

JIRIRI

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

Volume 8, Hiver 2015 / Winter 2015

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Une initiative des étudiants au baccalauréat en psychologie
An initiative of undergraduate psychology students

Université de Montréal

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.

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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 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 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 futurs travaux de plus grande envergure.

Le JIRIRI publie des articles théoriques et empiriques. Ainsi, tout étudiant de premier cycle en psychologie ou dans un domaine connexe désirant approfondir et diffuser des idées ou des résultats portant sur les thèmes de l'identité, des relations interpersonnelles ou intergroupes est invité à soumettre un manuscrit.

Processus de révision

Dès leur réception, le rédacteur en chef effectue une première sélection des manuscrits en ne conservant que ceux qui correspondent à la mission du JIRIRI. Ensuite, le processus d'évaluation par les pairs débute par l'envoi du manuscrit à quatre étudiants de premier cycle et à un étudiant des cycles supérieurs. Ces étudiants rédigeront une lettre d'évaluation anonyme destinée à l'auteur, qu'ils enverront à un membre de l'équipe éditoriale responsable du suivi du manuscrit.

Le responsable du manuscrit (rédacteur adjoint) fera la synthèse de ces lettres dans une lettre d'édition destinée à l'auteur. La rédaction de la lettre d'édition sera supervisée par les éditeurs consultants, étudiants aux cycles supérieurs. La lettre d'édition devra souligner les critiques les plus importantes et rendre la décision concernant la publication de l'article. L'article peut être accepté, accepté avec révisions mineures, rejeté avec invitation à soumettre à nouveau 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 qui soumet un manuscrit devra confirmer qu'il est

présentement étudiant au premier cycle et que son article n'a pas déjà été publié ou soumis pour publication dans un autre journal scientifique. Un étudiant au baccalauréat peut soumettre un article qu'il a coécrit avec un professeur ou un étudiant aux cycles supérieurs, mais il doit impérativement en être 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 six mois avant la soumission du manuscrit.

La première page du manuscrit devra contenir le titre de l'article ainsi qu'un titre abrégé de **45 caractères maximum**. La deuxième page devra contenir un résumé de l'article de **150 mots**. De plus, l'auteur devra fournir **5 mots-clés** en lien avec les thèmes abordés dans 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 premier cycle et des cycles supérieurs qui souhaitent s'impliquer dans le processus de révision en tant qu'évaluateurs sont invités à nous contacter au jiriri@umontreal.ca.

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

Adresse postale

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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 a 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 article is judged suitable for publication.

Guidelines for submitting an article

Undergraduate students of all universities are invited to submit their article in French or in English. In their letter to the Editor in Chief, the author submitting an article must confirm that they are an undergraduate student and that their article has neither been published nor submitted for publication elsewhere. An undergraduate student may submit an article that they have co-written

with a professor or a graduate student only if they are the first author. It is not possible to be the first author of an article in the JIRIRI if one's undergraduate degree was completed more than six months prior to the submission of the manuscript.

The cover page must include the title of the article 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.

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Remerciements

Nous tenons tout d'abord à remercier le Département de psychologie de l'Université de Montréal et son Directeur, Monsieur Serge Larochelle ainsi que Monsieur Gyslain Giguère et les membres du comité organisateur de la 9^e 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 Madame Odile Ducharme, notre conseillère financière, pour leur patience sans fin. Nous aimerions particulièrement remercier Madame Lebel, Rédactrice en chef du magazine *Découvrir*, pour sa confiance en notre projet. De même, nous tenons à souligner la contribution financière de la FAÉCUM (*Fédération des associations étudiantes de l'Université de Montréal*), par l'entremise de la bourse PIÉ (*Projet d'initiative étudiante*). Nous soulignons aussi la contribution financière 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 remercions tous les étudiants qui ont collaboré au *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI). Cette édition n'aurait pu voir le jour sans la collaboration de tous ces étudiants dévoués qui ont contribué au succès du JIRIRI. Par ailleurs, nous exprimons notre reconnaissance à nos collègues du *Laboratoire de recherche sur les changements sociaux et l'identité* (CSI).

Sur une note un peu plus personnelle, nous tenons à remercier Roxane de la Sablonnière pour son appui continuuel 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 dicton favori : « Ce sont les idées qui changent le monde ». Finalement, nous aimerions remercier les rédactrices en chef des éditions précédentes, qui continuent d'agir en tant que guides.

Acknowledgments

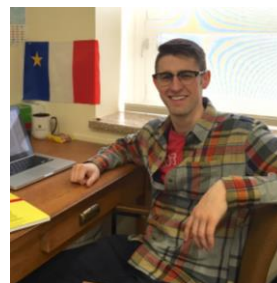
We would first like to express our gratitude to the Department of Psychology at the Université de Montréal and to its Director, Dr. Serge Larochelle. We would also like to thank Mr. Gyslain Giguère and the members of the organizing committee of the 9th annual Scientific Day of the Department of Psychology at the Université de Montréal. We also thank Ms. Sophie Dubois of the Université de Montréal's printing services and Ms. Odile Ducharme, our financial counsellor, for their patience with us. We would like to stress our gratitude to Ms. Lebel, *Découvrir* magazine's Editor in Chief, for the trust she put in our project. We would like to acknowledge the financial contribution from the *Fédération des associations étudiantes de l'Université de Montréal* (FAÉCUM) team grant entitled "Projet d'initiative étudiante". We would also like to acknowledge the financial contribution from the *Fonds de recherche du Québec – société et culture* (FRQSC) team grant entitled "Identity and social dysfunctions" (2013-SE-164404).

We thank all the students who worked with the *Journal of Interpersonal Relations, Intergroup Relations and Identity* (JIRIRI) this year. This volume could not have been published without the participation of all the devoted students who contributed to its success. 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 by participating in the JIRIRI. Indeed, this embodies her favourite saying, "Ideas change the world". We have also benefited from the unconditional support of the previous Editors in Chief, who frequently offered guidance.

Éditorial

JÉRÉMIE DUPUIS
Université de Montréal



Après de nombreux mois de travail ardu, j'ai l'honneur de vous présenter le Volume 8 du *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI). Vous y trouverez des articles provenant de huit universités différentes couvrant divers sujets allant des relations intergroupes et comportements collectifs aux bienfaits psychologiques du yoga.

Depuis sa première parution en 2008, le JIRIRI a vu sa réputation et sa visibilité internationale croître de façon constante, et cette année ne fait pas exception. L'équipe du Volume 8 du JIRIRI était la plus large de son histoire avec 24 membres du comité éditorial et plus de 100 évaluateurs et correcteurs. Lorsque l'on tient compte des divers auteurs qui nous ont envoyé leurs manuscrits, le JIRIRI représente une collaboration entre 28 universités et neuf pays différents. Par conséquent, la communication efficace et l'organisation ont été les clés du succès de ce volume.

Notre objectif cette année était d'augmenter la visibilité internationale du JIRIRI. C'est dans cette optique que Tatiana Ruiz Delcharlerie, directrice des communications, et son équipe ont réussi à présenter le JIRIRI et sa mission à 347 universités de partout au monde. L'équipe des communications a également fait parvenir à ces universités une copie du Volume 7 du JIRIRI. L'accueil a été favorable en plus de susciter un niveau élevé d'intérêt. Un bon nombre de ces universités ont exprimé le désir de collaborer avec nous dans le futur, ce qui ouvre la possibilité d'une collaboration internationale accrue pour le Volume 9.

L'équipe du JIRIRI a reçu un total de 21 manuscrits dont huit ont été acceptés et publiés, ce qui nous donne un taux de rejet de 62%. Pour assurer la qualité de nos

articles, notre chef d'édition Alex Fernet Brochu a fait un excellent travail avec les formations pour les évaluateurs. Elle a su transmettre nos critères d'évaluation efficacement. De plus, elle s'est occupée de la mise en page et du processus de correction de nos articles. J'aimerais aussi souligner le travail qu'ont fait nos rédacteurs adjoints. Tout au long de l'année, ils ont écrit d'excellentes lettres d'édition pour guider les auteurs et ils étaient toujours prêts à me donner un coup de main. Ce fut un réel plaisir de travailler à leurs côtés, et je suis fier de ce que nous avons accompli ensemble.

Sur le plan personnel, j'aimerais remercier Roxane de la Sablonnière (Ph. D.), fondatrice du JIRIRI. Son enthousiasme, son inlassable énergie et sa générosité ont été pour moi une grande source d'inspiration tout au long de l'année. J'aimerais également remercier Diana Cárdenas (M. Sc.) qui m'a offert une orientation et un soutien à toutes les étapes du processus. Je vous remercie toutes les deux de m'avoir donné l'occasion d'être rédacteur en chef malgré le fait que j'étais à mille kilomètres de vous à Moncton, au Nouveau-Brunswick, pendant mes quatre premiers mois en poste. Je serai toujours reconnaissant de votre confiance en moi ainsi que des nouvelles connaissances et expériences que ce cheminement m'a donné.

Finalement, je désire remercier l'équipe d'évaluateurs et correcteurs pour leur collaboration, leur dévouement et leur engagement tout au long de l'année. Sans vous, ce volume n'aurait pas été possible.

Editorial

JÉRÉMIE DUPUIS
Université de Montréal



After many months of hard work, it is with great pride that I present Volume 8 of the *Journal of Interpersonal Relations, Intergroup Relations and Identity* (JIRIRI). In it you will find articles from eight different universities on a variety of subjects ranging from cross-group relations and collective actions to the psychological benefits of yoga.

Since its humble beginnings in 2008, the JIRIRI has seen its reputation and visibility grow constantly through the years, and this year was no exception. The team of the 8th JIRIRI volume was the biggest one yet with 24 editorial board members and over 100 reviewers and correctors. When you factor in the various authors who sent us their submissions, the JIRIRI represents a collaboration between 28 different universities and nine different countries. Consequently, efficient communication and organization were key to the success of this volume.

Our goal this year was to increase the global visibility of the JIRIRI. With that in mind, our Communications Director Tatiana Ruiz Delcharlerie and her team contacted 347 universities from across the world to introduce the JIRIRI and explain its mission. The Communications team also sent most of these universities a copy of last year's JIRIRI and the journal garnered positive feedback as well as a high level of interest. Furthermore, many of the universities we contacted expressed a genuine desire to collaborate with us in the future, thereby preparing the field for even greater international collaboration for Volume 9.

The JIRIRI team received 21 articles for consideration throughout the year, and eight of those were accepted and published, which puts our rejection rate at 62%. To ensure the quality of our articles, Alex Fernet Brochu, our Managing Editor, gave training sessions to our

reviewers to help them determine what needed to be modified in the articles and to teach them how to give constructive criticism to the authors. She also insured the efficiency of the correction process and all of the editing. I would also like to highlight the work that our Associate Editors have done. All year long, they produced excellent letters to guide our authors and were always willing to give me a hand when I was in need. It was a genuine pleasure working alongside of you, and I am proud of what we accomplished together.

On a personal note, I would like to thank Roxane de la Sablonnière (Ph.D.), founder of the JIRIRI. Her enthusiasm, boundless energy and generosity were a great source of inspiration for me throughout the year. I also want to thank Diana Cárdenas (M.Sc.) who provided me with guidance and support every step of the way and made sure that I kept the process going. Thank you both for giving me the opportunity of becoming Editor in Chief of this wonderful journal, despite the fact that I lived a thousand kilometers away in Moncton, New-Brunswick for the first four months of my term. I will always be grateful for your faith in me, and for the knowledge and experience that this journey has given me.

And finally, I want to thank the team of reviewers and correctors for their collaboration, commitment and dedication throughout the year. Without you, this volume would not have been possible.

Lettre des rédactrices adjointes séniores

DIANA CÁRDENAS, M. SC. & ROXANE DE LA SABLONNIÈRE, PH. D.
Université de Montréal



C'est avec fierté que nous vous présentons le Volume 8 du *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI). En effet, nous sommes fières, car ce volume illustre comment le travail d'équipe, la persévérance et la collaboration entre les rédacteurs et les auteurs contribuent à la publication d'articles scientifiques d'une qualité supérieure. Au fil des ans, l'équipe du JIRIRI continue de grandir et de susciter des défis additionnels tout en apportant des points de vue innovateurs.

Au cours des dernières années, l'équipe du JIRIRI s'est élargie de façon exponentielle et a permis davantage aux étudiants du premier cycle de participer au monde de la recherche. Compte tenu de l'augmentation du nombre d'étudiants impliqués, toute l'équipe s'est concentrée sur l'amélioration de la communication entre les différents membres de l'équipe du JIRIRI. Grâce à une méthode de communication établie et fiable conçue l'an dernier, le Volume 8 du JIRIRI pouvait porter librement sur d'autres éléments du processus de révision par les pairs, comme l'amélioration de la qualité des lettres d'édition rédigées pour les auteurs. Nous tenions à présenter aux auteurs des commentaires clairs, concis et capables de les guider en vue de leur prochaine resoumission. Pour ce faire, les éditeurs consultants et les rédacteurs adjoints se sont réunis dès qu'ils avaient

lu un article soumis afin de dresser un aperçu de la lettre à envoyer aux auteurs. En travaillant ensemble dès le début du processus, ils ont réussi à raccourcir le temps consacré à la correction, et surtout, à améliorer la qualité des lettres.

Cette année, la visibilité du JIRIRI a représenté un objectif important. À cet égard, les étudiants de l'équipe des communications ont établi des liens avec des centaines d'universités, ce qui a permis d'évaluer un nombre plus important d'articles et d'augmenter la participation des collaborateurs internationaux. En améliorant notre visibilité internationale, nous espérons permettre aux étudiants du premier cycle de toute la planète de participer à un processus de révision par les pairs, de devenir des évaluateurs, de présenter des commentaires appropriés ou de soumettre leurs articles. Nous avons commencé notre lettre en évoquant notre fierté à l'égard du Volume 8 du JIRIRI. Nous sommes en fait extrêmement fières de l'effort et de la coordination de toute l'équipe du JIRIRI. Nous avons également apprécié la capacité de collaborer des auteurs, même ceux qui n'ont pas vu leur article publié. C'est cette capacité de travailler ensemble et d'apporter des idées novatrices qui continue de nous convaincre que se sont les idées qui changent le monde.

Letter from the Senior Associate Editors

DIANA CÁRDENAS, M. SC. & ROXANE DE LA SABLONNIÈRE, PH. D.
Université de Montréal



Today, we proudly present the 8th volume of the *Journal of Interpersonal Relations, Intergroup Relations, and Identity* (JIRIRI). We are indeed proud, as the present volume illustrates how team work, perseverance and collaboration between editors and authors translate into high-quality articles. As the JIRIRI team continues to grow year after year and brings about additional challenges, it also brings forth fresh ideas and perspectives.

In the past few years, the JIRIRI team has expanded exponentially, giving even more undergraduate students the opportunity to get involved in the research world, and as a consequence of our increased numbers, we have had to focus on improving the communication between the different JIRIRI team members. By inheriting and improving upon an established and reliable method of communication designed last year, the 8th volume of the JIRIRI was free to focus on other elements of the peer-review process, such as on increasing the quality of the letters that we write to the authors. We wished to give authors feedback that was clear, concise, and capable of guiding them into their next submission. To this end, the Consulting Editors and the Associate Editors met as soon as they had read a submitted article and they drew the outline of the letter to be sent to the author together. By working together from the beginning, the time elapsed between

corrections decreased and most importantly, the quality of the feedback in the letters increased.

This year, we were also able to concentrate on increasing the international visibility of the JIRIRI. To this effect, the students in the Communication Team contacted hundreds of universities, resulting in an increase in articles submitted and international collaborators. By increasing its international visibility, we aim at giving undergraduate students across the globe the opportunity to participate in the peer-reviewed process, either by becoming Reviewers and learning to give appropriate feedback, or by submitting their articles and learning about the scientific publication system. We began this letter by mentioning our pride in the 8th volume of the JIRIRI. However, and to be more precise, we are proud of the effort and coordination of the JIRIRI team. We are also proud of all the authors, even those whose articles are not presently published, and of the effort they put into the peer-review process. It is the JIRIRI team and authors' capacity to collaborate, work hard and bring forth new and innovative ideas that convinces us that ideas can change the world.

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. Les *rédacteurs adjoints* sont responsables du processus de révision et de publication d'une partie 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, Roxane de la Sablonnière, Ph. D., et Diana Cárdenas, M. Sc., agissent à titre de *rédactrices adjointes séniores* 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, they submit grant applications that allow for the publication and expansion of the JIRIRI. The *Associate Editors* are responsible for the review and publication process of some 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*, Roxane de la Sablonnière, Ph. D., and Diana Cárdenas, M. Sc., 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 precise 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.

Cross-Group Relationships and Collective Action: How do International Students Respond to Unequal Tuition Fee Increases?

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Although positive cross-group contact can reduce prejudice, it also can undermine disadvantaged group members' engagement in collective action (CA). However, some initial research suggests that contact with advantaged group members who are openly supportive of the disadvantaged group may not decrease, and may actually increase disadvantaged group members' CA. This research used the unequal tuition fee increases at Simon Fraser University (SFU) to investigate international students' CA intentions. We manipulated the contact partner's (Canadian student) supportiveness and whether Canadian students directly benefited from the unequal tuition fee increases. The results indicated that when Canadian students were beneficiaries of the inequality, supportiveness from a Canadian student increased international students' intentions of engaging in organizational disloyalty towards SFU (a form of CA) via increased group-based sadness. However, when Canadian students were bystanders, supportiveness decreased intentions of engaging in organizational disloyalty via reduced group-based sadness and fear.

Keywords: collective action, cross-group interaction, group-based emotion, position, supportiveness

Des contacts intergroupes positifs peuvent réduire les préjugés, mais peuvent aussi réduire l'engagement des groupes désavantagés dans des actions collectives (AC). Pourtant, des recherches préliminaires suggèrent que le contact avec les membres d'un groupe avantagé explicitement solidaires au groupe désavantagé pourrait favoriser les AC des membres du groupe désavantagé. Nous avons utilisé l'augmentation inégale des frais de scolarité à Simon Fraser University (SFU) pour étudier les intentions d'AC des étudiants étrangers. Nous avons manipulé la solidarité du partenaire du participant (étudiant canadien) et si les étudiants canadiens bénéficiaient directement de l'augmentation des frais de scolarité ou non. Les résultats indiquent que quand les étudiants canadiens bénéficiaient de l'inégalité, leur solidarité augmentait l'intention de l'étudiant étranger d'émettre des comportements déloyaux envers SFU (une forme d'AC) via une plus forte tristesse groupale. Cependant, lorsque les étudiants canadiens n'en bénéficiaient pas, leur solidarité diminuait les intentions de comportements déloyaux via de plus faibles niveaux de tristesse et de peur groupales.

Mots-clés : action collective, contact intergroupe, émotion groupale, position, solidarité

Relationships between members of advantaged groups (those groups with more status, power, and resources) and disadvantaged groups are often marked by inequality and conflict. For example, members of racial minority groups often face discrimination and mistreatment at the hands of racial majority group members. In an effort to both understand and contribute to the amelioration of these problems,

social psychologists have conducted hundreds of studies investigating potential strategies for improving the attitudes of advantaged group members. In 1954, Gordon Allport proposed that under a specific set of conditions, contact between individual members of different groups called "cross-group contact" could reduce prejudice and improve attitudes. There were four specific sets of conditions set out by Allport (1954). First, the equal status between the members of the two groups within the contact situation. Secondly, the contact participants should share common goals. Thirdly, the interaction should involve cooperation between the participants, and fourthly, the contact should be supported by relevant authorities.

This work was part of an honours thesis project completed by the first author, under the direction of the second and third authors at Simon Fraser University. The authors would like to thank Dr. Michael T. Schmitt for his guidance with the data analysis, Odilia Dys-Steenbergen and Scott Neufeld for their feedback on an earlier presentation of this work, and Qiu Yuwei (Molly) and Kyle Stewart for their assistance with data collection and data entry. Please address all correspondence to Siyu Qin (email: siyuq@sfu.ca).

A recent meta-analysis by Pettigrew and Tropp (2006) supported Allport's hypothesis and

demonstrated that cross-group contact helped to reduce prejudice in 94% of the 515 studies in their analysis. Thus, many theorists have concluded that encouraging cross-group contact (under a specific set of conditions) is a key strategy for improving intergroup relations (Brewer & Brown, 1998; Gaertner & Dovidio, 2000; Pettigrew, 1998; Wright, Brody, & Aron, 2005). The beneficial outcomes of such contact in terms of prejudice reduction and attitude change is typically referred to as “positive cross-group contact.”

Reducing the prejudice of advantaged group members through positive cross-group contact can have important benefits for members of the disadvantaged group, and can help to combat intergroup inequality. However, some researchers have recently suggested that positive cross-group contact is not necessarily positive for members of disadvantaged groups, because it may undermine their interest and engagement in collective action (Wright & Baray, 2012; Wright & Lubensky, 2009). Collective action by members of the disadvantaged group represents another important route to reduced intergroup inequality, one that has been the topic of considerable social psychological research (Wright, 2010; van Zomeren, Postmes, & Spears, 2008).

While research on the negative effects of positive cross-group contact on collective action is growing (Dixon & Levine, 2012), there has been relatively little research investigating possible solutions to this problem. Thus, in the current research we examine a specific form of positive cross-group contact called “supportive contact” (Droogendyk, Louis, & Wright, 2015; Droogendyk, Wright, & Louis, 2013), which may help to maintain or increase disadvantaged group members’ collective actions. In addition, we considered whether the position of the advantaged group member in terms of their relationship to the intergroup inequality (i.e., as a bystander or a beneficiary) influences the effectiveness of supportive contact. We also examined the mediating role of group-based emotions. We conducted this research using the context of cross-group contact between international students and domestic students at Simon Fraser University. We were able to take advantage of an especially salient example of inequality between these two groups, as the university had recently increased tuition fees five times higher for international students compared to domestic students. Finally, while most research on collective action has focused on public actions (e.g., protests, attending rallies), this particular intergroup context offered an opportunity to examine a more subtle form of collective action called “organizational disloyalty.”

How Positive Cross-Group Contact Can Undermine Collective Action

Collective action is defined as any action that is taken by an individual on behalf of the in-group with the aim of improving the in-group’s status (Wright, 2001; Wright & Lubensky, 2009). For example, efforts by women to improve women’s rights (e.g., the suffragette movement) and efforts by Aboriginal people in Canada to take back their traditional territories are collective actions. However, according to Wright and Lubensky (2009), positive cross-group contact between advantaged and disadvantaged group members may undermine several important psychological determinants of collective action engagement. Two of these are particularly relevant to the current research: collective identity and perceptions of injustice.

Collective identity refers to that part of a person’s sense of self that is determined by the groups that he or she belongs to (Tajfel & Turner, 1979). It is a key pre-requisite of engaging in collective action on behalf of one’s group (Stürmer & Simon, 2004; Wright, 2010). That an individual engages in collective action when he or she identifies with the group demonstrates an important part of who he or she is, and the collective identity that is currently salient allows them to think of themselves in terms of being a group member. However, positive cross-group contact may weaken collective identity. In fact, de-emphasizing the salience and importance of collective identity has been described as the key to successful cross-group contact. For example, the decategorization model (Brewer & Miller, 1984) and the common in-group identity model (Dovidio, Gaertner, Shnabel, Saguy, & Johnson, 2009; Gaertner & Dovidio, 2000) advise that successful contact is likely to occur when people are explicitly encouraged to ignore their in-group membership and focus on their individual identities, or larger collective identities that are shared with out-group members. However, this weakening or ignoring of collective identity is especially problematic for disadvantaged group members because this can undermine their motivation to engage in collective action (Greenaway & Louis, 2010). Perceptions of injustices are also crucial to collective action engagement. When disadvantaged group members perceive the existing group-based inequality as illegitimate, they are more likely to engage in collective action to seek social change (Wright, 2010). Negative stereotypes that depict the advantaged group as an oppressor can strengthen these perceptions of injustice and serve to legitimize collective action (Cakal, Hewstone, Schwär, & Heath, 2011; Simon & Klandermans, 2001). However, positive cross-group contact breaks down negative stereotypes and generates positive attitudes towards the out-group

(Pettigrew & Tropp, 2006; Wright et al., 2005), thus potentially undermining perceptions of injustice among disadvantaged group members.

In addition, when disadvantaged group members perceive their in-group's disadvantaged position as unjust, negative group-based emotions such as anger and frustration can be functional responses. Group-based anger invokes an action tendency to confront those responsible for the injustice and to seek change through collective action (van Zomeren et al., 2008). However, through positive cross-group contact, group-based anger may be undermined because it is inconsistent with the trust, empathy and positive emotions that are encouraged by friendly cooperative cross-group contact.

Thus, it appears that several of the key factors that support engagement in collective action can be undermined by positive cross-group contact (Wright & Baray, 2012; Wright & Lubensky, 2009). Evidence of the proposed undermining effect of positive cross-group contact on collective action has been provided by a growing number of studies (Becker, Wright, Lubensky, & Zhou, 2013; Dixon et al., 2010; Saguy, Tausch, Dovidio, & Pratto, 2009).

Supportive Contact

However, recent research also suggests that this incompatibility of collective action and cross-group contact may not necessarily be irredeemable. Recently, Droogendyk et al. (2015) have introduced the concept of "supportive contact." This refers to a positive cross-group contact in which an advantaged group member demonstrates personal opposition to intergroup inequality, and/or support for social change. They argue that this form of contact will not only erase the usual undermining effect of positive cross-group contact, but will also empower disadvantaged group members and heighten their collective action engagement.

The key psychological motivators of collective action described above (collective identity and perceptions of injustice) may be strengthened by supportive contact. First, when advantaged group members acknowledge and oppose intergroup inequality, group-based differences become explicitly salient, potentially strengthening collective identity among members of the disadvantaged group. Second, when advantaged group members openly discuss the unequal treatment of the disadvantaged group, disadvantaged group members' dissatisfaction with the status quo may seem more justified, because it is shared by someone who is not a target of that injustice (Czopp, Monteith, & Mark, 2006). Thus, supportive

contact might empower disadvantaged group members by heightening at least two of the key motivators of collective action engagement. Specifically, research by Droogendyk et al. (2013) has empirically demonstrated the potential of supportive contact among Australian international students. Those who recalled positive contact with a clearly supportive domestic student reported higher collective action intentions regarding international students' rights, compared to international students who recalled a positive contact with a domestic student who was ambiguous regarding his/her level of support.

Potential Moderator: Position of Advantaged Group Member

In the current research, we aimed to further explore the impact of supportive cross-group contact and examine the possible mediators and moderators of this effect. One potential moderator of the effectiveness of supportive contact may be the advantaged group member's position relative to intergroup inequality. In real-world examples, advantaged group members can be seen to hold one of two different positions relative to intergroup inequality. Since advantaged group members have more power, privileges and resources compared to disadvantaged group members, they may be seen as direct beneficiaries of the intergroup inequality (Tajfel & Turner, 1979; Walker & Smith, 2002; Wright, 2001). However, since the policy and practices that create group-based disadvantage are often made and enforced by governments or broader social institutions, advantaged group members (or subgroups within the advantaged group) could be seen as not playing a direct role in this institutional practice. Thus, they could be understood to be bystanders (or third parties) in relation to intergroup inequality (McCarthy & Zald, 1977; Simon & Klandermans, 2001; Subašić, Reynolds, & Turner, 2008; Turner, 1970; Wright, 2009). Which of these two different positions is salient may moderate the effect of supportive contact on disadvantaged group members' collective engagement, because of their effect on perceptions of injustice. Specifically, perceptions of injustice may be especially heightened during contact with a supportive advantaged group member who is seen as a beneficiary. That is, disadvantaged group members' dissatisfaction with the status quo may seem even more justified if the intergroup inequality is apparently unfair even to advantaged group members who directly benefit from it and they appear to be arguing against their own self-interest.

Emotions as Mediators

According to intergroup emotions theory (Ray, Mackie, Rydell, & Smith, 2008), when disadvantaged group members appraise events that are relevant to their in-group as unjust, they may experience group-based emotions. These are emotions experienced by the individual but resulting from the actions or treatment of a group they identify with. In some cases, these emotions can motivate behaviors on behalf of the in-group. Smith, Cronin and Kessler (2008) demonstrated that anger, fear and sadness are three distinct group-based emotional responses to a collective disadvantage. Of these, group-based anger may be particularly related to motivations to confront those responsible for the collective disadvantage. Thus, group-based anger can mediate the relationship between collective disadvantage and disadvantaged group members' willingness to take assertive collective action. In contrast, sadness and fear are associated with escape and withdrawal from the context of inequality. For example, Smith et al. (2008) investigated university faculty members' emotional responses regarding pay inequality. They found that group-based sadness and fear in response to inequalities in this workplace setting led to actions involving organizational disloyalty, such as quitting the job, or reducing one's engagement in the work.

In addition to motivating both collective action and withdrawal, group-based emotions may also serve as a mediator of the relationship between supportive contact and collective action engagement. Specifically, disadvantaged group members' group-based anger may be heightened during supportive contact, because the support of the advantaged group member increases the salience of the injustice of intergroup inequality (Czopp et al., 2006). Conversely, when positive cross-group contact is not supportive, disadvantaged group members may experience an increase in group-based fear and sadness. This could occur because disadvantaged group members feel a growing sense of hopelessness when they interact with friendly advantaged group members who are apparently unwilling to take part in efforts to produce social change (Smith & Kessler, 2004).

Types of Collective Action

Typically, collective action has been measured by assessing relatively assertive and public forms of collective action such as willingness to protest, participate in rallies, and sign petitions (Iyer, Schmader, & Lickel, 2007). We argue that there are more subtle and less public forms of collective action that may emerge in specific cross-group contexts (Smith et al., 2008). In some contexts, personal

concerns will reduce the likelihood that individuals will engage in open public protest (Stürmer & Simon, 2004). However, even when disadvantaged group members are particularly afraid of getting into trouble as a result of their participation in public action, they may still be willing to participate in private resistance. For example, they may be willing to engage in acts of disloyalty towards the agent seen to be the perpetrator of collective disadvantage – referred to as *organizational disloyalty*. The current research utilized a cross-group context where such concerns were likely to be relevant, and thus offered an excellent context to investigate this understudied form of collective action.

Contributions of the Current Research

This research stands to make four main contributions. First, it contributes to the very small literature on potential solutions to the conflict between positive cross-group contact and collective action by disadvantaged group members (Wright & Lubensky, 2009). Second, it is the first study to directly investigate the impact of the position of advantaged group members (beneficiary vs. bystander) in relation to intergroup inequality and to consider whether these different positions moderate the effects of supportive contact on collective action engagement. Third, it contributes to the important work on the mediating role of group-based emotions in predicting collective action (van Zomeren, Spears, Fischer, & Leach, 2004). Our research considers the group-based emotions of sadness and fear, which have received much less attention than anger and frustration. Fourth, we examined a form of collective action – organizational disloyalty – that has received very little attention in the social psychological literature on collective action (Smith et al., 2008, for an exception).

Overview of Study

North American universities have seen a large growth in the number of international students and many now actively recruit international students. However, many international students face disadvantages in daily life, such as discrimination from fellow students, as well as from their professors (Reitmanova, 2008). In addition to these obstacles, international students typically pay far higher tuition fees than domestic students. At Simon Fraser University (SFU) in British Columbia, for example, Canadian undergraduate students taking a full course load pay about \$2506 per term, whereas international undergraduate students pay more than 3 times as much: \$8118 per term. Recently, the economic load on international students at SFU became even heavier and the disparity between Canadian and international

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students became even greater. In fall 2013, the SFU administration increased tuition fees for international students by 10%, while increasing Canadian students' tuition fees by only 2%. Thus, this context provides an ideal setting for examining the impact of supportive contact on disadvantaged group members' collective action engagement. Our research was conducted immediately after these unequal tuition fee increases were implemented. International students face many forms of group-based disadvantages (Reitmanova, 2008) not faced by Canadian students. Thus, they can be seen as a disadvantaged group, while Canadian students represent the advantaged group. In this particular instance, the disadvantage faced by international students is made salient by the fact that they face a heavier financial burden, as well as a much larger increase in that burden. Thus, we investigated how supportive contact with a Canadian student would affect international students' intentions to engage in collective action in response to the inequality in tuition fee increases.

The issue of the position of advantaged group members in relation to an injustice is also relevant in this context. Canadian students could be seen to hold one of two different positions in relation to the issue of unequal tuition fee increases. On one hand, since the policy of unequal tuition fees increases is implemented by the university administration, Canadian students could be understood as bystanders who, although fortunate to avoid paying extremely high tuition fees, do not play a direct role in this injustice. On the other hand, the majority of the funds brought in by tuition fees go towards the maintenance of school buildings, providing student services, hiring faculty and staff, and the like. Thus, Canadian students could be seen to enjoy direct benefits of the increased tuition fees paid by international students. It is possible that Canadian students could be described as either bystanders or direct beneficiaries of the cross-group injustice.

