, we first propose to define and operationalize the two variables: infrahumanization, and temporal construal. Second, we look at the relationship between these two variables through an experimental study.

Subtle Denial of Humanness: Infrahumanization

Dehumanization is an extreme phenomenon (Haslam & Loughnan, 2014). It enables and facilitates violence, therefore, as aforementioned, most of the research done on dehumanization is centered around mass violence. This project studies infrahumanization which is subtler form of dehumanization.

Although infrahumanization by definition does not directly cause violence in the same magnitude the more powerful phenomenon of dehumanization does, mass violence and infrahumanization are related. Indeed, infrahumanization is a process linked to ingroup preference and assists in the rationalization of mass killings. Infrahumanization has been linked to discrimination and symbolic threat (Pereira et al., 2009). Symbolic threat refers to “perceived group differences in morals, values, standards, beliefs, and attitudes” (Oskamp, 2000, p.42). Discrimination refers to the preferential treatment of one’s ingroup (Brewer, 1999). A reduction in infrahumanization may pragmatically result in a reduction in discrimination. This, as essentially a reduction of attitudes of inequality, can lead to more egalitarian standards within society at large.

Leyens and colleagues (2000) found three different measures for humanness by asking several samples of Latin-language (Spanish and Canarian Spanish) speaking students. Intelligence, language, and sentiments (or refined emotions) were the most common answers. Specifically, what Leyens and colleagues argue is that what distinguishes humans from non-humans is the capacity of humans to have emotions, which require a level of reflection and thought that non-humans do not have. Therefore, Leyens and colleagues describe two types of emotions: primary and secondary.

Primary emotions are more basic emotions; they appear earlier in age, are of shorter duration, and are

more frequent (Ekman, 1992). Six commonly cited primary emotions are named: anger, surprise, fear, joy, sadness, and disgust (Leyens et al., 2001). Non-human animals have the ability to feel these primary emotions. One may be inclined to agree that a dog could feel fear; most dog owners with a vacuum cleaners can vouch for this. A dog could be perceived to express happiness when it is being fed or when its tail is wagging. Primary emotions are also present early in human life. An infant can show fear in a visual cliff paradigm (Walk & Gibson, 1961).

Secondary emotions are peculiar to humans. Non-human animals do not have secondary emotions. Secondary emotions are more complex; they are described as the emotional response resulting from different social interactions (Kemper, 1987). Secondary emotions involve a level of reflection and thought that primary emotions do not incorporate. A secondary emotion involves a layer of consideration and reflection that is specific to humans. Admiration, fondness, contempt and conceit are examples of secondary emotions (Leyens et al., 2001). Leyens and colleagues found that ingroup members were being ascribed more secondary emotions, while outgroup members were not. This extended from the idea that outgroups are subtly denied humanness (therefore, they are infrahumanized) and the denial of secondary emotions is dependent on infrahumanization. This same measure, primary vs. secondary emotions, has also been used to examine sexism, which is a form of infrahumanization (Viki & Abrams, 2002).

Although much research has focused on mass violence when studying infrahumanization, little research has looked at the cognitive processes that explain why some people infrahumanize. Understanding the different cognitive processes that lead some to consider others as less human could result in concrete interventions that could help people alleviate those thoughts.

We propose that infrahumanization involves construal. Construals are the result of how one would perceive and interpret the world around him- or herself. Therefore, how individuals construct the world around them will lead to higher or lower levels of infrahumanization.

Construal Level Theory

According to Construal Level Theory (Trope & Liberman, 2003) individuals can construct the world around them through high or low level construals. High level construals are more abstract, simple, structured, coherent, decontextualized, and goal-relevant. Comparatively, low level construals are more concrete, complex, unstructured, contextualized, and less goal-relevant. Therefore, low level construals are

richer in detail, while high level construals are more parsimonious.

An example to elucidate this difference can be illustrated by a driver being overtaken or cut-off by another driver during his morning commute. A high level construal would contain a simpler decontextualized explanation (e.g., the person that cut me off is a bad driver) rather than a complex contextualized one (e.g., there may be a reason he cut me off or he might be rushing to the hospital). The higher level of construal would also be goal-relevant (e.g., the driver cut me off to ruin my day) compared to a lower level goal irrelevant explanation (e.g., there was no personal reason he cut me off; it simply happened).

Besides the level of construal (high or low), other aspects can influence our cognition, such as time. Temporal construal adapts construal level theory to the realm of time. Time becomes one dimension of psychological distance. Research has found that perceptions of the distant future are more abstract compared to the near future (Liberman, Sagristano, & Trope, 2002). Greater temporal distance yields more abstract, higher level construals, a perceived essence of events rather than concrete, and incidental details are remembered when there is more distance between the person and the perception that is being construed (Trope, & Liberman, 2003).

Temporal construals have an effect on how individuals make decisions and perceive choices. For example, temporal distance between a person and a goal influences how valuable the reward may be. A reward perceived in the more distal future may have more value, like the value of having houseguests (Trope & Liberman, 2003).

Construals may play a role in the underpinning of infrahumanization since it has been proposed that egocentrism and perceiving the world more abstractly (i.e., higher level construal) may promote infrahumanization (Haslam & Bain, 2007). Psychological distance positively correlates with decontextualization and abstraction: two pillars of high level construal. People who are more psychologically or temporally distant to the perceiver are more likely to be perceived with abstract traits rather than specific behaviors or beliefs. People are perceived in simple and impoverished ways when there is more psychological distance between them and the perceiver (Trope & Liberman, 2003). This is to say that the more social distance there is between an individual and a person that the individual is thinking about, the more basic are the behaviors that are ascribed to that person.

Though the effect of level of distance on infrahumanization has been explored, and reviewed above, temporal direction (past vs. future) has not been as thoroughly investigated. If a person thinks of another in the past, compared to thinking of the other in the future, which representation of the other would better resist infrahumanization? Future-oriented mental time travel (prospection) may be functionally different from past-oriented time travel (Freitas, Clark, Sweeney, & Culcea, 2017). It is also important in behavior and decision making in a way that past-oriented time-travel is not (Seligman, Railton, Baumeister, & Srivada, 2013) as explained in the below discussion of the self-centric future hypothesis.

The self-centric future hypothesis is defined as the culmination of a general tendency to relate mental simulations of future events to one's self-knowledge by repeated experiences of using elements of one's self-concept to construct future-oriented mental simulations (Freitas et al., 2017). In other words, a person must go through prospection with the help of his or her current self-concept. He or she must input him- or herself into the future in order to make a prediction of what may happen. On the other hand, past-oriented mental simulations do not require a construction of a future-self to coordinate present capabilities with future goals in the way that prospection may.

In a series of five experiments, Freitas and colleagues' (2017) self-centric future hypothesis identified that future-oriented mental simulations were more likely to draw on self-referential information relative to past- or present-oriented mental simulations. One would need to construct a future self and anticipate his or hers needs and goals when prospecting (Freitas et al., 2017; Simon, 1995; Suddendorf & Corbalis, 1997). Using the self to construct mental simulations of others may warrant a representation of another person that is similar to oneself. Since the future simulation and not the past simulation calls for one to draw on self-referential information to create a representation of the other, one may hypothesize that there is reduction in psychological distance between the construer and the one being construed. This may well fit in to Construal Level Theory. The psychological distance between the self and the other is reduced because facets of the self are used to create a future-representation of the other. This reduction in distance would reduce the level of construal. In essence, if a person thinks of someone else in the future, it will be a less construed thought than thinking of someone in the past. A reduction of the level a person construes another one should increase the level of humanness attributed to them.

The self-centric future hypothesis is a new idea proposed by Freitas and colleagues (2017). It details that thinking about the future or prospection may entail a more egocentric way of thinking. This specific type of thinking may be explored in the realm of infrahumanization by specifically measuring how thinking of others in the future context may contribute to attributing more humanness to them by reducing psychological distance between the two.

Current Research

This experiment hopes to quantify the level of humanness attributed to two temporally distinct conditions: the past and the future. In conjunction with the self-centric future hypothesis, thinking about another person in the mental context of the future should result in attributing more humanness to the other person. This is a result of creating a simulation of oneself when prospecting. Our main hypothesis predicts that individuals will attribute more humanness (higher secondary emotions than primary emotions) when they focus on the future compared to when they focus on the equidistant past.

Method

Participants

One hundred twenty undergraduate psychology students from Stony Brook University participated in this study (female participants, $n = 61$, $M_{age} = 20.83$; male participants, $n = 59$, $M_{age} = 20.58$). They received credit via Stony Brook University's Psychology Department Experiment Management System (SONA) in return. Data were collected over the summer and fall semester. Participants who did not select English as their primary language were omitted from the statistical analysis.

Procedure

Participants were grouped by random assignment into either the future condition or past condition upon arrival to the lab. Participants were given instructions on the first screen. For the future condition ($n = 61$), participants read: "*On the following screens, we will show you photos of different people. For each person, try to construct an image of how you think this person will feel in the future.*" For the past condition ($n = 59$), participants read: "*On the following screens we will show you photos of different people. For each person,*

try to construct an image of how you think this person has felt in the past." Participants were then shown one of eight photos, each portraying an individual. These photos were drawn from the neutral images of the NimStim stimulus set. Under each image, participants were asked whether the individual in the photo had experienced (in the past condition) or will experience (in the future condition) one of twelve emotions (six positive and six negative emotions; see Materials section below). For instance, a participant in the future condition was shown the picture of a white female with a question below the picture asking "*In the future this person will experience pleasure...*"; the participant then answered how often this emotion was experienced by the person in the picture. Each picture was presented twelve times as there was a total of twelve emotions (six positive and six negative emotions), and only one emotion was presented per photo viewing. The pictures and emotions were presented in a random order.

Materials

The emotion questions asked for every photo were adapted from a questionnaire used in a previous study (Viki & Abrams, 2003). This questionnaire asks how often individuals experience twelve emotions (see Table 1 for the complete list) using a 5-point Likert scale ranging from 1 (*extremely rarely*) to 5 (*extremely often*). Three of the emotions are positive secondary emotions, three are negative secondary emotions, three are positive primary emotions and three are negative primary emotions. The distinction between primary and secondary emotions was derived from an earlier study (Leyens et al., 2001). As mentioned in the introduction, primary emotions indicate a lower level of humanness compared to the secondary emotions, which imply within them a unique human layer of reflection.