In addition, we explored whether interactions with Canadian students who differ in position relative to the inequality (i.e., beneficiary vs. bystander) can influence which group-based emotions international students are likely to experience, and thus impact their collective action participation. Different group-based emotions (i.e., anger, sadness, and fear) should predict different reactions to intergroup inequality: group-based anger should motivate engagement in traditional forms of collective action (e.g., protest, petition signing), whereas group-based fear and sadness may play a role in withdrawal or less public collective action (Smith et al., 2008). In our research, we expect that when international students not only compare themselves to Canadian students in terms of how

much tuition fees they pay, but are also reminded that Canadian students get benefits from unequal tuition fee increases, their sense of deprivation will increase, leading them to experience more group-based anger and/or sadness. This prediction is consistent with relative deprivation theory (Walker & Smith, 2002), which argues that when individuals realize that their group faces undeserved disadvantage compared to other groups, they feel a sense of deprivation, and experience negative emotions such as group-based anger, depression and resentment (Smith & Kessler, 2004).

Thus, the current research investigated how supportive versus non-supportive cross-group contact with Canadian students who were described as either beneficiaries or bystanders would influence international students' engagement in both public collective action and organizational disloyalty towards SFU. We also examined the degree to which these effects can be accounted for by differences in relevant group-based emotions. Thus, we orthogonally manipulated two independent variables: Supportiveness of Advantaged Group Member (Supportive, Non-supportive, Control) and Position of Advantaged Group (Beneficiary, Bystander), and measured group-based emotions and willingness to engage in a variety of collective actions in response to a clear intergroup inequality.

Hypotheses

(1) We hypothesized that compared to non-supportive contact or a control condition, supportive contact with a Canadian student would increase international students' willingness to engage in public collective action against unequal increases in tuition fees.

(2) We hypothesized that compared to non-supportive contact or a control condition, supportive contact with a Canadian student would heighten international students' willingness to engage in organizational disloyalty towards SFU.

(3) We hypothesized that these effects of supportive contact would be moderated by Canadian students' position relative to the intergroup inequality. Therefore, international students' willingness to engage in both public collective action and organizational disloyalty would be strengthened when they have supportive contact with a Canadian student who is described as a beneficiary, compared to a Canadian student who is described as a bystander.

(4) We hypothesized that the influence of supportive contact on both public collective action and

organizational disloyalty would be mediated by group-based emotions, collective identity, and perceptions of injustice.

(5) We hypothesized that the influence of the position of the advantaged group member on both public collective action and organizational disloyalty would be mediated by group-based emotions and perceptions of injustice.

Method

Participants

One hundred and forty-five undergraduate international students studying at Simon Fraser University (51 male, 94 female, $M = 20.90$, $SD = 2.25$) were recruited from undergraduate psychology classes or by email invitation. Participants indicated their ethnicity was Chinese (50.3%), White/European (13.1%), Korean (8.3%), South Asian (6.2%), mixed ethnicity (13.8%), or other (8.3%). Each participant received two credits towards his/her psychology course or \$15.

Procedures

Manipulation of position of advantaged group. Participants completed the study in a laboratory and read an information page that described the unequal increases in tuition fees. Following this introduction, participants were randomly assigned to read one of two descriptions of the position of Canadian students, which described them either as Beneficiaries or as Bystanders in terms of the unequal tuition fee increases.

In the beneficiary condition, participants read: "Canadian students will benefit from the increased tuition fees paid by international students. The money raised from increasing tuition fees for international students will in part be used to pay for the increasing costs of student services at SFU (e.g., the cost of teaching materials, extracurricular programs). Canadian students will be able to freely access the services paid for by the additional funds. Thus, Canadian students at SFU are direct 'beneficiaries', since they will benefit considerably from the increased tuition fees, at the expense of international students."

In the bystander condition, participants read: "Canadian students will not be affected by the increased tuition fees paid by international students. The money raised from increasing tuition fees for international students will be used to pay for the increasing costs of administration at SFU (e.g.,

salaries for staff and administrators). Thus, Canadian students at SFU are 'bystanders', since they are unlikely to benefit from the increased tuition fees paid by international students."

Manipulation of supportiveness of advantaged group member. Participants were randomly assigned to one of three conditions: supportive, non-supportive and control. Participants completed an imagination task consistent with other studies of imagined cross-group contact (Dovidio, Eller, & Hewstone, 2011). Participants were asked to imagine an interaction with a Canadian student ("Matthew Williams" or "Sarah Williams"—named to match participant's gender) who was described as a classmate and friend of theirs. Specifically, participants were asked to imagine that "after talking and realizing you have some similar interests, you have become friends with him/her outside of university." To facilitate the imagination task and ensure that participants imagined a detailed, realistic interaction, participants were asked to write down some details about their imagined conversation, for example, "Where might you be when you have this conversation?" and "Imagine the things that you and the Canadian student might say to each other."

Following this introduction to the imagined contact partner, we introduced the manipulation of Supportiveness of Advantaged Group Member. Participants were asked to imagine that they were discussing the issue of differential tuition fees with their imagined contact partner, and read that their partner made one of three comments.

Participants in the supportive condition read that their friend said, "I'm a little angry, as it's not fair that international students have to pay so much more," and also read that the Canadian student had indicated that he/she was willing to sign a petition protesting the unequal tuition fee increases.

Participants in the non-supportive condition read that their friend said, "I do not feel sympathy for international students, who can choose to study at home too," and also read that the Canadian student had indicated that he/she was unwilling to sign a petition protesting the unequal tuition fee increases.

Participants in the control condition completed a different imagination task that did not involve an interaction with a Canadian student. They were asked to think about the street that they lived on and to write down a description of the street.

Measures

After completing the imagination task, participants completed a paper and pencil questionnaire including the dependent measures, mediators, and demographic variables. Unless otherwise noted, all scales were responded to using a 7-point Likert-type scale bounded by “not true at all” (1) and “very true” (7).

Dependent Variables

Willingness to engage in public collective action. A 12-item scale ($\alpha = .89$) created specifically for use with this population, but consistent with items typically used to assess collective action (Becker et al., 2013) measured international students’ willingness to engage in collective action against the unequal tuition fee increases. It included items such as: “I am willing to hand out flyers on the SFU campus that describe the unequal increases in tuition fees.”

Organizational disloyalty. A 4-item scale ($\alpha = .84$) created specifically for this population measured intentions to engage in organizational disloyalty towards SFU. It included items such as: “I will be more likely to complain about SFU when I talk with my friends, because of these unequal tuition fee increases for international students.”

Mediators

Group-based sadness. A 3-item scale ($\alpha = .85$) adapted from Smith et al. (2008) measured the extent of participants’ sadness regarding the unequal increases in tuition fees. It included items such as: “When I think about the unequal tuition fee increases, I feel depressed.”

Group-based anger. A 3-item scale ($\alpha = .86$) adapted from Smith et al. (2008) measured the extent of participants’ anger regarding the unequal increases in tuition fees. It included items such as: “When I think about the unequal tuition fee increases, I feel angry.”

Group-based fear. A 3-item scale ($\alpha = .84$) adapted from Smith et al. (2008) measured the extent of participants’ fear regarding the unequal increases in tuition fees. It included items such as: “When I think about the unequal tuition fee increases, I feel worried.”

Perceptions of injustice. A 3-item scale ($\alpha = .75$) created specifically for this population measured perceptions of the fairness of the unequal tuition fee

increases. It included items such as: “It is unfair that international students face a larger tuition fee increase than Canadian students.”

Identification with international students. A 4-item ($\alpha = .76$) scale adapted from Cameron (2004) measured participants’ psychological connection to the international student in-group. It included items such as: “I identify strongly with other international students.”

Demographics. Finally, participants completed demographic questions, including age, gender, and ethnicity.

After completing the questionnaire, participants were sensitively debriefed and probed for suspicion.

Results

Primary Analyses

In order to test Hypotheses 1 to 3, 2 x 3 ANOVAs were performed on Public Collective Action and Organizational Disloyalty, with Position of Advantaged Group (Beneficiary, Bystander) and Supportiveness of Advantaged Group Member (Supportive, Control, Non-supportive) as between-subject factors (see also Table 1).

Willingness to engage in public collective action. This analysis yielded no significant main or interaction effects (Advantaged Group Position: $F(1, 138) = 1.15, p = .285, \eta_p^2 = .01$. Advantaged Group Member Supportiveness: $F(2, 138) = 1.09, p = .340, \eta_p^2 = .07$. Interaction: $F(2, 138) = 0.93, p = .396, \eta_p^2 = .01$).

Organizational Disloyalty. This analysis yielded a significant main effect of Position of Advantaged Group, $F(1, 138) = 5.58, p = .020, \eta_p^2 = .04$, indicating that participants in the Bystander condition ($M = 4.79, SD = 1.49$) reported stronger intentions to engage in Organizational Disloyalty towards SFU than those in the Beneficiary condition ($M = 4.18, SD = 1.67$). The main effect of Supportiveness of Advantaged Group Member was not significant, $F(2, 138) = .04, p = .965, \eta_p^2 = .00$.

In addition, the interaction was significant, $F(2, 138) = 3.14, p = .046, \eta_p^2 = .04$ (see Figure 1). This interaction emerges as a result of opposite effects of supportiveness in the Beneficiary condition and Bystander conditions. In the Beneficiary condition, the pattern is as predicted. Imagining a supportive Canadian student resulted in the highest level of

Organizational Disloyalty towards SFU, and imagining a non-supportive Canadian student led to the lowest levels of Organizational Disloyalty towards SFU, and the Control condition fell between these two. In the Bystander condition, the pattern is opposite to predictions. Imagining a supportive Canadian student resulted in the lowest level of Organizational Disloyalty towards SFU, and imagining a non-supportive Canadian student led to the highest level of Organizational Disloyalty towards SFU, and the Control condition fell between those two.

Given our particular interest in the effects of supportive contact, we probed this interaction further using planned comparisons. Within each level of Position of Advantaged Group, we performed two contrasts: one comparing the Supportive condition to the Non-Supportive condition, and a second comparing the Supportive condition to the Control condition. In the Beneficiary condition, the contrast between the Supportive condition ($M = 4.51$, $SD = 1.74$) and the Non-Supportive condition ($M = 3.80$, $SD = 1.62$) was not significant, $t(70) = 1.51$, $p = .136$, nor was the contrast between the Supportive condition and the Control condition ($M = 4.18$, $SD = 1.64$), $t(70) = 0.68$, $p = .497$. In the Bystander condition, the contrast between the Supportive condition ($M = 4.39$, $SD = 1.49$) and the Non-Supportive condition ($M = 5.25$, $SD = 1.55$) was significant, $t(69) = -2.05$, $p = .044$. However, the contrast between the Supportive condition and the Control condition was not significant ($M = 4.74$, $SD = 1.34$), $t(69) = -0.84$, $p = .405$.

Mediation Analyses

In order to test hypotheses 4 and 5, six separate bootstrapping analyses were performed (Preacher & Hayes, 2004) to test for indirect effects of the interaction between Supportiveness of Advantaged Group Member and Position of Advantaged Group on Organizational Disloyalty.

For these analyses, we excluded the Control condition, for two reasons. First, as predicted, the Control condition fell between the Supportive and Non-supportive conditions, but was not significantly different than either of these other conditions. In addition, participants in this condition were given no information about advantaged group members (there was no imagined interaction at all). Therefore, the six separate moderated mediation models tested the indirect effect of the critical contrast between the Supportive and Non-supportive conditions on Organizational Disloyalty, treating Group-based Sadness, Group-based Anger, Group-based Fear, Perceptions of Injustice, and Collective Identity as mediators and Position of Advantaged Group as a moderator.

Mediation by group-based sadness. When the three group-based emotions are run simultaneously in the same model, no significant mediation emerges. This test would provide the most conservative analysis, but it also likely masks interesting effects, due to shared variance among the emotions. To highlight the role of each individual group-based emotion, the models in the text test the mediating role of each emotion separately. Position of Advantaged Group moderated the indirect effect (IE) of Supportiveness of Advantaged Group Member on Organizational Disloyalty via Group-based Sadness ($IE = -0.94$, $SE = 0.34$, 95% $[CI] = [-1.71, -0.36]$). The indirect effect of Supportiveness of Advantaged Group Member on Organizational Disloyalty via Group-based Sadness was significant in both the Beneficiary condition ($IE = 0.37$, $SE = 0.20$, 95% $[CI] = [0.05, 0.85]$) and the Bystander condition ($IE = -0.56$, $SE = 0.24$, 95% $[CI] = [-1.14, -0.17]$).

This analysis indicated that, in the Beneficiary condition, imagining a supportive advantaged group member led to more Organizational Disloyalty compared to imagining a non-supportive advantaged group member, and this effect was accounted for by increased group-based sadness. In the Bystander

Table 1

Descriptive statistics of measured variables

Variables	<i>M (SD)</i>	Skewness	Kurtosis
1. Collective action	5.35 (1.17)	-0.85	0.70
2. Organizational disloyalty	4.48 (1.61)	-0.25	-0.73
3. Identification with international students	4.61 (1.42)	-0.32	-0.43
4. Perceptions of injustice	6.14 (1.01)	-1.73	4.85
5. Group-based anger	5.09 (1.48)	-0.54	-0.41
6. Group-based sadness	4.49 (1.78)	-0.22	-1.03
7. Group-based fear	4.72 (1.70)	-0.35	-0.87

Note. $N = 145$.

CROSS-GROUP CONTACT AND COLLECTIVE ACTION

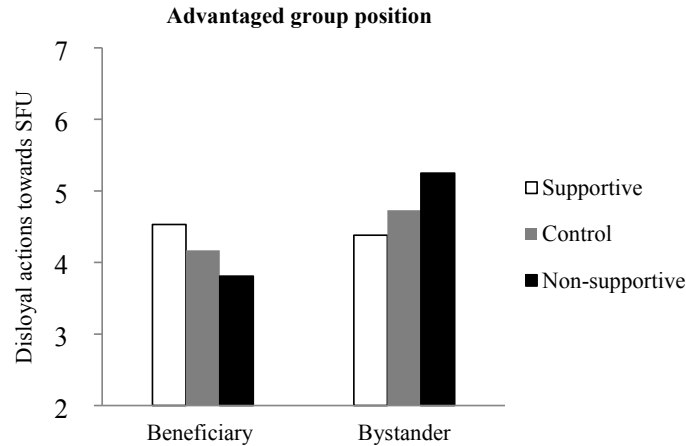


Figure 1. Mean scores of disloyal actions towards SFU divided by advantaged group position and advantaged group member supportiveness.

condition, imagining a supportive advantaged group member led to less Organizational Disloyalty compared to imagining a non-supportive advantaged group member, and this effect was accounted for by decreased group-based sadness.

Mediation by group-based fear. Position of Advantaged Group moderated the indirect effect of Supportiveness of Advantaged Group Member on Organizational Disloyalty via Group-based Fear ($IE = -0.66$, $SE = 0.29$, 95% $[CI] = [-1.35, -0.18]$). The indirect effect of Supportiveness of Advantaged Group Member on Organizational Disloyalty via Group-based Fear was significant in the Bystander condition ($IE = -0.44$, $SE = 0.21$, 95% $[CI] = [-0.98, -0.11]$), but not in the Beneficiary condition ($IE = 0.23$, $SE = 0.17$, 95% $[CI] = [-0.08, 0.62]$).

This analysis indicated that in the Beneficiary condition, group-based fear did not mediate the relationship between imagining a supportive advantaged group member and acting disloyal towards SFU. In the Bystander condition, imagining a supportive advantaged group member led to less Organizational Disloyalty compared to imagining a non-supportive advantaged group member, and this effect was accounted for by decreased group-based fear.

Mediation by group-based anger. There was no significant indirect effect of the interaction between Position of Advantaged Group and Supportiveness of Advantaged Group Member on Organizational Disloyalty via Group-based Anger ($IE = -0.43$, $SE = 0.34$, 95% $[CI] = [-1.10, 0.20]$).

Mediation by perceptions of injustice. There was no significant indirect effect of the interaction between Position of Advantaged Group and Supportiveness of Advantaged Group Member on Organizational Disloyalty via Perceptions of Injustice ($IE = -0.32$, $SE = 0.25$, 95% $[CI] = [-0.85, 0.15]$).

Mediation by collective identification. There was no significant indirect effect of the interaction between Position of Advantaged Group and Supportiveness of Advantaged Group Member on Organizational Disloyalty via Collective Identification with International Students ($IE = -0.09$, $SE = 0.09$, 95% $[CI] = [-0.02, 0.36]$).

Discussion

The current findings revealed the predicted pattern of results for Organizational Disloyalty (see Hypotheses 2 and 3) when international students imagined interacting with a Canadian student who was described as a direct *beneficiary* of unequal tuition fee increases. We found that imagining a supportive advantaged group member who was a beneficiary led to stronger intentions to engage in Organizational Disloyalty towards the organization responsible for the inequality than when the advantaged group member was openly non-supportive. However, inconsistent with our predictions (see Hypotheses 4 and 5), this effect was not explained by the “usual” psychological mediators – collective identity or perceptions of injustice (Wright, 2010) – but only by a measure of group-based sadness (Smith et al., 2008).

For international students who imagined interacting with a Canadian student who was described as a *bystander* (not directly benefiting from the unequal tuition fee increases), the results for Organizational Disloyalty revealed a result that was inconsistent without predictions (see Hypotheses 2 and 3), and opposite to the pattern observed when students imagined interacting with a beneficiary. Imagining a supportive advantaged group member who was a bystander led to lower intentions to engage in Organizational Disloyalty towards SFU than when the advantaged group member was openly non-supportive. Mediation analyses revealed that this effect was explained by reduced group-based sadness and group-based fear (see Hypothesis 4).

Our prediction (see Hypotheses 1 and 2) that contact with supportive advantaged group members could increase collective action engagement of disadvantaged group members is based on research which investigates traditional forms of collective action, such as petition-signing and group protests (Becker & Wright, 2011; Becker et al., 2013). If disadvantaged group members are afraid of getting into trouble because of engaging in public protest, then they may be more likely to participate in private individual resistance, such as displaying disloyalty towards the perpetrator of the collective disadvantage. Non-traditional forms of collective action, like the organizational disloyalty measured in the current research, could be seen as a form of private resistance and may be distinct from other forms of collective action.

This appears relevant to the current research context. First, international students have temporary residence status in Canada, so they could have legitimate concerns that engaging in public protest against an authority figure (SFU) would result in forced repatriation from Canada. Second, demographic information indicated that the majority of the participants in the study (around 70%) were from Asian home countries (e.g., China, Korea), which tend to have more collectivistic cultures (Asghar, Wang, Linde, & Alfermann, 2013). Individuals from these countries may strongly value respect for authority and maintaining group harmony (Kee, Tsai, & Chen, 2008). Publically protesting against authority figures may conflict with these collectivistic values. Thus, two major factors may have hindered the international students in this study from being willing to engage in traditional public collective action. However, rather than choosing inaction, international students appear to have chosen to engage in private organizational disloyalty toward the institution, which is less risky to their status in Canada and less in conflict with collectivistic values.

It is worth noting that if an organization has a tradition of discouraging collective action, disadvantaged group members may especially be unmotivated to engage in traditional, public collective action. Roscigno and Hodson (2004) found that disadvantaged group members were more likely to engage in organizational disloyalty such as theft and work avoidance if the organization had a lack of “collective action legacy” (p. 14). Therefore, further research to investigate the underlying differences between organizational disloyalty and traditional collective action would do well to focus on both the psychology of disadvantaged group members, and the organizational context.

The impact of the advantaged group’s position was mediated by two group-based emotions: sadness and fear. When international students thought of a Canadian student who was supportive, and also a bystander to the unequal tuition fee increases, they experienced less sadness and fear, compared to when they thought of Canadian students as beneficiaries. As a result, they were less willing to engage in collective action. Potentially, this could reflect the very conundrum recently proposed by researchers (Wright & Lubensky, 2009): this condition may represent an especially positive contact experience, which could have generated positive attitudes toward the out-group, thus undermining collective action engagement.

Our finding that lower group-based sadness was associated with lower intentions to engage in organizational disloyalty towards SFU is consistent with Smith et al.’s work (2008). They demonstrated that sadness is associated with withdrawal from the institution perpetrating the collective disadvantage. Therefore, rather than engaging in traditional collective action which usually involves confrontation, people who experience heightened group-based sadness are more likely to participate in organizational disloyalty. In addition, Smith et al. (2008) pointed out that organizational disloyalty can be seen as an adaptive response to disadvantaged group members’ feelings of sadness.

Limitations and Future Directions

The beneficiary condition led to unexpected results that were inconsistent with our hypotheses. When international students thought of a Canadian student who was supportive, and also a beneficiary of the inequality, they experienced increased group-based sadness, and this led to more organizational disloyalty. Although we expected to observe increased collective action engagement in this condition, this mediation via

increased sadness was unexpected. Future research could certainly explore why and under what conditions supportive contact will lead to increased sadness, as this may have implications for the well-being of disadvantaged group members. One tentative explanation for the increased group-based sadness we observed may be that repeated interactions are required before disadvantaged group members view support from beneficiaries as trustworthy and genuine. Our study involved only a single, imagined interaction. The potential lack of trust in the support offered in this situation, combined with heightened feelings of relative deprivation (due to the fact that the benefits enjoyed by advantaged group were made highly salient) overall may have contributed to heightened group-based sadness.

In addition, the finding that lower group-based fear was associated with lower intentions to engage in organizational disloyalty towards SFU is inconsistent with the findings of Smith et al. (2008). They found the opposite pattern, which indicated that higher group-based fear led to lower organizational disloyalty. Thus, future research is necessary to shed light on this apparent inconsistency in the relationship between fear and organizational disloyalty. It would be especially beneficial if this future research could make use of actual, rather than imagined cross-group interactions.

Moreover, we unexpectedly found that group-based anger did not mediate the relationship between supportive contact and collective action. Based on the theoretical contributions of relative deprivation theory, we expected that individuals facing undeserved group-based disadvantage would experience negative emotions such as anger, and this might in turn lead to participation in collective action (Smith & Kessler, 2004). Potentially, this unexpected result could again relate to our participants' cultural background. About 50% of the participants were Chinese international students. In order to maintain consistency with cultural values which encourage the suppression of expressions of anger (Liu, 2014), Chinese participants may have been likely to give low ratings on measures of group-based anger, regardless of the degree to which they actually experienced these emotions. Culturally-specific values around the appropriateness of expressing particular emotions may also have had some influence on the role of sadness and fear in the current study. Therefore, future research should attempt to replicate these effects using a different intergroup context, or in a location where the international student sample includes more participants from other cultural backgrounds. Generally speaking, such replications would also be beneficial because they might shed further light on the

role of group-based emotions in explaining the effects of supportive contact.

Conclusion

The current research makes four main contributions. First, this research is the first to demonstrate the relevance of a new moderator that helps to explain the effects of supportive contact on collective action engagement: the position of the advantaged group in relation to intergroup inequality. Second, considering the role of group-based emotions beyond anger (van Zomeren et al., 2004), especially emotions such as sadness and fear, is relatively new in collective action research. Third, we examined a form of collective action — organizational disloyalty — that has received very little attention in the social psychological literature on collective action (see Smith et al., 2008, for an exception). Finally, since collective action research involving international students is quite limited, this research considers the positive effect of supportive contact in a new and increasingly important intergroup context.

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Received September 5, 2014

Revision received November 23, 2014

Accepted December 23, 2014 ■

A Comparison of Majority and Minority Students' Experiences at a Predominantly White Institution

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The current study explored how college students' experiences at a predominantly White institution (PWI) might differ depending on whether they belong to the majority or minority group. Participants completed an online survey including measures of college adjustment, collective self-esteem, depressive symptoms, and intergroup contact. Minority students ($n = 45$) reported significantly more depressive symptoms and more negative views of the PWI than did majority students ($n = 111$). Minority students also reported significantly lower levels of membership esteem and importance of the PWI to their identity. Furthermore, minority students who engaged in higher levels of intergroup contact with members of other ethnic groups reported that belonging to the PWI was more important to their self-concept. These preliminary findings suggest that ethnic minorities may experience more difficulties at PWIs, but the extent to which they interact with other ethnic groups might help buffer against this.

Keywords: intergroup contact, majority-minority group, collective self-esteem, college adjustment, predominantly white institutions

La présente recherche a exploré la façon dont les expériences des étudiants au niveau universitaire dans un établissement majoritairement blanc (ÉMB) pourraient différer selon le groupe majoritaire ou minoritaire auquel ils appartiennent. Les participants ont rempli une enquête en ligne qui incluait des mesures d'adaptation à l'université, d'estime de soi collective, des symptômes dépressifs et du contact intergroupe. Les résultats montrent que les étudiants minoritaires ($n = 45$) ont rapporté significativement plus de symptômes de dépression et d'opinions négatives de l'ÉMB que ceux du groupe majoritaire ($n = 111$). Les étudiants minoritaires ont également montré des niveaux inférieurs d'estime collective et d'importance de l'ÉMB pour leur identité. Par ailleurs, les étudiants minoritaires qui avaient plus de contact intergroupe ont indiqué qu'appartenir à l'ÉMB était plus important pour leur concept de soi. Ces résultats préliminaires suggèrent que les minorités ethniques pourraient éprouver plus de difficultés dans les ÉMB, mais que ces impacts négatifs pourraient être diminués avec le contact intergroupe.

Mots-clés : contact intergroupe, groupe majoritaire-minoritaire, estime de soi collective, adaptation au collège, établissement majoritairement blanc

"There is a war going on inside of me between my Blackness and your Whiteness. When I see myself in the mirror, I see a competent, talented Black woman. Then I go to class, look around, and realize that I need more. My Blackness seems too... um...Black, like I need to be more than who I am. I need what you [as a White person] have. I need an understanding of how things work, you know, politically. My Blackness, my personhood isn't enough. I need to Whiten myself to succeed" (Simmons, Lowery-Hart, Wahl, & McBride, 2013, p. 382).

This work was part of an independent study completed by the first author under the supervision of the second author at Providence College. The authors would like to thank the Providence College Undergraduate Research Committee for funding this study. Please address all correspondence to Sarah Cote (email: scote2@friars.providence.edu) or Eliane Boucher (email: ebouchel@providence.edu).

College is generally perceived as a time of growth where adolescents evolve into independent adults (see Read, Wardell, Vermont, Colder, Ouimette, & White, 2013); however, non-Caucasian students attending *predominantly white institutions* (PWIs) often find that this college environment presents a "harsh reminder of the realities of race" (Bourke, 2010, p. 131). Consequently, these students often experience more negative interpersonal, psychological, and academic outcomes relative to students from the ethnic majority. Minority students are more likely to struggle academically and report higher levels of academic stress (Negga, Applewhite, & Livingston, 2007) and, at least among Black female students, attending a PWI prospectively predicts poorer academic performance and, in turn, greater dropout rates (Boyratz, Horne, Owens, & Armstrong, 2013).

MAJORITY-MINORITY GROUP COMPARISON

Statistics suggest that graduation rates at four-year institutions are approximately 38% among African-Americans and approximately 45% among Hispanics, compared to approximately 57% among White, Non-Hispanic students (Knapp et al., 2005). Presumably, lower graduation rates among minority students can put them at a serious disadvantage. This can reverberate into their lives later, producing long-term implications (see Day & Newburger, 2002; United States Department of Labor, 2014). Indeed, recent statistics from the United States Department of Labor (2014) indicate that unemployment rates are higher while median weekly earnings are lower among individuals that do not have at least an Associate's degree (i.e., a two-year diploma). These data support census data published in 2002, as Day and Newburger (2002) reported that ethnic minorities who have earned at least a Bachelor's degree earn substantially more than those with only a high school diploma.

Essentially, minority students may face numerous challenges that may keep them from graduating alongside their peers; in turn, such challenges would affect them for the rest of their lives. Despite nationwide endeavors to diversify the college community and provide equal opportunities to students of all ethnic backgrounds, colleges are continually challenged to improve initiatives. Minority students are unable to 'lay aside their ethnicity' once joining a PWI; thus, PWIs cannot negate the strong importance of their unique backgrounds (Lett & Wright, 2003).

Effects of Minority Status Stress

Two theoretical models have been proposed to help explain minority students' experiences at PWIs, both of which see the negative interpersonal, psychological, and academic outcomes as a result of stress resulting from minority status. The transactional model, originally proposed by Lazarus and Folkman (1984) to understand the interaction between stress and coping, centers on how we cope with psychological stress, defined as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 19). In other words, the individual's appraisal process is highly important; how the stressful event is perceived along with the perceived availability of resources to help become central.

This model has been applied to understand the impact of stressors on college students, including minority students attending PWIs (e.g., Smedley, Myers, & Harrell, 1993). Indeed, by viewing each interaction as a transaction between individual and

environment, and by viewing psychological stress in this manner, it becomes plausible that encountering intolerance as an ethnic minority student can lead to psychological distress. To illustrate this, Smedley et al. (1993) argued that while all college students experience stress (e.g., academic, financial), minority students face unique stressors (e.g., social climate stress, interracial stress, racism and discrimination stress) that combine into minority status stress. These unique stressors threaten minority students' psychological health and academic performance, while also reducing their sense of belonging (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999).

Indeed, when asked about their perceptions of the college community, African-American students attending PWIs often report negative community perceptions and a poorer sense of membership (Cuyjet, 1998; Maramba, 2008). They also report lower levels of belonging (Harwood, Hunt, Mendelhall, & Lewis, 2012), higher levels of alienation and isolation (Bourke, 2010; Brown & Davis, 2001), lower levels of social support (Negga et al., 2007), and less sense of control (Spurgeon, 2009). Minority students at PWIs also seem to struggle with finding a proper identity and niche within the institution. For example, as part of a survey conducted on undergraduate African-Americans at a large PWI, Taylor and Olswang (1997) found that although 61.8% of their sample felt there were activities on campus that reflected their interests, 58.6% did not participate in student organizations, and 56% did not feel they were a part of campus life. Furthermore, although approximately 69% reported being happy with their decision to attend the university, only 35% reported an actual sense of commitment to the PWI. In other words, while students may believe the campus reflects their general interests and remain content with their decision to attend the university, they continue to show lower levels of commitment to the PWI as a whole compared to majority students and may continue to form in-group identities (Simmons et al., 2013).

Relatedly, the Student-Institution Fit perspective argues the notion that the 'fit' between student and institution plays a highly important role in the students' subsequent adjustment, satisfaction, retention and persistence while attending that institution (Bowman & Denson, 2014). Indeed, one survey found that a lack of 'fit' was the second highest factor in student drop-out rates (Habley & McClanahan, 2004). This perspective, then, would propose that minority students' struggles and overall maladjustment at PWIs are a direct result of intolerance from other members of the institution (see Cabrera et al., 1999). Several studies using in-depth

interviews and focus groups support this notion, suggesting that several minority students attending PWIs perceive their interpersonal difficulties with the majority students to be a result of race issues. In one study, minority students reported engaging in interpersonal exchanges with majority students that were awkward and made them feel reduced to their race (Harwood et al., 2012). Additionally, other studies suggest that minority students believe many of their peers hold negative stereotypes, such as the belief that minority students were not accepted to the university based on academic merit (Bourke, 2010). More troubling, however, are accounts of overt acts of racial micro-aggressions from peers, such as racial slurs and jokes, or discrimination from the institution, such as segregated residence halls and poorer living conditions (Harwood et al., 2012), and racial profiling by campus police (Glenn & Johnson, 2012). In turn, such perceived intolerance can elicit poor intergroup contact, which subsequently contributes to low involvement on campus and, presumably, poor psychological health and esteem. For example, Arbona and Jimenez (2014) found that while Latino students' minority stress predicted their depressive symptoms, the degree to which they felt the campus was accepting of Latino students uniquely predicted depression.

Thus, both the transactional model and the Student-Institution Fit perspective propose a unique way that minority students may be affected by attending a PWI. Specifically, while the transactional model suggests that unique stressors minority students experience at PWIs contribute to poor psychological health and maladjustment, the Student-Institution Fit perspective suggests that perceived intolerance in a PWI by minority students can contribute to their dissatisfaction, poor academic performance and even attrition (e.g., Cabrera et al., 1999; Smedley et al., 1993). As such, it could be surmised that overall, minority students would report poorer psychological health than their majority student counterpart, as well as more negative feelings concerning their relation to the school as a whole and to their fellow students.

Impact of Intergroup Contact

Unfortunately, neither the *transactional model* nor the *Student-Institution Fit* perspective suggests possible solutions or interventions to buffer against the negative effects of attending PWIs on minority students. Yet, if minority students' difficulties while attending PWIs are a direct result of perceived intolerance and its associated psychological stress, then one way to buffer against these negative effects would be to reduce racial tensions on campus. Allport's (1958) *social contact hypothesis* suggests

that one way to decrease such racial tension and avoid racial stereotypes is by increasing intergroup interactions. This theory has often been cited as a method for understanding the socio-structural conditions under which poor interactions and tensions can change (Fischer, 2011). Furthermore, given the climate of residential college life, institutions have been cited as an ideal setting for testing the social contact hypothesis. Unfortunately, previous studies have failed to explore the possible moderating effects of intergroup contact as a way of remedying the challenges of attending a PWI for minority students. Consequently, it is unclear whether interacting with members of different ethnic backgrounds, either those who are part of the majority or minority groups, rather than interacting primarily with members of one's own ethnic group, would help to buffer against the negative effects of attending a PWI on minority students.