Results

Main Analysis

A 2×2 (Past condition versus Future condition * Primary emotions versus Secondary emotions) mixed analysis of variance (ANOVA) was conducted to see whether participants in the future condition would attribute more secondary emotions (both positive and negative emotions) to individuals than primary emotions (showing lower infrahumanization),

Table 1

Emotions Used in the Present Study

Positive Primary	Positive Secondary	Negative Primary	Negative Secondary
Pleasure	Compassion	Fear	Melancholy
Surprise	Hopefulness	Aversion	Guilt
Happiness	Nostalgia	Anger	Resignation

Note. Adapted from Viki and Abrams (2002). Secondary emotions indicate a level of reflection unique to humans.

compared to participants in the past condition. This original hypothesis was not supported; the interaction between condition (future versus past conditions) and level of emotion (primary versus secondary emotions) was not statistically significant ($F(1, 118) = 0.86, p = .35$). These results indicate that asking participants to concentrate on how the other would feel in the future did not lead participants to lower their infrahumanization (higher frequency of secondary emotions than primary emotions) compared to the participants who focused on the past. The main effect of condition was also non-significant ($F(1, 118) = 2.11, p = .149; M$ future condition = 3.03; M past condition = 2.97), which means that the condition did not affect frequency of reported emotions. However, the effect of type of emotion was significant ($F(1, 118) = 6.97, p = .009; M$ primary emotions = 2.90; M secondary emotions = 3.09), indicating that participants reported in general more secondary emotions (and humanness) than primary emotions.

Interaction of Valence and Temporal Condition

Supplementary analyses were done in order to further understand the present data. Considering that positive and negative emotions are different from each other, it is possible for the conditions and level of emotions to have different roles for positive versus negative emotions. The results presented below examine whether perceiving someone in the past or in the future influenced the participants' interaction with the valence of emotions (Positive or Negative) and

the level of emotions (Primary or Secondary). Results of a mixed 2 x 2 (Past versus Future condition * Primary versus Secondary emotions) X 2 (Positive versus Negative emotions) ANOVA show that there was a significant interaction effect, Wilk's $\Lambda = 0.95, F(1, 118) = 5.72, p = .018$. These results indicate that perceiving someone in either the past or future affects the valence of the emotions and the emotions that the participants will feel towards the person in the photo.

To further understand this triple interaction, further analyses were done to test the effects of the conditions (Past versus Future) and the level of emotion (Primary versus Secondary) for each of the valence in the emotions. In other words, two additional 2 x 2 (Past versus Future * Primary versus Secondary emotions) ANOVAs were executed, one for positive emotions and another for negative emotions. Results for the positive emotions ANOVA show that the conditions did not affect differently the way that people felt about their primary and secondary emotions $F(1, 118) = 0.69, p = .041$; Wilk's $\Lambda = 0.99$, partial $\eta^2 = .006$ (see Table 2 for means and standard deviations). That is, individuals in both past and future conditions reported similar frequency of primary positive emotions and secondary positive emotions. However, for the ANOVA examining the effects of the conditions on the negative primary and negative secondary emotions, a significant effect was found Wilk's $\Lambda = 0.96, F(1, 118) = 4.72, p = .032$ (See Table 3 for means and standard deviations). This significant interaction indicates that thinking about the

Table 2
Means and Standard Deviations of the Positively Valenced Emotions Across Each Condition

Condition	Positive primary emotions		Positive secondary emotions		Total (primary and secondary)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Past	2.79	0.42	2.96	0.38	2.88	0.40
Future	2.88	0.39	3.01	0.32	2.96	0.36
Total	2.84	0.41	2.98	0.35	2.91	0.38

Note. $N = 120$.

Table 3
Means and Standard Deviations of the Negatively Valenced Emotions Across Each Condition

Condition	Negative primary emotions		Negative secondary emotions		Total (primary and secondary)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Past	3.10	0.42	3.01	0.39	3.06	0.41
Future	3.11	0.32	3.13	0.29	3.12	0.31
Total	2.11	0.37	3.07	0.35	3.09	0.36

Note. $N = 120$.

past versus the future impacted the frequency at which negative primary and secondary emotions were reported. These results, however, do not detail if the difference between past and future is due to the primary negative emotions or to secondary negative emotions.

To see whether the conditions affected the negative primary emotions or the negative secondary emotions, two *t*-tests were conducted. The first *t*-test examined whether there was a difference in secondary negative emotions between the conditions. Results indicate a significant difference between conditions for the secondary negative emotions $t(1,118) = -1.98$, $p = .005$. An examination of Table 3 show that participants in the future condition reported higher frequency of negative secondary emotions than participants in the past condition. The second *t*-test examined whether there was a difference in primary negative emotions between conditions. This *t*-test was not significant, $t(1,118) = -.072$, $p = 0.094$.

Overall, results show that the participants who were asked to describe the emotions of individuals in terms of the future attributed more negative secondary emotions (i.e., melancholy, guilt and resignation) than the participants that were in the past condition. The same pattern was not found for positive secondary emotions (i.e., compassion, hopefulness and nostalgia).

Discussion

The present research investigated the relationship between temporal construal and dehumanization, by studying how infrahumanization, a subtle common form of dehumanization, is influenced by the variables of temporal orientation. Though it is a concept comprised of many behaviors and phenomena, in this experiment it was operationalized as the denial of the attribution of uniquely human emotions (i.e., secondary emotions) (Leyens et al., 2000). This experiment was also inspired by the self-centric future hypothesis (Freitas et al., 2017) which states that during prospection, one creates a mental simulation of him- or herself and coordinates present capabilities with future aims, in order to complete tasks and reach goals. This hypothesis implicates that this cognitive mechanism unique to prospection may culminate in a tendency for one to relate future events to self-knowledge. This link between one's self concept and prospection was examined in this experiment.

The a priori hypothesis of this experiment — that there will be an effect of temporal orientation on infrahumanization — was not shown to be significant in the data analysis. In the confines of this experiment, future-oriented thinking compared to past oriented thinking does not have a general humanizing effect.

However, though there was no general effect, the hypothesis was confirmed when only the ratings of the negative emotions were considered for analysis. Negative secondary emotions were shown to be significantly higher in the future condition than in the past condition. This leads us to believe that there may be a special quality in the negative secondary emotions that facilitates participants to attribute a higher level of humanness to portraits in the future condition. Melancholy and resignation are emotions that may be viewed in tandem with a subdued person. A person feeling melancholy, guilt, or resignation would likely be calmer than a person feeling compassion, hopefulness, or nostalgia.

This raises the idea of appraising these emotions in the context of perceived interpersonal implications. Dealing with another person in the emotional state of melancholy, guilt, or nostalgia may not elicit evolution-based protective reactions. In several previous studies, perceived threat has been linked with dehumanization (e.g., Goldenberg et al., 2009; Maoz & McCauley, 2008; Viki et al., 2006; Vaes et al., 2010; Vaes & Muratore, 2013). These negative secondary emotions and the subdued quality that may be attributed to them could make these emotions more difficult to link with violence. In terms of interpersonal threat, it may be difficult to consider someone feeling resignation, for example, to be dangerous. These emotions could be compared to the ones used in the negative primary list (i.e., fear, anger, aversion). These emotions, especially fear and anger, may have neural correlates similar to those of threat (Pichon, de Gelder, & Grezes, 2009). Threat may have moderated and augmented the difference between the past and present conditions of these primary and secondary negative emotions.

Our results imply that there is no general difference between the effect future- and past-oriented thinking has on infrahumanization. However, there is a small effect only on the negative attribution of humanizing emotion. This can warrant further investigation on the difference between negative and positive humanizing attributes (i.e., the secondary emotions used in this experiment). A direction of interest would be to conduct a study that considers a much larger number of secondary negative versus. primary negative emotions in the context of infrahumanization. In fact, a limitation of this study is that only three examples of each type of emotion were used. Examining a much larger number of each type of emotion may show different effects and control for variables such as the before-mentioned threat.

Other limitations of this study may include that the faces used were photographs of real people. This may have produced uncontrolled effects from participants'

TEMPORAL ORIENTATION & HUMANNES

perceptions of the faces (e.g., attractiveness, hostility and threat). Perhaps a further direction for this study would include using composite faces to rule out the possibility of any confounding factors found within differences between portraits other than race and gender.

Because participants were recruited through convenience sampling, they were all Stony Brook University undergraduate students. Perhaps a further direction of this study would be to gather participants from a vast and diverse population. Quota sampling could be employed in future studies to ensure that races are represented proportionally to the population. This may make the results more generalizable. Only two races were evaluated in this study (Black and White). In a future study, other races should also be evaluated, in order to have information that is generalizable to the population.

This study found that there is a significant difference in attributing humanness to others as a function of temporal orientation, only when emotions are negatively valenced. The finding shows a nuance in the cognitive underpinning of dehumanization. The main hypothesis of this experiment was predicated on the idea that thinking towards the future causes one to merge his or her self-construct with an anticipated goal or action (Freitas et al., 2017). This small effect found in negative emotions may be the right direction to understanding the cognitive underpinnings of dehumanization.

References

- Brewer, M. B. (1999). The psychology of prejudice: Ingroup love and outgroup hate? *Journal of Social Issues*, 55, 429-444.
- Ekman, P. (1992). An argument for basic emotions. *Cognition and Emotion*, 6, 169-200.
- Freitas, A. L., Clark, S. L., Sweeney, A., & Culcea, I. (2017, submitted). Self-centric mental representation of the future: Implications for impressions of others and of oneself from others' perspectives.
- Goldberg, J., Heflick, N., Vaes, J., Motyl, M., & Greenberg, J. (2009). Of mice and men and objectified women: A terror management account of infrahumanization. *Group Processes and Intergroup Relations*, 12, 763-776.
- Harris, L. T., & Fiske, S. T. (2006). Dehumanizing the lowest of the low: Neuroimaging response to extreme out-groups. *Psychological Science*, 17, 847-853.
- Haslam, N., & Bain, P. (2007). Humanizing the self: Moderators of the attribution of lesser humanness to others. *Personality and Social Psychology Bulletin*, 33, 57-68.
- Haslam, N., & Loughnan, S. (2014). Dehumanization and Infrahumanization. *Annual Review of Psychology*, 65, 399-423.
- Kelman, H. G. (1973). Violence without restraint: Reflections on the dehumanization of victims and victimizers. *Journal of Social Issues*, 29, 25-61.
- Kemper, T. (1987). How many emotions are there? Wedding the social and the autonomic components. *American Journal of Sociology*, 93, 263-289.
- Leyens, J., Paladino, P. M., Rodriguez-Torres, R., Vaes, J., & Demoulin, S. (2000). The emotional side of prejudice: The attribution of secondary emotions to ingroups and outgroups. *Personality and Social Psychology Review*, 4, 186-197.
- Leyens, J. P., Rodriguez, A. P., Rodriguez, R. T., Gaunt, R., Paladino, P. M., Vaes, J., & Demoulin, S. (2001). Psychological essentialism and the attribution of uniquely human emotions to ingroups and outgroups. *European Journal of Social Psychology*, 31, 395-411.
- Liberman, N., Sagristano, M., & Trope, Y. (2002). The effect of temporal distance on level of construal. *Journal of Experimental Social Psychology*, 38, 523-535.
- Maoz, I., & McCauley, C. (2008). Threat, dehumanization, and support for retaliatory aggressive policies in asymmetric conflict. *Journal of Conflict Resolution*, 52, 93-116.
- Oskamp, S. (Ed.) (2000). *Reducing prejudice and discrimination*. Mahwah, NJ: Laurence Erlbaum Associates.
- Pereira, C., Vala, J., & Leyens, J. P. (2009). From infra-humanization to discrimination: The mediation of symbolic threat needs egalitarian norms. *Journal of Experimental Social Psychology*, 45, 336-344.
- Pichon, S., de Gelder, B., & Grezes, J. (2009). Two different faces of threat: Comparing the neural systems for recognizing fear and anger in dynamic body expressions. *NeuroImage*, 47, 1873-1883.
- Seligman, M. E. P., Railton, P., Baumeister, R., & Sripada, C. (2013). Navigating into the future or driven by the past. *Perspectives on Psychological Science*, 8, 119-141.
- Simon, J. L. (1995) Interpersonal allocation continuous with intertemporal allocation: Binding commitments, pledges, and bequests. *Rationality and Society*, 7, 367-430.
- Suddendorf, T., & Corballis, M. C. (1997). Mental time travel and the evolution of the human mind. *Genetic, Social, and General Psychology Monographs*, 123, 133-167.
- Trope, Y., & Liberman, N. (2000). Temporal construal and time-dependent changes in preference. *Journal of Personality and Social Psychology*, 79, 876-889.

- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, 110, 403-421.
- Vaes, J., Heflick, N. A., & Goldberg, J. L. (2010). "We are people": Ingroup humanization as an existential defense. *Journal of Personality and Social Psychology*, 98, 750-60.
- Vaes, J., & Muratore, M. (2013). Defensive dehumanization in the medical practice: A cross-sectional study from a health care worker's perspective. *British Journal of Social Psychology*, 52, 180-190.
- Viki, G. T., & Abrams, D. (2002). Infrahumanization: Ambivalent sexism and the attribution of primary and secondary emotions to women. *Journal of Experimental Social Psychology*, 39, 492-499.
- Viki, G. T., Winchester, L., Titshall, L., Chisango, T., Pina, A., & Russell, R. (2006). Beyond secondary emotions: The infrahumanization of groups using human-related and animal-related words. *Social Cognition*, 24, 753-775.
- Walk, R. D., & Gibson, E. J. (1961). A comparative and analytical study of visual depth perception. *Psychological Monographs: General and Applied*, 75, 1-44.

Received August 14, 2015

Revision received December 23, 2015

Accepted August 12, 2016 ■

La violence émotionnelle à l'enfance et les symptômes de stress post-traumatiques chez les femmes: le rôle médiateur de la pleine conscience

STÉPHANIE LAFORTE¹, CAROLINE DUGAL^{1,3,4}, CLAUDE BÉLANGER^{1,2,3}, PH. D., & NATACHA GODBOUT^{1,3}, PH. D.

Université du Québec à Montréal¹, McGill University², Centre de recherche interdisciplinaire sur les problèmes conjugaux et les agressions sexuelles (CRIPCAS)³, Unité de recherche et d'intervention sur les traumas et le couple⁴

Plus du tiers des adultes rapportent avoir subi de la violence émotionnelle à l'enfance, ce qui constitue l'un des traumas interpersonnels les plus répandus. Bien que les survivants de traumas interpersonnels soient à risque de développer des symptômes de stress post-traumatique, peu d'études ont examiné spécifiquement les liens entre la violence émotionnelle à l'enfance et les symptômes de stress post-traumatique à l'âge adulte. Des études récentes soulignent le rôle de la pleine conscience comme variable clé permettant de comprendre comment les traumas interpersonnels peuvent être associés aux symptômes de stress post-traumatique à long terme (Godbout, Bigras, & Dion, 2016). La présente étude vise à examiner le rôle médiateur de la pleine conscience dans la relation qui unit la violence émotionnelle à l'enfance et les symptômes de stress post-traumatique. L'échantillon est composé de 354 femmes de la communauté ayant répondu à des questionnaires auto-rapportés en ligne. Les résultats d'analyses de régression multiple révèlent que la relation entre la violence émotionnelle à l'enfance et les symptômes de stress post-traumatique est expliquée par une diminution des capacités de pleine conscience. Dans l'ensemble, les résultats soulignent le rôle de la pleine conscience comme mécanisme permettant d'expliquer partiellement les impacts des traumas interpersonnels à l'enfance.

Mots-clés : violence émotionnelle à l'enfance, symptômes de stress post-traumatique chez les adultes, pleine conscience

More than one-third of adults report having experienced emotional abuse in childhood, which is one of the most common interpersonal traumas. Although survivors of interpersonal trauma are at risk of developing post-traumatic stress symptoms, few studies have specifically examined the links between childhood emotional abuse and symptoms of post-traumatic stress in adulthood. Recent studies highlight the role of mindfulness as a key variable in understanding how interpersonal traumas can be associated with long-term post-traumatic stress symptoms (Godbout, Bigras, & Dion, 2016). The purpose of this study is to examine the mediating role of mindfulness in the relationship between emotional abuse in childhood and post-traumatic stress symptoms. The sample consisted of 354 women from the community who responded to self-reported online questionnaires. The results of multiple regression analyses show that the relationship between emotional abuse in childhood and symptoms of post-traumatic stress is explained by a decrease in mindfulness capacities. Overall, the results highlight the role of mindfulness as a mechanism partially explaining the impacts of interpersonal traumas in childhood.

Keywords: emotional abuse in childhood, symptoms of post-traumatic stress in adults, mindfulness

La violence émotionnelle à l'enfance (VEE) implique l'expérience répétée d'humiliations, de blâmes, de critiques, de menaces ou d'insultes de la part d'une figure parentale (Bremner, Bolus, & Mayer, 2007). Selon une méta-analyse réalisée par

Le premier auteur tient à remercier ses directeurs de thèse d'honneur, Claude Bélanger Ph. D. et Natacha Godbout Ph. D. ainsi que la doctorante Caroline Dugal, pour leur confiance, conseils et rigueur, ayant permis la réalisation de cet article. Merci spécialement à toute l'équipe du JIRIRI qui a aidé à bonifier et publier l'article. Cette étude a été en partie financée par une subvention des *Fonds de recherche du Québec - Santé* (FRSQ) octroyée à Natacha Godbout. Merci d'adresser toute correspondance concernant cet article à Stéphanie Laforte (courriel : laforte.stephanie@courrier.uqam.ca).

Stoltenborgh, Bakermans-Kranenburg, Alink et van IJzendoorn en 2015, la VEE touche plus du tiers (36.30%) de la population générale et constitue l'un des traumas interpersonnels les plus répandus, surtout chez les femmes (Dias, Sales, Hessen, & Kleber, 2015; Koenen & Widom, 2009). Or, la VEE n'a reçu que très peu d'attention de la part des chercheurs (Haferkamp, Bebermeier, Möllering, & Neuner, 2015; Stoltenborgh, Bakermans-Kranenburg, Alink, & Van IJzendoorn, 2012). Il est toutefois reconnu que, chez les femmes, la VEE est associée à des répercussions délétères à l'âge adulte, dont le développement d'un trouble ou de traits de personnalité limite (Kuo, 2014), des difficultés de régulation émotionnelle (Lilly,

London, & Bridgett, 2014), des symptômes dissociatifs (Haferkamp et al., 2015) et des symptômes de stress post-traumatique (SSPT) associés au trouble diagnostique de l'état de stress post-traumatique (ÉSPT; Burns, Jackson, & Harding, 2010; Haferkamp et al., 2015; Lilly et al., 2014). Il semble donc y avoir diverses trajectoires possibles, composées de multiples facteurs permettant d'expliquer la relation entre les traumas à l'enfance et la psychopathologie à l'âge adulte chez la femme (Burns et al., 2010). La présente étude vise, dans cette perspective, à explorer la pleine conscience comme mécanisme explicatif de la relation entre les survivantes de VEE et les symptômes de stress post-traumatique à l'âge adulte.

Symptômes de stress post-traumatique: définition et prévalence

Les SSPT incluent la reviviscence (p. ex., cauchemars, pensées intrusives, *flashbacks*), l'évitement des stimuli associés au trauma (p. ex., évitement des endroits, des individus ou des pensées remémorant le trauma), des altérations cognitives et émotionnelles (p. ex., restriction des affects, anhédonie) et une hyperactivation du système nerveux (p. ex., hypervigilance, sursauts exagérés; American Psychiatric Association, 2013; Hébert, Tourigny, Cyr, McDuff, & Joly, 2009; Prins et al., 2003). Au cours d'une vie, les chances de présenter le trouble diagnostique de l'ÉSPT varient de 7 à 12% (Hunsley et al., 2013). Certains auteurs suggèrent que les femmes seraient particulièrement à risque de développer des SSPT suite à l'expérience de violence physique, sexuelle ou de négligence à l'enfance (Koenen & Widom, 2009). Parallèlement, les résultats de certaines études affirment également que les individus avec un ÉSPT rapportent davantage de VEE (Dias, Sales, Cardoso, & Kleber, 2014). Haferkamp et ses collègues (2015) suggèrent que la VEE représente l'un des traumas qui est le plus fortement associé aux symptômes dissociatifs présents dans l'ÉSPT. Bien que plusieurs études confirment la relation entre différents types de traumas précoces et les SSPT (Earley et al., 2014; Hill, Vernig, Lee, Brown, & Orsillo, 2011; Wolfsdorf & Zlotnick, 2001), très peu abordent l'impact spécifique que peut exercer la VEE sur les SSPT à l'âge adulte chez les femmes (Haferkamp et al., 2015).

Mécanismes explicatifs des liens entre la violence émotionnelle à l'enfance et les symptômes de stress post-traumatique

Les hommes et les femmes survivants d'événements traumatiques qui présentent des SSPT tendent à utiliser des stratégies d'évitement expérientiel dysfonctionnelles face aux situations, aux individus ou aux pensées associés aux traumas qu'ils ont vécus (Briere, Hodges, & Godbout, 2010). L'évitement expérientiel dysfonctionnel pourrait, en

somme, expliquer pourquoi certains survivants de VEE rapportent des SSPT à l'âge adulte alors que d'autres n'en rapportent pas. Par exemple, l'évitement peut se manifester lorsqu'un individu tente volontairement de supprimer des pensées intrusives et des souvenirs qui le hantent en lien avec son trauma, ou encore évite des situations ou des personnes qui pourraient éveiller en lui des souvenirs aversifs associés au trauma.

Les symptômes dissociatifs constituent également des stratégies d'évitement expérientiel. En effet, ils permettent à l'individu de se déconnecter, de se dépersonnaliser ou de se couper de la réalité et de ses expériences émotionnelles stressantes. Cette stratégie peut cependant être dysfonctionnelle, car elle entrave la capacité de vivre certaines expériences agréables (Briere, 2002; Godbout, & Bigras, 2014; Godbout, Bigras, & Dion, 2016; Haferkamp et al., 2015). Lorsque les comportements d'évitement expérientiel se cristallisent, ils empêchent l'individu de fonctionner dans son quotidien, ce qui génère des comportements d'évitement expérientiel dysfonctionnels. Ainsi, malgré le fait que ces comportements d'évitement procurent typiquement un soulagement temporaire aux survivants d'événements traumatiques, ils sont associés à d'autres difficultés (Follette, Palm, & Hall, 2004). Certaines recherches indiquent que ces comportements impliquent aussi des effets paradoxaux, soit le fait d'augmenter les pensées intrusives et l'intensité des expériences émotionnelles négatives (Clark, Ball, & Pape, 1991; Wegner, Shortt, Blake, & Page, 1990). De plus, des recherches récentes affirment l'existence d'un lien entre les symptômes dissociatifs et les SSPT (Haferkamp et al., 2015).