Although this area has not been studied per se, there are researchers that have argued that increasing students' diversity experiences on campus should improve outcomes for minority students (see Gurin, Dey, Gurin, & Hurtado, 2003; Hurtado & Ponjuan, 2005). More specifically, Gurin et al. (2003) proposed that the institution vary in terms of structural diversity, or the physical number of diverse groups on campus, informal interactional diversity, or experiences with peers from different ethnic backgrounds, and classroom diversity, or classes educating students about diversity issues. While much of their research has focused on classroom diversity, there is evidence that diversity courses can help to improve academic outcomes and create a sense of belonging (Hurtado & Ponjuan, 2005) among minority students.

There is also some evidence to suggest that interactions with diverse groups might also help to improve minority students' outcomes at PWIs in particular. For example, Museus (2008) found that becoming involved in ethnic student organizations helps to reduce feelings of isolation among minority students, presumably because joining such ethnic organizations allows these students to gain a sense of comradery with other ethnic minorities on campus. Taylor and Olswang (1997) also argued that one of the most important attributes cited by African-American students as necessary for success within their PWI was the ability to get along with people from other cultures. One student in their study cited the need to be 'bi-cultural', or having the ability to act both 'black and white.' Other research suggests that African-American students whose pre-college backgrounds are more racially similar to the PWI environment report more positive college experiences as well as better social and academic integration (D'Augelli & Hershberger, 1993; Davis, 1994). Indeed, it can be

surmised that the level of intergroup contact a minority student has with students from other ethnic backgrounds, whether it be students from the majority group or students from other minority groups, might improve their sense of identification and esteem.

Limitations of Previous Research

While research exploring ethnic minorities' experiences at PWIs is increasing, much of this research continues to focus exclusively on African-Americans rather than examining minority or non-Caucasian students more generally. This is problematic given that some researchers argue that different effects emerge when outcomes are assessed within a single ethnic group versus combining non-Caucasian students' experiences across various ethnic groups (see Cabrera et al., 1999, for a discussion). Furthermore, Cokley, McClain, Enciso, and Martinez (2013) found that African-American students reported significantly more stress relative to Asian and Latino American students, suggesting that stress among college students varies as a function of ethnic group. Consequently, it is unclear whether the negative impact of attending a PWI is unique to African-Americans or whether it affects all non-Caucasian students attending PWIs.

In addition, many previous studies have been qualitative, using in-depth interviews and focus groups with a relatively small group of students from a specific ethnic background at these campuses. Few studies have used quantitative analyses and those that have typically compared African-American students' experiences at PWIs to those at historically Black colleges and universities. This gap in the literature makes it difficult to understand whether the experiences that have been reported in previous research are truly unique; that is, to what extent minority students' experiences at PWIs differ from the majority (i.e., Caucasian, European-American). In fact, some research suggests that perceptions of racial discrimination on college campuses have similar effects on both majority and minority students (see Cabrera et al., 1999, for a discussion). Therefore, a quantitative comparison of majority and minority students attending PWIs is needed to clarify these issues.

The Current Study

In order to assess the possible moderating effect of intergroup contact on the challenges that minority students may experience in a PWI, the purpose of the present study was to quantitatively compare majority (i.e., Caucasian, European-American) students' experiences at a PWI to those of minority students,

broadly defined as any student who did not self-identify as European-American. Additionally, the present study remedied the aforementioned limitations; our study is quantitative, and focused on minority students more generally (versus solely African-American students). To do this, we recruited participants from a small, private liberal arts college in which the student population was approximately 80% Caucasian.

Consistent with the *transactional model* as it has been applied to minority students (Smedley et al., 1993) and the *Student-Institution Fit* perspective (e.g., Gurin et al., 2003; Hurtado & Ponjuan, 2005), we predicted that minority students would report poorer psychological health (i.e., lower college adjustment, higher depressive symptoms) and lower levels of collective self-esteem in reference to the PWI than would majority students (H1). Furthermore, previous research has shown that involvement in ethnic organizations (Museus, 2008), classroom diversity experiences (Gurin et al., 2003; Hurtado & Ponjuan, 2005), and previous experiences in predominantly-white environments (D'Augelli & Hershberger, 1993; Davis, 1994) can buffer against the negative effects of attending a PWI. As such, we hypothesized that intergroup contact would moderate the hypothesized differences between majority and minority students (see H1). Specifically, we predicted that among minority students, greater intergroup contact with members from different ethnic groups (majority students or minority students from a different ethnic group) would improve psychological health and collective self-esteem (H2).

Method

Participants

Participants were 156 (122 females, 34 males) undergraduate students recruited from a predominantly white liberal arts college in the northeastern United States. This college has a student body of approximately 4000, of whom only 20% are non-Caucasian. Participants were recruited from the general student population via campus-wide emails, social media, word of mouth, and announcements made to various student organizations. Participants had a mean age of 19.67 ($SD = 1.27$), ranging from 18 to 22; 50 participants were seniors (in their fourth year), 30 were juniors, 30 were sophomores, and 46 were freshmen (in their first year). One hundred and eleven of the participants identified as European-American and were classified in the majority group. The remaining 45 participants identified as either African-American ($n = 16$), Hispanic/Latino ($n = 17$), East or South Asian ($n = 10$), or Middle Eastern ($n =$

2) and were classified in the minority group. All participants were compensated with five USD upon completing the study.

Procedure and Measures

Interested participants were directed to an online survey hosted by Qualtrics. Upon providing informed consent and answering demographic questions to determine eligibility and group membership, participants completed the *College Adjustment Test* (Pennebaker, Colder, & Sharp, 1990), the *Center for Epidemiologic Studies Depression Scale* (Radloff, 1977), a modified version of the *Collective Self-Esteem Scale* (Luhtanen & Crocker, 1992), and a modified version of the *Social Contact Scale* (Spencer-Rodgers & McGovern, 2002). All measures were presented in random order, with the exception of the depression scale, which always appeared last to avoid potential mood priming effects. Descriptive statistics for majority and minority groups are presented in Table 1.

College Adjustment Test. The *College Adjustment Test* (CAT; Pennebaker et al., 1990) is a self-report measure of college adjustment (e.g., “worried about the impression you make on others.”) that has been used to assess coping among college students. The CAT assesses the extent to which participants experience 19 thoughts or feelings during the previous week using a 7-point scale from 1 (*not at all*) to 7 (*a great deal*). More specifically, the CAT assesses three aspects of college adjustment: positive affect (e.g., “liked your class”), negative affect (e.g., “worried about the way you look), and homesickness (e.g., “missed your home”). Following Pennebaker et al.’s (1990) recommendations, we combined items across the three subscales to assess overall college adjustment (see their article for scoring instructions). The CAT had good internal consistency in the current study, with a Cronbach’s alpha of .82.

Center for Epidemiologic Studies Depression Scale. The *Center for Epidemiologic Studies Depression Scale* (CES-D; Radloff, 1977) is a self-report measure of depressive symptomology asking participants to report the extent to which they experienced 20 depressive symptoms during the previous week (e.g., “I felt everything I did was an effort”). This well-validated scale commonly assesses depressive symptoms and has been shown to be appropriate across ethnic groups (see Roth, Ackerman, Okonkwo, & Burgio, 2008). Response options are on a 4-point scale from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). Responses are summed so that scores can range from 0 to 60 with higher scores indicating more extreme depressive symptoms. The CES-D had high internal consistency in the current study, with a Cronbach’s alpha of .90.

Modified Collective Self-Esteem Scale. The original *Collective Self-Esteem Scale* (CSES; Luhtanen & Crocker, 1992) is a 16-item scale measuring participants’ identification to their social groups that has been used and validated across different ethnic groups (e.g., Crocker, Luhtanen, Blaine, & Broadnax, 1994). To assess identification with the college specifically, we modified the original CSES items to refer to the college rather than to all the participants’ social groups. To do this, the phrasing was changed in each item (e.g., “I am a worthy member of the social groups I belong to” vs. “I am a worthy member of the college”). The scale includes four subscales, each with four items: membership esteem (the extent to which an individual believes he or she is a good member of the group; e.g., “I am a worthy member of the college”), private collective self-esteem (the extent to which an individual perceives this group positively; e.g., “I feel good about belonging to the college”), public collective self-esteem (the extent to which an individual believes others perceive this group positively; e.g., “In general, others respect the college”), and importance to identity (the extent to which belonging to this group influences the belonging to the college is an important part of my

Table 1
Descriptive statistics for measures according to group membership

Variables	Majority group	Minority group
	<i>M (SD)</i>	<i>M (SD)</i>
1. Overall college adjustment	78.56 (14.45)	75.69 (14.59)
2. Membership self-esteem	5.78 (0.90)	5.50 (1.13)
3. Private collective self-esteem	5.88 (1.26)	5.36 (1.47)
4. Public collective self-esteem	5.63 (0.81)	5.43 (1.15)
5. Importance to identity	5.29 (1.12)	4.98 (1.07)
6. Depressive symptoms	14.16 (9.67)	18.18 (10.28)
7. Intergroup contact	15.13 (6.01)	21.24 (5.75)

Note. *N* = 156, Majority group (*n* = 111), Minority group (*n* = 45).

MAJORITY-MINORITY GROUP COMPARISON

self-image”). Each item is rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Ratings for each subscale then were averaged to compute total membership esteem (Cronbach’s alpha of .78), private collective self-esteem (Cronbach’s alpha of .92), public collective self-esteem (Cronbach’s alpha of .77), and importance to identity (Cronbach’s alpha of .76) scores.

Modified Social Contact Scale. To assess intergroup contact, we modified Spencer-Rodgers and McGovern’s (2002) *social contact scale*, a three-item measure originally intended to assess contact with international students. This scale was modified to instead assess intergroup contact with different ethnic groups via informal conversation, studying, and in social gatherings. To do this, the phrasing was changed in each item (e.g., “how often do you study or do other class work with foreign students?” to “how often do you study or do other class work with students outside your ethnic group?”). The three modified items are rated on a 9-point scale from 1 (*never*) to 9 (*all the time*). The three modified items were summed so that higher scores indicate more intergroup contact with members of other ethnic groups. This modified scale also had high internal consistency with a Cronbach’s alpha of .92.

Results

Psychological Health

To determine if students’ reported psychological health differed as a function of group membership and intergroup contact, we conducted a multivariate regression in which participants’ CES-D and CAT scores were regressed onto an effects-coded group variable (-1 = Minority Group; +1 = Majority Group), participants’ centered intergroup contact scores, and the corresponding group x intergroup contact interaction. This analysis first tested a multivariate main effect, or omnibus effect, for each predictor variable on psychological health (based on a linear combination of participants’ CES-D and CAT scores). If this omnibus test was significant or marginal, we then examined individual effects for each of our outcome variables.

Consistent with Hypothesis 1 (i.e., that minority students would report poorer psychological health than majority students), the omnibus effect of group membership on participants’ reported psychological health was significant, $F(2, 140) = 5.15, p = .007$ ($\eta_p^2 = .07$). However, when we examined the effect of group membership for depressive symptoms and college adjustment separately, the effect was

significant only for depressive symptoms, $F(1, 141) = 7.82, p = .006$ ($\eta_p^2 = .05$); as predicted, minority group members reported significantly higher levels of depressive symptomology than did majority group members (see Table 1 for descriptive statistics for each group). Although group differences for college adjustment were in the predicted direction (see Table 1), the effect was not significant, $F(1, 141) = 1.84, p = .177$ ($\eta_p^2 = .01$). Thus Hypothesis 1 was partially supported.

We also found a marginal omnibus effect of intergroup contact on reported psychological health, $F(2, 140) = 2.91, p = .058$ ($\eta_p^2 = .04$). Again, when we examined the effects for depressive symptoms and college adjustment separately, the effect was significant for depressive symptoms, $\beta = -.33, F(1, 141) = 4.39, p = .038$ ($\eta_p^2 = .03$), but not for college adjustment, $\beta = .23, F(1, 141) = 1.02, p = .314$ ($\eta_p^2 = .01$). In other words, participants who reported higher levels of intergroup contact experienced significantly less depressive symptoms over the previous week, but similar levels of college adjustment, compared to students with lower levels of intergroup contact. However, the overall interaction between group and intergroup contact was not significant, $F(2, 140) = 0.89, p = .414$ ($\eta_p^2 = .01$). Furthermore, the group x intergroup contact interactions were not significant when we examined the effects for depressive symptoms, $F(1, 141) = 1.20, p = .275$ ($\eta_p^2 = .01$), and college adjustment, $F(1, 141) = 0.21, p = .649$ ($\eta_p^2 = .00$), separately. Thus, while minority group members did report significantly higher levels of depressive symptoms, this difference was not moderated by the participants’ level of contact with different ethnic groups, contrary to Hypothesis 2.

Collective Self-Esteem

To determine if levels of collective self-esteem differed as a function of group membership and intergroup contact, we conducted a second regression in which participants’ four CSES subscale scores were regressed onto the same effects-coded group variable, participants’ centered intergroup contact scores, and the corresponding group x intergroup contact interaction. As with our analyses for psychological health, this analysis first tested a multivariate main effect, or omnibus effect, for each predictor variable on collective self-esteem, which was based on a linear combination of participants’ four CSES subscale scores. Again, if this omnibus test was significant or marginal, we then examined individual effects for each of our outcome variables.

Consistent with Hypothesis 1 (i.e., that minority students would report lower levels of collective self-

esteem in reference to the PWI relative to majority students), the omnibus effect of group membership on collective self-esteem was significant, $F(4, 138) = 4.22, p = .003$ ($\eta_p^2 = .11$). As predicted, minority group members reported significantly lower levels of membership esteem, $F(1, 141) = 10.08, p = .002$ ($\eta_p^2 = .07$), private collective self-esteem, $F(1, 141) = 7.42, p = .007$ ($\eta_p^2 = .05$) and importance to identity, $F(1, 141) = 9.01, p = .003$ ($\eta_p^2 = .06$) than did majority group members, whereas public collective self-esteem scores did not differ as a function of group membership, $F(1, 141) = 0.29, p = .591$ ($\eta_p^2 = .06$; see Table 1 for group means). In addition, the omnibus effect of intergroup contact on collective self-esteem was also significant, $F(4, 138) = 5.76, p < .001$ ($\eta_p^2 = .14$). However, when we examined the effect of intergroup contact for each subscale separately, higher levels of intergroup contact were associated with significantly higher levels of membership esteem, $\beta = .06, F(1, 141) = 13.74, p < .001$, and importance to identity scores, $\beta = .04, F(1, 141) = 6.64, p = .011$ ($\eta_p^2 = .05$), but were not significantly related to participants' private, $\beta = .04, F(1, 141) = 3.48, p = .064$ ($\eta_p^2 = .02$), or public collective self-esteem, $\beta = -.01, F(1, 141) = 0.21, p = .877$ ($\eta_p^2 < .00$).

Finally, the overall interaction between group and intergroup contact for collective self-esteem was marginal, $F(4, 138) = 2.18, p = .075$ ($\eta_p^2 = .06$). When we examined this interaction for each subscale, we found the interaction was significant only for importance to identity, $F(1, 141) = 4.89, p = .029$ ($\eta_p^2 = .03$; all other $ps > .110$). To explore this interaction further, we examined the effect of intergroup contact on importance to identity separately for our two groups. Consistent with Hypothesis 2, intergroup contact was not significantly related to importance to identity scores among majority students, $\beta = .01, t(109) = 0.53, p = .597$, but was positively related to importance to identity scores among those in the minority group, $\beta = .08, t(43) = 3.12, p = .003$ (see Figure 1).

Summary

In summary, these analyses partially supported Hypothesis 1. Minority students reported marginally lower levels of psychological health overall compared to majority students, although the effect was significant only for depressive symptoms and not for college adjustment. Similarly, minority students reported marginally lower levels of collective self-esteem in reference to the PWI than did majority students; however, again, the effect was significant only for membership esteem, private collective self-esteem and importance to identity, but not for public collective self-esteem. Moreover, we found limited support for Hypothesis 2. Although minority students who reported higher levels of intergroup contact reported higher levels of importance to identity relative to those who reported lower levels of intergroup contact, we found no other significant interactions suggesting intergroup contact moderated (or buffered against) the other group differences for depressive symptoms, membership esteem or private collective self-esteem.

Discussion

Every day, minority students face challenges both inside and outside of the classroom. Indeed, they may feel that they need to "Whiten [themselves] to succeed" (Simmons et al., 2013, p. 382) and perhaps may suffer accordingly. To bring to light and perhaps begin to rectify these issues, the purpose of the present study was to quantitatively compare psychological health and collective self-esteem among majority (i.e., Caucasian, European-American) and minority (i.e., any student who did not self-identify as European-American) students at a small, liberal arts PWI. This was done in order to assess the possible moderating effect of intergroup contact on the challenges that minority students may face in a PWI. We hypothesized that minority group students, or students

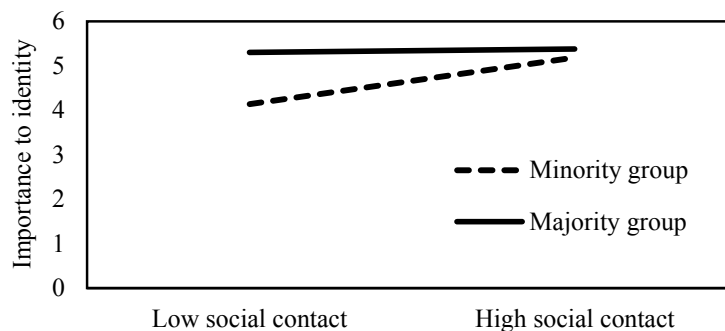


Figure 1. Majority and Minority students' reported importance to identity as a function of intergroup contact.

that do not categorize themselves as European-American, would report poorer psychological health and lower levels of collective self-esteem; this hypothesis was partially supported. As predicted, minority students reported significantly higher levels of depressive symptomatology and significantly lower levels of membership esteem, private esteem, and importance to identity in regards to the college than did majority students. However, contrary to Hypothesis 1, while differences in terms of college adjustment were in the predicted direction, they were not significant.

Thus, consistent with the transactional model as it has been applied to ethnic minorities attending PWIs (e.g., Smedley et al., 1993), minority students generally reported lower levels of psychological health (that is, higher levels of depressive symptomatology) and collective self-esteem in regards to the PWI itself. Importantly, our findings also corroborate qualitative research suggesting that ethnic minorities at a PWI report psychological distress (e.g., Bourke, 2010; Brown & Davis, 2001; Harwood et al., 2012) and more negative views of the college community (e.g., Cuyjet, 1998; Maramba, 2008). However, while these studies assessed these perceptions only among minority students, our comparison of minority and majority students allowed us to determine whether majority students feel a similar sense of alienation, isolation, and collective self-esteem as the minority students. Our findings suggest, as Cabrera et al. (1999) and Smedley et al. (1993) have argued, that minority students may experience unique difficulties while attending PWIs that undermined their psychological health and integration on campus.

We further hypothesized that a higher level of intergroup contact with majority students reported by non-European-American students (i.e., the minority group on campus) would buffer against the negative effects of attending a PWI. Consistent with previous research (Phillips, 2005), minority students reported significantly higher levels of intergroup contact than did majority students; however, contrary to Hypothesis 2, intergroup contact moderated the effect of group membership only for importance to identity. Specifically, among minority group members, those who reported more intergroup contact also reported that belonging to the college was more important to their own self-concept than did those who reported less intergroup contact. Conversely, intergroup contact had little impact on the extent to which belonging to the college influenced majority students' self-concept.

Taken together, these findings suggest that intergroup contact helped to improve minority students' perceptions of how important the PWI was to their self-concept, but had relatively little impact on other indicators of collective self-esteem or psychological health. Previous research has shown that other diversity experiences, namely involvement in classroom diversity, also helps to improve minority students' sense of belonging at PWIs (Hurtado & Ponjuan, 2005); however, unlike intergroup contact, classroom diversity also appeared to have other beneficial effects, such as improving academic outcomes (Gurin et al., 2003). Given that we did not assess academic outcomes in this particular study, it is difficult to determine whether the different beneficial effects across studies is a result of the different types of diversity experiences, or whether these experiences are more likely to affect academic outcomes over psychological health and collective self-esteem.

Nevertheless, our results, along with previous research on diversity experiences (Gurin et al., 2003; Hurtado & Ponjuan, 2005), suggest that involving students in diversity experiences may help to minimize some of the differences between majority and minority students at PWIs, even if this difference is small. Our finding that minority students who engage in lower than average levels of intergroup contact believe the college has less influence on their self-concept suggests that these students are less integrated and points to a need to find ways to increase informal interactional diversity on university campuses. Unfortunately, despite the increasing structural diversity at many PWIs, intergroup interaction has not necessarily increased (see Chavous, 2005).

Additionally, while our focus has primarily been on the impact of intergroup contact on minority students, we found that majority students reported significantly less intergroup contact than minority students. This is not necessarily surprising given that minority students likely find it difficult to avoid interacting with members of different ethnic groups, whereas Caucasian students at PWIs may not have to seek out these interactions, thereby giving them the luxury of remaining in their 'comfort zone' (Phillips, 2005). For example, interviews with members of fraternities at a PWI suggest that while members of Black fraternities were familiar with most of the White fraternities on campus, few members of the White fraternities could identify any Black fraternities on campus (Ray, 2013). However, one could argue that if student involvement in such informal interaction diversity is only among minority students, these diversity experiences may have little impact on minority students' perceptions of

intolerance and discrimination on campus, which subsequently increases minority student status stress and, ultimately, threatens minority students' success in college (Smedley et al., 1993).

Our finding that minority students who experienced lower levels of intergroup contact simultaneously reported lower levels of importance to identity relative to those who reported higher levels of intergroup contact points to the pressing need to find a way to include these students on campus. Allport (1958) proposed that successful integration can occur only if certain conditions were met during intergroup interactions: (1) intergroup interactions must be meaningful; (2) members of the different groups must gain interdependence by reaching and maintaining common goals; (3) members of the different groups must achieve similar levels of social status within their environment; and (4) the institution must encourage positive intergroup interactions (see Chavous, 2005, for a discussion). Since the current findings provide some support for Allport's (1958) social contact hypothesis, creating an environment where these conditions can be met may be a start in finding a way to enhance intergroup interactions among students who do not report a positive college experience. Indeed, identifying ways to involve both majority and minority students in diversity experiences, particularly those that will foster equality and interdependence, will be particularly important in terms of improving minority students' outcomes at PWIs.

Limitations and Future Directions

One of the primary limitations in the current study was the large discrepancy in sample sizes, with more than twice the number of participants in the majority group compared to the minority group. Consequently, it is unclear whether some of the other differences, which were in the predicted direction, would have been significant with a larger sampling of minority students. Given that we recruited our sample from a small PWI with a student body of approximately 4,000, of whom only 20% are non-Caucasian, recruiting minority students proved to be extremely difficult without using purposive sampling (e.g., recruiting directly from ethnic organizations on campus) and risking a biased minority sample. Therefore, in future research, greater efforts should be made to obtain a larger sampling of minority students as well as equal samples of majority and minority students, both of which may be easier at a larger PWI. Similarly, in our sample we also had an underrepresentation of males ($n = 34$) in comparison to females ($n = 122$). Though recruiting proportionate gender groups may prove to be equally as difficult, it could be beneficial to attempt to do this in the future

as well. Additionally, to address possible confounds, future research could benefit from obtaining further demographic information including the students' location prior to attending the university and whether students are attending the PWI as an international student.

Another limitation of the current study was that it was cross-sectional and examined students' experiences across all class ranks (i.e., freshmen, sophomores, juniors, and seniors). Conceivably, students' experiences might differ depending on whether they are just entering the PWI versus nearing graduation. Thus, this area of research might benefit from longitudinal analyses comparing majority and minority students' experiences at a PWI throughout their undergraduate program to determine how the group differences might change over the course of four years. Such longitudinal analyses also might help to identify those students who are at risk of dropping out, which is particularly important given previous research findings suggesting that attending a PWI predicted poorer academic performance and higher dropout rates among African-American women (Boyraz et al., 2013).

A final limitation of the current study was our grouping of all minority students together into one broad category. Although treating the different minority groups (i.e., African-American, Hispanic/Latino, etc.) under one banner is relevant and useful in the current context, it can mask the fact that some minority student groups may experience more or less psychological distress than others. For example, African-American students may be more affected by attending a PWI than Middle Eastern students are; however, putting all minority students into the same category can make this difficult to discern. Due to this, it may be beneficial to explore further into individual ethnic group differences in the future.

Conclusion

In summary, the present research suggests that ethnic minorities attending a PWI may experience psychological distress and hold more negative views of the college community. However, minority students who engage in more intergroup interactions might not be as negatively affected by the predominantly White environment, as suggested by the higher levels of importance to identity reported by minority students who engaged in higher levels of intergroup contact. While these findings are preliminary, they emphasize the importance of examining the influence of intergroup contact, particularly diversity initiatives that will help to foster positive intergroup contact among majority and minority students. Indeed,

intergroup contact may be a possible intervention that will help to improve minority students' experiences at PWIs and, perhaps, help to increase retention/graduation rates among these students, who continue to lag behind Caucasian students (Knapp et al., 2005).

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Received July 11, 2014

Revision received November 17, 2014

Accepted December 12, 2014 ■

La relation entre le bien-être eudémonique au travail et le leadership transformationnel

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L'essor de la psychologie positive a permis aux nombreux domaines de la psychologie d'aborder la santé psychologique des individus sous un nouvel angle, soit celui de favoriser le bien-être. Cette étude a exploré quels comportements de leadership transformationnel, parmi la stimulation intellectuelle, la considération individuelle, la motivation inspirationnelle, le charisme et l'influence idéalisée étaient les plus reliés avec le bien-être eudémonique au travail (BEET). Cent trente-trois travailleurs canadiens ont répondu à des questions sur le BEET, ainsi que sur différentes dimensions du leadership. Les dimensions du leadership transformationnel étaient toutes reliées positivement et modérément avec le BEET, mais une analyse de régression multiple a révélé que seul le charisme avait un apport unique sur le BEET. Ces résultats impliquent que le charisme est l'élément le plus important dans l'explication du bien-être eudémonique et que celui-ci devrait être préconisé lors de l'embauche des gestionnaires afin de favoriser le bien-être eudémonique.

Mots-clés : bien-être psychologique au travail, bien-être eudémonique, santé psychologique au travail, leadership transformationnel, charisme

The rise of positive psychology has allowed many areas of the field to address mental health in a new perspective: the improvement of well-being in individuals. This study explores which transformational leadership behaviours, between intellectual stimulation, individual consideration, inspirational motivation, charisma and idealized influence, have the most important relationship with eudaimonic well-being at work (EWBW). Our sample of one hundred and thirty-three Canadian workers responded to a questionnaire about EWBW and the dimensions of transformational leadership. These dimensions were all positively and moderately related to EWBW but a multiple regression analysis revealed that charisma contributed solely to EWBW. These results imply that charisma is the most important element regarding eudaimonic well-being at work. When hiring a manager, charisma should be considered as the most important dimension of transformational leadership by organizations who wish to promote eudaimonic well-being at work.

Keywords: psychological well-being at work, eudaimonic well-being, psychological health at work, transformational leadership, charisma

La majorité de la population passe environ 60% de son temps éveillé au travail (Black, 2008) et la santé psychologique au travail est l'un des problèmes les plus préoccupants pour les gestionnaires et les administrateurs d'entreprises (Watson Wyatt, 2005). Une meilleure compréhension des facteurs contribuant au bien-être de leurs employés permet aux organisations d'augmenter le bien-être de leurs

employés et de ce fait, d'accroître leur qualité de vie au travail, ainsi que leur productivité (Russell, 2008; Turner, Barling, & Zacharatos, 2002). Les relations interpersonnelles sont un facteur important dans le bien-être des employés, l'une des relations les plus importantes est celle avec le superviseur (Gilbreath & Benson, 2004).

La façon dont le superviseur gère son équipe est d'une importance primordiale, puisque certains types de leadership, tel le leadership transformationnel, ont été liés à un niveau de bien-être psychologique au travail plus élevé (Bass & Riggio, 2005). Bien que certaines recherches aient lié le leadership transformationnel au bien-être psychologique au travail, ces études ont majoritairement été faites sous une conceptualisation hédonique du bien-être,

Nous tenons à remercier Leïla Raison-Legros ainsi qu'Audrey Girard pour leur contribution au travail universitaire ayant précédé la préparation de cet article. Également, un merci spécial à notre professeure Dre Véronique Dagenais-Desmarais qui nous a permis de débiter cet article dans le cadre de son cours et à son assistante de cours, Jessica Londei-Shortall, qui a su nous guider, nous soutenir et nous encourager tout au long du processus de publication de cet article. Toute correspondance concernant cet article doit être adressée à Christine Chouinard-Leclaire (courriel : christine.chouinard.leclaire@gmail.com).

mesurant le nombre d'affects positifs, la satisfaction au travail et le plaisir vécu (Diener, 1994; Ryff, 1989).

L'approche utilisée dans la présente étude est novatrice puisqu'elle utilise la conception du bien-être eudémonique, une conceptualisation qui tient compte du développement personnel de l'individu et a une visée à plus long terme (Ryan & Deci, 2001). Puisque le bien-être psychologique au travail est un concept multidimensionnel alliant à la fois des aspects hédoniques et eudémoniques, la mesure des éléments hédoniques sans tenir compte des éléments eudémoniques ne permet pas d'expliquer le bien-être psychologique au travail dans son intégralité (Ryan & Deci, 2001; Straume & Vittersø, 2012). Il serait alors important de se pencher sur le bien-être eudémonique afin d'inclure cette notion au sein des connaissances établies sur la relation entre le leadership transformationnel et le bien-être. De plus, joindre de nouvelles données sur le bien-être eudémonique au travail à celles concernant le bien-être hédonique aidera les chercheurs et les entrepreneurs à mieux saisir le concept de bien-être dans son entièreté puisqu'il ne sera plus seulement question de « bonheur au travail », mais également d'expériences de travail optimales. D'ailleurs, le concept de bien-être eudémonique, tel que redéfini par les auteurs contemporains, s'adapte bien à la nouvelle voie responsable que tentent de prendre les entreprises. En effet, dans une époque où l'on s'intéresse à la santé psychologique des employés, il est innovateur de vouloir conduire une recherche sur l'actualisation de l'individu dans son emploi et non seulement sur sa satisfaction en termes d'affects (Ilies, Schwind, & Heller, 2007).

Cet article vise donc à spécifier la relation entre le leadership transformationnel et le bien-être eudémonique contextualisé au travail, avec comme objectif spécifique de voir l'apport respectif des comportements du leader transformationnel sur le bien-être eudémonique au travail.

Leadership transformationnel

La notion de leadership transformationnel a été introduite par Burns (1978). Elle se distingue du leadership transactionnel, qui utilise un processus d'échange où les récompenses fournies par le leader comblent les intérêts personnels des subordonnés. Le leader transformationnel amène plutôt ses employés à dépasser leurs intérêts personnels pour que le groupe, l'organisation ou la société puisse en bénéficier. De plus, le leader transformationnel amène ses employés à privilégier leurs besoins à long terme plutôt qu'à court terme. C'est donc à partir de ces premières différenciations entre les deux styles de leadership que

les fondements du leadership transformationnel ont été établis. Dans un contexte organisationnel, le leader transformationnel efficace est un gestionnaire ayant un pouvoir transformateur sur ses employés, c'est-à-dire que ce type de leader possède la capacité de mobiliser l'énergie de ses employés ainsi que leurs compétences afin que ceux-ci accomplissent des objectifs qui pourraient transcender leurs limites habituelles. Le leader transformationnel obtiendrait une performance de ses employés en partageant, d'abord, une vision de ce qu'il désire ainsi que de ce qu'il attend des autres. Par la suite, il adopterait certains types de comportements afin de construire des relations basées sur (a) la confiance, (b) l'admiration et (c) la loyauté et ce, dans le but d'unir les efforts de chacun afin d'augmenter leur chance de succès (Bass, 1981). Autrement dit, la relation affective authentique qui s'installerait entre le leader et ses employés inciterait les employés à aller au-delà de leurs projets individuels au nom d'une vision commune et motiverait ceux-ci à atteindre un rendement supérieur aux attentes (Bass, 1985).

Bien que le concept global du leadership transformationnel fasse l'unanimité, le nombre de dimensions qu'il comporte est l'objet de débats. Cependant, le modèle le plus commun est celui proposé par Bass (1985) comportant quatre facettes soit, (a) l'influence idéalisée, (b) la motivation inspirationnelle, (c) la stimulation intellectuelle et (d) la considération individualisée. Quelques études définissent le concept de leadership transformationnel en quatre dimensions, mais le mesurent plutôt en cinq (Avey, Hughes, Norman, & Luthans, 2008; Gellis, 2001). Cette distinction serait due à l'utilisation d'un instrument de mesure fréquemment utilisé lors de l'évaluation du style de leadership, le *Multifactor Leadership Questionnaire* (MLQ). Celui-ci subdivise la dimension de l'influence idéalisée en deux composantes, soit l'influence idéalisée attribuée et l'influence idéalisée comportementale. L'influence idéalisée attribuée, ou couramment nommée charisme, serait liée à l'aspect de la personnalité inspiré du trait charismatique alors que l'influence idéalisée comportementale serait plutôt représentée comme étant les comportements typiques employés par le leader. Dans le cadre de cette recherche, nous utiliserons alors le modèle du leadership transformationnel le plus exhaustif à cinq sous-dimensions, soit (a) le charisme, (b) l'influence idéalisée, (c) la motivation inspirationnelle, (d) la stimulation intellectuelle et (e) la considération individualisée.