Selon Briere (2002), les comportements d'évitement agiraient comme mécanismes en réponse au trauma et auraient une d'assimiler rationnellement l'événement traumatique sur une période de temps étendue. Ainsi, au lieu d'identifier les états internes et de les traiter efficacement, les symptômes d'intrusion ou de reviviscence (p. ex., rêves répétés et *flashbacks*) feraient épisodiquement remonter en surface les éléments affectifs, cognitifs et comportementaux associés au trauma. L'objectif est de les réexaminer et de les assimiler en congruence à avec l'expérience de l'individu, afin que les caractéristiques du trauma propres à déclencher la détresse s'estompent (Godbout et al., 2016). La réactivation post-traumatique ne permet pas cette assimilation pour l'individu en raison des stratégies d'évitement mises en place. La conséquence de ces stratégies est que les survivants de traumas interpersonnels utilisent des comportements qui reflètent un rétrécissement de leur répertoire comportemental en réponse aux expériences internes aversives (Follette, Palm, & Pearson, 2006; Frewen, Dozois, Neufeld, & Lanius, 2012; Seligowski, Lee,

Barden, & Orcutt, 2015). Les survivants qui utilisent ce registre de comportements afin de soulager leur souffrance voient donc leurs pensées intrusives, leurs altérations cognitives et émotionnelles, de même que leurs symptômes dissociatifs, associés aux SSPT, augmenter (Follette et al., 2006).

Pleine conscience

Selon certains auteurs, les comportements d'évitement expérientiel utilisés par les survivants de traumas pourraient être assimilés à un déficit de pleine conscience (Follette et al., 2004; Follette et al., 2006; Godbout et al., 2016). Ce concept de pleine conscience réfère à une capacité inhérente de conscience qui se caractérise par la présence ou l'absence d'attention et de prise de conscience à l'égard d'une expérience qui prend place dans le moment présent (Black, Sussman, Johnson, & Milam, 2012; Brown & Ryan, 2003). La pleine conscience représente également l'habileté à pouvoir prendre conscience, ici et maintenant, des stimuli internes (p. ex., pensées et émotions) et externes (p. ex., des situations, des individus, de l'univers). Cette prise de conscience se fait sans jugement, sans tenter de supprimer, contrôler ou analyser ces stimuli, mais plutôt en les observant, les acceptant et les accueillant tels qu'ils surviennent (Bigras, Godbout, Hébert, Runtz, & Daspe, 2015; Carmody, 2015; Follette, Palm et al., 2004; Follette et al., 2006; Follette & Vijay, 2009). L'état de pleine conscience favorise le contact avec l'expérience tout en permettant de créer une distance face aux perturbations internes, délivrant du même coup une partie de l'influence de ceux-ci sur l'individu (Follette et al., 2006). Or, l'expérience des traumas interpersonnels à l'enfance, causant de telles perturbations internes, pourraient entraver les capacités de pleine conscience des survivants (Godbout et al., 2016).

Pleine conscience et traumas interpersonnels. Les survivants de traumas interpersonnels à l'enfance, en raison de pensées/sensations post-traumatique douloureuses peuvent démontrer des comportements d'évitement dysfonctionnels et des difficultés à agir efficacement (Briere, 2002; Godbout et al., 2016; Godbout & Bigras, 2014; Haferkamp et al., 2015). À l'inverse, la pleine conscience, en raison de la prise de conscience et de l'acceptation qui la sous-tendent, améliore la flexibilité psychologique (c.-à-d., attitude d'ouverture composée de curiosité) et pourrait permettre d'élargir le répertoire de stratégies d'adaptation face aux événements traumatiques passés (Bigras et al., 2015; Godbout et al., 2016). Un déficit de pleine conscience chez les survivants de traumas pourrait ainsi, en partie, expliquer leurs SSPT (Bigras et al., 2015; Chambers, Gullone, & Allen, 2009;

Kimbrough, Magyari, Langenberg, Chesney, & Berman, 2010).

Pleine conscience et symptômes de stress post-traumatique. Certains auteurs soulignent l'intérêt de développer les capacités de pleine conscience des survivants de traumas dans le but de diminuer leurs SSPT (Earley et al., 2014; Follette et al., 2004; Kimbrough et al., 2010). Les capacités quotidiennes de pleine conscience permettent d'adopter une attitude calme et stable qui pourrait se révéler fondamentale à l'adaptation post-traumatique (Shapiro, Carlson, Astin, & Freedman, 2006). Tel que discuté, la pleine conscience peut se rapprocher d'une technique d'exposition ayant pour conséquence de réduire les pensées intrusives et les comportements d'évitement couramment associés aux SSPT (Follette et al., 2006). Notamment, les thérapies basées sur la pleine conscience sembleraient utiles dans le traitement des SSPT (Schoorl, Van Mil-Klinkenberg, & Van Der Does, 2015). En effet, les thérapies qui incluent un travail sur le développement de la pleine conscience sont de plus en plus prônées et utilisées dans le traitement des SSPT (Godbout et al., 2016). Ces interventions favorisent l'acceptation plutôt que le changement des comportements et des études indiquent des résultats significatifs (Baer, 2003; Teasdale, 1999). Plusieurs auteurs émettent ainsi l'hypothèse que les thérapies basées sur la pleine conscience seraient utiles en clinique afin de traiter les SSPT chez les survivants de traumas (Earley et al., 2014; Follette et al., 2004; Kimbrough et al., 2010).

Lacunes des études actuelles

En dépit des données probantes indiquant que la VEE demeure le trauma le plus prévalent chez les femmes, peu d'études ont traité des répercussions de cette dernière à l'âge adulte (Hakerkamp et al., 2015; Stoltenborgh et al., 2012). La pénurie de données probantes est d'autant plus problématique lorsqu'il est question de comprendre les relations entre la VEE, la pleine conscience et les SSPT. Les résultats de deux études suggèrent un rôle potentiel de la pleine conscience. En effet, les études de Thompson, Arnoff et Glass (2011) puis Vujanovic, Youngwirth, Johnson et Zvolensky (2009) révèlent que l'adoption d'une attitude d'acceptation sans jugement est associée à une diminution des symptômes d'évitement, d'intrusion et d'hyperactivation — soit des SSPT — chez les survivants de traumas interpersonnels. Ces résultats suggèrent un rôle potentiel de la pleine conscience pour expliquer l'impact du trauma de VEE sur les SSPT, mais cette hypothèse demeure à vérifier. En effet, ces études n'ont pas évalué la VEE parmi les traumas considérés. De ce fait, la présente recherche est parmi les premières qui examinent les différentes

associations entre la VEE, la pleine conscience et, en finale, les SSPT.

La présente étude : violence émotionnelle à l'enfance, pleine conscience et symptômes de stress post-traumatique

Malgré l'inexistence d'études antérieures sur les mécanismes explicatifs de la pleine conscience et l'association entre la VEE et les SSPT, les études mettent en lumière des liens entre les traumas interpersonnels à l'enfance, les capacités de pleine conscience et les SSPT à l'âge adulte. Par exemple, Kimbrough et ses collègues (2010) ont examiné l'impact d'un programme de réduction du stress basé sur la pleine conscience chez des survivants d'agressions sexuelles à l'enfance. Avant de débuter l'étude, les participants rapportaient en moyenne des capacités de pleine conscience relativement basses ainsi que des SSPT (Kimbrough et al., 2010). À la fin de ce programme ainsi que deux ans et demi plus tard, les résultats ont indiqué que le programme de réduction du stress basé sur la pleine conscience contribue à augmenter les capacités de pleine conscience et à réduire les SSPT chez les survivants de traumas à l'enfance (Earley et al., 2014; Kimbrough et al., 2010). Ces résultats démontrent que ces traumas sont associés négativement aux capacités de pleine conscience et positivement aux SSPT; puisque lorsque les capacités de pleine conscience augmentent, à l'aide des thérapies basées sur la pleine conscience, les SSPT diminuent. Thompson et Waltz (2010) montrent que les capacités de pleine conscience et l'évitement expérientiel prédisent la sévérité des symptômes d'évitement au sein des SSPT, et non l'évitement expérientiel seul. Les résultats de cette étude indiquent également que le non-jugement, sous-facette de la pleine conscience, explique une plus grande variance des symptômes d'évitement dans les SSPT, au-delà de la contribution de l'évitement expérientiel. La pleine conscience, comparativement à l'évitement expérientiel, agirait en définitive comme un mécanisme explicatif des SSPT chez les survivants de traumas.

Sur la base du modèle théorique qui inspire cette étude et des données probantes (p. ex., Godbout et al., 2016), la présente étude propose la pleine conscience comme mécanisme médiateur de la relation entre la VEE et les SSPT chez les femmes. Cette recherche offre donc un regard novateur sur les mécanismes par lesquels la VEE influence les SSPT, tout en examinant le trauma interpersonnel spécifique de la VEE.

Objectif et hypothèses de recherche

L'objectif de la présente étude vise à explorer le rôle médiateur de la pleine conscience dans la relation qui unit la VEE et les SSPT chez les femmes. Il est

attendu que : 1) la VEE sera positivement associée aux SSPT, 2) les capacités de pleine conscience seront négativement associées aux SSPT, et 3) la pleine conscience agira comme médiateur dans le lien unissant la VEE et les SSPT chez les femmes.

Méthode

Participants

L'étude a été acceptée par le comité éthique de l'établissement affilié au chercheur principal. Le recrutement, effectué sur une base volontaire, a été réalisé en ligne par l'envoi d'une publicité aux membres de différentes associations universitaires, de recherche ou professionnelles (p. ex., Centre de Recherche Interdisciplinaire sur les Problèmes Conjugaux et Agressions Sexuelles — CRIPCAS), Association des Inspecteurs en Bâtiment du Québec et via les médias sociaux (p. ex., page *Facebook*). Chaque publicité comportait le lien internet permettant d'accéder au questionnaire en ligne, hébergé par le logiciel sécurisé *Survey Monkey*. Ces publicités invitaient les individus âgés de plus de 18 ans, célibataires ou en couple, à participer à une étude sur les déterminants des relations interpersonnelles et amoureuses.

Un échantillon de 354 femmes âgées entre 18 et 69 ans issues de la population générale a participé à l'étude ($M = 28$, $\bar{E}.-T. = 9.24$). Plus de la moitié (59%) de l'échantillon étaient des étudiantes et moins du tiers (32%) étaient des travailleuses à temps plein. La majorité des participantes (77%) a rapporté détenir un diplôme d'études universitaires, ainsi qu'un revenu annuel inférieur à 20 000\$ (52%). Dix pourcent des participantes étaient mariées, 41% vivaient en union de fait, 29% étaient en relation avec un partenaire régulier, alors que 20% étaient célibataires.

En répondant au questionnaire, les participantes courraient la chance de gagner un tirage de deux cartes-cadeau *Starbucks* d'une valeur de 25\$, ainsi qu'un certificat cadeau de 50\$ dans un restaurant de leur choix au sein d'une liste (p. ex., St-Hubert). Si les participantes le désiraient, une rencontre bilan d'une heure avec une psychologue leur était aussi offerte.

Matériel

Questionnaire sociodémographique. Ce questionnaire évaluait la date de naissance de la participante, son lieu de naissance, son âge, son occupation, son niveau de scolarité, sa langue maternelle, son niveau salarial et son statut marital.

La violence émotionnelle à l'enfance. La VEE a été examinée à l'aide de trois items provenant de l'*Inventaire des événements stressants (Early Trauma Inventory-Self-Report)*: Bremner, Bolus, & Mayer,

2007; traduit en français par Cyr & Hébert, 2009) correspondant aux énoncés suivants : « *Au moins l'un de mes parents m'a humiliée, rabaisée ou ridiculisée, fait sentir comme si je ne comptais pas, dit que j'étais bonne à rien ou des choses blessantes* ». En se basant sur une année typique avant l'âge de 18 ans, les participantes devaient indiquer la fréquence à laquelle elles ont expérimenté chacune des situations énumérées sur une échelle de type Likert en 7 points de 0 (*jamais*) à 6 (*chaque jour ou presque*). Dans la version originale du questionnaire, les trois items possèdent une bonne cohérence interne (Bremmer et al., 2007: $\alpha = .84$) et dans la présente étude, la cohérence interne de ces items est excellente ($\alpha = .92$).

Les symptômes de stress post-traumatique. Une adaptation francophone du *Primary Care-PTSD Screen*: Prins et al., 2003) a été utilisée (Hébert, Tourigny, Cyr, McDuff, & Joly, 2009). Ce questionnaire est constitué de quatre items de type binaire (*oui/non*) mesurant les quatre catégories, spécifiques aux SSPT, liées aux expériences traumatisques vécues: la reviviscence (p. ex., « *Avez-vous fait des cauchemars ou pensé à cette expérience alors que vous ne le vouliez pas ?* »), l'évitement (p. ex., « *Vous êtes-vous efforcée à ne pas y penser ou vous vous êtes donné du mal pour éviter des situations qui vous rappellent cette expérience ?* »), l'hyperactivation du système nerveux (p. ex., « *Avez-vous été constamment sur vos gardes, vigilante, ou facilement surprise ?* ») et finalement, les altérations cognitives et émotionnelles (p. ex., « *Vous êtes-vous sentie engourdie ou détachée de vos émotions, des autres, des activités ou de votre environnement ?* ») (Ouimette, Wade, Prins, & Schohn, 2008; Prins et al., 2003). Le score total varie entre zéro et quatre, un score élevé représentant des SSPT plus élevés (c.-à-d., variable continue). Un score de deux correspond au seuil clinique qui permet d'identifier les participantes à risque de présenter un ÉSPT ou non (c.-à-d., variable dichotomique), avec une sensibilité optimale pour détecter les vrais positifs (Hébert et al., 2009; Prins et al., 2003; Van Dam, Ehring, Vedel, & Emmelkamp, 2010). Cette échelle présente une bonne fidélité test-retest ($r = .80$; Kimerling, Trafton, & Nguyen, 2006; Prins et al., 2003). La présente étude indique une cohérence interne de .77. Plusieurs études affirment que cet instrument est très utile pour identifier les patients à risque de présenter un ÉSPT (Calhoun et al., 2010; Ouimette et al., 2008; Prins et al., 2003; Van Dam et al., 2010).

La pleine conscience. Une adaptation francophone du *Mindful Attention Awareness Scale* (Brown & Ryan, 2003; traduit et validé par Jermann et al., 2009) en 15 items a été utilisée afin d'évaluer les capacités de pleine conscience : l'ouverture, la conscience et

l'attention à ce qui se présente dans le moment présent. Les participantes devaient indiquer la fréquence à laquelle elles expérimentent, dans la vie quotidienne, chacun des items énoncés à l'aide d'une échelle de type Likert de 1 (*presque jamais*) à 6 (*presque toujours*). Un score global élevé indique une disposition favorable à la pleine conscience. La cohérence interne de la version originale ainsi que celle de la version francophone traduite, varie de .84 à .89 alors que celle de la présente étude est .91. L'instrument possède de bonnes propriétés psychométriques (Brown & Ryan, 2003; Jermann et al., 2009; MacKillop & Anderson, 2007; Schroevers, Nyklicek, & Topman, 2008).

Procédure

La collecte de données, sur une base volontaire, a été effectuée en ligne à l'aide d'un sondage internet. Cette technique suit les recommandations de Whisman et Snyder (2007), selon lesquelles il est préférable d'utiliser des questionnaires informatiques lorsqu'une étude examine des sujets délicats ou intimes, comme la VEE. En effet, l'anonymat et la confidentialité assurés par les questionnaires en ligne permettent d'obtenir des résultats plus fiables (Hamby, Sugarman, & Boney-McCoy, 2006). Les données des participantes ont été enregistrées sur la plateforme Survey Monkey (1999-2017), puis exportées vers une base de données accessible exclusivement par l'équipe de recherche. Les participantes qui le souhaitaient pouvaient également répondre aux questions via un format papier du questionnaire. Ces questionnaires papier étaient remis aux participantes avec une enveloppe de retour préaffranchie. Le formulaire de consentement devait être signé et retourné par la poste avec le questionnaire. Les réponses provenant de ces questionnaires ont été entrées manuellement dans la banque de données sécurisée.

Sur la première page du questionnaire, en format papier et électronique, des renseignements étaient donnés aux participantes concernant l'étude, les risques éventuels et les avantages reliés à la participation, leur participation était décrite comme volontaire et confidentielle et la possibilité de quitter l'étude à tout moment sans préjudice était clairement énoncée. Avant de débuter l'étude, d'une durée d'environ 45 minutes, les participantes devaient avoir pris connaissances de ces informations, puis devaient signer un formulaire de consentement où étaient indiquées les coordonnées de la responsable de la recherche et des responsables du comité d'éthique.

Préparation des données, devis de recherche, méthodes d'analyses statistiques

Le devis de cette recherche est corrélationnel et

factoriel, puisque l'étude comprend deux variables indépendantes continues, soit la VEE et les capacités de pleine conscience. Tout d'abord, une analyse de puissance de type apriori a été réalisée à l'aide du logiciel G*POWER 3.1.9.2. (Faul, Erdfelder, Buchner, & Lang, 2009) afin d'établir la taille d'échantillon nécessaire pour effectuer les analyses statistiques envisagées. La taille d'effet utilisée pour l'analyse de puissance a été obtenue conformément aux suggestions de l'étude de Burns et de ses collègues (2016) portant sur le lien entre la VEE et les SSPT à l'âge adulte. En se basant sur les résultats de cette étude, une taille d'effet de .13, combinée à un α de .05 et une puissance de .80 nécessite un échantillon d'au moins 85 participants pour obtenir des résultats significatifs. La taille échantillonnale de cette étude, comprenant 354 participants, est donc suffisante. Notons finalement que les participantes n'ayant pas répondu à tous les questionnaires ont été retirées de l'étude ($n = 6$). Puisque les variables de la VEE et des SSPT présentaient une asymétrie positive, ces variables ont été normalisées à l'aide d'une transformation de type racine carrée. Les taux de prévalence de la VEE et des SSPT dépassant le seuil clinique (c.-à-d., variable dichotomique) ont été évalués à l'aide d'analyses descriptives et d'un test chi-carré. Le test de chi-carré permet d'examiner une potentielle différence significative entre deux variables catégorielles, soit dans la présente étude, le lien entre la présence ou l'absence de VEE et la présence ou l'absence de SSPT. Le test de chi-carré permet ainsi d'examiner si les survivantes de VEE présentent des SSPT et, à l'opposé, si les participantes qui possèdent des SSPT tendent aussi à rapporter avoir subi de la VEE.

Des corrélations ont été réalisées entre la VEE, les SSPT (c.-à-d., variable continue) et la pleine conscience afin d'examiner les relations bivariées entre les variables à l'étude. Afin de répondre à l'objectif de l'étude, soit d'évaluer le rôle médiateur de la pleine conscience dans la relation qui unit la VEE et les SSPT à l'âge adulte, la macro-commande PROCESS de Preacher et Hayes (2004) a été utilisée afin d'effectuer, dans un premier temps, des analyses de régression multiple hiérarchique et, dans un deuxième temps, d'examiner l'effet indirect de la pleine conscience dans la relation qui associe la VEE aux SSPT. Cette macro-commande a permis de réaliser, en premier lieu, une régression linéaire avec le score total normalisé de la VEE et le score total des SSPT, puis, en second lieu, une régression linéaire avec la VEE et le score global de la pleine conscience et, finalement, une régression hiérarchique avec le score total de la VEE et le score global de la pleine conscience.

Résultats

Statistiques descriptives et corrélations

Au sein de l'échantillon de la présente étude, la moitié (52%; $n = 183$) des participantes ont rapporté avoir vécu au moins une expérience de VEE lors de chaque année typique avant 18 ans. La proportion des participantes présentant des SSPT au-dessus du seuil clinique était de 29% ($n = 104$). L'échantillon est caractérisé par un score moyen de pleine conscience de 67.47 ($E.T. = 14.18$). Une analyse de chi-carré de Pearson ($\chi^2 = 5.71$, $p < .05$), indique que 61.50% ($n = 64$) des participantes ayant vécu de la VEE possèdent également des SSPT cliniquement élevés et, à l'inverse, 35% ($n = 64$) de celles qui indiquent des SSPT cliniquement élevés rapportent avoir vécu de la VEE. Les corrélations bivariées entre la VEE, la pleine conscience et les SSPT se retrouvent dans le Tableau 1.