La première dimension du modèle de leadership transformationnel est le charisme. Cette dimension se traduit par un leader qui possède la capacité de partager, avec ses employés, sa vision du futur et des

but de l'organisation (Bass & Riggio, 2006). Puisque le charisme est souvent une caractéristique associée à la personnalité d'une personne et moins d'un comportement appris, les comportements charismatiques d'un leader prendraient leur source dans la personnalité de l'individu (Bono & Judge, 2004). Pour cette raison, nous considérerons, dans cette étude, la dimension du charisme comme étant une facette de la personnalité du leader.

La seconde sous-dimension du leadership transformationnel est l'influence idéalisée (Bass, 1985). L'influence idéalisée est la capacité d'un leader à convaincre ses employés que ses croyances ainsi que sa vision future représentent ce qu'il y a de mieux pour l'entreprise. De plus, cette dimension se caractérise par des leaders ayant des normes élevées de conduite morale et éthique, engendrant la fidélité de ses employés.

La troisième sous-dimension du leadership transformationnel est la motivation inspirationnelle (Bass, 1985). Celle-ci est présente chez un leader lorsque celui-ci incite ses employés à se dépasser. Le fait qu'un leader donne ou encourage ses employés à se donner des objectifs exigeants, mais réalisables, augmente le sentiment d'efficacité personnelle de l'employé.

La quatrième sous-dimension du concept de leadership transformationnel est la stimulation intellectuelle (Bass, 1985). Cette sous-dimension correspond au fait de donner de l'autonomie aux employés ainsi que de les encourager à se questionner eux-mêmes sur leur travail.

Enfin, la dernière sous-dimension du leadership transformationnel est la considération individualisée. Un leader présentant de la considération individualisée envers ses employés (Bass & Riggio, 2006) prendra en compte les besoins personnels et individuels de son subordonné et tentera de le supporter afin qu'il se développe selon ses propres besoins et non ceux de l'organisation.

Bien-être eudémonique au travail

La santé psychologique au travail est une préoccupation importante pour les gestionnaires d'entreprise puisque certains de ces facteurs, tel le bien-être psychologique, ont été mis en relation avec la productivité des employés (Russell, 2008; Turner & al., 2002). De plus, il est déjà connu que certains types de leadership, tel le leadership transformationnel, sont liés à un bien-être au travail plus élevé (Benoliel & Somech, 2014). Cependant, la conceptualisation du bien-être, souvent faite selon l'approche hédonique

exclusivement, adresse cette dernière de façon incomplète. En effet, le concept de bien-être comprend les dimensions eudémoniques et hédoniques (Straume & Vittersø, 2012).

L'approche eudémonique définit le bien-être en termes de plein fonctionnement de la personne et de la réalisation de soi (Waterman, 1993). Dans ce cas, le bien-être eudémonique serait plus que simplement se sentir heureux, mais représenterait plutôt une actualisation de son potentiel. Cela signifie qu'un individu parviendrait à utiliser toutes ses capacités personnelles et il réussirait ainsi à accomplir les objectifs qu'il se fixe ou à s'accomplir en tant qu'individu à travers son travail (Waterman, 1993). Waterman a redéfini le concept d'eudémonisme, comme pour Aristote « eudaimonia » signifiait bonheur, alors, le terme bonheur réfère plutôt, dans une vision contemporaine, à une conception de bien-être hédonique. Comparativement au bien-être eudémonique, le bien-être hédonique fait référence à la satisfaction, aux affects positifs et négatifs ressentis dans la vie et au travail (Diener, 1984; Diener, Oishi, & Lucas, 2003).

Toutefois, Waterman (1993) stipule qu'un individu ressentant du bien-être eudémonique ressentira également du bien-être hédonique. Malgré la corrélation entre les deux concepts, ils sont en réalité distincts (Ryan & Deci, 2001). Un employé pourrait travailler très fort, de façon acharnée et faire des heures supplémentaires chaque jour, sans plaisir ni satisfaction, mais lorsqu'il accomplirait enfin son objectif il se sentirait actualisé par ses réalisations. Il ne vivrait alors pas de bien-être hédonique mais le sentiment d'actualisation correspondrait au bien-être eudémonique.

Un modèle sur le bien-être eudémonique dans la vie en général (Ryff, 1989) a été conceptualisé. Malgré sa popularité, celui-ci n'est pas adapté pour le contexte d'un domaine tel que le travail. En effet, certaines études montrent que le bien-être général est modérément corrélé avec les mesures de bien-être de domaines spécifiques à la vie (Campbell, Converse, & Rodgers, 1976). Plus particulièrement, les études tendent à montrer que les mesures de satisfaction de vie ont un lien mitigé avec les mesures de satisfaction au travail (Hart, 1999; Judge & Watanabe, 1993; Rode, 2004; Steiner & Truxillo, 1987; Tait, Padgett, & Baldwin, 1989). Afin de pallier au manque de mesures de bien-être eudémonique contextualisé au travail, Dagenais-Desmarais (2010) et Dagenais-Desmarais et Savoie (2012) ont développé un modèle permettant de décrire l'expérience positive subjective d'un individu au travail.

Le modèle de bien-être eudémonique au travail comporte cinq dimensions : (a) le désir d'implication dans l'organisation, dans son fonctionnement et ses succès (c.-à-d., volonté d'engagement au travail), (b) la perception d'avoir les compétences nécessaires pour être efficace dans notre travail et performer (c.-à-d., sentiment de compétence au travail), (c) la perception de s'accomplir comme personne, à travers un travail significatif (c.-à-d., épanouissement au travail), (d) la perception d'avoir de bonnes relations interpersonnelles dans son milieu de travail (c.-à-d., adéquation personnelle au travail), et (e) la perception d'être apprécié pour son travail (c.-à-d., reconnaissance perçue au travail). Ce modèle théorique est celui retenu pour cette recherche, car il est le seul adapté pour le bien-être psychologique au travail.

Liens entre le leadership transformationnel et le bien-être eudémonique au travail

Différentes études ont tenté de mettre en lien le leadership et le bien-être des employés au travail. Par contre, grand nombre d'entre elles utilisaient différentes définitions du bien-être ainsi que différents styles de leadership. Kuoppala, Lamminpää, Liira et Vaino (2008) ont effectué une méta-analyse des différentes études menées à ce jour afin d'évaluer la présence d'une relation entre ces deux variables. L'équipe a recensé, entre autres, que le leadership prédisait de façon modérée le bien-être au travail.

Plusieurs autres études ont été menées afin de déterminer s'il existait une relation entre les composantes du leadership transformationnel et le bien-être au travail, mesuré sous forme de satisfaction au travail (Bass, 1985; Bass & Avolio, 1989). Certaines études ont pu mettre en évidence l'existence d'un lien positif et fort entre ce style de leadership et les efforts persistants des subordonnés, la satisfaction avec le leader ainsi que l'évaluation de l'efficacité de celui-ci faite par les subordonnés (Bycio, Hackett, & Allen, 1995).

Malgré le grand nombre d'études s'intéressant à la relation existant entre le leadership transformationnel et le bien-être, celles-ci définissaient le bien-être en termes hédoniques et ce, grâce à la recension des affects positifs et négatifs ainsi que la satisfaction au travail. Toutefois, le bien-être hédonique ne parvient pas, à lui seul, à définir et expliquer la notion du bien-être dans sa totalité (Ryan & Deci, 2001; Straume & Vittersø, 2012). Puisque plusieurs démonstrations empiriques soutiennent que le bien-être serait un modèle bidimensionnel alliant à la fois des composantes hédoniques et eudémoniques (Keyes, Shmotkin, & Ryff, 2002; Linley, Maltby, Wood,

Osborne, & Hurling, 2009; McGregor & Little, 1998), il s'avère alors important qu'une étude se concentre sur la relation entre le leadership transformationnel et le bien-être eudémonique puisque son apport est moins étudié. Ceci permettra de compléter les connaissances sur le lien entre le leadership transformationnel et le bien-être psychologique en considérant une autre de ses composantes. De plus, connaître les dimensions du leadership qui prédisent davantage l'actualisation de soi au travail des employés pourrait à la fois permettre d'augmenter la productivité et la performance de ceux-ci au sein de l'organisation (Judge, Thoresen, Bono, & Patton, 2001; Kirkpatrick & Locke, 1996; Lawler, 1969; Levine, 1994).

Puisque des liens similaires ont déjà été trouvés avec le bien-être hédonique au travail (Rasulzada & Dackert, 2009), cela nous porte à croire qu'il serait possible de trouver de tels liens avec le bien-être eudémonique puisque les différentes caractéristiques du leader transformationnel tendent à corroborer la définition du bien-être eudémonique sous plusieurs aspects. Par exemple, dans l'effort de motiver et mobiliser leurs employés, les leaders transformationnels partagent leur vision future de l'organisation en accordant concurremment de l'importance au développement humain. En liant ainsi la promotion du développement humain (p.ex., par la stimulation intellectuelle ou la considération individualisée) à la réussite de l'élévation de l'organisation, ces leaders favorisent la croyance selon laquelle les employés peuvent être des contributeurs importants au développement de l'organisation (Shamir, House, & Arthur, 1993). Dans cette optique, il est possible de croire que les comportements des leaders transformationnels agissent non seulement sur la facette hédonique du bien-être psychologique en favorisant l'émergence d'affects positifs chez les employés envers leur emploi, mais également sur son autre versant, eudémonique, en privilégiant l'actualisation du potentiel des employés.

Cet article vise donc à spécifier la relation entre le leadership transformationnel et le bien-être eudémonique contextualisé au travail, avec comme objectif spécifique de voir l'apport respectif des comportements du leader transformationnel sur le bien-être eudémonique au travail.

H1 - Les comportements de leadership transformationnel et le bien-être eudémonique au travail sont liés positivement et modérément.

En plus d'examiner l'association du leadership transformationnel avec le bien-être eudémonique, les objectifs de cette recherche visent à déterminer

l'apport de chaque dimension du leadership transformationnel dans sa relation avec le bien-être eudémonique au travail afin de vérifier si certaines sous-dimensions du leadership transformationnel permettent de prédire plus significativement le bien-être eudémonique que d'autres.

Q1 - Quelle(s) sous-dimension(s) du leadership transformationnel a le plus d'importance dans la prédiction du bien-être eudémonique au travail?

Une recherche antérieure a déjà examiné ces relations, mais sous une conceptualisation du bien-être hédonique. Plus spécifiquement, l'étude portait sur les relations existant entre les différentes dimensions du leadership transformationnel et la satisfaction au travail. Cette étude révélait que les cinq dimensions du leadership transformationnel sont toutes positivement reliées à la satisfaction au travail et que la force des liens des différentes dimensions variait entre modérée et forte. Lorsque combinées pour prédire le bien-être hédonique au travail, les dimensions de la stimulation intellectuelle et du charisme avaient un apport statistiquement significatif au-delà des autres et la motivation inspirationnelle et la considération individualisée un apport marginalement statistiquement significatif. Seule la dimension de l'influence idéalisée n'avait pas un apport distinct des autres dimensions dans la prédiction du bien-être (Sullivan, 2012). Ceci implique que la plupart des dimensions du leadership transformationnel ont un apport unique dans leur relation avec le bien-être hédonique. Cependant, les relations trouvées dans cette recherche pourraient être différentes de celles avec le bien-être eudémonique puisqu'il s'agit d'un type de bien-être distinct du bien-être hédonique (Ryan & Deci, 2001).

À présent, il est donc important de se pencher sur l'apport de chacune des dimensions du leadership transformationnel sur le bien-être eudémonique afin de mieux comprendre les apports respectifs des sous-dimensions du leadership transformationnel. Puisque des apports des différentes dimensions du leadership transformationnel sur le bien-être hédonique ont déjà été mis en évidence, il est donc plausible d'avancer que les sous-dimensions du leadership transformationnel se distingueront, elles aussi, dans la relation avec le bien-être eudémonique.

H2 - Chaque sous-dimension du leadership transformationnel permet de prédire une portion unique du bien-être eudémonique au travail.

Méthodologie

Devis de recherche

Cette étude utilise un devis de recherche transversal, à un temps de mesure. Ce type de devis de recherche permet de fournir des données immédiates et utilisables. Également, ce type de devis est avantageux puisqu'il n'entraîne pas de mortalité expérimentale, c'est-à-dire qu'aucun participant ne risque d'abandonner au cours de l'étude, puisque celle-ci s'effectue en une seule collecte (Fortin, 2010). La collecte de données s'est opérée via Internet. Chaque participant a reçu un courriel contenant un lien unique et un numéro d'identification personnel, ce qui a permis d'assurer la confidentialité des informations. Cette étude a été approuvée par le comité éthique dans le cadre d'un cours sur la santé psychologique des travailleurs à l'Université de Montréal.

Participants

Cent trente-trois participants ($N = 133$) ont répondu au questionnaire. L'échantillon est composé de 59% de femmes et 41% d'hommes. Tous les participants étaient employés depuis au moins six mois au sein d'une entreprise et avaient en moyenne trois à cinq ans d'ancienneté (26%). Plus de 40% des participants avaient complété des études de niveau collégial ou plus. De plus, le domaine de la vente et des services était celui qui employait la plus grande portion de l'échantillon (22%). La moitié de l'échantillon œuvrait dans la région de Montréal (50%) et plus du tiers de l'échantillon travaillait dans une organisation publique (38%). Les participants occupaient pour la plupart un emploi permanent (74%), et une importante partie de l'échantillon avait un emploi de type professionnel (32%). Tous les participants ont été recrutés par échantillonnage de convenance. La sélection des participants s'est effectuée sur la base de critères d'admissibilité tels qu'occuper un emploi rémunéré ou être en poste dans son organisation.

Mesures

Indice du bien-être psychologique au travail. L'instrument utilisé afin de mesurer le bien-être eudémonique au travail est l'*Indice du bien-être psychologique au travail* (IBEPT: Dagenais-Desmarais & Savoie). Cet instrument couvre cinq dimensions du bien-être psychologique au travail, (a) l'adéquation interpersonnelle au travail, (b) l'épanouissement au travail, (c) le sentiment de compétence au travail, (d) la reconnaissance perçue au travail, ainsi que (e) la volonté d'engagement au travail. L'évaluation du bien-être psychologique

s'effectue grâce à une échelle de six points de type Likert, allant de 0, équivalent à «complètement en désaccord», à 5, équivalent à «totalement en accord». L'instrument de 25 items détient une bonne consistance interne globale ($\alpha = .93$) pour l'instrument complet et varie de façon acceptable pour chacune des dimensions ($.80 \leq \alpha \leq .93$). En ce qui a trait à la validité de l'instrument de mesure, l'étude originale a validé l'instrument en effectuant la convergence et la divergence avec d'autres construits (Dagenais-Desmarais & Savoie, 2012).

Multifactor Leadership Questionnaire.

L'instrument utilisé afin d'estimer le leadership transformationnel est la version canadienne-française du *Multifactor Leadership Questionnaire* (MLQ : Bass & Avolio, 1995). La dimension du leadership transformationnel est composée de cinq sous-dimensions, soit (a) le charisme, (b) l'influence idéalisée, (c) la motivation inspirationnelle, (d) la stimulation intellectuelle et (e) la considération individualisée. L'instrument de mesure couvre la dimension du leadership transformationnel à partir de 20 énoncés utilisant une échelle de Likert à cinq points allant de 0, équivalent à «jamais», à 4, équivalent à «fréquemment, voire toujours». Ce test a été traduit en s'inspirant de la méthode proposée par Vallerand (1989) qui consiste à traduire l'instrument une première fois de la langue originale vers la langue adaptée, puis de demander à une deuxième personne bilingue, mais n'ayant pas vu l'instrument original de retraduire la version adaptée dans la langue originale. Un comité bilingue discute des différences de traduction et s'entend sur les termes les plus appropriés pour la version adaptée, avec l'objectif d'obtenir une version française fidèle et valide. Dans le cadre de cette étude, la cohérence interne est aussi acceptable pour l'instrument complet ($\alpha = .93$) et varie également de façon acceptable pour chacune des dimensions ($.73 \leq \alpha \leq .88$).

Résultats

Analyses préliminaires

Toutes les variables présentent une distribution normale (voir Tableau 1). Des 133 participants, 29 n'ont pas rempli le questionnaire dans son entièreté (22%). Malgré ce pourcentage élevé, la majorité des données manquantes (25 participants) se situent au niveau des énoncés concernant le leadership. En effet, il semblerait que l'attrition soit due à la longueur du questionnaire et que comme les énoncés concernant le leadership transformationnel étaient à la fin de celui-ci, moins d'individus y ont répondu. Toutefois, les personnes n'ayant pas répondu aux énoncés du leadership transformationnel n'avaient pas un niveau de bien-être eudémonique au travail ($M = 4.89$, $\bar{E.-T.} = 0.76$) significativement différent des personnes ayant répondu aux énoncés de leadership transformationnel ($M = 4.89$, $\bar{E.-T.} = 0.70$), $t(34.17) = 0.01$, $p = .995$. Ainsi, l'attrition semble aléatoire et les participants n'ayant pas complété le questionnaire ne semblent pas être différents de ceux ayant complété le questionnaire. Par conséquent, nous avons traité les données manquantes sur la base des composantes non valides, c'est-à-dire que seules les données non manquantes ont été utilisées et que les données manquantes n'ont pas été traitées, et ce sans toutefois éliminer la participation d'un sujet pour chaque analyse. De plus, les données extrêmes ont été vérifiées. Les minimums et maximums ainsi que la moyenne et l'écart-type des données étaient toutes plausibles. Les variables ainsi que leurs sous-dimensions se distribuaient normalement, l'asymétrie et la kurtose se situaient entre -1 et 1, des valeurs acceptables selon Howell (2006). Les corrélations entre les dimensions du leadership variaient entre $r = .61$ et $r = .82$ ($p < .05$). Ces corrélations sont élevées, mais normales dans un contexte de sous-dimensions à l'intérieur d'un construit (p. ex., Arnold, Arad, Rhoades, & Drasgow, 2000; Walumbwa,

Tableau 1

Propriétés psychométriques des principales variables de l'étude

Variables	<i>M</i>	<i>É.-T.</i>	Asymétrie	Aplatissement
1. Leadership transformationnel ^a	1.23	0.72	0.13	-0.88
2. Influence idéalisée ^b	2.93	1.00	-0.21	-0.78
3. Charisme ^c	3.06	1.12	-0.29	-0.89
4. Motivation inspirationnelle ^d	3.34	1.01	-0.54	-0.53
5. Stimulation intellectuelle ^e	2.98	1.10	-0.13	-0.96
6. Considération individualisée ^f	2.80	1.05	0.20	-0.89
7. IBEPT total ^g	4.89	0.71	-0.69	0.42

Note. $N = 133$, ^a $n = 108$, ^b $n = 107$, ^c $n = 105$, ^d $n = 107$, ^e et ^f $n = 106$, ^g $n = 133$.

BIEN-ÊTRE EUDÉMONIQUE ET LEADERSHIP TRANSFORMATIONNEL

Tableau 2

Corrélations entre les dimensions du leadership transformationnel et le bien-être eudémonique au travail

Variables	1	2	3	4	5	6	7
1. Leadership transformationnel	(.93)						
2. Influence idéalisée	.81**	(.90)					
3. Charisme	.91**	.71**	(.88)				
4. Motivation inspirationnelle	.88**	.70**	.82**	(.88)			
5. Stimulation intellectuelle	.85**	.65**	.75**	.71**	(.89)		
6. Considération individualisée	.86**	.61**	.77**	.68**	.70**	(.89)	
7. IBEPT total	.53*	.39*	.53*	.44*	.41*	.46*	(.93)

Note. * $p < .05$, ** $p < .01$. Les données entre parenthèses représentent les alphas de Cronbach.

Avolio, Gardner, Wernsing, & Peterson, 2008). En effet, ces deux études présentaient des corrélations entre les sous-dimensions de leur construit allant de $r = .65$ à $r = .78$ et $r = .53$ à $r = .90$ ($p < .05$) respectivement. Ensuite, les corrélations entre les sous-dimensions du leadership et le construit global variaient de $r = .81$ à $r = .91$ ($p < .05$). Cependant, malgré leurs valeurs élevées, elles sont normales puisqu'il est souhaitable que les sous-dimensions soient corrélées au construit global. Afin de vérifier la présence de multicollinéarité au sein de nos variables, les indices de tolérance ainsi que les facteurs d'inflation de variance (FIV) ont été examinés. D'abord, les indices de tolérance se situaient entre $r = .22$ et $r = .43$ ce qui est considéré comme acceptable selon Menard (1995), puisqu'ils se situent au-delà de .2. Enfin, les FIV de nos variables se situaient entre 2.3 et 4.3, valeurs que l'on peut interpréter comme légèrement élevées, mais tout de même acceptables puisqu'elles sont inférieures à 10, seuil déterminé comme présentant un problème de multicollinéarité en psychologie (Haccoun, 2013; Hair, Anderson, Tatham, & Black, 1995; Kennedy, 1992; Marquardt, 1970; Neter, Wasserman, & Kutner, 1989).

Analyses principales

Afin d'observer les relations entre les dimensions du leadership transformationnel et le bien-être eudémonique au travail, des corrélations puis des régressions hiérarchiques multiples ont été utilisées. Pour vérifier notre première hypothèse, les corrélations entre les variables ont été examinées (voir Tableau 2).

La première hypothèse, soit qu'il y aurait des relations positives et modérées entre les comportements du leadership transformationnel et le bien-être eudémonique au travail, a été confirmée.

Les dimensions du leadership transformationnel s'avéraient positivement corrélées au bien-être eudémonique. Les dimensions du leadership transformationnel s'avéraient positivement corrélées au bien-être eudémonique. Seul le charisme avait un lien fort ($r = .53$, $p = .001$) avec le bien-être eudémonique. Les autres dimensions du leadership transformationnel, soit l'influence idéalisée ($r = .39$, $p = .001$), la motivation inspirationnelle ($r = .44$, $p = .001$), la stimulation intellectuelle ($r = .41$, $p = .001$) et la considération individualisée ($r = .46$, $p = .001$), avaient un lien modéré.

Afin d'explorer dans quelle mesure chaque comportement avait une contribution unique au bien-être eudémonique au travail, soit la seconde hypothèse de recherche de la présente étude, une analyse de régression multiple a été effectuée. Le modèle global du leadership transformationnel permettait d'expliquer 27.6% de la variance du bien-être eudémonique au travail, $F(5, 98) = 7.43$, $p = .023$. Par contre, seul le charisme expliquait une partie unique de la variance du bien-être psychologique des employés ($\beta = .42$, $p = .023$). Autrement dit, un patron charismatique semble avoir un effet important et différent sur le bien-être des employés allant au-delà de l'effet des caractéristiques du leader transformationnel. La stimulation intellectuelle, la motivation inspirationnelle, la considération individuelle et l'influence idéalisée n'expliquaient pas de façon indépendante le bien-être eudémonique au travail ($.00 \leq \beta \leq .12$, $p > .05$).

Discussion

L'objectif de la présente recherche était d'explorer la relation existante entre les différentes dimensions du leadership transformationnel et le bien-être eudémonique au travail. Des relations positives variant de modérées à fortes entre les cinq dimensions du leadership transformationnel et le bien-être eudémonique au travail ont été observées. Ces dernières confirment notre première hypothèse de

recherche qui visait à observer de telles relations. Les résultats de l'analyse corrélacionnelle indiquent donc que plus les scores des sous-dimensions du leadership transformationnel sont élevés, plus le score du bien-être eudémonique au travail tend à être élevé également. De plus, en voulant vérifier notre seconde hypothèse de recherche, soit la contribution unique de chaque sous-dimension du leadership transformationnel sur le bien-être eudémonique, cette recherche a permis de distinguer le charisme des autres dimensions du leadership transformationnel dans le rapport avec le bien-être eudémonique. Le charisme était la seule dimension qui prédisait le bien-être au-delà des autres dimensions du leadership transformationnel. Par contre, cette distinction entre le charisme et les autres dimensions du leadership transformationnel est unique à la relation avec le bien-être eudémonique, puisqu'il n'est pas observé dans un rapport unissant les dimensions du leadership transformationnel au bien-être hédonique (Sullivan, 2012). Les résultats obtenus concernant la dimension du charisme permettent de mettre en évidence la différenciation du rapport du leadership transformationnel avec le concept de bien-être eudémonique et le concept de bien-être hédonique, puisque Sullivan (2012) avait obtenu des résultats différents des nôtres.

La distinction évidente du charisme dans son rapport avec le bien-être eudémonique nous amène à nous interroger sur cette dimension précise, tout comme plusieurs auteurs l'ont fait auparavant (Barbuto, 1997; Goodwin, Wofford, & Whittington, 2001; Rafferty & Griffin, 2004; Yukl, 1999). Notre première explication concernant la distinction du charisme des autres dimensions du leadership transformationnel s'appuie, comme certains auteurs l'ont mentionnée (Bono & Judge, 2004), sur la nature innée du charisme au sein de l'individu. Tel qu'avancé par Bono et Judge (2004), les comportements et attitudes charismatiques du leader pourraient faire partie de sa personnalité, c'est-à-dire qu'ils seraient innés comparativement aux autres dimensions du leadership transformationnel qui auraient une nature dite acquise via l'apprentissage de comportements spécifiques. Ce serait alors la façon d'être du leader et sa personnalité qui pourraient avoir un impact sur le bien-être eudémonique des employés. La seconde explication, qui permettrait de justifier l'hétérogénéité de la dimension de charisme par rapport aux autres, est que cette dernière ne devrait pas être incluse à l'intérieur du concept du leadership transformationnel.

En effet, Barbuto (1997) a mentionné que la quintessence du charisme allait à l'encontre même du concept de leadership transformationnel puisque les partisans ne sont pas animés par un objectif commun,

comme le leadership transformationnel le voudrait, mais bien par l'idéalisation de leur leader. Aux yeux de certains chercheurs (Conger & Kanungo, 1987; House, 1977; Shamir et al., 1993) le charisme serait le seul aspect du leadership étant « extraordinaire » et il devrait alors, à lui seul, continuer de constituer un style de leadership. Ce type de pensée concorde avec les recherches ayant affirmé que la dimension du charisme serait la plus influente et celle qui aurait des relations plus fortes avec d'autres variables (Conger & Kanungo, 1998; Lowe, Kroeck, & Sivasubramaniam, 1996). Il semble que, dans le cas du lien avec le bien-être eudémonique, cette distinction serait importante.

Limites

La présente étude se concentre uniquement sur la relation unissant les comportements du leadership transformationnel au bien-être eudémonique. Bien que nos résultats soient comparés à des études sur le bien-être hédonique, cette composante n'a pas été mesurée dans cette étude, et il serait intéressant de les mesurer simultanément afin de voir l'effet différentiel lorsque les deux composantes du bien-être psychologique sont combinées. Ainsi, il aurait été possible de déterminer si certains comportements adoptés par un leader transformationnel semblent à la fois prédire le bien-être eudémonique et le bien-être hédonique. Malgré l'aspect attrayant d'une approche intégrative des mesures du bien-être psychologique, certains auteurs sont d'avis qu'une telle procédure nécessite davantage de validations et d'investigations empiriques avant de pouvoir être réalisée, étant donné les théories divergentes de ces deux concepts (Keyes et al., 2002; Lent, 2004).

Une autre limite de cette étude concerne le fait que les données sont de type auto-rapporté, ce qui implique un possible effet de désirabilité sociale chez nos participants ainsi qu'un manque de validation externe dans les données rapportées. Cependant, puisque les mesures concernaient leurs perceptions quant à la relation qu'ils entretiennent avec leur superviseur ainsi que leur bien-être eudémonique au travail, étant tous deux des éléments subjectifs ressentis chez les participants, le choix d'utiliser des données auto-rapportées s'avérait le plus adéquat.

Orientations Futures

Cette étude permet une meilleure compréhension de l'impact du leadership transformationnel sur le bien-être eudémonique au travail des employés. Bien que les dimensions du leadership aient été explorées en lien avec le bien-être, il serait pertinent d'approfondir les distinctions entre les dimensions du leadership transformationnel. Cette étude a mis de

l'avant quelques explications concernant la différenciation du charisme avec les autres dimensions du leadership transformationnel. La mesure du construit avec cinq sous-dimensions devrait être revisitée, ou son fondement théorique plus approfondi. Selon Bass (1985), les dimensions du leadership étaient séparées, théoriquement distinctes. À la lumière de nos résultats, il semblerait cependant que les dimensions seraient plutôt liées empiriquement comme postulé par Carless (1998) et Judge et Bono (2000). En effet, nos résultats montrent un certain niveau de multicollinéarité, étant donné nos indices FIV légèrement plus élevés que ce que l'on observe habituellement en psychologie (Haccoun, 2013). Ceci implique que les dimensions du leadership transformationnel pourraient peut-être être vues comme un tout qui influencerait le bien-être eudémonique et peut-être pas comme une influence distincte de chaque dimension. Les résultats pourraient également être dus à l'instrument MLQ, il pourrait donc être envisageable de reproduire la recherche avec d'autres instruments de mesure. Toutefois, le MLQ est l'instrument le plus utilisé dans le domaine de la recherche pour mesurer le leadership, c'est pour cette raison qu'il a été préconisé.

De plus, il pourrait être intéressant d'étudier les différentes relations qui peuvent exister entre les dimensions du bien-être eudémonique au travail et les dimensions du leadership transformationnel. Compte tenu de nos résultats et de la réalité organisationnelle où le bien-être psychologique des employés est à la base du succès des entreprises, la sélection des leaders de compagnie devrait considérer le charisme du gestionnaire si l'un de leurs objectifs est de favoriser le bien-être des employés.

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Reçu le 15 août, 2014

Révision reçue le 9 janvier, 2015

Accepté le 15 janvier, 2015 ■

The Meaning of Dysfunctional Group Norms and its Impact on Conformity and Social Identification

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Groups strive towards positive and distinct identities, yet many groups endorse dysfunctional group norms. Once these norms are integrated into the group identity, members are motivated to conform to them. Impression management research demonstrates that positive attributions for any given behaviour can pressure individuals to engage in that behaviour. The current study investigates the impact of neutral, positive or negative attributions for a dysfunctional group norm in a group-identity salient context on the motivations of individuals to engage in this dysfunctional norm and the impact of these attributions on levels of group identification. Our results indicate that participants in the positive attribution condition were more motivated to engage in a dysfunctional group norm than those in the negative attribution condition, but contrary to our hypothesis, identified less with their group after the experiment than those in other conditions.

Keywords: identity, dysfunctional group norms, norms attribution, identification, conformity

Les groupes aspirent à des identités positives et distinctes, pourtant, beaucoup adoptent des normes de groupes dysfonctionnelles. Une fois ces normes intégrées à l'identité du groupe, les membres sont motivés à s'y conformer. Les recherches en gestion de l'impression démontrent que des attitudes positives pour un comportement donné peuvent pousser les individus à adopter ce comportement. Dans un contexte où l'identité de groupe est explicite, notre étude analyse l'impact des attitudes neutres, positives ou négatives pour une norme de groupe dysfonctionnelle sur les motivations des individus à endosser cette norme et les conséquences de ces attributions sur les niveaux d'identification au groupe. Nos résultats indiquent que les participants dans la condition attitudes positives étaient plus motivés à endosser une norme de groupe dysfonctionnelle que ceux dans la condition attitudes négatives, mais contrairement à nos hypothèses, s'identifiaient moins avec leur groupe, après l'expérience, que ceux des autres conditions.

Mots-clés : identité, normes de groupe dysfonctionnelles, attribution de normes, identification, conformisme

Sometimes, the groups to which we belong engage in unhealthy, risky or dangerous behaviours. These behaviours are often referred to as dysfunctional behaviours. When enacted by a large proportion of group members, dysfunctional behaviours may even become normative. There are many examples of unhealthy group normative behaviours: smoking among young adolescent groups (Kobus, 2003), racing among young drivers (Gibbons & Gerrard, 1995), and binge drinking among first year university students (Johnston & White, 2003).

One group that has received a good deal of attention is first year university students who engage in binge drinking. Clearly, binge drinking can have negative consequences on many areas of their lives. It interferes with their studies, which subsequently puts them at risk of not achieving their academic goals. Binge drinking also leads to health problems such as liver damage, alcohol poisoning, and to social problems such as getting involved in fights or having car accidents (Room, Babor, & Rehm, 2005). Despite its negative consequences, it is surprising that binge drinking remains a powerful norm among first year university students. Why is it that behaviours that are clearly detrimental to one's health and well-being become endorsed by so many individuals? This is the central question that guides the current research.

This work was part of a research project completed by the first author under the supervision of Megan Cooper and Donald M. Taylor. A special thanks is extended to them and to the JIRIRI team for their guidance and encouragement throughout all the steps that made this publication possible. Please address correspondence to Nada Kadhim (email: nada.kadhim@mail.mcgill.ca).