Régressions linéaires

Premièrement, une régression linéaire a été effectuée avec la VEE et les SSPT. Les résultats démontrent que la VEE explique une partie significative, c'est-à-dire 2% de la variabilité totale (1% ajusté) des SSPT ($F(1, 35) = 5.98$, $p < .05$), puis est significativement liée aux SSPT, $\beta = .13$, $t(352) = 2.45$, $p < .05$. Une seconde régression linéaire a été réalisée avec la VEE et la pleine conscience. Les résultats indiquent que la VEE est significativement reliée à la pleine conscience $\beta = -.19$, $t(352) = -3.64$, $p < .01$ et explique 4% (3% ajusté) de sa variabilité totale ($F(1, 35) = 13.28$, $p < .01$). Troisièmement, une régression multiple de type hiérarchique a été exécutée avec la VEE, la pleine conscience ainsi que les SSPT. Afin d'observer l'effet de la pleine conscience sur la relation qui unit la VEE et les SSPT, les résultats d'analyses de Preacher et Hayes (voir Figure 1), sans la valeur 0 à l'intérieur de l'intervalle de confiance ($b = .06$, 95% BCa CI [0.03, 0.11]), indiquent que la pleine conscience agit comme médiateur dans la relation qui unit la VEE et les SSPT, avec une taille d'effet indirecte de la médiation relativement faible, $\kappa^2 = .06$, 95% BCa CI [0.03, 0.11]. L'intervalle de confiance pour l'effet indirect est un BCa Bootstrapped CI basé sur 1000 échantillons. Bien qu'il soit recommandé d'interpréter le bootstrap de l'intervalle de confiance, tel que celui de Preacher et Hayes (2004), plutôt que le test formel de la significativité (Field, 2013), le test de Sobel révèle, lui aussi, un effet de médiation complet ($z = 3.11$, $p < .05$). L'effet modérateur potentiel de la pleine conscience dans la relation entre la VEE et les SSPT a aussi été examiné. À l'aide de la macro méthode de Preacher et Hayes, et n'indiquent aucune relation de modération significative, $b = -0.00$, 95% CI [-0.0024, 0.0019], $t = -0.21$, $p = .84$.

Table 1

Scores moyens et corrélations bivariées entre la VEE, la pleine conscience et les SSPT

	1	2	3	M	<i>E.-T.</i>
1. VEE	-	-	-	3.03	4.67
2. Pleine conscience	-.19**	-	-	67.47	14.18
3. SSPT	.13*	-.33**	-	0.99	1.32

Note. VEE = Violence émotionnelle à l'enfance; SSPT = Symptômes de stress post-traumatique; * $p < .05$, ** $p < .001$.

Discussion

La présente étude avait pour objectif d'examiner le rôle médiateur de la pleine conscience dans la relation unissant la VEE et les SSPT. Plus précisément, cette recherche se penchait en premier lieu sur l'association entre la VEE et les SSPT, en second lieu sur le lien entre les capacités de pleine conscience et les SSPT, et finalement sur l'effet des capacités de pleine conscience sur le lien entre la VEE et les SSPT dans un modèle de médiation. Les résultats de cette étude offrent un apport intéressant aux travaux portant sur les répercussions de la VEE à l'âge adulte. En démontrant l'effet indirect de la pleine conscience dans la relation qui unit la VEE et les SSPT, cette étude offre une nouvelle conceptualisation de la pleine conscience en tant que facteur pouvant expliquer une partie des répercussions négatives des traumas à l'enfance. En effet, les résultats confirment l'hypothèse selon laquelle la VEE est associée à une diminution des habiletés quotidiennes de pleine conscience, ce qui est, en retour associé à une augmentation des SSPT.

La première hypothèse était que la VEE était positivement associée aux SSPT. La deuxième hypothèse était que les capacités de pleine conscience étaient négativement associées aux SSPT. Finalement, la dernière hypothèse était que les capacités de pleine conscience agissent comme médiateur dans la relation liant la VEE et les SSPT. Toutes ces hypothèses ont

été confirmées. Conformément aux objectifs et hypothèses de l'étude, les résultats démontrent que la VEE est positivement associée aux SSPT et que les capacités de pleine conscience sont aussi associées négativement aux SSPT. Les résultats concernant la relation positive entre la VEE et les SSPT concordent avec les études sur le sujet. Celles-ci mentionnent, en effet, que les traumas à l'enfance, notamment les agressions sexuelles, la violence physique et la négligence, augmentent le risque de rapporter des SSPT à l'âge adulte (Dias et al., 2014; Kendall-Tackett, 2002; Koenen & Widom, 2009). Les études évaluant l'impact spécifique de la VEE sur les SSPT demeurent toutefois peu nombreuses (Haferkamp et al., 2015; Mauritz, Peter, Goossens, Draijer, & Van Achterberg, 2013; Stoltenborgh et al., 2012). Bien que la violence émotionnelle demeure un sujet de recherche peu étudié, les résultats de la présente étude corroborent ceux des écrits scientifiques dans le domaine (Burns et al., 2010; Godbout et al., 2016; Haferkamp et al., 2015). Les résultats indiquent que 52% des participantes ont rapporté avoir subi de la VEE, représentant un pourcentage supérieur à celui révélé dans une méta-analyse réalisée par Stoltenborgh et ses collègues (2015), qui était de 36%. Cette différence peut en partie s'expliquer par le fait que le présent échantillon était uniquement constitué de femmes et que ce type de trauma est davantage rapporté chez cette population (Burns et al., 2016). Un phénomène similaire est observable en ce qui

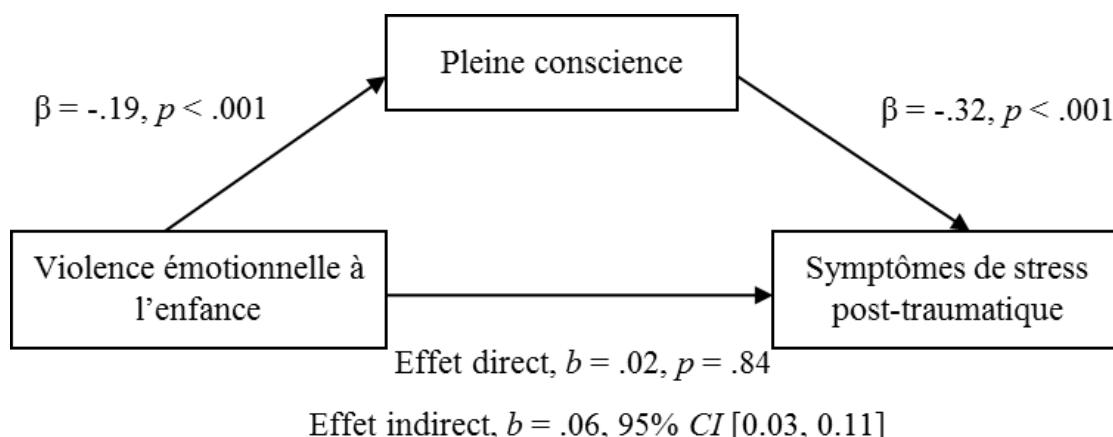


Figure 1. Résultats d'analyses de médiation au sein du modèle global de la violence émotionnelle et des symptômes de stress post-traumatique, médiés par la pleine conscience.

concerne le taux de prévalence de SSPT cliniquement significatifs. En effet, au sein de l'échantillon, 29% des femmes rapportaient des SSPT cliniquement significatifs comparativement aux taux de prévalence observés dans la population générale, avec des taux qui varient entre 7 et 12% (Hunsley et al., 2013). Ceci peut s'expliquer par le fait que la présente étude a examiné les SSPT cliniquement significatifs plutôt que la présence d'un diagnostic d'ÉSPT, qui comprend des critères plus nombreux et sélectifs. Ainsi, il est probable que les individus de la population générale rapportent davantage de SSPT qu'ils ne rapportent un diagnostic d'ÉSPT formel.

La présente étude comporte une analyse novatrice des habiletés de pleine conscience à l'âge adulte qui sont conceptualisées comme pouvant être associées à l'expérience de VEE. En effet, malgré la présence de quelques recherches affirmant que les traumas à l'enfance, particulièrement l'agression sexuelle, sont corrélés négativement avec les habiletés de pleine conscience (Kimbrough et al., 2010; Palm & Follette, 2011), aucune étude n'avait, à ce jour, examiné l'association de la VEE avec les habiletés de pleine conscience. Les résultats de la présente étude confirment donc que l'expérience répétée d'humiliations, de menaces, de critiques, ou d'insultes est associée à une diminution de la capacité à vivre pleinement le moment présent, sans jugement et avec ouverture face aux situations et à l'environnement.

L'association négative entre la pleine conscience et les SSPT qui a été observée dans la présente étude concorde aussi avec plusieurs études sur le sujet (Earley et al., 2014; Follette et al., 2006; Godbout et al., 2016; Kimbrough et al., 2010; Luedtke, Davis & Monson, 2015; Palm et al., 2011; Schoorl et al., 2015). Selon ces dernières, la pleine conscience permettrait de réduire les comportements d'évitement cognitif et émotionnel ainsi que les sentiments d'intrusion associés aux SSPT (Kimbrough et al., 2010; Schoorl et al., 2015) et permettrait ainsi d'exposer le sujet à ses expériences internes, y compris ses souvenirs traumatiques et ses états émotionnels affligeants (Godbout et al., 2016).

Enfin, cette étude innove également en étudiant l'effet indirect de la pleine conscience sur la relation entre la VEE et les SSPT. En effet, une médiation complète des capacités de pleine conscience a été décelée au sein de la relation liant la VEE et les SSPT.

Limites

Les résultats doivent être interprétés en considérant certaines limites. Premièrement, la nature auto-rapportée des mesures est associée à certains biais rétrospectifs ou à des distorsions lors des rappels, rendant possible une sur-évaluation ou sous-évaluation

de la portée de la victimisation et des difficultés émotionnelles. En effet, les données basées sur des souvenirs rétrospectifs, puisqu'ils peuvent être reconnus comme peu fiables ou invalides, doivent être étudiées avec précaution (Haferkamp et al., 2015). Cette limite pourrait, en partie, expliquer le pourcentage de prévalence particulièrement élevé de la VEE obtenu dans cette étude. Ceci étant dit, dans une étude approfondie sur la validité des souvenirs des adultes ayant rapportés des expériences négatives à l'enfance, Hardt et Rutter (2004) concluent que les rappels rétrospectifs peuvent être suffisamment valides lorsque d'une part les expériences négatives sont raisonnablement bien opérationnalisées et si d'autre part elles n'entravent pas le jugement et l'interprétation des événements.

Deuxièmement, la présente recherche met l'emphase sur la VEE, et l'influence potentielle des autres types de violence (p. ex., violence physique, violence sexuelle, négligence physique) n'est pas mesurée. Or, la VEE se produit rarement en vase clos. Au contraire, une concomitance de diverses formes de violence est typique chez les enfants qui en sont victimes (p. ex., Dias et al., 2015). Les résultats obtenus peuvent ainsi résulter d'une combinaison de facteurs n'ayant pas été mesurés. Les études futures devront donc examiner l'effet de l'accumulation d'expériences de violence en enfance.

Troisièmement, puisque la présente étude comporte un devis corrélationnel, un lien de causalité entre les variables à l'étude ne peut être assumé et devra être confirmé dans des études expérimentales futures.

Quatrièmement, puisque l'échantillon recruté est constitué seulement de femmes qui, pour la majorité, ont un revenu inférieur à 20 000\$ CAN, un niveau de scolarité élevé et sont en relation de couple, ces résultats ne peuvent être généralisés à l'ensemble de la population. Il serait donc important de recruter un échantillon hétérogène se composant à la fois d'hommes et de femmes, en couple ou célibataires, issus de différentes classes sociales et de niveaux de scolarité variés. Une cinquième limite porte sur la mesure qui a été utilisée pour évaluer les SSPT. Tout d'abord, le questionnaire *Primary Care-PTSD Screen* comprend des items dichotomiques; or, les mesures continues de type Likert sont reconnues comme possédant une meilleure fidélité (Vallerand & Hess, 2000). Ensuite, les critères sur lesquels se base le questionnaire *Primary Care-PTSD Screen* se retrouvent dans le DSM-IV-TR, et non au sein de sa version la plus récente, le DSM-5 (American Psychiatric Association, 2013). Plusieurs modifications aux critères de l'ÉSPT ont été apportées dans le DSM-5 (American Psychiatric Association, 2013); une attention particulière est portée aux

symptômes comportementaux de l'ÉSPT, qui comporte maintenant quatre groupes de symptômes au lieu de trois : la reviviscence, l'évitement, les émotions et cognitions négatives, et l'hypervigilance. Or, puisque cette étude visait à étudier les SSPT et non la présence d'un diagnostic de l'ÉSPT, les résultats peuvent tout de même être compris en considérant la nouvelle version du DSM. Les futures recherches auraient tout de même avantage à utiliser des échelles se basant sur les critères de la cinquième version du DSM afin d'arrimer leurs résultats avec les observations des milieux cliniques, qui utilisent cette nouvelle version.

Implications cliniques et portée scientifique

La présente étude porte un regard nouveau en ce qui concerne l'existence d'une association entre la VEE, souvent négligée des études empiriques, et le développement de SSPT. Il est primordial de poursuivre les recherches à ce sujet afin d'approfondir les connaissances sur les répercussions spécifiques de la VEE chez les survivantes adultes. Cette recherche offre également une avancée théorique intéressante concernant les habiletés de pleine conscience en tant que mécanismes explicatifs chez les survivantes de VEE. L'émergence des thérapies basées sur la pleine conscience amène à cet égard une contribution précieuse dans la conceptualisation des relations entre les traumas interpersonnels, les répercussions s'y rattachant et la pleine conscience. Tandis que l'avancée théorique et les données probantes permettent l'élaboration de programmes préventifs et contribuent à la conception d'interventions spécifiques aux survivants de traumas interpersonnels basées sur la pleine conscience, la mise en œuvre des interventions cliniques permettent de limiter les coûts sociaux et la souffrance psychologique associés aux répercussions des traumas interpersonnels (Godbout et al., 2016). Essentiellement, les résultats de cette étude suggèrent que les programmes d'intervention basés sur la pleine conscience pourraient être bénéfiques pour les survivantes de VEE. Elles visent à augmenter l'ouverture aux nouvelles informations, à développer une plus grande sensibilité à l'environnement, à créer de nouvelles catégories afin de structurer les perceptions ainsi qu'à prendre connaissance des multiples perspectives possibles dans la résolution de problèmes (Follette et al., 2006). Par exemple, la thérapie d'acceptation et d'engagement vise à aider les individus à adopter des attitudes et comportements cohérents avec leurs valeurs afin de leur permettre de s'investir dans une vie satisfaisante. En outre, la personne apprend à se distancer, développer une compréhension holistique face à ses difficultés ou problématiques, et puis augmenter ses capacités à accepter les émotions telles qu'elles surviennent, plutôt que de les éviter (Vuille, 2007). Le programme

de réduction du stress basé sur la pleine conscience, initialement développé pour composer avec les enjeux de douleurs chroniques et les troubles liés au stress (Kabat-Zinn, 2009) à l'aide de techniques de méditation et de yoga, pourrait également être bénéfique aux survivants de VEE. Chez les survivants de traumas à l'enfance présentant des SSPT (p. ex., évitement, hypervigilance, reviviscence, difficulté à réguler les émotions), ces thérapies, basées sur la pleine conscience, pourraient permettre à la fois de prendre une saine distance et d'exposer le sujet à ses pensées, émotions et comportements. Ces buts peuvent être atteints en adoptant une attitude de pleine conscience, une attitude calme et ouverte, et sans jugement, afin de réduire les souffrances psychologiques reliées aux souvenirs négatifs (Follette et al., 2004).

Recherches futures

Les résultats de cette étude soutiennent la pertinence de concevoir la pleine conscience comme mécanisme explicatif de la relation entre la VEE et les SSPT à l'âge adulte. Ils constituent également une avancée dans le domaine clinique puisque la pleine conscience, associée à une diminution des SSPT, pourrait contribuer à traiter certains de ces symptômes chez les survivants de trauma interpersonnel.

Pour le développement de recherches futures, il serait important d'effectuer une étude semblable auprès d'une population plus étendue comprenant des hommes et des femmes et où une hétérogénéité existerait quant aux données sociodémographiques, avec l'objectif d'atteindre une meilleure représentativité de la population. La VEE et la pleine conscience expliquent simultanément seulement 11% de la variabilité des SSPT. Ceci représente un pourcentage modeste dans l'explication de la variable dépendante. Afin d'expliquer une plus grande variance des SSPT chez les survivants de VEE, des modèles intégrateurs plus complexes pourraient être développés. Ceux-ci pourraient inclure des variables, telles que la régulation émotionnelle (Burns et al., 2010; Lilly et al., 2014) ou les symptômes dissociatifs (Haferkamp et al., 2015), qui sont reconnus comme mécanismes explicatifs du lien entre la VEE et les SSPT. Il serait intéressant d'examiner ce modèle en effectuant une comparaison entre une population clinique et une population non-clinique afin d'examiner si le pourcentage de VEE rapportée demeure similaire.

En dépit d'un appui théorique confirmatoire quant au rôle de la pleine conscience dans la diminution des effets délétères des traumas interpersonnels, il est nécessaire de recueillir un nombre considérable de données probantes afin de peaufiner la compréhension du rôle qu'opère la pleine conscience chez les

survivants de traumas. La pleine conscience pourrait agir comme outil nécessaire, mais non suffisant, à l'égard des survivants de traumas dans le processus d'intégration de l'évènement traumatique en leur permettant d'effectuer un premier contact avec ce dernier. De ce fait, il serait intéressant de mener une étude portant sur l'efficacité d'une thérapie cognitive-comportementale basée sur la pleine conscience, tel qu'un programme de réduction du stress basé sur la pleine conscience, une thérapie d'acceptation et d'engagement ou encore, une thérapie basée sur la pleine conscience, où les SSPT seraient évalués en pré et post traitement.

Références

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Association.
- Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical psychology: Science and Practice*, 10, 125-143.
- Bigras, N., Godbout, N., & Briere, J. (2015) Child sexual abuse, sexual anxiety, and sexual satisfaction: the role of self-capacities. *Journal of Child Sexual Abuse*, 24, 464-483.
- Bigras, N., Godbout, N., Hébert, M., Runtz, M., & Daspe, M.-È. (2015). Identity and relatedness as mediators between child emotional abuse and adult couple adjustment in women. *Child Abuse & Neglect*, 50, 85-93.
- Black, D. S., Sussman, S., Johnson, C. A., & Milam, J. (2012). Psychometric assessment of the Mindful Attention Awareness Scale (MAAS) among Chinese adolescents. *Assessment*, 19, 42-52.
- Bremner, J. D., Bolus, R., & Mayer, E. A. (2007). Psychometric properties of the Early Trauma Inventory-Self-Report. *Journal of Nervous and Mental Disease*, 195, 211-218.
- Briere, J. (2001). Treating adult survivors of severe childhood abuse and neglect: Further development of an integrative model. In J. E. B. Myers, L. Berliner, J. Briere, C. T. Hendrix, C. Jenny, & T. A. Reid (Eds.), *The APSAC Handbook on Child Maltreatment* (pp. 175-404, 2nd ed.). Newbury Park, CA: SAGE Publications.
- Briere, J., Hodges, M., & Godbout, N. (2010). Traumatic stress, affect dysregulation, and dysfunctional avoidance: A structural equation model. *Journal of Traumatic Stress*, 23, 767-774.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, 822-848.
- Burns, E. E., Jackson, J. L., & Harding, H. G. (2010). Child maltreatment, emotion regulation, and posttraumatic stress: The impact of emotional abuse. *Journal of Aggression, Maltreatment & Trauma*, 19, 801-819.
- Calhoun, P. S., McDonald, S. D., Guerra, V. S., Eggleston, A. M., Beckham, J. C., & Straits-Troster, K. (2010). Clinical utility of the Primary Care-PTSD screen among U.S. Veterans who served since September 11, 2001. *Psychiatry Research*, 178, 330-335.
- Carmody, J. (2015). Reconceptualizing mindfulness: The psychological principles of attending in mindfulness practice and their role in well-being. In K. W. Brown, J. D. Creswell, & R. M. Ryan (Eds.), *Handbook of mindfulness: Theory, Research, and Practice* (pp. 61-77). New York, NY: Guilford Press. pp.62-98.
- Chambers, R., Gullone, E., & Allen, N. B. (2009). Mindful emotion regulation: An integrative review. *Clinical Psychology Review*, 29, 560-572.
- Clark, D. M., Ball, S., & Pape, D. (1991). An experimental investigation of thought suppression. *Behavior Research and Therapy*, 29, 253-257.
- Cyr, M., & Hébert, M. (2009). *Traduction française du Early Trauma Inventory Self Report-Short Form (ETISR-SF)*. Document inédit.
- Dias, A., Sales, L., Cardoso, R. M., & Kleber, R. (2014). Childhood maltreatment in adult offspring of Portuguese war veterans with and without PTSD. *European Journal of Psychotraumatology*, 5, 1-10.
- Dias, A., Sales, L., Hessen, D. J., & Kleber, R. J. (2015). Child maltreatment and psychological symptoms in a Portuguese adult community sample: The harmful effects of emotional abuse. *European Child and Adolescent Psychiatry*, 24, 767-778.
- Earley, M. D., Chesney, M. A., Frye, J., Greene, P. A., Berman, B., & Kimbrough, E. (2014). Mindfulness intervention for child abuse survivors: A 2.5-year follow-up. *Journal of Clinical Psychology*, 70, 933-941.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160.
- Field, A. (2013). *Discovering statistics using SPSS*. Thousand Oaks, CA: SAGE Publications.
- Follette, V. M., Palm, K. M., & Hall, M. L. R. (2004). Acceptance, mindfulness, and trauma. In S. C. Hayes, V. M. Victoria, & M. M. Linehan (Eds.) *Mindfulness and acceptance* (pp. 192-208). New York, NY: Guilford Press.