Belonging to groups that perpetuate negative norms and following these norms goes against the literature in social psychology, which states that individuals are usually motivated to belong to groups that have positive social characteristics. In other words, individuals tend to identify with groups that have positive social characteristics because, by being part of a positively perceived group, they see themselves more positively (Tajfel & Turner, 1979) and consequently have higher levels of well-being (McCullough, Huebner, & Laughlin, 2000). What often defines the social characteristics of the group is its social norms. "Social norms are rules and standards that are understood by members of a group, and that guide and/or constrain social behavior without the force of laws" (Cialdini & Trost, 1998, p. 152). In other words, these rules and standards determine the group's identity by representing the behaviour of the majority of group members.

Even though it is expected that individuals would act according to the positive norms of their groups, in some situations, group members follow its negative norms. Indeed, the negative nature of a group norm doesn't necessarily restrain the group members from following it, but can sometimes make them endorse these norms. Therefore, it is important to study the role that the subjective factors, such as the given valence to social norms, have on the individuals.

We propose that although some group norms are objectively negative, group members might still perceive them positively. This subjective perception of dysfunctional norms, which we call norm attribution, may influence conformity to group norms and identification with the group, which are core elements of group membership.

In order to be able to encourage groups to endorse healthy behaviours and prevent them from adopting unhealthy ones, it is important to first identify which factors influence adherence to dysfunctional group norms. Also, investigating the influence of norm attributions on group members' levels of identification is essential, since it can be a useful tool to encourage people to belong to groups that endorse norms that have positive attributions as opposed to negative ones and contribute to their well-being.

The purpose of the present study is to find out how the valence of norm attributions increases or decreases the likelihood of conforming to a dysfunctional group norm that is part of a group's identity, and also to determine how it influences group members' levels of identification to the group.

Attributions

First and foremost, humans are social beings who depend on each other throughout their lives. In other words, they have a "need to belong". The need to belong is a fundamental, universal and powerful human need that motivates people to establish and maintain interpersonal relationships (Baumeister & Leary, 1995).

According to social identity theory, individuals aspire to belong to groups that are distinct and positively evaluated in society and that will have a positive reflection on their self-concept and identity (Tajfel & Turner, 1979). Put differently, they desire a positive and distinct social identity. Based on this desire, group members tend to adopt group norms that contribute positively to their social identity.

Since we are motivated to belong to groups that are positively evaluated, we care about the impressions we make on others and we make efforts to appear in socially admirable ways. Impression management research has demonstrated that the desire to make positive impressions on others often motivates people to take part in risky behaviours that can lead to health-related problems and even death in some cases. For example, adolescents are motivated to drink alcohol and use drugs to appear cool or sociable (Martin & Leary, 1999). In fact, social acceptance and approval among peers is one of the most important motivators for drinking alcohol (Farber, Khavari, & Douglas, as cited in Martin & Leary, 1999). People who drive at high speeds and end up in fatal accidents are also often motivated by the desire to appear as risk takers (Hingson & Howland, as cited in Martin & Leary, 1999). These examples demonstrate that even though some group normative behaviours are objectively negative, group members still conform to them. This conformity could be due to the fact that sometimes, group members give a positive attribution to negative and harmful social behaviours and this further motivates individuals to engage in unhealthy behaviours. In reality, the existing literature has neglected the fact that dysfunctional group norms can be promoted in a positive way by changing the subjective perception of group members about these norms.

Different cultures and groups value diverse social images. As we have noted, many dysfunctional behaviours are motivated by the desire to appear in socially gratifying ways. For example, people who are highly concerned about appearing physically attractive are more likely to engage in behaviours such as tanning and/or not using sunscreen that put them at risk for skin cancer (Leary & Jones, as cited in Ginis & Leary, 2004). Moreover, when individuals possess a

positive and valued social image, they strive to protect and maintain that image. Put differently, the subjective meaning associated with behaviours and social images greatly impacts individuals' motivation to engage in that behaviour.

The subjective meaning individuals assign to their behaviour is called attribution. An attribution can be (a) neutral, (b) positive or (c) negative. A positive attribution promotes a valued social image, a negative attribution promotes an undesired social image, and a neutral attribution promotes a social image that is neither valued nor undesired.

In fact, the more positive the attribution for a behaviour is, the more pressure individuals will feel to conform to the behaviour, even when it is dysfunctional (Ginis & Leary, 2004). Equally, if the attribution of a behaviour is negative, individuals are more likely to avoid it. Although the influence of attributions has been shown to influence individuals' behaviour in a social context, the literature has not addressed how the subjective evaluation of a group norm can influence group members' perception of that norm and consequently, their conformity to it. Given the importance of the construals we assign to social behaviour, it is essential to determine whether the valence of the attribution given to a dysfunctional group norm has an influence on group members' motivation to engage in that norm.

Social Identification

In her model of identity-based motivation, Oyserman (2007) offers alternative ways in which our health behaviours are influenced by the social world. According to Oyserman's model, our motivation for engaging in certain behaviours or disengaging from them is impacted by our group identity. The content of our group identities influences the cognitions we hold and these cognitions affect our decision-making processes for engaging in different behaviours. Thus, when a behaviour is incorporated into a social identity and shared among group members, engaging in that behaviour becomes a normative part of being a group member and "carries a positive tone of inclusion in the in-group" (Oyserman, Fryberg, & Yoder, 2007). Identity-infused behaviours can lead to positive or negative consequences on group members' health. Based on this model, individuals' decision making about these health-related behaviours is determined more by the identity and social consequences than by the actual health consequences (Oyserman et al., 2007).

Discovering the influence of different social identities on any individual is complicated by the fact

that individuals place a different amount of importance on their membership to the different groups that form their self-concept (Tajfel, 1978). In social psychology, this is referred to as the level of identification an individual feels in relation to a particular social group. Moreover, the level of identification is an indication of how much group members perceive themselves as being part of the group and how much this membership is important to them.

The degree to which individuals identify with their groups is important because, if group members perceive their social identity to be inadequate or negative, they might dis-identify with the group or leave it (Tajfel, 1978). Therefore, if a group adopts dysfunctional norms that contribute negatively to group members' social identity, the importance individuals place on their membership to that group might diminish. Thus, it is important to find out what happens to levels of identification of group members if their group norms, and as a consequence their group's social identity, is perceived to be undesirable.

Present Research

The current study has two general goals. First, we want to examine the impact of positive and negative attributions for a dysfunctional group norm on the degree of conformity of group members to this norm. Second, we aim to explore how positive and negative attributions for dysfunctional group norms affect identification levels of group members.

Asking people about dysfunctional behaviours is often complicated by the desire to appear in socially desirable ways. Also, group members aren't necessarily aware of the specific mechanisms that lead them to internalize these behaviours. In order to correct for these biases, we decided to examine dysfunctional group norms by using an experimental paradigm. Since most real-life risky behaviours (e.g., binge drinking) different groups engage in are impossible to study in a research laboratory, we had to find a behaviour that is less risky and that is ethical and safe to examine.

We chose to use a "cold pressor" paradigm. The cold pressor test is a classic measure of pain tolerance, as it asks people to leave their hands in extremely cold water for as long as they can, and this experience is painful. In the present research, we aim to determine the conditions necessary to increase the amount of time people are willing to keep their hands in the cold water. In short, the cold pressor paradigm is used to measure the amount of pain participants are willing to take over their natural pain tolerance level.

DYSFUNCTIONAL GROUP NORMS AND THEIR MEANING

By choosing a behaviour that was painful and by informing participants that going through unnecessary pain was not beneficial for health, we made it clear that this willingness to keep one's hand in the cold water despite knowing its detrimental effect on health is in fact a dysfunctional behaviour. We extended the dysfunctional behaviour to the group level by introducing it as a group norm and by linking it to a shared identity among participants. To be more specific, the dysfunctional norm was to be able to keep one's hand in the cold water for at least 10 seconds longer than an individual's baseline. Furthermore, in order to be able to activate an already existing group identity, we recruited participants who share a common social identity as second language students at McGill University.

We theorize that the valence attributed to the dysfunctional norm will influence people's willingness to endorse the norm. Therefore, in this study, we introduce a) a positive attribution condition, b) a negative attribution condition and c) a neutral attribution condition, to be able to examine the impacts of these different attributions types on group members' conformity and degree of identification.

The primary hypothesis is that the valence of the attribution attached to a potentially dysfunctional norm will impact the degree of conformity to the norm. To be more specific, participants in the positive attribution condition will leave their hands in the cold water longer than those in the neutral and negative attribution conditions, and participants in the negative attribution condition will remove their hands from the water sooner than those in the neutral attribution condition.

It is also predicted that activating participants' identities, linking the norm attribution to this identity and having the opportunity to engage in the group norm will make participants reflect upon their degree of identification with their group. Therefore, the second hypothesis is that individuals who are presented with a positive attribution for a dysfunctional group norm will identify more with their group after the experiment, because individuals are motivated to identify with groups who have positive and distinct characteristics. In particular, participants

in the positive attribution condition will be more identified than those in the neutral and negative attribution condition and participants in the negative attribution condition will be less identified than those in the neutral attribution condition.

Method

Participants

We recruited 126 McGill undergraduate students for whom English is not their first language. They were recruited through a social psychology participant pool and through undergraduate classes at McGill University. The participants from the social psychology research pool received 10 CAD per hour for their time and those recruited from undergraduate courses received class credit in exchange for their participation.

We removed 21 of the 126 participants from our final analysis: 10 were removed because they reached the safety limit on their baseline trial and so could not be asked to conform to the group norm (see the procedure section for details) and 11 were removed because although they were recruited as second language students, the pre-experimental questionnaire revealed that their first language was in fact English. Therefore, our final data set consisted of 105 participants: 91 females, 13 males and 1 unknown. Their age ranged from 18-33 ($M = 20.80$, $SD = 2.15$). The majority of the sample identified as Asian or Pacific Islander (57%), 28% of them as Caucasian, 1% as multiracial and 11% did not specify their ethnicity. Table 1 shows the distribution of their first languages.

Apparatus

Our cold pressor apparatus consisted of: a 49 litre drink cooler with the top removed to hold the water, a Dixell (EK45 model) water chiller which was set to chill the water at 5 degrees Celsius. Two water pumps, made for a turtle habitat and strong enough to circulate the water around the cooler, were placed on either side of the cooler and next to the chiller apparatus to prevent ice blocks from forming on the chilling coil and maintain a steady temperature throughout the

Table 1

Distribution of mother tongue among participants

First language	Frequency
1. Chinese (Mandarin & Cantonese)	32
2. French	21
3. Korean	17
4. Other	35

tank. Circulation was also important to ensure that warm water bubbles did not form around the hands of the participants. A clock timer was started when participants put their hands in the water and counted their time and it was set at eye level directly in front of where the participants would stand.

Materials

Participants were asked to fill out a pre-experimental questionnaire at least a day before they came into the laboratory. This questionnaire asked them to report basic demographic information, in addition to the following measures:

Self-control. Self-control (e.g., I am good at resisting temptation) was assessed using 10 items from the *Self-Control Scale* (Tangney, Baumeister, & Boone, 2004). The Cronbach's alpha of this scale was found to be .76.

Need to belong. Need to belong (e.g., I try hard not to do things that will make other people avoid or reject me) was assessed with the 10-item *Need to Belong Scale* (Leary, Kelly, Cottrell, & Schreindorfer, 2008). The Cronbach alpha for this scale was .80.

All items from these scales were rated on a 7-point Likert scale where 1 represents "strongly disagree" and 7 represents "strongly agree."

Participants also completed a post-experimental questionnaire after the laboratory portion of the study. This questionnaire asked them about their experience taking part of the experiment and specifically asked them to report:

Identification with experimental group. Identification (e.g., I feel connected to other members of my experimental group) scores were computed from the responses to 3 items from the adapted form of *Cameron's Identification Scale* (2004). The Cronbach alpha for this scale was .74. All items from this scales were rated on a 7-point Likert scale where

1 represents "strongly disagree" and 7 represents "strongly agree."

Conformity. Conformity was assessed using the following item: "Pressure from other members of your group". This item was taken from the conformity subscale of the *Four-Factor Model of Drinking Motives* (adapted from Cooper, 1994) and was rated on a 7-point Likert scale where 1 represents "not at all" and 7 represents "very much".

Procedure

Participants were recruited online and over email. Once participants signed up, a link to the pre-experimental questionnaire was sent to them and they were asked to complete it. After completion of the questionnaire, participants came to the laboratory in groups of three to seven to complete the laboratory portion of the experiment.

Once participants arrived in the waiting room, they signed a consent form. Then, they received general instructions about the study. They were told that the study is designed to validate the cold pressor test as a measure of pain tolerance. They were also told that there is a great amount of variability between people on ratings of pain tolerance and that pain tolerance can predict other life outcomes, but that having higher pain tolerance is not necessarily a good thing.

Then, they were taken to another room to perform the cold pressor test individually. Participants were told to immerse their hands in the cold water (5°C) and keep them in there as long as they are able to do so. However, there was a safety limit of three minutes beyond which participants were not allowed to persist at the task. This was the first cold pressor test and it was designed to assess the baseline measure of their pain tolerance. After, participants went back to the waiting room and read an information sheet about the second cold pressor test, which was the dysfunctional behaviour.

Table 2

Descriptive statistics for all measures across conditions

Variables	Neutral attribution condition (n = 35)	Negative attribution condition (n = 33)	Positive attribution condition (n = 37)
	M (SD)	M (SD)	M (SD)
1. Need to belong	4.21 (0.96)	4.60 (1.05)	4.40 (0.94)
2. Self-control	4.21 (0.92)	4.26 (1.03)	4.28 (0.89)

Note. N = 105.

DYSFUNCTIONAL GROUP NORMS AND THEIR MEANING

At this point, each group of participants was randomly assigned to one of three conditions. The information sheet contained information about the participants' group and was different in the three different conditions. All conditions had the same dysfunctional norm, which was to leave their hands in the water at least 10 seconds longer than their baseline in the second cold pressor test. However, the norm attribution (i.e., the meaning associated with the norm) was different in each condition.

The main independent variable is the norm attribution type (i.e., whether it is neutral, negative or positive). The neutral norm attribution was the presence of a practice effect. When the norm attribution was negative, participants were told that they experience greater stress, and when it was positive, they were told that they have higher self-control. Our main dependant variable was norm conformity which was measured in terms of the number of seconds that each participant left their hands in the water over their baseline measure (i.e., the difference in time from the experimental trial and the baseline trial on the cold pressor test).

Plus, it was necessary to make sure that participants understood the fact that keeping their hands in the cold water beyond their limits and to the point where their hands hurt, is a dysfunctional behaviour. Therefore, they were told that having a high pain tolerance does not necessarily benefit us and that previous research has demonstrated that having higher self-protective instincts is more functional in everyday life.

In the neutral attribution condition, participants were told that they should be able to keep their hands in the water 10 seconds longer on their second time than on their first time due to a practice effect with the cold pressor test.

In the negative attribution condition, participants were told that they were recruited because English is not their first language, and also because previous studies have found that bilingual or multilingual people typically experience greater stress as a result of constantly switching from one language to another. In this case, they should be able to leave their hands in the water 10 seconds longer on their second trial because this type of experience has a dulling effect on the pain response to repeated pain exposure.

In the positive attribution condition, the same identity (i.e., being a second language student at McGill) was activated, except that in this condition, they were told that bilingual or multilingual people have greater self-control since they are required to constantly switch from one language to another and that this self-control would allow them to leave their hands in the water for 10 seconds longer.

After reading the information sheet, participants performed the second cold pressor test. Then, they were taken to a second room to complete the post-experimental questionnaire on a computer. After completing the questionnaire, they were asked to sit at a large table and enjoy a snack together.

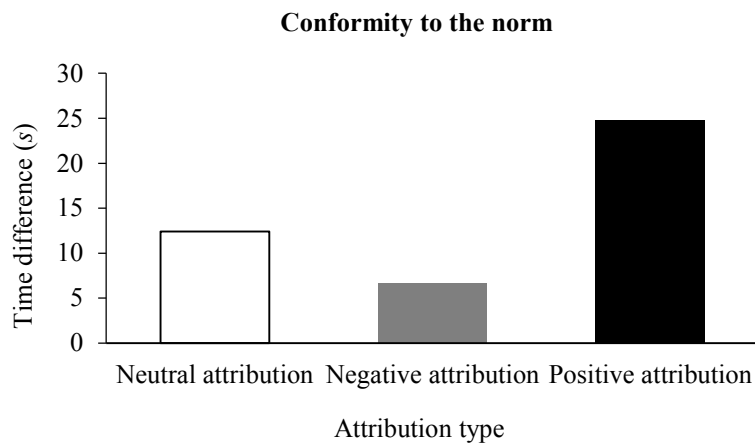


Figure 1. Conformity to group norm measured in terms of mean time differences from baseline.

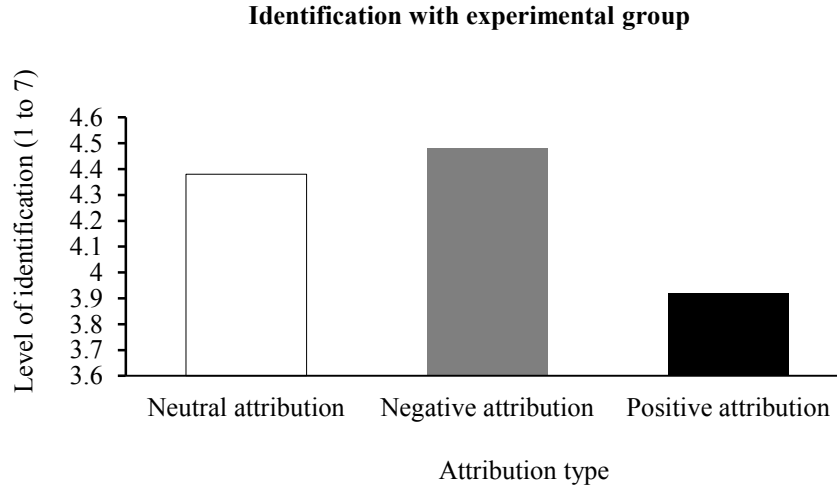


Figure 2. Mean levels of identification with the experimental group.

Results

Explicit measures of self-control and the need to belong have previously been found to affect performance on the cold pressor test (DeWall, Baumeister, & Vohs, 2008; Muraven & Slessareva, 2003). To ensure there are no significant differences between our experimental groups, we first computed mean scores on these measures using the pre-experimental questionnaire data. The means of these scores were compared across groups and are presented in Table 2. Analysis of variance revealed no significant differences between our three groups ($p > .05$).

Norm Conformity

In the control condition with a neutral attribution, the mean time difference between the experimental trial and the baseline trial was 12.4 seconds ($SD = 24.7$, $n = 35$). In the negative attribution condition, the mean time difference between the experimental trial and the baseline trial was 6.65 seconds ($SD = 26.1$, $n = 33$). Finally, in the positive attribution condition, the mean time difference between the experimental trial and the baseline trial was 24.8 seconds ($SD = 33.4$, $n = 37$). A one-way ANOVA revealed a significant main effect of attribution effect on norm conformity between our experimental conditions, $F(2, 102) = 3.77$, $p = .026$, $\eta^2 = .07$. Levene's test indicated equal variance between the three conditions $F(2, 102) = 2.82$, $p = .065$, indicating that our assumption of homogeneity of variance was not violated in our sample. Using Tukey's HSD test, a post-hoc analysis revealed that participants in the positive attribution condition left their hands in the water for a

significantly longer amount of time (as measured in seconds) over their baseline on their second trial than those in the negative attribution condition ($p = .024$). Participants in the positive attribution condition also kept their hands in the water for a longer amount of time than those in the neutral attribution condition; however, this difference was not significant ($p = .159$). Finally, participants in the negative attribution condition removed their hands sooner than those in the control condition, yet, this difference was also not significant ($p = .683$; see Figure 1).

Level of Identification

Means of the three items adapted from *Cameron's Identification Scale* (2004) were computed and the differences compared across experimental groups. The mean level of identification was 4.38 ($SD = 1.09$) in the neutral attribution condition, 4.48 ($SD = 0.96$) in the negative attribution condition and 3.92 ($SD = 0.82$) in the positive attribution condition. A one way ANOVA revealed a significant main effect of attribution type on level of identification with the experimental group, $F(2, 102) = 3.49$, $p = .034$, $\eta^2 = .07$. Levene's test indicated equal variance between the three conditions $F(2, 102) = 1.24$, $p = .292$, indicating that our assumption of homogeneity of variance was not violated in our sample. Post-hoc analyses using the Tukey's HSD test indicated that level of identification was significantly lower in the positive attribution condition compared to the negative attribution condition ($p = .041$). Level of identification was also lower in the positive attribution condition compared to the neutral attribution condition,

and this difference was marginally significant ($p = .109$). Finally, level of identification was lower in the negative attribution condition compared to the neutral attribution condition; however, this difference was not significant ($p = .897$; see Figure 2).

Discussion

Norm Attributions and Conformity

The primary aim of the current study was to test whether the meaning attributed to a dysfunctional group norm, which was to keep one's hand in the cold water for at least 10 seconds longer than the baseline test, will influence people's conformity to that norm. The obtained results confirmed the hypothesis that participants in the positive attribution condition conformed more to the dysfunctional norm by leaving their hands in the water longer than those in the negative attribution condition. In other words, when participants were told that they should be able to conform to the norm because of their higher self-control as a result of constantly switching between languages, they endorsed the dysfunctional norm and complied with it. Conversely, when they were told that they had the capacity to conform to the norm since they had a lower sensitivity to pain as a result of exposure to stress while switching between languages, they dissented from the dysfunctional norm.

These findings have many implications. First, they confirm the presence of an identity-based motivation model. Indeed, when a health-damaging norm is tied to a salient social identity, group members endorse the norm and comply with it. In other words, if a harmful norm is internalized by group members as being part of their group identity, they will downplay its negative impacts on their health (Oyserman, 2007). In fact, when participants thought that leaving their hands in the water was part of bilingual and multilingual people's identity, they pushed themselves beyond their limits and left their hands in the water longer than their baseline, even though they were told that putting oneself through unnecessary pain could have detrimental effects on one's health.

Our results are also consistent with impression management research. Participants in the positive attribution condition, who were told that norm conformity meant that they had higher self-control, acted according to the norm and those in the negative attribution condition, who were told that they were more stressed, did not conform to the norm. Since self-control is associated with a positive social image, especially in an academic environment, people made

substantial efforts and endured cold water to maintain the proscribed positive image. Interestingly, since being stressed is viewed as a negative characteristic and is associated with negative consequences on one's health and life, people may have been motivated to change this negative social image by not adopting the norm, even if it was tied to their identity. Of course, these behaviours were motivated by the desire to make good impressions on others (Ginis & Leary, 2004).

It is interesting to infer that as outsiders and out-group members, we might separate norms from attributions and meanings. However, from an insider and group member's point of view, the attribution is often embedded within the norm or is sometimes more important and salient than the norm. In fact, the attribution represents the norm and sometimes, it is possible for the norm to get lost in the midst of these attributions. As a result, group members might engage in the norm automatically, but it is the attribution that is constantly present that motivates people to engage in the norm and that is provided as a rationale to outsiders who ask about the reason behind a behaviour. This is especially important when it comes to behaviours that society or the majority of people consider dysfunctional or strange. When group members are questioned about why they engage in that behaviour, they might start thinking about the meaning behind their behaviour. If people have a convincing rationale for themselves or find a positive meaning for it, this can increase the importance of the behaviour and make individuals endorse the norm even more. However, if people are questioned about a harmful or odd norm and they cannot seem to find a good and positive reason for engaging in it, they might stop engaging in that behaviour gradually. Hence, the meaning attributed to a behaviour or group norm is essential for its continuation or discontinuation.

Norm Attributions and Identification

The second goal of this study was to examine whether attributing negative versus positive meanings to the dysfunctional group norm of keeping one's hand in the water longer would influence people's level of identification with their group. The results that we obtained are contrary to our hypothesis and expectations. Participants in the positive attribution condition identified less with their group after the experiment than those in other conditions. Despite greater conformity to the group norm, those in the positive attribution condition actually reported lower levels of post-experimental identification. Also, although levels of identification of participants in the negative attribution condition were not different from those in the neutral attribution condition, participants in the negative attribution condition identified more

with their group than those in the positive attribution condition. Put differently, when participants were told that they had higher self-control, they identified less with their group, and when they were told that they experienced higher stress, they identified more with their group.

A possible explanation for the fact that many individuals in the negative attribution condition dissented from the norm can be found in the norm dissent theory (Packer, 2008). Based on this theory, highly identified individuals will dissent from a norm if they feel that the norm is harmful to the group. This non-conformist reaction is motivated by a desire for the improvement of group norms. In fact, these individuals dissent from the norm to redefine it and help the group and their welfare. Another possibility is that dissenting from harmful norms may cause individuals to feel more identified. Actually, the average time difference from baseline to second trial in the negative attribution condition was lower than the threshold of what could be considered norm conformity, which is an increase of at least 10 seconds. Indeed, these people dissented from the norm and identified more with the group after doing so. After dissenting from the norm, they might have felt like they engaged in a collective movement and an act to make their group and its image better. This might have made them feel more identified. For example, this is often what happens during social action protests. When people are protesting for a cause, they feel more like a group and more connected to each other. Another possible explanation for this counter-intuitive finding is that individuals felt greater group pressure when they were less internally motivated to conform to the norm, and this group pressure, made the group aspect of the experiment more salient. Support for this proposition comes from an item on our post-experimental questionnaire, which asked participants to report to what degree pressure from other group members impacted the amount of time they left their hands in the water after they felt pain. Participants in the negative attribution condition ($M = 2.21$, $SD = 1.41$) perceived more pressure to conform to the group norm than those in the neutral ($M = 1.43$, $SD = .70$) or positive attribution ($M = 1.51$, $SD = 1.10$) conditions, and this difference was significant ($p = .006$). Put differently, participants in the negative attribution condition who did not conform to the norm stated that they perceived more pressure from the group to conform to the group normative behaviour, and this same group reported feeling more identified with the group. Therefore, it is possible that participants in the negative attribution condition experienced a more salient group identity as a result of the pressure they perceived from the group.

Theoretical and Practical Contributions

The current investigation has many important implications. At the theoretical level, it highlights the importance of the meanings attributed to group norms. In fact, this study demonstrates that once a dysfunctional behaviour is considered to be a group norm and is tied to a group's identity, the meanings group members associate with it has the power of determining whether group members adhere to that norm. When the attribution given to a dysfunctional behaviour is positive and is associated with a desired social image, group members are more likely to internalize it. In contrast, when the harmful behaviour has a negative meaning and represents an unwanted social image, group members are less likely to internalize it.

This finding also has a significant implication at the practical level. For example, it is useful for interventions aimed at modifying dysfunctional group norms. If group members conform more to a harmful norm that is construed positively, then altering the attribution of that dysfunctional norm so that it is interpreted negatively could result in the reduction of conformity to that norm.

Limitations and Future Directions

One limitation of the current investigation is that our sample is not representative of the general population. Our participants were bilingual and multilingual undergraduate students from McGill. Therefore, our findings are limited to this group. It is possible that characteristics specific to this group contributed to the obtained results. Future studies should try the same paradigm with people from different populations and with different identities. Also, it would be interesting to try to create an in-laboratory identity, where participants interact with each other and form an identity before doing the cold pressor test. These studies could give further insight on whether the identity activated before the introduction of the group norm and the norm attribution have a differential impact on people's willingness to engage in a dysfunctional behaviour.

Another limitation of this study is that there was no condition in which we had a norm but not an attribution. Having such a condition would further clarify and disentangle the effects of group normative behaviour and meaning attributed to the group norms. However, it should be noted that this was the first study in a series of studies and we felt that the current conditions were the most important ones. Future studies plan on adding a condition that has a norm without an attribution.

Finally, it is possible that the results we obtained are limited to the attributions associated with the norms. If participants in the positive attribution condition believed that they have higher self-control, this might have led them to perform better on the cold pressor test the second time, since they had to exert self-control and push themselves beyond their limits. Also, if participants in the negative attribution condition internalized the fact that they experience greater stress, this might have contributed to their underperformance on the second cold pressor test, since experiencing stress can be reasonably understood to undermine performance on tasks, especially if they require self-regulation. Future studies should vary the attributions to ensure that it is the valence of attributions (positive vs. negative) that caused us to obtain our results, and not other characteristics of the attributions employed in the current study that caused the observed effects.

Conclusion

This study found that meanings attributed to group norms in an identity-salient situation impact whether group members conform to the norm or not. When the meaning tied to a group norm was positive, group members were more likely to comply with it, but if it was negative, they were more likely to dissent from it. Also, the attribution type impacts the level of identification of group members. Surprisingly, in our study, those who conformed to the norms identified less with the group and those who dissented from the norm identified more with the group. Since this was an unexpected result, future studies should disentangle this relation between degree of conformity to dysfunctional group norms and levels of identification with the group. Future studies should also try to construct interventions for modifying dysfunctional norms such as binge drinking among first year university students, by giving this dysfunctional norm a negative attribution to discourage students from engaging in it.

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Received May 22, 2014

Revision received December 1, 2014

Accepted December 21, 2014 ■

Obtaining Academic Success: Nurturing Grit in Students

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Grit is the effort and interest exercised toward a set goal and positively sustained throughout the course of reaching that goal. Recent evidence suggests that it is not IQ that best determines academic success, but rather the personality trait of grit. Grit being the best predictor of academic success, further research is needed to determine what mechanism can be used to strengthen and nurture grit in struggling students. The goal of this article is to fill this gap, through utilizing character strengths as a means of nurturing and strengthening grit. Moreover, this article goes further on to propose a mechanism of nurturing and strengthening grit in students on academic probation, as means of increasing their GPA. The proposed model is called the Grit Effect (GE).

Keywords: academic probation, character strengths, grit, self-regulation, success

La ténacité consiste en l'effort et l'intérêt exercé envers un objectif fixé et soutenue positivement dans l'atteinte de cet objectif. Des données récentes suggèrent que ce n'est pas le QI qui détermine une meilleure réussite scolaire, mais plutôt le trait de personnalité de la ténacité. La ténacité étant le meilleur prédicteur de la réussite scolaire, des recherches sont nécessaires afin de déterminer quel mécanisme peut être utilisé pour renforcer et entretenir la ténacité chez les élèves en difficulté. Le but de cet article est de combler cette lacune, par le biais de l'utilisation des forces de caractère comme un moyen d'entretenir et de renforcer la ténacité. De plus, cet article poursuit en proposant un mécanisme d'entretenir et de renforcer la ténacité chez les étudiants en probation, comme moyen d'accroître leur moyenne pondérée cumulative (MPC). Le modèle proposé est appelé le « Grit Effect » (GE).

Mots-clés : probation académique, forces de caractère, ténacité, autorégulation, succès

Success is something for which every person strives. While some people strive for professional success in the workplace or academic success at university, everyone has a goal they wish to attain. For college students, academic success is sought by all, but achieved by only some. In fact, about 33% of college students will be placed on academic probation at one point of their academic career, and of these 33%, 44% will drop out of college (Lindo, Sanders, & Oreopoulos, 2010). However, in the National Academic Advising Association's Statement of Core Values of Academic Advising, there is no indication as to a defined process or manner in which academic advising must be carried out (National Academic

Advising Association [NACADA], 2005). Rather, the advisor's personal beliefs and the institution's own requirements are suggested as the guidelines in advising. Although the NACADA does layout that the advisor is responsible to the student and the academic institution, all advisors are encouraged to do is to guide the student toward appropriate avenues such as tutoring. With such lacking guidelines, these dropout rates should come as no surprise. With almost half of the students placed on academic probation dropping out of college, academia needs to take steps in helping these students build the necessary skills to succeed. However, what is it that the other 56% have that the 44% lack? More importantly, what is it that separates those who are placed on academic probation from those who are not?

The author would like to thank the team at the JIRIRI for this wonderful opportunity and experience. Please address all correspondence to Madeline Perez (email: madelineperez5364@gmail.com).

These questions have been asked at even the most competitive institutions including the Military Academy of West Point. Not only must applicants of West Point be nominated by a member of Congress to be considered for admission, but they are also judged on their academic, physical, and leadership potential. Thus, those who are accepted into West Point have high potential for great success in their lives. However, even with such impressive credentials, 1 in 20 of these ARSOF candidates do not pass their first summer at West Point (Duckworth, Peterson, Matthews, & Kelly, 2007). Yet, with such remarkable admission credentials, why are these West Point cadets failing? What is lacking in those who fail compared to those who pass? When looking at these West Point cadets, the personality trait of grit was a stronger determinate of success than any of the admission credentials.

Up until about twenty years ago, IQ, which claims to assess human intelligence, was considered the main determinate of academic success (Duckworth et al., 2007). Now, however, the personality trait of grit has been shown to be the strongest correlate of academic success. According to Duckworth et al. (2007), grit is the effort and interest exercised toward a set goal and positively sustained throughout the course of reaching that goal. These findings should give hope to all struggling students because unlike IQ, grit is a personality trait that can be nurtured and strengthened.