VIOLENCE ÉMOTIONNELLE, STRESS POST-TRAUMATIQUE ET PLEINE CONSCIENCE

- Follette, V., Palm, K. M., & Pearson, A. N. (2006). Mindfulness and trauma: Implications for treatment. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 24, 45-61.
- Follette, V. M., & Vijay, A. (2009). Mindfulness for trauma and posttraumatic stress disorder. In F. Didonna (Ed.), *Clinical handbook of mindfulness* (pp. 299-317). New York, NY: Springer.
- Frewen, P. A., Dozois, D. J. A., Neufeld, R. W. J., & Lanius, R. A. (2012) Disturbances of emotional awareness and expression in posttraumatic stress disorder: Meta-mood, emotion regulation, mindfulness, and inference of emotional expressiveness. *Psychological Trauma: Theory, Research, Practice, and Policy*, 4, 152-161.
- Godbout, N., & Bigras, N. (2014). Exploring the role of mindfulness in the relation between child maltreatment and psychological health. *Dysfunctional Avoidance: Trauma, Attachment, and Mindfulness*. Symposium conducted at the 30th Annual Meeting of the International Society for Traumatic Stress Studies (ISTSS), Miami, Florida.
- Godbout, N., Bigras, N., & Dion, J. (2016). *Présence attentive et traumas interpersonnels subis durant l'enfance*. Quebec: Presses de l'Université du Québec (PUQ).
- Haferkamp, L., Bebermeier, A., Möllering, A., & Neuner, F. (2015). Dissociation is associated with emotional maltreatment in a sample of traumatized women with a history of child abuse. *Journal of Trauma and Dissociation*, 16, 86-99.
- Hamby, S., Sugarman, D. B., & Boney-McCoy, S. (2006). Does questionnaire format impact reported partner violence rates?: An experimental study. *Violence and Victims*, 21, 507-518.
- Hardt, J., & Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: Review of the evidence. *Journal of Child Psychology and Psychiatry*, 45, 260-273.
- Hébert, M., Tourigny, M., Cyr, M., McDuff, P., & Joly, J. (2009). Prevalence of childhood sexual abuse and timing of disclosure in a representative sample of adults from Quebec. *La Revue canadienne de psychiatrie*, 54, 631-636.
- Hill, J. M., Vernig, P. M., Lee, J. K., Brown, C., & Orsillo, S. M. (2011). The development of a brief acceptance and mindfulness-based program aimed at reducing sexual revictimization among college women with a history of childhood sexual abuse. *Journal of Clinical Psychology*, 67, 969-980.
- Hunsley, J., Elliott, K., & Therrien, Z. (2013). The efficacy and effectiveness of psychological treatments for mood, anxiety, and related disorders. *Psychologie canadienne*, 55, 161-176.
- Jermann, F., Billieux, J., Larøi, F., d'Argembeau, A., Bondolfi, G., Zermatten, A., & Van der Linden, M. (2009). Mindful Attention Awareness Scale (MAAS): Psychometric properties of the French translation and exploration of its relations with emotion regulation strategies. *Psychological Assessment*, 21, 506-514.
- Kabat-Zinn, J. (2009). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York, NY: Dell Publishing.
- Kendall-Tackett, K. (2002). The health effects of childhood abuse: Four pathways by which abuse can influence health. *Child Abuse and Neglect*, 26, 715-729.
- Kimbrough, E., Magyari, T., Langenberg, P., Chesney, M., & Berman, B. (2010). Mindfulness intervention for child abuse survivors. *Journal of Clinical Psychology*, 66, 17-33.
- Kimerling, R., Trafton, J. A., & Nguyen, B. (2006). Validation of a brief screen for Post-Traumatic Stress Disorder with substance use disorder patients. *Addictive Behaviors*, 31, 2074-2079.
- Koenen, K. C., & Widom, C. S. (2009). A prospective study of sex differences in the lifetime risk of posttraumatic stress disorder among abused and neglected children grown up. *Journal of Traumatic Stress*, 22, 566-574.
- Kuo, J. R., Khoury, J. E., Metcalfe, R., & Goodwill, A. (2014). An examination of the relationship between childhood emotional abuse and borderline personality disorder features: The role of difficulties with emotion regulation. *Child Abuse and Neglect*, 39, 147-155.
- Lilly, M. M., London, M. J., & Bridgett, D. J. (2014). Using SEM to examine emotion regulation and revictimization in predicting PTSD symptoms among childhood abuse survivors. *Psychological Trauma: Theory, Research, Practice, and Policy*, 6, 644-651.
- Luedtke, B., Davis, L., & Monson, C. (2015). Mindfulness-based cognitive-behavioral conjoint therapy for posttraumatic stress disorder: A case study. *Journal of Contemporary Psychotherapy*, 45, 227-234.
- MacKillop, J., & Anderson, E. J. (2007). Further psychometric validation of the Mindful Attention Awareness Scale (MAAS). *Journal of Psychopathology and Behavioral Assessment*, 29, 289-293.
- Mauritz, M. W., Goossens, P. J. J., Draijer, N., & Van Achterberg, T. (2013). Prevalence of interpersonal trauma exposure and trauma-related disorders in severe mental illness. *European Journal of Psychotraumatology*, 4, 1-15.

- Ouimette, P., Wade, M., Prins, A., & Schohn, M. (2008). Identifying PTSD in primary care: Comparison of the Primary Care-PTSD screen (PC-PTSD) and the General Health Questionnaire-12 (GHQ). *Journal of Anxiety Disorders*, 22, 337-343.
- Palm, K. M., & Follette, V. M. (2011). The roles of cognitive flexibility and experiential avoidance in explaining psychological distress in survivors of interpersonal victimization. *Journal of Psychopathology and Behavioral Assessment*, 33, 79-86.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments and Computers*, 36, 717-731.
- Prins, A., Ouimette, P., Kimerling, R., Cameron, R. P., Hugelshofer, D. S., Shaw-Hegwer, J., & Sheikh, J. I. (2003). The primary care PTSD screen (PC-PTSD): Development and operating characteristics. *Primary Care Psychiatry*, 9, 9-14.
- Schoorl, M., Van Mil-Klinkenberg, L., & Van Der Does, W. (2015). Mindfulness skills, anxiety sensitivity, and cognitive reactivity in patients with Posttraumatic Stress Disorder. *Mindfulness*, 6, 1004-1011.
- Schroevers, M., Nykliček, I., & Topman, R. (2008). Validatie van de nederlandstalige versie van de Mindful Attention Awareness Scale (MAAS). [Validation of the Dutch version of the mindful attention awareness scale (MAAS)]. *Gedragstherapie*, 41, 225-240.
- Seligowski, A. V., Lee, D. J., Bardeen, J. R., & Orcutt, H. K. (2015). Emotion regulation and posttraumatic stress symptoms: A meta-analysis. *Cognitive Behaviour Therapy*, 44, 87-102.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62, 373-386.
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R. A., & van IJzendoorn, M. H. (2012). The universality of childhood emotional abuse: A meta-analysis of worldwide prevalence. *Journal of Aggression, Maltreatment and Trauma*, 21, 870-890.
- Stoltenborgh, M., Bakermans-Kranenburg, M. J., Alink, L. R. A., & van IJzendoorn, M. H. (2015). The prevalence of child maltreatment across the globe: Review of a series of meta-analyses. *Child Abuse Review*, 24, 37-50.
- Teasdale, J. D. (1999). Emotional processing, three modes of mind and the prevention of relapse in depression. *Behaviour Research and Therapy*, 37, 53-77.
- Thompson, R. W., Arnkoff, D. B., & Glass, C. R. (2011). Conceptualizing mindfulness and acceptance as components of psychological resilience to trauma. *Trauma, Violence, and Abuse*, 12, 220-235.
- Thompson, B. L., & Waltz, J. (2010). Mindfulness and experiential avoidance as predictors of posttraumatic stress disorder avoidance symptom severity. *Journal of Anxiety Disorders*, 24, 409-415.
- Vallerand, R. J., & Hess, U. (2000). *Méthodes de recherche en psychologie*. Boucherville: Gaëtan Morin.
- Van Dam, D., Ehring, T., Vedel, E., & Emmelkamp, P. M. G. (2010). Validation of the Primary Care Posttraumatic Stress Disorder Screening Questionnaire (PC-PTSD) in civilian substance use disorder patients. *Journal of Substance Abuse Treatment*, 39, 105-113.
- Vuille, P. (2007). Thérapie d'acceptation et d'engagement: émotion, contexte et action. *Thérapies cognitives et émotions: troisième vague*, 1, 83-95.
- Vujanovic, A. A., Youngwirth, N. E., Johnson, K. A., & Zvolensky, M. J. (2009). Mindfulness-based acceptance and posttraumatic stress symptoms among trauma-exposed adults without Axis I psychopathology. *Journal of Anxiety Disorders*, 23, 297-303.
- Wegner, D. M., Shortt, J. W., Blake, A. W., & Page, M. S. (1990). The suppression of exciting thoughts. *Journal of Personality and Social Psychology*, 58, 409-418.
- Whisman, M., & Snyder, D. K. (2007). Sexual infidelity in a national survey of American women: Differences in prevalence and correlates as a function of method of assessment. *Journal of Family Psychology*, 21, 147-154.
- Wolfsdorf, B. A., & Zlotnick, C. (2001). Affect management in group therapy for women with posttraumatic stress disorder and histories of childhood sexual abuse. *Journal of Clinical Psychology*, 57, 169-181.

Reçu le 22 juin 2016
Révision reçue le 21 septembre 2016
Accepté le 28 octobre 2016 ■

Équipe éditoriale / Editorial Board

2016-2017



(de gauche à droite en commençant par la rangée arrière / from left to right, starting from the back row)

Mathieu Caron-Diotte, Diana Cárdenas, Roxane de la Sablonnière, Béatrice Marseille, Diana Arnautu, Christine Ghantous, Simon Coulombe, Joée Guillemette Lafontaine, Leila Benabdallah, Samantha Kargakos, Karine Nadeau-Paquette, Iulia Cerniavscchi, Frédérique Hervieux, Samuel Laperle, Laura French Bourgeois, Simon Dubé, Carolanne Labonté, Camille Bourdeau, Audrey Paquette Masson, Émilie Dumont, Weldie Joseph, Céline El-Soueidi, Ibtissem Medjdoub, Tasnim Rekik, Melissa Romano, & Mailys Laylle.
(Absents/Missing : Émilie Auger, Laurence Beaudry-Jodoin, Karine Jauvin, Frank Kachanoff, Nada Kadhim Samuel Mérineau, Julie Ouerfelli-Éthier, & Julie Zaky).

Merci à tous nos commanditaires pour leur appui !



Faites bonne impression !

Profitez des conseils de nos experts afin de réduire vos coûts d'impression et de conception. Voici les services offerts:

conception graphique | infographie | affiches grand format
Impression couleur et N/B (numérique et offset) | reliure de tout genre
pliage | laminage | adressage | assemblage (mécanique ou manuel)
mise sous enveloppe | préparation postale et mise à la poste

www.sium.umontreal.ca

Service d'impression
Université de Montréal

Faculté des arts et des sciences
Département de psychologie

Université de Montréal 

L'AMNÉSIQUE
R E C R U T E !
QU'ATTENDEZ-VOUS ?
AMNESIQUE@AGEEPUM.CA



Laboratoire sur les changements sociaux et l'identité
Social Change and Identity Laboratory