While research has looked at different aspects and correlations on grit and its facets of interest and effort, research purposing a means of nurturing and strengthening grit for the purpose of attaining academic success is lacking. This is what the following article seeks to accomplish, a means of defining a way to nurture and strengthen grit in struggling students in order to help them reach academic success. This will be done by first exploring the different facets of grit and how grit relates to self-regulation. Next, a means of pinpointing a way of nurturing and strengthening grit will be given. Lastly, a model will be offered to test the mechanism.

Grit

The personality trait of grit is rooted in interest and effort. This first facet of interest serves as the motivational starting point that gives the goal a meaning and that feeds a person's optimism. Interest is not, however, associated with pleasure because pleasure focuses on immediate short-term satisfaction (Von Culin, Tsukayama, & Duckworth, 2014); pleasure also discourages sustaining the long-term interest necessary to reach the long-term goal. Rather, interest is associated with meaning. There must first

be personal meaning and passion in reaching a long-term goal in order for a person to overcome the unavoidable setbacks and challenges that will arise. From this, the experience of going after the goal can become satisfying. In fact, "a sense of meaning is positively associated with overall well-being and negatively associated with anxiety and depression" (Von Culin et al., 2014, p. 307). Accompanied by this meaningfulness is optimism. In order to achieve a long-term goal, growth and improvement is necessary. However, being able to receive feedback and overcoming negativity is key. Thus, it is important not to allow challenges and negativity influence the goal. Having meaningfulness within the long-term goal is what allows a person to acknowledge willingly where improvement is needed without applying negativity. Therefore, while grit's facet of interest might not always be about the immediate satisfaction of pleasure, the meaning behind the goal results in more long-term satisfaction and encourages well-being.

The second facet of grit is effort. When a long-term goal has significant meaning, there must be something within a goal that is thought to be engaging. It is from this engagement within a challenge that persistence to keep moving forward in the face of difficulty is rooted (Von Culin et al., 2014). Through this, a sustained effort is encouraged. When looking at engagement, past research has compared it to an experience called flow, "the state of complete absorption and full mastery in highly challenging, highly skilled activities (...) so intense as to preclude self-awareness" (Von Culin et al., 2014, p. 307). Therefore, engagement is being able to lose one's self within a challenge to the point of forgetting time and being able to live completely within the present moment. In order for this to happen, the challenge must be difficult enough to not be considered boring, but easy enough to not be discouraging. The daily challenges that must be beaten in order to achieve the long-term goal need to have some degree of flow in order for anyone to overcome challenges, stay on track, and sustain effort. Although this engagement is not always about pleasure, as the facet of interest shows, a sense of accomplishment and satisfaction would come along with each overcome challenge. While the first facet of grit is about not giving way to instant pleasures and focusing on the meaningfulness behind the long-term goal, grit's second facet of effort is about sustaining effort while going after the goal.

In order to understand and appreciate grit fully, its relationship to self-regulation must be noted. Self-regulation is often considered a facet of consciousness and is "the self's capacity for altering its behaviors" (Baumeister & Vohs, 2007, p. 115). From

self-regulation, self-control and motivation stem. This act of self-control is vital as it is “the successful resolution of a conflict between two action impulses – one that corresponds to a goal that is more valued in the moment, and another that corresponds to a goal that is of greater enduring value” (Duckworth & Gross, 2014, p. 321). Therefore, self-control is what determines whether a student will spend his time out with his friends for the night or study for the next day’s exam. This is an exhausting process as the body consumes high levels of blood glucose while exercising self-control (Baumeister & Vohs, 2007). Because of the daily demanding effects of self-control, self-regulation’s next ingredient of motivation is crucial. Motivation is what keeps the student going and what gives the self-regulation process personal meaning. Without it, giving up is likely. Together, these ingredients work toward feeding self-regulation. With this in mind, self-regulation does not come without a cost.

Although self-regulation is an important tool to achieve a goal, this process is not perfect. Self-regulation is a limited resource (Muraven, Tice, & Baumeister, 1998). Whenever self-regulation is exercised toward a task, the subsequent task might suffer. This is what Muraven et al. (1998) call “regulatory depletion”. The base of their research is that self-regulation requires willpower. When self-regulation is practiced, a person’s willpower lowers and other tasks may suffer. Over a period of time, practicing self-regulation can lead to fatigue and resignation. Thus, self-regulation is thought to be a limited resource that must be monitored in order to avoid failure. Thankfully, however, self-control is like a muscle that can be trained. According to Baumeister, Vohs, and Tice (2007), “regular exertions of self-control can improve willpower strength” (p. 352). Just as a muscle can be strengthened, so can self-control be nurtured. Although depletion is still possible, the practicing of self-control can reduce the length of time a person can go before experiencing depletion.

When compared to self-regulation, grit is similar and yet different. Not only do self-regulation and grit both predict success, but grit’s facet of effort has similarities to self-regulation such as self-discipline. However, the striking difference between self-regulation and grit is grit’s facet of passion. Unlike self-regulation, a personal meaningfulness is embedded within a long-term goal that encourages a person to keep driving toward the goal even in the face of disappointment and setback. The positivity that must be sustained and directed toward that long-term goal, that might take a decade to achieve, is what differentiates grit from self-regulation when a person is faced with depletion. Thus, this is what makes grit

such an important trait in the academia field. Education is a necessary means in order for achievement to be reached. For a young person who dreams of entering the world of politics for example, four years must be spent as an undergrad student, followed most likely by law school, and then years of building up a career. Grit is what keeps this person driving towards his or her goals, in the face of life changes as an undergrad, to study for the LSAT, to take the bar exam and to seek for career challenges. Grit’s facet of effort is what keeps this person on track, but it is grit’s facet of interest that keeps the passion alive.

Although both self-control and grit are determinates of success, there are some further differences that must be noted. As mentioned by Duckworth and Gross (2014), gritty people do not always display high levels of self-control and people with high levels of self-control do not always display high levels of grit. When comparing self-control to grit, the major difference is that self-control deals with an everyday adaptive mechanism whereas grit is centered on long-term exceptional achievements regardless of numerous disappointments and setbacks. So a person with high self-control might be able to diet successfully for a period of time; without grit, however, this person will most likely jump from diet to diet without staying dedicated to one for an extended period. Also, gritty people who are faced with depletion are more likely to stay positive and bounce back unlike people with just self-control who will be faced with failure and move on to something else.

The positive force within grit that fights depletion is reflected in the West Point study. Not only must applicants of West Point be nominated by a member of Congress to be considered for admission, but they are also judged “on their academic, physical, and leadership potential” (Duckworth et al., 2007, p. 1094). At their admittance to West Point, these participants completed voluntary confidential questionnaires, which were used to measure their grit and self-discipline levels. After the first summer training session, grit was a better predictor of who would complete the training than any of West Point’s admission credentials. In fact, “West Point cadets with a standard deviation higher in grit have 62% higher odds of remaining at West Point long-term” (Eskreis-Winkler, Shulman, Beal, & Duckworth, 2014, p. 2). In addition, the cadets’ self-discipline scores were positively correlated with grit, displaying the positive relationship between the two traits. Although academics, physicality, and leadership are all important aspects of succeeding at West Point, grit was what ultimately determined who would survive

the Beast Barracks and who would not. Grit bypasses the Beast Barracks, reaches each student's everyday struggle and is essential in achieving success, which is why it must be studied further.

This, however, is where the research on grit ends. No means of nurturing and strengthening grit has been purposed. Because of the significance grit plays in success, this is a vital next step in the research on grit. With nearly half of the students on academic probation dropping out of school, applying a grit-focused nurturing and strengthening mechanism in an academic setting is important in order to help these students. Thankfully, this gap is exactly what this article proposes to close through utilizing the *Values in Action*, or VIA, character strength questionnaire (Park, Peterson, & Seligman, 2004).

Detailing the Mechanism

A character strength is "a disposition to act, desire, and feel that involves the exercise of judgment and leads to a recognizable human excellence or instance of human flourishing" (Yearley, 1990, p. 13). In Peterson and Seligman's (2003) *Values in Action* (VIA), their 24 character strengths fall into 6 different core virtues of "wisdom, courage, humanity, justice, temperance and transcendence" with various facets within each (Waters, 2011, p. 82). Moreover, this character strength classification of the VIA is universally applicable as it is not culturally limited (Linkins, Niemiec, Gillham, & Mayerson, 2015). While all of these character strengths are positive qualities that are all admirable, the degree to which each character strength can exist varies from person to person and therefore, can be measured as an individual difference. An important aspect of the VIA is that each character strength can be reflected upon and discussed (Park et al., 2004). This gives people the ability to reinforce a character strength and improve themselves upon it.

To date, several studies have researched character strength interventions. In their 2003 study, Peterson and Seligman found a significant increase in several character strengths after the terrorist attacks on September 11, 2001. Some of these increased character strengths included (a) gratitude, (b) hope, (c) leadership and (d) teamwork (Peterson & Seligman, 2003). This research supports the idea that character strengths do fluctuate and react to the environment. In order to see if an intervention targeting specific character strengths could manipulate those particular strengths, Proyer, Ruch, and Buschor (2013) studied life satisfaction and character strengths. With their goal being to increase life satisfaction through targeting specific character strengths that they

believed were associated, the authors found significant increases. When comparing before and after life satisfaction scores against a control group's results, it was found that the intervention group had a significantly greater increase in life satisfaction. These two studies demonstrate that interventions targeting character strengths can be successful. This study gives support to utilize character strengths within an intervention.

Although all 24 VIA character strengths are valuable regarding well-being, several have been found to be positively correlated to academic success. Looking at college students, Lounsbury, Fisher, Levy, and Welsh (2009) focused on the relationship between the VIA character strengths and academic success. Of these 24 character (a) strengths, (b) persistence, (c) judgment, (d) love of learning and (e) self-regulation were most positively correlated with a higher GPA in undergraduate students. This is key as their research pinpointed what character strengths are most significantly correlated with high GPA. In return, high GPA is predicted by grit as it has been shown previously. Thus, through targeting these four particular character strengths, a means of nurturing and strengthening grit is initiated. Furthermore, a relationship between grit and these four character strengths can be found.

First, grit's facet of interest is depicted in various ways in these character strengths. As grit's relationship to self-regulation has already been discussed, the focus will remain on the other three character strengths. Defined as "mastering new skills, topics, and bodies of knowledge, whether on one's own or formally" (Park et al., 2004, p. 606), love of learning embodies the passion character within the interest facet. Just as this facet is key to beginning a long-term goal, so is the character strength of love of learning is key to the beginnings of academic success. Furthermore, a love of learning supports interest's optimism in the face of negativity character. This is because a love of learning is associated with a willingness for growth and improvement. Next, persistence, defined as "persisting in a course of action in spite of obstacles" (Park et al., 2004, p. 606), expresses the strength to keep going and falls within interest's meaningfulness aspect. When a goal is meaningful, persistence to keep going is a natural desire. In fact, persistence can lead to a "stronger interest in future task engagement" (Ntoumanis et al., 2014, p. 233). Lastly, judgment, defined as "thinking things through and examining them from all sides" (Park et al., 2004, p. 606), can be found with grit's facet of interest. This character strength identifies with a level of emotional intelligence that is necessary when making appropriate judgments. As

such, this character strength of judgment allows a person to accept criticism without negativity as things would be examined from all sides. Also, this character strength deals with the self-control aspect of grit. In order to manage time appropriately, mature judgment must be applied to be effective at getting tasks done.

Grit's second facet of effort is also depicted in various ways within these character strengths. First, the love of learning character strength is connected to effort's engagement characteristic. When students are engaged in their work, they are more willing to exert effort. However, the students must first love the intellectual challenge within the material and have the desire to grow from it. Second, the persistence character strength is going to become visible when flow is achieved. As flow makes the challenging experience pleasing, the students' willingness to persist will come naturally. Last, the judgment VIA character strength helps the students recognize when flow is being achieved and when it is not. Furthermore, judgment helps the students recognize when their efforts are resulting in no merit and gives them the wisdom to know when to find another means of going after a goal more successfully.

With character strengths being significant factors in successful interventions, they are a valuable means of providing an intervention to help increase GPA. Not only is the VIA able to layout the specific character strengths associated with high GPAs, but these character strengths are also directly related to grit. When looking for a means to nurture and strengthen grit, no studies prior have proposed what specific character traits must be targeted in order to do so. Not only does the research on the VIA mention what key character strengths are correlated with academic success, but those character strengths are directly tied to grit. Thus, through targeting these character strengths of persistence, judgment, self-regulation, and love of learning, a means of nurturing and strengthening grit can be offered (see Figure 1).

Testing the Model

While the VIA has given a means of targeting how to nurture and strength grit, validating this with empirical proof is essential. The goal is to manipulate

and increase the four VIA strengths of persistence, judgment, self-regulation, and love of learning in order to significantly increase GPA and to ultimately nurture and strengthen grit in students on academic probation. Thus, what follows is an intervention model utilizing the 4 VIA character strengths as a means of helping students increase their GPA, get off of academic probation, and ultimately increase grit. This model, or Grit Effect (GE) as it will be called, represents all 4 VIA character strengths within its methodology. First, the GE will be described and then, the three interventions that inspired this model will be credited.

The GE model is designed to take place over during a semester long academic term within an academic university setting. As the end goal is to nurture and strengthen grits and ultimately increase GPA, all participants would be students on academic probation, typically defined as a GPA below a 2.0 on a 4.0 scale. To begin, all students would be given both VIA and grit questions to complete and their scores would be recorded. A *Prepare-Generate-Reflect-Closure model* (Martin, 2008) would serve as the baseline to the GE. These four steps of (a) prepare, (b) generate, (c) reflect and (d) closure would be divided weekly and be applied to the various modules. These modules would include specific focal points that would each be highlighted over a two week period. These modules would include (a) mindfulness, (b) valuing, (c) task management, (d) persistence, (e) anxiety, (f) failure avoidance and (g) uncertain control. To begin, each student would receive a journal to track their experience throughout the intervention. This would serve as a reinforcement tool when trying to implement each module into their daily lives. Each week, a different module would be introduced. During the first week, the Prepare and Generate steps would be completed, and the Reflect and Closure steps the following week. For the Prepare step, the week's module would be explained, and the students would be given general rules and ideas in applying the module (Martin, 2008). Additionally, various outside sources such as examples within the media or university relevances should be highlighted. This would be in order to keep the intervention engaging and meaningful to the students. For the Generate step, students would be given exercises in applying the module. This would be done so that each

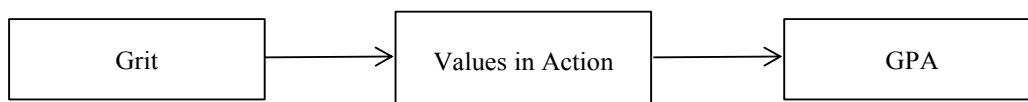


Figure 1. The theoretical model by which an increase of GPA will be obtained by focusing on the Values in Action in order to nurture Grit.

Note. GPA = Grade Point Average.

student could find ways to identify with the module and a means of challenge themselves. For example, the mindfulness module would focus on the emotional intelligence applied when receiving criticism on a homework assignment. Rather than reacting with thoughts of the professor's unfair character or giving up in the class, the mindfulness module would focus on encouraging the students toward a growth mindset by looking at the setback as an opportunity for personal growth. In addition to this, an "if...then" implementation model would be added into this step (Gollwitzer, 2014). This would help fight procrastination when implementing the modules and ultimately create a habit of fighting procrastination in academics as well. For the Reflect step, students would reflect upon the week's module when applying it to their own lives. The goal would be for the students to journal about each experience in order to discover how the module helped them and in what ways were their thoughts and actions challenged. Lastly, for the Closure step, the students would come together again to discuss each of their experiences. Also, showing relationships between modules and how they interact would be done in order to not let the students forget about their past completed module exercises. Lastly, finding ways of continuously engaging the students would be done. This could be achieved through conferences occurring on campus, or having the students visit the faculty to discuss various opportunities on campus. The goal of this would be to get the students more involved and committed to their studies. By the end of this semester-long intervention, students would again be given VIA and grit questionnaires, and their pre and post intervention score would be compared along with the change of their GPAs. Ultimately, these students participating in the GE would have a significant increase in GPA, the four VIA character strengths would be significantly increased, and their grit scores would be significantly increased as well.

At the base of the GE model would be Martin's (2008) *Prepare-Generate-Reflect-Closure model*. Researching the effects of a multidimensional intervention targeting low performing high school students, Martin (2008) sought to nurture motivation and engagement in struggling students. His intervention consisted of a Prepare-Generate-Reflect-Closure process that consisted of 13 various modules. The module of (a) valuing, (b) task management and (c) persistence were all significantly increased. There was also a significant decrease in (a) anxiety, (b) failure avoidance, and (c) uncertain control. This intervention serves as a good baseline for the GE for several reasons. First, Martin (2008) found both the motivation and engagement of the students to have significantly increased when comparing pre and post

scores. These two increases embody both the interest and effort facets of grit as well as the love of learning, persistence, and self-regulation character strengths within the VIA. Second, this intervention occurred within an academic setting, which makes its reasonably applicable to the GE.

The second intervention drawn upon was Gollwitzer's procrastination intervention (2014). In his implementation intentions or "if...then" planning, Gollwitzer (2014) examines an intervention of framing where and when to go after a goal (the "if") and a next step response (the "then"). For example, a student might decide that if they finish the outline of their paper, they will then immediately start on the paper's introduction. This intervention purposed by Gollwitzer (2014) focuses on the idea of taking advantages of opportunities, staying focused, using resources effectively, and not becoming exhausted. One of the intervention applications mentioned is the mental contrasting, which "implies juxtaposing fantasies about desired future outcomes with obstacles of present reality" (p. 311). Through applying both mental contrasting and the ("if...then") implementation theory, Oettingen and Gollwitzer (2010) purposed an intervention to enhance self-regulation. First, desired outcomes are imagined along with any possible difficulties that might arise; next, "if...then" statements are created to help prevent and resolve those potential difficulties in order to stay on track toward the desired outcome (Oettingen & Gollwitzer, 2010). In this study, both self-esteem and self-discipline were also significantly increased.

This intervention holds several key factors that the GE would benefit from. This is because of the increased (a) self-regulation, (b) self-esteem, and (c) self-discipline that Gollwitzer's (2014) intervention found. While the self-regulation could be applied to the self-regulation VIA character strength, self-esteem could be applied to the love of learning and persistence VIA character strengths. Lastly, self-discipline could be applied under the self-regulation VIA character strength. This would make the GE more effective in nurturing and strengthening the four VIA character strengths.

Finally, the last essential intervention that would be imbedded with the GE would be one that nurtured mindfulness. Defined as "a state of nonjudgmental attentiveness to and awareness of moment-to-moment experiences", mindfulness has several striking characteristics (Hulsheger, Alberts, Feinholdt, & Lang, 2013, p. 310). First, mindfulness involves an emotional intelligence regarding the recognition of inner experiences with the outside environment. Next, mindfulness is about being able to process this without

applying any evaluations, positive or negative. Third, a mindful individual is not concerned about the past or the future; rather, mindfulness is about living in the present without the worries of the future and the holdbacks of the past. Lastly, mindfulness is not an all or nothing personality trait; it varies in degree from person to person. Together, these aspects of mindfulness embody the judgment and love of learning VIA character strengths. The engagement of living in the present allows students to more fully participate and appreciate their studies. Also, mindfulness prevents a person from any quick or impertinent decisions as the focus is not on applying evaluations, but rather simply taking things in as they come.

Together, these three interventions inspired the GE. While each of the interventions targets a different aspect of the four VIA character strengths through different means, they all reasonably bounce off of and support one another. Through the offered GE model, utilizing the VIA as a means of increasing GPA and to ultimately nurturing and strengthening grit in students is reasonable. With the significant findings of the previous three interventions, creating a character strength focused intervention seems to be a good step toward helping students on academic probation to increase their GPA. The GE model offers the beginning of a theoretical grit nurturing and strengthening intervention for struggling students.

Discussion

While grit has shown itself to be a powerful tool in attaining success, the VIA gives research the mechanisms needed to format an intervention to nurture and strengthen grit. This is the vital next step in grit research, and it must be taken seriously in order to help academics better their own counseling programs. First, in this research, we addressed the similarities and differences between self-regulation and grit in order to fully appreciate grit's unique qualities and distinct voice. Next, the significant findings of how grit is more strongly correlated to success than IQ was shown with the West Point study. Following this, grit's facets of interest and effort were broken down in order to fully understand what gives grit its significance. However, this is where all past research has stopped and where this research comes into play. Through detailing the components of the VIA, how the VIA's character strengths of persistence, judgment, self-regulation and love of learning can increase grit and in turn GPA was shown. This tool is what lays out the mechanisms needed to nurture and strengthen grit in students.

Lastly, an intervention utilizing the VIA's character strengths related to academic success ought to be tested. This future intervention could incorporate the past intervention above as a starting point. This could be done as a semester-long intervention with students on academic probation. This future study could hopefully help reduce the number of students of academic probation who dropout every year.

This article alone, however, is not sufficient. Further research on a possible gender difference in regards to grit seems reasonable. Indeed, Campbell and Henry (1999) conducted research on gender differences on the self-attribution of academic success in relation with the process of learning. Their study showed a significant difference between men and women's responses regarding their specific explanation for their performance in their college classes. While women chose "effort" significantly more than men did, women also chose "ability" significantly less than men did (Campbell & Henry, 1999). In support of Campbell and Henry's research, Lindo et al. (2010) looked at gender differences regarding academic probation. Their research shows that women are more motivated by rewards than men and that, because of this, academic probation does not have any significant effect on women. However, it was found that men are twice as likely to drop out due to being placed on academic probation (Lindo et al., 2010, p. 97). Both of these studies support the idea that women attribute success to effort, while men think of success in relation to ability. Thus, a difference between genders regarding grit levels and strengthening ability seems reasonable due to grit's facets of interest and effort.

While struggling in college is common, how one approaches each challenge is what makes the difference. Thankfully, the personality trait of grit can be nurtured and strengthened. This personality trait has repeatedly been the most positive determinant of success and not IQ. Therefore, for struggling students, there is a means of achieving your goals. However, it is the responsibility of the academic institution to give these students the necessary tools on how to do this.

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Received August 18, 2014

Revision received January 9, 2015

Accepted January 18, 2015 ■

Maintenir un niveau minimal d'autonomie : une exploration du processus de restauration

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L'objectif de la présente étude était de tester l'hypothèse de la restauration du besoin d'autonomie dans le contexte du modèle hiérarchique de la motivation intrinsèque et extrinsèque. Il était attendu que les individus qui se trouvent devant l'impossibilité de restaurer leur besoin d'autonomie au même niveau qu'il a été brimé (situationnel) tentent de le restaurer à un autre niveau (global). Utilisant un devis expérimental, le besoin d'autonomie de 72 participants a été brimé tandis que 72 autres participants constituaient le groupe contrôle. À la suite de la manipulation, le niveau de satisfaction du besoin d'autonomie a été mesuré à deux niveaux (situationnel et global). Les résultats montrent que les participants du groupe expérimental ont rapporté se sentir moins autonomes à la suite de la manipulation (situationnel) et plus autonomes dans la vie en général (niveau global) que les participants du groupe contrôle. Ces résultats sont interprétés dans le sens qu'un processus automatique de restauration nous protège contre des pertes importantes de satisfaction de besoins.

Mots-clés : autonomie, bien-être psychologique, modèle hiérarchique, restauration, satisfaction

The aim of this study was to test the need restoration process for autonomy from the perspective of the hierarchical model of intrinsic and extrinsic motivation. It was expected that participants who were unable to restore their need for autonomy on the level it was thwarted (situational) would attempt to restore their need on another level (global). Using an experimental design, 72 participants' need for autonomy was thwarted on the situational level, while another 72 made up the control group. Autonomy need satisfaction was measured on two distinct levels (situational and global) immediately after the manipulation. The results indicate that participants whose autonomy has been thwarted reported feeling less autonomous after the manipulation (on the situational level), but more autonomous in general life (on the global level) than the control group. These results provide support for an automatic restoration process that protects us from a substantial loss of need satisfaction.

Keywords: autonomy, psychological wellness, hierarchical model, restoration, satisfaction

Un jeune homme travaillant pour une entreprise florissante est en réunion d'équipe avec ses collègues. Soudainement, il se sent frustré au sein de son équipe de travail. Il a l'impression qu'il ne peut pas exprimer ses idées comme il le voudrait. De plus, il est impossible pour l'équipe de prendre des décisions sans avoir préalablement l'accord du patron. Pendant la réunion, il rumine sur la liberté qu'il a dans sa vie à l'extérieur du travail. Il a besoin de se sentir autonome.

Nous tenons à remercier toute l'équipe du JIRIRI pour tous leurs judicieux conseils tout au long du processus de révision. Également, un merci spécial aux participants qui ont généreusement donné de leur temps à cette étude et à notre directeur de recherche Daniel Lalande, Ph. D, qui nous a permis de mener à bien ce projet et d'offrir nos connaissances sur ce sujet. Toute correspondance concernant cet article doit être adressée à Jennyfer Auclair-Pilote (courriel : jennyfer.auclair-pilote1@uqac.ca).

L'autonomie, le sentiment de pouvoir choisir librement ses actions, sans pression ni contrainte, représente un besoin psychologique fondamental (Deci & Ryan, 2000). Selon la *théorie de l'autodétermination* (TAD; Deci & Ryan, 1980, 1985), tous les humains recherchent la satisfaction de trois besoins psychologiques de base. Parallèlement au besoin d'autonomie, les auteurs définissent aussi les besoins de compétence et d'appartenance. Le premier constitue la capacité d'interagir efficacement avec son environnement et le second correspond à l'entretien de liens positifs avec des personnes significatives. Selon la TAD, la satisfaction de ces trois besoins est essentielle au bien-être psychologique, à la satisfaction de vie et au développement optimal de tout être humain (Deci & Ryan, 2000; Milyavskaya et al., 2009; Perreault, Gaudreau, Lapointe, & Lacroix,

2007; Sheldon & Niemiec, 2006). De plus, la satisfaction des besoins est associée à l'expérience d'émotions positives tandis que l'insatisfaction ou la frustration de ces besoins occasionne des émotions négatives (Sheldon, Elliot, Kim, & Kasser, 2001; Stratton, 2013; Vandercammen, Hofmans, & Theuns, 2014).

Étant donné l'importance de la satisfaction des besoins psychologiques chez l'humain, des études récentes suggèrent qu'il existe un mécanisme naturel qui protège l'individu contre des baisses importantes dans la satisfaction des besoins (Radel, Pelletier, & Sarrazin, 2013; Radel, Pelletier, Sarrazin, & Milyavskaya, 2011). Ces études se sont concentrées sur le besoin d'autonomie. Plus spécifiquement, lorsque le besoin d'autonomie de l'individu est brimé, ce dernier devient automatiquement et inconsciemment motivé à refaire le plein du besoin. Radel et al. (2011) ont été les premiers à identifier ce mécanisme de restauration de l'autonomie qui, d'après eux, ressemble au syndrome général d'adaptation de la réponse au stress de Selye (1946).

Le modèle d'adaptation au stress de Selye (1946) stipule qu'un individu mettra en œuvre un ensemble de moyens physiologiques et psychologiques afin de s'adapter à un événement stressant. En ce sens, la première étape, soit la phase d'alarme, correspond à la réaction immédiate et automatique de l'organisme face au stress vécu. La deuxième étape, qui est la phase de réaction, correspond à l'utilisation de ressources pour lutter contre ou s'adapter au stress. La troisième étape, soit la phase d'épuisement, représente la réponse de la personne qui affronte pendant une longue période de temps un facteur de stress. L'épuisement de ses ressources l'empêche de continuer à résister au stress. Il y a donc un parallèle à faire entre le modèle d'adaptation au stress de Selye et les processus mis en place lorsque le besoin d'autonomie est brimé. Radel et al. (2011) suggèrent que le processus de restauration du besoin d'autonomie pourrait correspondre à la première étape de la réponse au stress, soit la phase d'alarme. L'individu réagirait automatiquement à une baisse d'autonomie en tentant, de façon inconsciente, de ramener le niveau d'autonomie à un niveau adéquat. Si ce processus de restauration s'avère infructueux, un processus de compensation peut éventuellement s'enclencher. À ce stade-ci, l'individu tenterait de refaire le plein de son besoin brimé en cherchant à satisfaire des besoins substituts qu'il croit vont nourrir son besoin fondamental, mais qui ne réussissent pas à le faire (Deci & Ryan, 2000). Par exemple, dans le processus de restauration, un individu dont l'autonomie a été brimée cherchera des opportunités de manifester sa liberté de pensée et d'action (p. ex.,

donner son opinion) dans le but de satisfaire ce besoin psychologique. Dans le processus de compensation, l'individu compensera son manque d'autonomie en tentant de rehausser un autre besoin psychologique de base (p. ex., compétence) ou un besoin substitut (p. ex., en acquérant des possessions matérielles) puisqu'il lui est impossible d'accéder à son besoin initial. En somme, une privation aiguë d'autonomie déclenche un processus automatique de restauration tandis qu'une privation chronique de ce besoin favorise des comportements compensatoires (Deci & Ryan, 2000; Radel et al., 2011).

Des études expérimentales récentes apportent un appui au processus de restauration. Dans la première étude de Radel et al. (2011), les participants étaient d'abord exposés à une situation d'enseignement soit contrôlante ou neutre pendant qu'ils solutionnaient les casse-tête « Tangram » en version jeu vidéo (construction d'une image spécifique à l'aide de formes géométriques). Ensuite, tous les participants devaient effectuer une tâche de décision lexicale dans laquelle il y avait des mots liés à l'autonomie. Les auteurs ont démontré que le fait d'exposer les participants à une situation d'enseignement contrôlante en faisant de la surveillance et en donnant des délais, des ordres et des directives pendant le jeu vidéo, amenait ces individus, plus que les individus dans la condition neutre, à approcher de façon automatique et inconsciente des stimuli liés au soutien de l'autonomie pendant la tâche de décision lexicale. Dans une deuxième étude, ces mêmes auteurs ont manipulé le besoin d'autonomie des participants en leur donnant une fausse rétroaction sur leur personnalité indiquant qu'ils avaient tendance à manquer d'autonomie dans leur vie et qu'ils seraient enclins à se faire contrôler dans l'avenir. Avant de débiter l'expérimentation, les chercheurs avaient informé les participants que le but de l'étude était de tester l'hypothèse que certains traits de personnalité déterminaient les goûts artistiques. Ainsi, à la suite du questionnaire de personnalité, les participants devaient évaluer des peintures qui avaient déjà reçu de fausses évaluations. Ces fausses évaluations étaient ostensibles et permettaient de vérifier si les participants allaient se baser sur celles-ci dans leurs évaluations. De ce fait, l'évaluation des participants dont l'autonomie avait été brimée reflétait davantage leur goût personnel plutôt qu'une tendance au conformisme. Radel et al. (2011) ont donc démontré que le fait de diminuer la perception d'autonomie chez les participants les amène à manifester leurs opinions et jugements leur permettant ainsi de regagner un sentiment d'autonomie. Dans l'ensemble, ces données empiriques démontrent que lorsque le besoin d'autonomie est brimé de façon aiguë, les individus deviennent naturellement disposés à restaurer ce

besoin brimé. Ces comportements instinctifs suggèrent que l'humain cherche inconsciemment à maintenir un niveau adéquat de ce besoin fondamental.

Afin de mieux décrire le processus de restauration, il devient important de faire appel au modèle hiérarchique de la motivation intrinsèque et extrinsèque de Vallerand (1997). Ce modèle stipule que l'individu peut manifester différents types de motivation à trois niveaux spécifiques: situationnel, contextuel et global. La motivation situationnelle réfère à la motivation de l'individu lorsqu'il est en train de réaliser une activité ou une tâche spécifique. Plus les besoins psychologiques de l'individu sont satisfaits dans le moment, plus la motivation situationnelle de l'individu sera autodéterminée (plus l'individu aura le sentiment d'agir par plaisir et non par sentiment d'obligation ou pour obtenir une récompense externe). La motivation contextuelle réfère à la tendance de l'individu à être motivé d'une façon plutôt consistante (p. ex., de façon plus ou moins autodéterminée) dans une sphère d'activité bien précise comme dans le contexte scolaire ou sportif. La motivation globale réfère au niveau le plus général. Celle-ci reflète la tendance de l'individu à manifester une motivation plus ou moins autodéterminée dans sa vie en général. Comme la motivation dans ces trois niveaux est déterminée, entre autres, par la satisfaction des besoins au niveau correspondant, elle engendre aussi des conséquences affectives, cognitives et comportementales dans son niveau respectif (Vallerand, 1997). Il importe de noter toutefois que les trois niveaux peuvent s'influencer. Plus spécifiquement, une motivation situationnelle récurrente peut favoriser le développement d'une motivation contextuelle du même type, ce qui peut inciter l'individu à manifester le même type de motivation au niveau global.

Jusqu'à maintenant, les études sur la restauration du besoin d'autonomie se sont intéressées aux niveaux situationnel et global. Par exemple, Radel et al. (2011) ont brimé l'autonomie des participants au niveau situationnel en les exposants à une situation d'enseignement contrôlante alors qu'ils réalisaient une activité spécifique sur l'ordinateur (casse-tête à l'aide de formes géométriques). Par la suite, les participants ont tenté de restaurer leur autonomie brimée au niveau situationnel en choisissant davantage des mots liés au soutien de l'autonomie lors de la tâche de décision lexicale. Dans une autre de leurs études, quand les participants recevaient une fausse rétroaction sur leur personnalité leur indiquant qu'ils souffraient d'un manque d'autonomie (niveau global), ils tentaient de restaurer leur autonomie brimée au niveau situationnel en affirmant davantage leur opinion sur la qualité des peintures. En résumé, les études antérieures

permettent de voir que les individus dont l'autonomie est brimée au niveau situationnel ou global tendent à restaurer ce besoin au niveau situationnel. Qu'arrive-t-il toutefois lorsqu'il est impossible pour l'individu de restaurer son besoin au niveau situationnel?

L'objectif de cette étude est de vérifier si, à la suite d'une baisse subite d'autonomie au niveau situationnel, et devant l'impossibilité de restaurer le besoin au même niveau, les individus réagiront en restaurant leur besoin brimé au niveau global. Il est attendu que les participants dont l'autonomie aura été brimée au niveau situationnel rapporteront un niveau global d'autonomie plus élevé (le niveau d'autonomie ressenti dans la vie en général) que ceux dont l'autonomie n'aura pas été brimée. De plus, en lien avec la TAD (Deci & Ryan, 2000), il est attendu que les participants dont l'autonomie aura été brimée présenteront un niveau plus élevé d'émotions négatives et un niveau plus faible d'émotions positives que ceux dont l'autonomie n'aura pas été brimée.

Méthodologie

Participants

Cent quarante-quatre participants (femmes : $n = 124$, hommes : $n = 20$) provenant de différents programmes au baccalauréat (psychologie, sciences infirmières, administration et enseignement) ont été recrutés à l'Université du Québec à Chicoutimi. L'âge moyen des participants est de 23.94 ans ($\bar{E} - T. = 5.38$).

Procédure

Les assistants de recherche ont distribué des questionnaires dans sept classes au début des trimestres d'hiver et d'été. Les participants ont eu 15 minutes pour les compléter en classe. Le questionnaire était construit de façon à ce que les participants répondent à des items concernant un événement spécifique. Ensuite, ils devaient répondre à des items concernant leur vie en général.

Manipulation du besoin d'autonomie. Afin de brimer le sentiment d'autonomie des participants dans la condition expérimentale, une question ouverte leur demandait de décrire, avec le plus de détails possibles, une situation dans laquelle ils se sont sentis contrôlés. Ils devaient se rappeler un événement durant lequel ils sentaient qu'ils ne pouvaient pas agir comme ils le voulaient et durant lequel ils devaient se conformer aux attentes d'autrui. Dans la condition contrôle, les individus devaient tout simplement décrire leur matinée à partir du moment où ils se sont levés jusqu'au moment de leur départ pour l'école ou le

Tableau 1

Corrélations, moyennes et écart-types pour l'ensemble des variables du groupe expérimental

Variables	1	2	3	4	5	6	7	M	É.-T.
1. Autonomie situationnelle	-.74	-.07	.78**	.01	-.01	-.19	-.12	2.36	0.97
2. Autonomie globale		-.86	.57**	.04	.38**	.00	-.23**	5.96	0.74
3. Moyenne de satisfaction des besoins			-	.03	.23	-.16	-.24*	4.15	0.59
4. Émotions positives situationnelles				-.67	.16	.08	.06	2.90	1.13
5. Émotions positives globales					-.68	.05	-.01	4.97	0.86
6. Émotions négatives situationnelles						-.65	.37**	4.38	1.33
7. Émotions négatives globales							-.73	3.09	1.02

Note. * $p < .05$, ** $p < .01$. Les données entre parenthèses représentent les alphas de Cronbach.

travail. Cette tâche n'était pas censée affecter le niveau d'autonomie des participants.

Instruments

Satisfaction des besoins psychologiques. Quatre items tirés de l'*Échelle de satisfaction des besoins psychologiques* de Deci & Ryan (2001) et traduits en français par l'équipe de recherche ont été utilisés pour mesurer le besoin d'autonomie des participants (p. ex., Je me suis senti(e) libre de mes choix). Les questions étaient graduées sur une échelle de type Likert allant de 1 (pas du tout en accord) à 7 (très fortement en accord). La somme des quatre items constituait la mesure de satisfaction du besoin d'autonomie. Les participants devaient d'abord répondre aux questions mesurant l'autonomie situationnelle en se référant à l'événement qu'ils venaient de décrire ($\alpha = .95$). Pour la mesure de l'autonomie au niveau global, les participants devaient ensuite répondre aux mêmes questions en se référant à la façon dont ils se sentent dans la vie en général (p. ex., De façon typique, je me sens souvent libre de mes choix). Les mêmes quatre items ont été utilisés pour mesurer l'autonomie au niveau global ($\alpha = .88$).

Émotions. Une version traduite du *Positive and Negative Affect Scale* (PANAS; Watson, Clark, & Tellegen, 1988) a été utilisée pour mesurer les émotions des participants aux niveaux situationnel et global. Au niveau situationnel, les participants devaient d'abord répondre aux questions en se référant à l'événement qu'ils venaient de décrire. Ensuite, au niveau global, ils devaient répondre aux mêmes questions en se référant à la façon dont ils se sentent dans la vie en général. Cinq items mesurent les émotions positives (p. ex., Je me suis senti(e) actif/active) et cinq items mesurent les émotions négatives (p. ex., Je me suis senti(e) fâché/fâchée). Le total des scores de chaque sous-échelle constituait la mesure d'émotions positives ($\alpha = .74$) et négatives ($\alpha = .83$) au niveau situationnel ainsi que la mesure d'émotions positives ($\alpha = .68$) et négatives ($\alpha = .75$) au niveau global.

Informations sociodémographiques. Quatre questions d'ordre sociodémographique portant respectivement sur l'âge, le sexe, l'état civil et le programme d'étude des participants ont été posées.

Résultats

Afin de tester les hypothèses, deux MANOVAs ont été effectuées. La première MANOVA servait à

Tableau 2

Corrélations, moyennes et écart-types pour l'ensemble des variables du groupe contrôle

Variables	1	2	3	4	5	6	7	M	É.-T.
1. Autonomie situationnelle	-.85	.34**	.84**	.15	.08	-.54**	-.08	6.15	0.90
2. Autonomie globale		-.89	.80**	.14	.32**	-.19	-.29*	5.60	0.81
3. Moyenne de satisfaction des besoins			-	.18	.23	-.45**	-.22	5.87	0.70
4. Émotions positives situationnelles				-.72	.52**	-.03	-.18	4.13	1.20
5. Émotions positives globales					-.68	.05	-.07	4.83	0.90
6. Émotions négatives situationnelles						-.70	.37**	1.99	0.93
7. Émotions négatives globales							-.77	2.93	1.02

Note. * $p < .05$, ** $p < .01$. Les données entre parenthèses représentent les alphas de Cronbach.

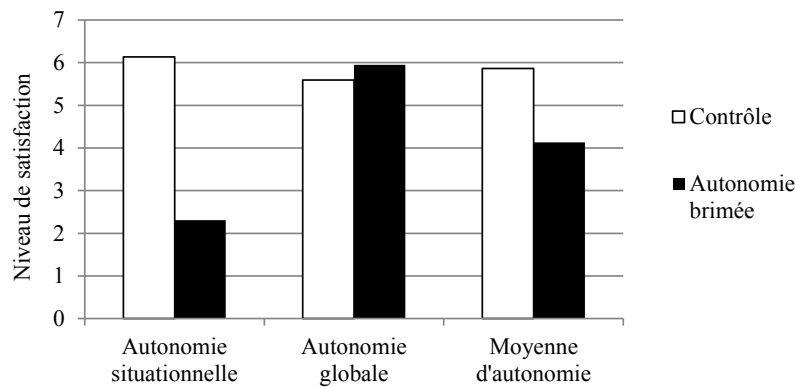


Figure 1. Effet de la question ouverte sur la satisfaction du besoin d'autonomie.

vérifier l'effet de la manipulation sur l'autonomie des participants ainsi que sur leurs émotions positives et négatives au niveau situationnel. Une deuxième MANOVA testait l'hypothèse principale, c'est-à-dire l'effet de la manipulation sur l'autonomie et les émotions des participants au niveau global. Pour l'ensemble des analyses multivariées, un seuil de signification de $p < .05$ a été utilisé. La correction de Bonferroni a été employée pour les analyses post-hoc univariées. Les corrélations entre les variables pour les participants dans le groupe expérimental sont présentées au Tableau 1 tandis que celles du groupe contrôle sont présentées au Tableau 2.

Des analyses préliminaires ont permis de détecter quatre valeurs aberrantes de la variable «autonomie» à partir du diagramme en boîte. Trois de ces valeurs (scores $Z = 2, 3$ et 3.25) poussaient la distribution de la condition contrôle vers une asymétrie négative et l'une de ces valeurs (score $Z = 5.5$) poussait la condition expérimentale vers une asymétrie positive. Il a été convenu de diminuer leur impact en les remplaçant par des valeurs moins extrêmes (Field, 2009), ce qui a eu pour effet de rendre les distributions davantage normales.

Effet de la manipulation au niveau situationnel

Le résultat de la première MANOVA montre un effet statistiquement significatif de la manipulation sur l'ensemble des trois variables dépendantes au niveau situationnel, $F(3, 132) = 192.67, p < .001$, Lambda de Wilks = 0.186, $\eta_p^2 = 0.81$. Des ANOVAs subséquentes, employant la correction Bonferroni à $p = .017$, montrent que l'effet de la manipulation a eu un effet sur l'autonomie, $F(1, 134) = 548.85, p < .001$, les émotions négatives, $F(1, 134) = 150.90, p < .001$, et les émotions positives, $F(1, 134) = 38.99, p < .001$.

Tel que présenté à la Figure 1, le groupe expérimental ($M = 2.31, \acute{E}.T. = 0.99$) a rapporté un niveau d'autonomie situationnelle plus faible que celui du groupe contrôle ($M = 6.13, \acute{E}.T. = 0.91$) immédiatement après la manipulation, $d = 4.02$. Le groupe expérimental ($M = 1.99, \acute{E}.T. = 0.94$) a aussi rapporté plus d'émotions négatives que le groupe contrôle ($M = 4.38, \acute{E}.T. = 1.30$), d de Cohen = 2.11, et moins d'émotions positives ($M = 2.90, \acute{E}.T. = 1.13$) que le groupe contrôle ($M = 4.13, \acute{E}.T. = 1.20$), d de Cohen = 1.06. Ces analyses démontrent que notre manipulation a eu l'effet désiré en diminuant le sentiment d'autonomie ainsi que les émotions positives et en augmentant les émotions négatives.

Effet de la manipulation au niveau global

Les résultats de la deuxième MANOVA montrent un effet statistiquement significatif de la manipulation sur l'autonomie ainsi que sur les émotions positives et négatives au niveau global, $F(3, 138) = 3.22, p = .025$, Lambda de Wilks = 0.94, $\eta_p^2 = 0.07$. Des ANOVAs subséquentes, utilisant une correction Bonferroni à $p = .017$, montrent que l'effet de la manipulation a agi seulement sur l'autonomie des participants, $F(1, 140) = 7.03, p = .009$.

Tel que présenté à la Figure 1, le groupe expérimental ($M = 5.95, \acute{E}.T. = 0.75$) a rapporté se sentir plus autonome dans la vie en générale comparativement au groupe contrôle ($M = 5.59, \acute{E}.T. = 0.81$), $p < .001$, d de Cohen = 0.46. Aucune différence statistiquement significative n'a été observée entre les deux groupes quant aux émotions négatives, $p = 0.383$, d de Cohen = 0.16, et positives, $p = 0.360$, d de Cohen = 0.14, dans la vie en général.

Enfin, un test t de Student a été effectué pour comparer le niveau moyen d'autonomie rapporté par les

deux groupes (moyenne d'autonomie situationnelle et globale). Les résultats montrent que le groupe expérimental ($M = 4.15$, $\bar{E.-T.} = 0.59$) a rapporté un niveau moyen d'autonomie plus faible que le groupe contrôle ($M = 5.87$, $\bar{E.-T.} = 0.70$), $t(142) = 15.87$, $p < .001$, d de Cohen = 2.66.

Discussion

Le but de la présente recherche était de tester l'hypothèse que les gens réagiront à une baisse aiguë d'autonomie situationnelle en tentant de restaurer ce besoin au niveau global lorsqu'il leur est impossible de le restaurer au niveau situationnel. Les résultats ont permis de confirmer cette hypothèse. Les participants dont l'autonomie situationnelle avait été brimée ont rapporté ressentir plus d'autonomie dans leur vie en général comparativement aux participants qui n'avaient pas subi de baisse d'autonomie. Ce comportement cadre avec un processus de restauration qui viserait à rétablir un niveau adéquat de satisfaction des besoins dans l'immédiat. Ces résultats concordent donc avec ceux de Radel et al. (2011), mais démontrent aussi que la restauration peut opérer entre deux différents niveaux du modèle hiérarchique de la motivation extrinsèque et intrinsèque de Vallerand (1997). Plus spécifiquement, cette étude a permis d'explorer le processus de restauration du niveau situationnel au niveau global. Le niveau global est important parce qu'il reflète la satisfaction vécue dans la vie de tous les jours. Le fait que les participants aient exagéré leur niveau de satisfaction d'autonomie dans la vie de tous les jours (un niveau de satisfaction qui devrait être relativement stable dans le temps) démontre à quel point l'humain désire se protéger contre des baisses d'autonomie. Malgré que le processus de restauration se veuille adaptatif, il faudrait toutefois qu'il réussisse à remettre à niveau le besoin brimé. Les résultats de la présente étude démontrent que malgré la tentative de restauration des participants du groupe brimé, ceux-ci n'ont pas réussi à atteindre un niveau moyen d'autonomie équivalent à celui du groupe contrôle qui n'a pas subi de baisse de ce besoin. En d'autres mots, la taille de l'effet observé est relativement faible. Donc, bien que le niveau rapporté d'autonomie dans la vie en général des participants du groupe expérimental ait été rehaussé, cette restauration n'a pas été suffisante pour ramener le niveau d'autonomie global à un niveau adéquat. Cet échec de restauration peut s'expliquer, entre autres, par le fait que la manipulation a grandement brimé l'autonomie des participants. Ainsi, à la suite de la manipulation, une différence importante existait entre les groupes concernant l'autonomie ressentie. Les participants brimés avaient donc un grand écart à réduire afin de restaurer pleinement leur perte d'autonomie, ce qu'ils n'ont pas réussi à faire. Une

autre explication pour l'échec de restauration est le changement du niveau situationnel au niveau global. En effet, dans son modèle hiérarchique, Vallerand (1997) décrit un effet ascendant entre la motivation d'un niveau inférieur (p. ex., situationnel) et la motivation au niveau adjacent supérieur (p. ex., contextuel). C'est avec le temps que l'individu passe d'un niveau inférieur à un niveau immédiat supérieur. Cependant, dans notre étude, les participants ont tenté de restaurer, au niveau global, un besoin qui a été brimé deux niveaux plus bas (i.e., situationnel). Comme l'influence entre les niveaux est plus forte entre des niveaux adjacents, il n'est pas surprenant que la restauration n'ait pas été très marquée entre le niveau situationnel et global. Il est donc difficile de restaurer son besoin d'autonomie en passant du niveau situationnel au niveau global sans passer par le niveau contextuel. Ainsi, il aurait été plus probable d'observer une restauration forte au niveau contextuel. Une étude future pourrait s'intéresser à cette question.

Comme la présente expérience montre que le désir de restaurer le besoin d'autonomie peut se créer à partir de vrais souvenirs de moments où les participants se sont sentis contrôlés, il est possible de se questionner sur la fréquence à laquelle nous exagérons nos niveaux de satisfaction de besoins dans la vie de tous les jours. Étant donné que nos souvenirs sont empreints de différents niveaux de satisfaction de nos besoins (Philippe, Koestner, Beaulieu-Pelletier, & Lecours, 2011), il serait intéressant d'investiguer le processus de restauration en fonction des souvenirs qui nous viennent à l'esprit.

Enfin, il a aussi été démontré dans cette étude que les participants dont l'autonomie a été brimée présentaient un niveau plus élevé d'émotions négatives et un niveau plus bas d'émotions positives que ceux dont l'autonomie n'a pas été brimée. Ces résultats concordent avec un nombre d'études antérieures démontrant un lien, d'une part, entre la satisfaction des besoins psychologiques et les émotions positives et, d'autre part, entre l'insatisfaction des besoins psychologiques et la présence d'émotions négatives (Sheldon et al., 2001; Stratton, 2013; Vandercammen et al., 2014).

La présente étude comporte certaines limites. Premièrement, les données recueillies ont été auto-rapportées par les participants, ce qui peut les amener à vouloir se montrer sous un jour plus favorable. Des méthodes davantage objectives seraient à privilégier dans des études futures. De plus, étant donné l'échantillon d'étudiants au baccalauréat et la manipulation du besoin d'autonomie à un seul niveau,

il devient difficile de généraliser ces résultats au-delà du contexte spécifique de l'étude. Afin de mieux saisir les conditions dans lesquelles le processus de restauration opère, il serait important de refaire l'expérimentation avec des échantillons différents, des besoins différents et des manipulations variées.

Conclusion

En conclusion, le besoin d'autonomie semble être protégé par un mécanisme de restauration. Malgré le fait que la restauration d'autonomie dans la présente étude n'ait pas ramené la satisfaction à un niveau adéquat, les participants ont tout de même démontré une tendance à exagérer leur niveau d'autonomie global à la suite d'une baisse subite d'autonomie situationnelle induite de façon expérimentale. Il semble donc que les individus soient instinctivement motivés à défendre un niveau de base de satisfaction d'un besoin psychologique fondamental à tel point que la restauration peut même s'observer au niveau global. Étant donné ce mécanisme de protection contre une baisse d'autonomie, il n'est pas surprenant que, devant une situation où un contrôle est exercé, l'on puisse se retrouver à s'évader, comme l'employé dans l'introduction, dans un monde intérieur empreint de ce besoin fondamental.

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Reçu le 8 août, 2014

Révision reçue le 9 janvier, 2015

Accepté le 22 janvier, 2015 ■

Parental Involvement in Children's Learning: The Role of Children's Emotion Regulation

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The current study seeks to clarify the relationship between learning-based parent-child interactions, and children's ability to self-regulate emotions. Previous research has established a strong basis for the importance of parenting style on children's academic outcomes and on the development of their self-regulation abilities, but has failed to address how parental involvement in learning is related to children's emotion regulation abilities. The current study uses questionnaire data from 825 children aged 13-14 years. Regressions were applied to the resulting data and results indicated strong, predictive relationships between supportive parent-child interactions and increased emotion regulation skills, as well as between controlling parent-child interactions and decreased emotion regulation skills. These results indicate that the quality of parent-child interactions is associated with emotional development, an important attribute for successful academic functioning.

Keywords: control, emotion regulation, learning, parenting, support

La présente étude vise à clarifier la relation entre les interactions parent-enfant basées sur l'apprentissage et les habiletés de l'enfant à réguler ses émotions. Les recherches antérieures ont établi l'effet important du style parental sur les résultats académiques de l'enfant et sur le développement de ses capacités d'autorégulation, mais n'ont pas abordé les effets de l'investissement parental dans l'apprentissage de l'enfant sur ses habiletés à réguler ses émotions. La présente étude utilise les données d'un questionnaire rempli par 825 enfants âgés de 13 ou 14 ans. Des régressions ont été appliquées aux données et les résultats indiquent une forte relation prédictive entre les interactions parent-enfant de soutien et des habiletés de régulation des émotions élevées, ainsi qu'entre les interactions parent-enfant de contrôle et des habiletés de régulation des émotions plus basses. Ces résultats indiquent que la qualité des interactions parent-enfant est associée au développement émotionnel, un attribut important pour la réussite académique.

Mots-clés : contrôle, régulation des émotions, apprentissage, parentalité, soutien

Early adolescence is a crucial stage in development that offers many new challenges for parents' involvement in their children's academic lives. This stage involves many major cognitive developments, including the development of self-concept, knowledge integration, decision making and coordination of multiple goals, all of which contribute to academic functioning (Adams & Berzonsky, 2003; Byrnes, Miller, & Reynolds, 1999; Falbo, Lein, & Amador, 2001; Sebastian, Burnett, & Blakemore, 2008). This stage of development is also challenging for the adolescents; in this stage they are starting to discover, utilize their autonomy and acquire a heightened level

of independence (Eccles & Harold, 1996; Sanders & Epstein, 2000). This independence correlates with parents' declining involvement in schoolwork around the middle school years (Green, Walker, Hoover-Dempsey, & Sandler, 2007). Although parents become less involved in schoolwork during this developmental stage, parental involvement remains a strong predictor of school outcomes in adolescence (Hill & Taylor, 2004; Hill & Tyson, 2009) and the effects of either supportive or controlling parenting techniques is particularly pronounced (Gonzales-DeHass, Willems, & Holbein, 2005). Emotion regulation is critical in this context because adolescents are learning to become independent, and can no longer depend on their parents to act as external regulators of emotion. Furthermore, adolescents face many academic challenges that require emotion regulation abilities to be successfully navigated. This makes adolescence a

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crucial time for examining the effects of parental involvement on learning, and the implications for adolescent emotion regulation.

Based on the *Family-School Relationships Model*, learning-focused parent-child interactions are thought to have a strong influence on children's personal characteristics, which in turn impact children's academic success. Previous literature has supported the importance of parent involvement in adolescents' academic success and has highlighted the distinction between the positive effects of supportive parenting and the negative effects of controlling parenting (Eskilson, Wiley, Muehlbauer, & Dodder, 1986; Fox & Calkins, 2003; Ginsburg & Bronstein, 1993; Harper, Felicity, Brown, Arias, & Brody, 2006). However, within this literature, two main areas have been neglected: the relationship between parenting style during learning and the emotion regulation abilities of children, and the difference in this relationship between mothers and fathers. The first issue is critical because the *Family-School Relationships Model* suggests that adolescent's emotion regulation abilities will play a significant role in the relationship between parental involvement and academic success. In other words, this model and the research that supports it both suggest that emotion regulation is likely to be an important factor explaining why parent's involvement in learning is critical to academic success. The second issue is important because previous research has indicated that mothers and fathers may play differing roles in their child's socio-emotional and academic development. This study was designed to address these shortcomings by examining the impact of mothers' and fathers' supportive and controlling involvement in learning on young adolescents' emotion regulation abilities.

Emotion Regulation

Emotions are arousal responses that are triggered by environmental stimuli, which subsequently lead to cognitive and behavioural responses (Fox & Calkins, 2003). As such, emotions are useful in directing attention, optimizing sensory intake, tuning decision making, and readying behavioural responses, an ability that is especially useful when faced with challenging situations, notably, those faced at school (Gross, 2002; Pekrun, Goetz, Titz, & Perry, 2002). Though emotions play a significant role in goal-directed behaviours, they can be associated with negative effects as well; emotions can be too strong, inappropriate for the context, or lead to responses that are discrepant with the actor's goals (Murphy, Shepard, Eisenberg, & Fabes, 2004). Emotion regulation is the ability to regulate emotions through

awareness, monitoring, evaluation, and modification of emotions (Gross, 2002; Murphy et al., 2004). Emotion regulation is therefore an essential skill that allows children to handle challenges in social and academic functioning, and progress through development competently (Graziano, Reavis, Keane, & Calkins, 2007; Gross, 1998).

Emotion regulation allows children to control their emotional output, which is important for having success in the academic environment (Graziano et al., 2007; Gumora & Arsenio, 2002). Furthermore, emotional control has been shown to be an important factor in the development of appropriate social behaviours, such as adhering to social norms and conforming to adaptive social rules (Fox & Calkins, 2003; Supplee, Shaw, Hailstones, & Hartman, 2004). Internalizing norms and appropriate social behaviours is one of the critical characteristics that children acquire during childhood, and emotion regulation is a key first step in developing this ability (Supplee et al., 2004). Emotion regulation is therefore an essential part of the developmental process and is especially important for the achievement of short and long term academic goals.

A study conducted by Graziano et al. (2007), used a longitudinal research design to examine the relationship between emotion regulation in kindergarten-aged children and early academic success. Data for this study was collected using a variety of different measures: (a) the *Emotion Regulation Checklist*, which is a parent-report method which assesses a child's behavioural displays of emotion regulation; (b) the *Academic Performance Rating Scale*, a teacher-report method to assess academic competence; (c) the *Behavior Assessment System for children*, a parent-report survey to measure behavior problems; (d) the *Student-Teacher Relationship scale*; (e) the *Wechsler Individual Achievement Test* as well as (f) the *Wechsler Preschool and Primary Scale of Intelligence* as a measure of IQ. In order to address the main research problem (whether or not emotion regulation relates to early academic success) regression analyses were conducted. After controlling for IQ, it was found that emotion regulation skills were a significant predictor of success and achievement in the classroom setting.

Emotion regulation is an essential aspect of development that allows children and adolescents to accomplish goals, but the benefits of developing adaptive emotion regulation strategies reach much further than this example. Children who fail to develop these skills and consequently, exhibit emotion dysregulation have an increased risk of developing certain types of psychopathology (McLaughlin,

Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011). In a study conducted by McLaughlin et al. (2011), researchers used a longitudinal research design to examine the relationship between emotion dysregulation and risk of psychopathology. Emotion dysregulation was quantified according to three factors: (a) emotional understanding, (b) dysregulated expression of negative emotionality and (c) ruminative responses to stress and intense emotions. The researchers involved in this study found that adolescents who display symptoms of emotion dysregulation are at higher risk for anxiety disorders and aggressive behaviours, and that psychopathology did not necessarily predict negative emotionality. These findings evidence the premise that emotion dysregulation can act as a risk factor for children, and have severe negative effects on their overall quality of life and emotional well-being.

Parental Involvement in Learning

Supportive parenting is characterized by parental warmth and nurturance, and is positively correlated with measures of children's psychological well-being (Ginsburg & Bronstein, 1993). In the context of learning at home, supportive parenting behaviours include praising the child for its work, as well as encouraging the child's autonomy (Grolnick & Slowiaczek, 1994). Parents who use supportive techniques provide the child with autonomy support, and allow the child to have space to figure their work out on their own. Instead of focusing on specific details such as timing and correctness, supportive parents emphasize the child's abilities to apply their problem solving skills. The supportive parenting style has also been shown to cultivate the development of children's self-esteem and positive self-evaluations, and is a strong predictor of a child's overall life satisfaction (Grolnick & Slowiaczek, 1994; Harper et al., 2006).

Controlling parenting is characterized by pressure that is imposed on the child by the parent to behave and think in certain ways (Grolnick, 2003; van der Bruggen, Stams, & Bögels, 2008). Controlling parents exhibit lower levels of warmth and tend to be much more distant, demanding and harsh than supportive parents. They use methods such as commands to elicit behaviours from their children (Cui, Morris, Criss, Houlteberg, & Silk, 2014; Pomerantz, Moorman, & Litwack, 2007). Controlling parents employ methods such as pressure and punishment to coerce the child into completing a task, rather than encouraging the child to work at its own pace. For example, in the context of parent-child learning-based interactions, a controlling parent might set rigid guidelines about how the child's work should be completed, and how

long they can take on each question or activity. Controlling parents do not respect the child's autonomy and often undermine its sense of independence. The pressure that controlling parents place on children is associated with children with low self-esteem (Eskilson et al., 1986). Research indicates that the controlling parenting style is also associated with detrimental effects on the emotion regulation capacities of the child (Fox & Calkins, 2003). Children whose behaviour is heavily controlled by their parents tend not to have a substantial repertoire of emotion regulation strategies because they have become overly dependent on external support from the parent.

Parental Involvement: Mothers and Fathers

The majority of the research investigating parental involvement in children's learning has focused primarily on mothers (Rogers, Wiener, Marton, & Tannock, 2009). Although studies addressing the influence of father involvement are less common, the limited existing literature suggests that fathers can have an influence on children's outcomes, above and beyond mothers' involvement (Greif & Greif, 2004). Fathers' involvement in children's learning is associated with higher child achievement and improved attitudes at school (Flouri, Buchanan, & Bream, 2002; McBride, Schoppe-Sullivan, & Ho, 2005). One proposed reason for this between-parent differential effect on child outcomes is that some fathers may mentor and encourage their children to explore and take challenges, which is an important component of supporting their development (Grossman et al., 2002). This possibly unique role for fathers in their children's development could also impact their emotion development, through the encouragement of taking challenges and exploring new situations, both of which are situations where emotions must be managed. This study sought to explore this possibility and simultaneously add to the research in this area by exploring the differential effect of mothers' and fathers' supportive and controlling involvement on their child's emotion regulation abilities.

Family-School Relationships Model

Ryan and Adams (1995) developed an ecological model based in systems theory, the *Family-School Relationships Model*, to organize the many variables that are implicated in a child's academic success. The *Family-School Relationships Model* includes characteristics of parents and children, patterns of family relationships, and contextual circumstances that are implicated in child outcomes. This model can be envisioned as a three-dimensional universe of

variable classes with Level 0 (child academic outcomes) at the core and successive levels extending outwards to the most distant class of variables, Level 6. According to this model, influences will be strongest between adjacent levels of variables and the influence between each level will be bidirectional along the proximal–distal dimension. According to this model, a child's own characteristics (e.g., motivation, self-competence) will have the most significant impact on their academic success, due to the fact that they are most proximal and adjacent to Level 0. Likewise, because parent-child homework-focused interactions are categorized in Level 2 (Family Relationships), these interactions will have the biggest effect on the child's characteristics (Ryan & Adams, 1995).

Evidence from both path analytic and empirical studies suggests that the model is useful in organizing the many sets of variables that are significantly related to academic outcomes (Adams, Ryan, Ketschis, & Keating, 2000). The *Family-School Relationships Model* was used in this study to guide the development of the hypothesized relationship between parent-child learning-based interactions and emotion regulation. The *Family-School Relationships Model* provides a useful theoretical framework for the present study because it includes both intrinsic (emotion regulation) and external (parental involvement) factors, which both have a significant impact on the academic functioning of the child.

Objectives of the Present Study

The goal of the current study is to investigate the relationship between parents' supportive and controlling involvement in learning and emotion regulation abilities of adolescents, and examines differences in this relationship between mothers and fathers. Controlling parenting has been consistently associated with a negative impact on child outcomes (Eskilson et al., 1986; Fox & Calkins, 2003; Pomerantz et al., 2007), while parental support, on the other hand, has been associated with children's success and positive outcomes (Ginsburg & Bronstein, 1993; Harper et al., 2006). This study is an extension

of the literature in the domain of academic functioning and an examination of the parenting style used during learning-focused interactions. We hypothesized that father's and mother's controlling behaviour will negatively predict emotional regulation, while fathers' and mothers' supportive behaviour will positively predict emotional regulation. These relations are expected to be independent of each other.

Method

Participants

A total of 825 participants in the current study were drawn from a larger pool of participants in Grade 9 who took part in a three-year longitudinal project investigating stress and coping strategies. Participants were recruited from 15 high schools in and around Montreal, Quebec. Of the total sample, the mean age was 13.37 years, 362 of the participants were boys ($M = 13.34$, $SD = .48$) and 463 were girls ($M = 13.41$, $SD = .52$). Of these, 768 spoke English at home, 252 spoke French at home, and 108 spoke another language at home.

Measures

Demographic information form. A demographics questionnaire was administered to students to gather information about: (a) age, (b) gender, and (c) language(s) spoken at home.

Emotion regulation. We used the *Difficulties in Emotion Regulation Scale* (DERS; Gratz & Roemer, 2004) to assess emotion regulation abilities. The DERS is a 36-item self-report measure designed to assess clinically relevant difficulties in emotion regulation. This scale yields a *Total Emotion Regulation Scale*, with higher scores indicating more dysregulation. It consists of 36 items that are scored on a 5 point Likert scale, ranging from 1 (*almost never*) to 5 (*almost always*). The DERS has been shown to have high reliability and internal consistency ($\alpha = .93$). Psychometric research demonstrates that the DERS scores have good test-retest reliability (Gratz &

Table 1
Correlation matrix for parent factors and DERS results

Measures	1	2	3	4	5
1. Maternal support	-	-.35**	.60**	.60**	-.32**
2. Maternal control		-	-.29**	.68**	.29**
3. Paternal support			-	-.33**	-.33**
4. Paternal control				-	.34**
5. DERS					-

Note. $N = 825$, ** $p < .001$.

Table 2

Regression analysis of parent factors

Predictors	β	<i>B</i>	SE <i>B</i>
Maternal support	-.15**	-4.05	1.42
Maternal control	.04	0.83	1.17
Paternal support	-.16**	-3.95	1.24
Paternal control	.21**	4.46	1.16

Note. ** $p < .001$, $R^2 = .16$ ($p < .01$).

Roemer, 2004), and the total DERS score has been found to have high internal consistency within both clinical (e.g., Fox et al., 2007) and nonclinical populations (e.g., Gratz & Roemer, 2004).

Parental involvement. The *Parental Support for Learning Scale* (PSLS; Rogers, Markel, Midgett, Ryan, & Tannock, 2014) separately assesses students' perceptions of their mothers' and fathers' educational involvement at home. The original version of this scale was used to assess elementary school aged children's perceptions. However, a modified version of the scale has recently been developed to be more relevant for parental involvement in the adolescent years. The adolescent version consists of two subscales: *Controlling Parental Involvement* and *Supportive Parental Involvement*. Previous work using this scale with elementary school-aged children suggests that it possesses acceptable psychometric properties. The PSLS has been shown to have moderate to high reliability (controlling parental environment: $\alpha = .90$ and supportive parental environment: $\alpha = .87$) and fathers (controlling parental environment: $\alpha = .89$ and supportive parental environment: $\alpha = .89$). Examples of items on the *Controlling Parental Involvement* subscale include: (a) "This parent tries to tell me how to approach my schoolwork", (b) "This parent insists I do my schoolwork his/her way", (c) "When I get a poor grade, I feel the need to hide it from this parent". Examples of items on the *Supportive Involvement* subscale include: (a) "This parent is typically happy to talk to me about my learning", (b) "When I am struggling at school, this parent listens to my opinion and perspective", (c) "This parent allows me to make my own decisions about my school-work."

Procedure

Participants for this study were recruited as part of a larger longitudinal project on coping with stress in the transition to high school. Students brought home a parental consent form detailing the main research purposes, and procedure. Of the students who returned consent forms, 67% agreed to participate. As per the ethical guidelines of the study, the students did not

have to give a reason for their refusal to participate. For this study, data was collected during the second year of the study. Participants completed questionnaires during two 45-minute sessions. Participants at each school were brought to a common area in the school (e.g., cafeteria, library) in groups of approximately 20, and were presented with an envelope that contained a student assent form and questionnaires. Instructions were read aloud by a research assistant, and participants responded individually. Students sat apart from each other and trifold screens were used to ensure more confidentiality in responses.

Results

Descriptive Statistics

In the three variables of interest, there was between 19-25% of missing data that were missing at random (MAR). Little's MAR test proved significant, $\chi^2(1, N = 825) = 185.91, p < .001$, however separate variance t-tests indicated that the data was not missing in a pattern related to the DVs ($t_s > 0.05$). As such, in all our analysis, missing data were removed list wise. After missing data were removed, there were no significant outliers nor were there any issues with kurtosis or skewness in the data (all $Z_s < 1.96$). Mean scores and standard deviations were measured for all of the variables of interest, including the parent variables: maternal support ($M = 4.07, SD = 0.74$), maternal control ($M = 2.54, SD = 0.97$), paternal support ($M = 3.94, SD = 0.83$), and paternal control ($M = 2.46, SD = 0.97$), as well as for the DERS results ($M = 71.09, SD = 20.21$). Information about the correlations is included in Table 1.

Statistical Analysis

In order to assess the relationship between parent-child interactions and emotion regulation abilities, a simple regression analysis was performed. Scores from the PSLS for maternal support, maternal control, paternal support and paternal control were entered as the independent variable, and DERS scores were entered as the dependent variable. This regression was

significant, $F(4, 514) = 29.03, p < .001$, with paternal support ($\beta = -.16$), paternal control ($\beta = .21$) and maternal support ($\beta = -.15$). However, maternal control ($\beta = .04$) was not a significant predictor. We hypothesized that controlling parenting behaviours from both mothers and fathers would be predictive of children's difficulties in emotion regulation. This result indicates that mother's controlling homework-focused interactions are not related to children's DERS results, and therefore do not lead to difficulty in children's regulation of emotion, which is not supportive of our proposed hypothesis about our variables. More information is included in Table 2.

Discussion

The goal of this study was to contribute to our understanding of the link between children's emotion regulation abilities and the quality of mothers' and fathers' learning-focused parent-child interactions. The relationship between parent-child learning-based interactions and child outcomes is well established in the literature; however, the role of emotion regulation remains unclear. The current study aims to address this deficit by examining the association between children's development of self-regulation abilities and supportive versus controlling parent-child learning-based interactions. Supportive parent-child interactions were strongly and negatively related to children's difficulty in regulating their emotions for both mothers and fathers. These findings demonstrate an association between supportive parenting and positive emotional development. Conversely, controlling parental involvement was strongly and positively correlated with children's difficulty in regulating their emotions for fathers, not mothers. These findings demonstrate a relationship between controlling parenting and negative emotional development, as well as an association between supportive parenting and positive emotional development. These results dovetail with previous findings by demonstrating a significant relationship between the style that parents use to assist their children with learning and a critical child characteristic: emotion regulation. When fathers interacted with their children in a more controlling manner, their children displayed impaired emotion regulation abilities, while when parents interacted with their children in a more supportive manner, their children displayed superior emotion regulation abilities. This indicates that support from parents is associated with the development of emotion regulation abilities, while fathers' controlling parenting is associated with impaired emotional development.

The results of the current study support the consensus that prevails in the existing literature: parental support in the context of learning is associated with better child outcomes, and parental control in the context of learning is associated with children's impairment in various aspects of functioning (Eskilson et al., 1986; Fox & Calkins, 2003; Ginsburg & Bronstein, 1993). This study, however, adds the dimension of children's emotion regulation abilities. The results of this study underline an important association between parental involvement in learning and children's capacity for emotional self-regulation. This is an association that is not yet well established in the literature. This association means that a child's interactions with its parents, especially in the context of learning, can have important implications for its achievement of emotion regulation, an important milestone for children and adolescents. Due to the research design of the current study, which is a cross-sectional, correlational study, the results cannot be said to infer causality. The results of this study highlight an important association between parent-child learning-based interactions. However, future research is required in order to determine whether these variables have a cause-and-effect relationship.

The second aspect of this study examined the difference between the relationship between parenting style and emotion regulation for mothers and fathers. The results of the current study do not indicate differences between mothers and fathers, as both regressions were significant and R values were very similar. This suggests that both mothers' and fathers' supportive parenting, and controlling involvement by fathers are related to children's emotion regulation in the same manner. Although most studies on this topic have previously examined mothers, some have included fathers, but the results have been mixed. Some researchers have found that fathers tend to play a larger role in disciplining their children, have a more distant relationship and show less support and affection than mothers do (Harper et al., 2006). These findings might be indicative of a less emotionally sensitive relationship between fathers and their children compared to mothers. On the other hand, others have found that fathers have a positive influence on children's development, such as contributing to higher achievement and improved attitudes at school, above and beyond that of mothers (Flouri et al., 2002; Greif & Greif, 2004; McBride et al., 2005). The results of the current study add to this literature and suggest that, in relation to emotion regulation, both mother's and father's style of parenting used during learning-focused interactions has a similar association with the development of this characteristic in the child.

This study contributes to our knowledge about learning-related parenting styles and their relationship with children's ability to self-regulate emotions. This confirms the theoretical underpinnings of the *Family-School Relationships Model*, demonstrating the strong relationship between parent-child interactions and child characteristics, and adds to the literature by illustrating that this model holds for emotion-related child characteristics. Finally, this study also contributes to our knowledge of the differences between mothers and fathers in how they affect their children. In this case, no major differences were found, suggesting that both parents can be involved in their children's homework in a supportive manner.

Many previous studies have found that supportive parenting is associated with better outcomes for children. This study expands on this by demonstrating that parenting style also impacts emotion regulation capacities, which are critical for development and academic achievement. It would be advantageous for future research to examine how parent-child interactions in domains other than homework can influence emotion development. Future research in this area should use a longitudinal research design in order to see the long-term effects of parental support or control on the emotion regulation abilities of children. The current study uses a cross-section of the population, which limits the generalizability of the results. Therefore, a longitudinal approach would allow long-term associations between parenting style and emotion regulation abilities to be examined, which would be advantageous in the advancement of the knowledge on this subject.

While it was observed that no major differences exist between the effects of parenting styles of mothers versus fathers, there is still much that is unclear about the different roles that mothers and fathers play and the impact this has on their children's development, which makes future research essential. This study is another piece of the puzzle, both adding information to further our understanding and exposing the areas in which more work is needed. This study is an important first step towards understanding the impact of parental involvement in learning on emotion regulation, and future research should build from this knowledge to examine any causal, long-term effects.

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Received August 15, 2014

Revision received January 10, 2015

Accepted January 15, 2015 ■

The Role of Yoga's Rituals in Psychological Well-Being

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Yoga is an ancient discipline that has been shown to increase both mental and physical health and well-being. Individuals are constantly looking for a way to counter the psychological effects of a rapid paced life, and yoga has been a solution for many. While past research identifies physiological changes associated with yoga practice that lead to a decrease in stress and increased well-being, little is known about the psychological processes that lead to well-being. Past research connects synchronous rituals of yoga with increases in prosocial behavior. Other research finds correlations between yoga and psychological well-being, but little research has looked at the connections between synchronous rituals of yoga, prosocial behavior and well-being. A theoretical model is proposed to explain the effect of yoga's rituals on psychological well-being, where prosocial behavior mediates the relationship between the synchronous rituals of yoga and psychological well-being. Limitations and directions for future research are discussed.

Keywords: behavioral synchrony, prosocial behavior, rituals, social psychology, yoga philosophy

Il a été démontré que le yoga, une discipline ancestrale, améliore la santé physique et mentale et le bien-être. Étant constamment à la recherche d'un moyen pour neutraliser les effets psychologiques de la vie moderne et de son rythme effréné, beaucoup se tournent vers le yoga. Alors que les recherches ont identifié les changements physiologiques associés à la pratique du yoga qui mènent à une diminution du stress et à une augmentation du bien-être, les processus psychologiques qui mènent au bien-être restent méconnus. Les recherches ont associé le rituel synchronique du yoga à une augmentation des comportements pro-sociaux et ont trouvé des corrélations entre le yoga et le bien-être psychologique, mais très peu d'entre elles ont lié le rituel synchronique du yoga, les comportements pro-sociaux et le bien-être. Nous proposons un modèle théorique pour expliquer l'effet du rituel synchronique du yoga sur le bien-être psychologique, avec pour variable médiatrice les comportements pro-sociaux.

Mots-clés : synchronie comportementale, comportements pro-sociaux, rituels, psychologie sociale, philosophie du yoga

Yoga is popular for the many benefits that it provides – increased health, longevity, and the much-needed relief from stress. In today's world of advancing technology, where speed, accessibility and multitasking prevail, stress is becoming an ever-increasing problem (Beiter et al., 2015; Sapolsky, 1994). More and more people suffer from insomnia and stress-related diseases, such as diabetes and heart disease, than ever before (Coffey, Cox, & Williams, 2014; Hu, 2011; Hysing, Pallesen, Stormark, Lundervold, & Sivertsen, 2013; Sapolsky, 1994). People are looking to find anything that will help to

take off the edge, and many have found refuge in yoga (Goldberg, 2010).

Yoga is part of an ancient Indian tradition and philosophy (Vishnu-Devananda, 1960). It encompasses practices that are aimed to improve body, mind and spiritual connections. It is one of the oldest systems of self-development in the world. The term 'Yoga' means union or to yoke. The union here refers to union of body, mind, and spirit; of the lower self with the higher mind; or the individual with the supreme.

Research on yoga demonstrates that yoga has shown efficacy for a broad range of physical and mental health conditions, including (but not limited to) stress (Chong, Tsunaka, Tsang, Chan, & Cheung,

I would like to thank Dr. Linda Kelly, Dr. Richard Ivry, Dr. Crystal Park, and Fausto Gonzalez, M. A., for their invaluable input in bringing this manuscript together. I would also like to thank the team at JIRIRI for helping to prepare this manuscript for publication. Please address all correspondence to Natalia Van Doren (email: nataliavandoren@berkeley.edu).

2011), depression (Uebelacker et al., 2010), arthritis (Haaz & Bartlet, 2011), metabolic syndrome (Innes & Vincent, 2007), asthma (Posadzki & Ernst, 2011), and pain (Posadzki, Ernst, Terry, & Lee, 2011).

Practicing yoga is also associated with several biochemical effects such as influence on blood pressure, heart rate, urinary catecholamines (Granath, Ingvarsson, von Thiele, & Lundberg, 2006) and cortisol levels in healthy subjects (Rocha et al., 2012; Vera et al., 2009). The effects of yoga seem to be mediated via multiple paths such as reduction in sympathetic tone, activation of antagonistic neuromuscular systems, relaxation in the neuromuscular system and stimulation of the limbic system (Riley, 2004) which yield to the restoration of the homeostasis of the stress response systems (Streeter, Gerbarg, Saper, Ciraulo, & Brown, 2012). However, little attention is given to the psychological causes of yoga's effect on well-being, mostly focusing on psychological benefits that result as a side-effect of increased parasympathetic activation (Khatab, Khatab, Ortak, Richardt, & Bonnemeier, 2007), decreases in stress hormones (Monnazzi, Leri, Guizzardi, Mattioli, & Patacchioli, 2002), and increases in vagal tone (Streeter et al., 2012).

In a recent study, Itzvan and Papantoniou (2014) identified a positive correlation between hedonic (gratitude) and eudaimonic (meaning) aspects of psychological well-being in long-term yoga practitioners, linking yoga's psychological benefits to constructs in positive psychology. The Itzvan and Papantoniou (2014) study offers some insight into the psychological benefits of yoga, stating that both meaning of life and gratitude are increased by yoga practice, which are thought to be important indicators of overall well-being in positive psychology (Straume & Vittersø, 2012). However, although the Itzvan and Papantoniou (2014) study identifies important markers of psychological well-being, the process that leads to hedonic and eudaimonic well-being through yoga practice is not clearly addressed. This study fails to address group processes that may be acting as a mediator in yoga practice as a possible explanation for increased sense of meaning and gratitude that has been shown to be correlated with yoga practice.

Although yoga has been found to have positive effects for psychological well-being, little is known about the processes that lead to well-being. Since yoga is most often practiced in a group setting and in a highly ritualized fashion, it follows that an examination of the effect of rituals and group processes on well-being is in order. Can rituals explain the psychological benefits of yoga? If so, what other variables might mediate the relationship between

rituals and benefits of yoga? To formulate answers to these questions, we must first examine former research studies on rituals and behavioral synchrony to form a theoretical model that may help to explain how yoga's rituals increase psychological health.

Rituals in Yoga

Rituals can be defined as follows: 1) a religious or solemn ceremony consisting of a series of actions performed according to a prescribed order; 2) the prescribed order of performing a ceremony (e.g., a particular religion or church) and 3) a series of actions or a type of behavior regularly and invariably followed by someone (Simpson, Weiner, & Proffitt, 2003).

Both sociological and psychological research on rituals highlight the importance of family rituals in increasing psychological well-being (Markson & Fiese, 2000), particularly for children and adolescents, showing that families who engage in rituals have children who are more well-adjusted (Resnick et al., 1997) and less prone to behavioral problems (Kiser, Bennett, Heston, & Paavola, 2005).

A study on family rituals and child well-being examined the relationship between childhood adjustment and family rituals in clinical and non-clinical samples (Kiser et al., 2005). Results showed that family ritual functioning made a unique contribution to childhood adjustment, such that families with higher scores on measures of family rituals were less likely to have childhood behavior problems in both clinical and non-clinical samples. The results indicate that rituals have the capacity to increase childhood well-being and lessen behavior problems in children, regardless of clinical status.

Norton and Gino (2014) outlined what they call the "real benefits to rituals" (p. 1). Their research suggests that rituals may be more rational than they appear, because even simple rituals have proven to be extremely effective in relieving grief, reducing anxiety and increasing people's confidence. Furthermore, they found that rituals appear to benefit people who claim not to believe that rituals work. Norton and Gino (2014) also state that recent research done by psychologists have revealed intriguing new results demonstrating that rituals can have a causal impact on people's thoughts, feelings and behaviors. Some of the examples from the article include highly ritualized practice and pre-game routines of sports professionals, and grieving rituals in indigenous cultures. The outcomes were that rituals helped people to perform better in the sports setting and also to deal with grief more so than doing a non-ritualized activity. Rituals

helped not only to alleviate grief of a deceased loved one, but also for more mundane grief as well, such as the pain of losing the lottery.

Traditional yoga is often practiced in a highly ritualized fashion (White, 2011). To our knowledge, there have been no systematic reviews of the psychological benefits of yoga that address the effect of rituals on psychological well-being. We feel that this is an important aspect to consider, as ritualization has been shown to be effective in reducing grief and regulating emotions by past research (Norton & Gino, 2014). Furthermore, rituals that involve behavioral synchrony—coordinated movements that occur between individuals in a social interaction—have been shown to have the power to increase group affiliation (Hove & Risen, 2009), prosocial behavior (Sosis, 2000; Wiltermuth & Heath, 2009) and positive affect (Collins, 2004; Haidt, Seder, & Kesebir, 2008; Watson, Clark, & Tellegen, 1988). We now turn to a brief review of the literature on behavioral synchrony and synchronous rituals.

Synchronous Rituals

Behavioral synchrony is the coordination of movement that occurs between individuals during a social interaction, featuring similarity of: 1) form, the manner and style of movements, and 2) time, the temporal rhythm of movements (Kimura & Daibo, 2006). Early studies of behavioral synchrony showed that successful language acquisition results from behavioral synchrony between newborn infants' movements and adult speech patterns (Condon & Sander, 1974), and that increased rapport within teacher–student dyads stems from behavioral synchrony (Bernieri, 1988). More recently, experimental manipulations of synchrony show that it breeds compassion (Valdesolo & DeSteno, 2011), cooperation (Wiltermuth & Heath, 2009), affiliation (Hove & Risen, 2009), emotional support satisfaction (Jones & Wirtz, 2007), and even elevated pain thresholds (Cohen, Ejsmond-Frey, Knight, & Dunbar, 2010).

Past research (Wiltermuth & Heath, 2009) suggests that rituals involving synchronous activity may produce positive emotions that weaken the psychological boundaries between the self and the group. The article found that people acting in synchrony with others cooperated more in group economic exercises that followed, even in situations that required personal sacrifice. Furthermore, the results showed that positive emotions do not necessarily need to be generated for synchrony to foster cooperation. The results suggest that acting in synchrony with others can increase cooperation by

strengthening social attachment and bonding among group members.

Yoga is often practiced in group settings where members of the group are moving in synchrony with one another (Singleton, 2010). Additionally, some yoga teachers may chant ‘Om’ or other sacred sounds at the beginning and end of each class (White, 2011). Other teachers may include a short meditation at the end of the yoga session. What matters here is not the type of ritual performed, but the fact that the practice is ritualized by practitioners in one way or another; the most common and ubiquitous way being practicing yoga in a group setting and in a synchronous fashion, where movements are repeated in sync with other practitioners in a particular order (Singleton & Byrne, 2008).

A study examining the effects of rituals on positive affect, group unity and prosociality (Callander, 2013) compared 19 naturally occurring rituals with varying levels of synchrony. Some examples include yoga, meditation, running, choir practice, Zumba and potluck dinners. Callander (2013) evaluated the degree of synchrony using three levels: 1) exact synchrony (all participants performing the same movements in a shared rhythmic pattern), 2) complimentary synchrony (participants perform full synchrony within subgroups, complimentary to the whole, as in choir practice) and 3) no synchrony (participants perform movements independently of their own accord). Results showed that activities with higher levels of synchrony (i.e., exact synchrony), such as yoga, increase positive affect, group unity and prosociality significantly more than those with less synchrony (i.e., potluck dinners).

To the best of our knowledge, no prior studies address the effect of synchronous rituals of yoga on psychological well-being. We propose that the synchronous rituals of yoga may help explain the psychological benefits of yoga, and that the increase in prosocial behavior is what leads to the increase in well-being associated with yoga practice.

Taking into account past research on rituals, yoga, and behavioral synchrony, we refer to yoga in our model as a synchronous ritual, or the “synchronous rituals of yoga” – a series of movements done in conformity with a group in a prescribed, ritualistic manner. Given the widely held belief that yoga is an ancient practice that has an element of sacredness (Goldberg, 2010) and that yoga is often practiced in a group setting, we believe that this is an apt definition of yoga as it relates to ritual and behavioral synchrony. Next, we review research on prosocial behavior as it relates to synchronicity and yoga.

Prosocial Behavior

Prosocial behaviors are those actions that benefit other people, or society as a whole even at a cost to the individual such as helping, sharing, donating, cooperating, and volunteering (Brief & Motowidlo, 1986). Although there is little agreement about how ritual promotes cooperation, it is widely accepted that its collective nature is a critical feature (Sosis, 2000).

Anthropological research has examined and discussed the relationship between ritual, group affiliation, and prosociality (e.g., d'Aquili & Newberg 1999; Hayden, 1987; Sosis, 2000; Steadman & Palmer, 1995; Turner 1969). Durkheim (1912/1965) suggests that rituals in which movement is stereotyped across participants enhance conformity to the group, and by moving together as a unit, participants tend to think and value themselves as a unit, which enhances their cooperation. However, empirical evidence of cooperative effects due to rituals has, until recently, been scarce (Haidt et al., 2008).

This scarcity has been lessened by recent studies from psychology laboratories that have extended work on dyadic pairs by showing that partners who match each other's postures, motions, and vocalizations, tend to express higher levels of charity (Campbell, 1958; Hove & Risen, 2009; Miles, Nind, & Macrae, 2009; Valdesolo & DeSteno, 2011; van Baaren, Holland, Steenaert, & van Knippenberg, 2003). These results have also been extended to small groups and in doing so have provided empirical support to the theories that rituals increase cooperative behaviors (Reddish, 2012; Valdesolo & DeSteno, 2011; Wiltermuth & Heath, 2009). A field study of Fischer, Callander, Reddish and Bulbulia (2013) has given support to these laboratory findings associating ritualistic activity with cooperative behaviors, suggesting that shared sacred values mediate rituals' prosocial effect. Thus, there is a growing body of literature that provides evidence that synchronous rituals lead to prosocial behavior.

Psychological Well-Being

Broadly, well-being has been defined from two perspectives. The clinical perspective defines well-being as the absence of negative conditions, whereas the psychological perspective defines well-being as the prevalence of positive attributes (Fraillon, 2004). Positive psychological definitions of well-being generally include some of six general characteristics (Ryff, 1989). The six characteristics of well-being as defined by Carol Ryff are most prevalent in definitions of well-being and include self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal

growth. Since Ryff's seminal work integrating the views of Erikson (1959), Maslow (1968), Rogers (1961), Allport (1961) and Jahoda (1958) into the well-known six-factor model (van Dierendonck, Díaz, Rodríguez-Carvajal, Blanco, & Moreno-Jiménez, 2008), it has spawned much research on each of the various dimensions and how they each contribute to psychological well-being. Past research has shown that yoga is closely related to several of Ryff's six dimensions of well-being, including self-acceptance (Schure, Christopher, & Christopher, 2008), autonomy (Gonçalves, Vale, Barata, Varejão, & Dantas, 2011), and purpose in life (Voigt, Howat, & Brown, 2010). However, research that looks at yoga's effects on positive relations with others has been scarcer, although recent studies by Callander (2013) suggest that rituals of yoga increase positive relations with others by increasing prosociality.

Psychological well-being is an important predictor of many outcomes, including physical health (Diener & Chan, 2011), longevity (Danner, Snowdon, & Friesen, 2001), life satisfaction (Diener, 2000; Schimmack, Radhakrishnan, Oishi, Dzokoto, & Ahadi, 2002) and interpersonal relationships (Ryan & Deci, 2000). While psychological well-being has many facets, research has shown that prosocial behavior is an important predictor of well-being (Aknin et al., 2013; Kahana, Bhatta, Lovegreen, Kahana, & Midlarsky, 2013; Ryan & Deci, 2000; Ryff & Singer, 1996), perhaps because it is so closely related to positive relations with others.

In sum, research shows that supportive social relations are an important part of well-being, and that prosocial behavior, such as helping a friend, are crucial to developing strong and positive social bonds between family and community members alike (Keltner & Kring, 1998). Thus, prosocial behaviors play a crucial role in the development of psychological well-being.

Theoretical Model

We propose a three-factor model for the relationship between yoga and psychological well-being (see Figure 1). Our model posits that the ritualization of yoga practice contributes in large part to the effect of psychological well-being found in yoga practice. It further suggests that synchronous rituals in particular work to bring about an increase in prosocial behavior, which is an important process that contributes to the effects of psychological well-being that are associated with yoga practice, and has been overlooked by past research. Thus, the three factors of the proposed model are synchronous rituals of yoga, prosocial behavior and psychological well-being.

Synchronous Rituals of Yoga Lead to an Increase in Prosocial Behavior

Given that past research on behavioral synchrony in general and synchronous rituals in particular show that engaging in synchronous rituals increases social attachment and bonding among group members (Wiltermuth & Heath, 2009), we propose that the synchronous rituals of yoga will also act in a similar way. Specifically, the synchronous rituals of yoga will increase social attachment and bonding through the mechanism of behavioral synchrony.

Research by Fischer et al. (2013) examined eleven rituals and their effects on prosociality as measured by attitudes about fellow participants and decisions in a public goods game. They found that rituals with synchronous body movements were more likely to enhance prosocial attitudes, and were associated with the largest contributions in the public goods game. Similarly, Wiltermuth and Heath (2009) found that synchronous rituals increased cooperation in group economic exercises, even when requiring personal sacrifice. While Fischer et al. (2013) proposed that shared sacred beliefs mediate the relationship between synchronous rituals and prosocial behavior, Wiltermuth and Heath (2009) proposed that increased feelings of group affiliation acted as a possible mediator between synchronous rituals and increased prosociality. Thus, while it remains unclear what causes the relationship between synchronous rituals of yoga and prosociality, it is clear that synchronous rituals of yoga increase prosocial behavior, providing support for the first part of our model.

Prosocial Behavior Leads to an Increase in Psychological Well-Being

Prior research shows that prosocial behaviors, such as charitable spending, giving time to others, and empathy, lead to increased psychological well-being and positive affect (Aknin, Dunn, & Norton, 2012; Mogilner, Chance, & Norton, 2012; Shanafelt et al., 2005). Research by Ryan and Deci (2000) suggests that intrinsic prosocial behavior increases well-being by

fulfilling a basic need for autonomy. Other research (Kahana et al., 2013) shows that volunteering and altruistic attitudes predict well-being, especially in later life, and the authors suggest that fulfilling a need for generativity (Erikson, 1959) may explain the link between prosociality and well-being.

Prior social psychological theoretical frameworks concerned with understanding positive indicators of psychological well-being offer some intriguing suggestions about the processes that may link prosocial orientations and positive well-being outcomes. Diener's definition of happiness in his landmark 1984 article in *Psychological Bulletin* refers to leading a virtuous life as a requisite of happiness. Such a life calls for prosocial attitudes and behaviors. The connection between positive affect and altruistic orientations is a central theme within positive psychology. Formulations that focus on positive, rather than negative affectivity, typically invoke other directed orientations, such as expressing gratitude and concern for others (Sheldon & Lyubomirsky, 2006). Experimental studies observed increased positive affect after committing acts of kindness (Seligman, Steen, Park, & Peterson, 2005). Positive affect is also embedded in the dynamics of human flourishing. Flourishing is defined as living "with an optimal range of human functioning, one that connotes goodness, generativity, growth and resilience" (Fredrickson & Losada, 2005, p. 678).

Again, while it is not entirely clear what psychological mechanisms work to explain the link between prosociality and well-being, it is clear that such a link exists, providing support for the second part of our model. Thus, our model posits that prosocial behavior mediates the relationship between the synchronous rituals of yoga and psychological well-being.

Contributions and Limitations

Our model contributes to the past literature on yoga in that it addresses two important areas of yoga that were previously ignored by psychological researchers: 1) the importance of yoga's rituals in generating

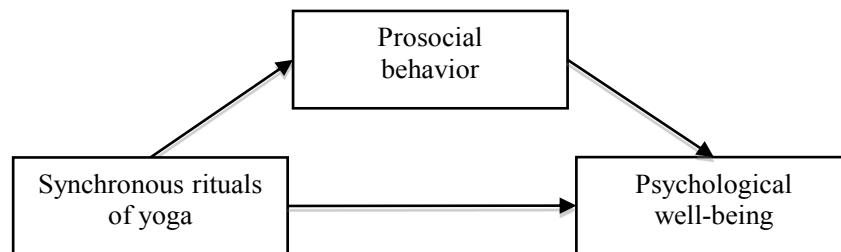


Figure 1. The three-factor model for the relationship between yoga and psychological well-being.

psychological well-being; and 2) explaining the processes (behavioral synchrony as a mechanism that encourages prosocial behavior) that lead to the well-being associated with ritualized yoga practice.

It further contributes to the literature of social psychology by offering a novel explanation for the effects of rituals on behavior and psychological well-being, drawing from an ancient tradition that has been practiced for thousands of years.

The limitation of the model is that it is drawn from inferences based on past research, much of which has not commented on the direct relationships between synchronous rituals and yoga. The model provided gives one of many possible explanations for the processes that lead to psychological well-being as a result of yoga practice. For example, mindfulness is another component of yoga practice that could contribute to the increased well-being experienced by its practitioners (Salmon, Lush, Jablonski, & Sephton, 2009). Perhaps practicing yoga alone might increase well-being through mindfulness and meditation elements, whereas practicing yoga in a group might have added benefits of behavioral synchrony, enhanced group affiliation, and resultant prosocial behavior, which may have additional benefits for psychological well-being. Examining the effects of practicing yoga alone versus in a group setting would help to test the proposed model. Empirical support is needed in order to reach strong conclusions regarding the proposed three-factor model explaining the relationship between yoga and psychological well-being.

Directions for Future Research

In order to test the proposed model, further research is needed. A paradigm could be set up in the following manner to test the effect of synchronous rituals of yoga on well-being. Researchers could set up a controlled experiment in which three groups are tested on various levels of the independent variable of synchronous yoga rituals, defined as practicing yoga in a group setting where both temporal, form and style of movement are synchronous. One group of participants could perform yoga exercises alone in a solitary room, the second group could perform yoga in the same room but in a non-synchronous fashion; and a third group could practice yoga in a group in the traditional, synchronous fashion. Researchers could then ask participants to perform a group task, such as the one used in Wiltermuth and Heath (2009), where a prosocial element is involved, to see whether level of giving would vary as a function of level of synchrony. Perhaps the same goals could be accomplished using

archival data. Regardless of the method, a novel contribution to the literature would result by taking a measure of well-being and testing the relationship between the three variables in one study – synchronous rituals of yoga, prosocial behavior and psychological well-being.

In order to test the effects of synchronous rituals on prosocial behavior, parameters would need to be established for which the prosocial behaviors are most relevant to yoga practice. Given that yoga practice is associated with increased vagal tone (i.e., resiliency of the vagus nerve; Streeter et al., 2012), it would make sense to measure those prosocial behaviors that have been found to be associated with greater vagal tone, such as the 3-item *Relations Subscale of the Psychological Well-Being Scales* (Ryff, 1989) and a 10-item *Measure of Agreeableness* (Goldberg et al., 2006) from the *International Personality Item Pool*, which captures enduring individual differences in prosocial personality (Kogan et al., 2014). This is just one idea; many other possible measures could be used. One could then rate yoga practitioners on these scales and compare these to a measure of overall psychological well-being, such as was used in Straume and Vittersø (2012). Since yoga interventions are increasingly popular (Khattab et al., 2007), and yoga practices are varied (Singleton, 2010), understanding more about the mechanisms through which yoga increases well-being could help psychologists and medical health care practitioners to determine which aspects of yoga are helpful to the individual in order to target yoga practice regimes that lead to maximal well-being. Conducting these preliminary studies could provide initial evidence for the three-factor model, and, if supportive evidence is found, lay the groundwork for more rigorous empirical testing of the model.

Conclusion

Yoga has been shown both anecdotally and empirically to provide mental and physical health benefits. However, little is known about the processes that lead to the mental health benefits of yoga. This paper reviews the literature on yoga and rituals, and presents a new theoretical model of the role of yoga's rituals in creating psychological well-being. Specifically, a three-factor model is proposed, where the synchronous rituals of yoga act as the independent variable on psychological well-being, the dependent variable; and prosocial behavior acts as a mediator between rituals and well-being. Limitations are addressed, and directions for further research are given. It is hoped that the proposed model will provide a framework for future researchers in social psychology to empirically test the effects of yoga's

rituals on prosocial behavior and psychological well-being.

Understanding the effects of rituals on well-being and the role of behavioral synchrony in facilitating prosocial behaviors that lead to well-being can help yoga practitioners and social psychologists alike. Yoga practitioners can be helped by understanding the mechanisms through which yoga produces psychological well-being in order to achieve maximum benefit from the practice, and social psychologists can benefit by observing social-psychological phenomena that occur in the practice of yoga, an ancient discipline that has been shown both anecdotally and empirically to be effective in facilitating a broad range of positive emotions and mental health benefits. Examining group processes, such as behavioral synchrony, that play a role in facilitating emotional and psychological well-being in yoga practitioners offers social psychologists an exciting new avenue of research that draws on the wisdom of an Ancient Eastern tradition that has been shown to have both great power and great potential. Therefore, applications of such novel findings and an in-depth understanding of the processes at work in an ancient but powerful practice such as yoga that has stood the test of time could yield important discoveries for social psychologists about the nature of human social behavior.

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Received July 12, 2014

Revision received January 2, 2015

Accepted January 18, 2015 ■

Équipe éditoriale / Editorial Board 2014-2015



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Merci à nos commanditaires pour leur appui !

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