Journal sur l'identité, les relations interpersonnelles et les relations intergroupes

Journal of Interpersonal Relations, Intergroup Relations and Identity

JIRIRI

Journal sur l'identité, les relations interpersonnelles et les relations intergroupes

Mission

Le *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI) est une revue scientifique internationale publiée annuellement en avril. Sa mission 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 qui désire approfondir et diffuser des idées ou des résultats portant sur les thèmes de l'identité, des relations interpersonnelles ou intergroupes est invité à soumettre son article.

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 trois étudiants de premier cycle et à un étudiant des cycles supérieurs. Ces étudiants rendront une évaluation anonyme, sous forme d'une grille d'évaluation, ainsi qu'une section de commentaires destinés à l'auteur, qu'ils enverront à un membre de l'équipe éditoriale responsable du suivi du manuscrit.

Ensuite, le responsable du manuscrit fait la synthèse de ces évaluations dans une lettre d'édition destinée à l'auteur. La rédaction de la lettre d'édition est supervisée par les éditeurs consultants, des étudiants aux cycles supérieurs. La lettre d'édition doit souligner les critiques les plus importantes et rendre la décision concernant la publication de l'article. L'article peut être accepté, l'auteur peut recevoir une demande de modifications (mineures ou majeures) avec demande de re-soumission ou l'article peut être rejeté.

L'auteur doit alors considérer les modifications suggérées par le comité de rédaction. Le processus de révision et de corrections se poursuit 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 doit confirmer qu'il est étudiant au premier cycle au moment de la soumission 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 doit contenir le titre de l'article ainsi qu'un titre abrégé de **50 caractères maximum**. La deuxième page doit contenir un résumé de l'article de **150 mots maximum**. De plus, l'auteur doit fournir **cinq mots-clés** en lien avec les thèmes abordés dans l'article. Le texte doit contenir **un maximum de 7 500 mots et il doit respecter les normes 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

Journal sur l'identité, les relations interpersonnelles et les relations intergroupes (JIRIRI)
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Mission

The Journal of Interpersonal Relations, Intergroup Relations and Identity (JIRIRI) is an international scientific journal published annually in April. Its mission 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 field 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 three undergraduate students and one graduate student. These students will write anonymous reviews to the author and send them to an associate editor responsible for the manuscript.

The associate editor will write an edition letter to the author, which will synthesize the reviewer's 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, the authors may be invited to revise and resubmit the article (with minor or major revisions), or the manuscript may be rejected completely.

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

Guidelines for Submitting an Article

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

he has co-written with a professor or a graduate student only if he is 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 manuscript and a running head **with a maximum of 50 characters.** The second page must include an abstract **with a maximum 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 must conform to APA standards.**

To Participate in the JIRIRI

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

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

Postal Address

Journal of Interpersonal Relations, Intergroup Relations and Identity (JIRIRI)
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Journal sur l'identité, les relations interpersonnelles et les relations intergroupes
Journal of Interpersonal Relations, Intergroup Relations and Identity
Volume 13, Hiver/Winter 2020

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Éditorial

Valérie Angers
Université de Montréal

C'est avec fierté que je vous présente le 13e volume du *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI). Ce journal, comme les volumes précédents, démontre la motivation, le potentiel et le travail acharné des étudiants de premier cycle universitaire à travers le monde, autant chez les auteurs que chez les membres de l'équipe éditoriale.

Pour une treizième année, le JIRIRI continue d'attirer une centaine d'étudiants provenant de partout à travers le monde qui souhaitent acquérir une expérience concrète dans le monde de la publication scientifique. L'expérience que procure le JIRIRI constitue une manière toujours aussi innovatrice qu'unique pour offrir la chance aux étudiants de premier cycle de s'impliquer pleinement dans l'univers de la recherche et de la rédaction, en plus de développer leur esprit critique et leurs connaissances en psychologie sociale. Avec son approche centrée sur l'étudiant, le JIRIRI se démarque des autres méthodes d'enseignement en plaçant les étudiants au centre de l'action qu'implique le processus de révision par les pairs.

Cette année, l'équipe éditoriale était composée de treize rédacteurs adjoints, de neuf étudiants aux cycles supérieurs, de quatre rédacteurs adjoints séniors et d'une quarantaine d'évaluateurs provenant de différentes universités à travers le monde. Il est également important de souligner la collaboration de l'équipe de responsables de la revue *Neuropsychologie clinique et appliquée/Applied and Clinical Neuropsychology* (NCACN), composée des rédactrices en chef Gabrielle Ross et Patricia Nadeau et de la chef d'édition Marie-Ève Cadieux. Notre but, tout au long de l'année, a été d'assurer la promotion des missions et la visibilité des deux revues, tout en gardant un contenu distinctif.

Le 13e volume du JIRIRI est le second à être publié sous la direction de Daniel Sznycer et a toujours pour objectif de garder la mission du journal et les bases instaurées par Roxane de la Sablonnière, la fondatrice du journal. Pour cette édition, le JIRIRI a reçu un total de treize manuscrits provenant de six différentes universités. De ces manuscrits, sept ont été acceptés et six sont publiés dans ce volume, ce qui représente un taux de rejet de 46 %.

Comme chaque année, notre équipe éditoriale a eu l'occasion de suivre différentes formations afin d'assurer la qualité supérieure des lettres d'édition et des évaluations envoyées aux auteurs. Cette année, nous avons pris l'initiative d'améliorer et d'approfondir le contenu de celles-ci en collaboration du rédacteur adjoint sénior Mathieu Caron-Diotte. L'équipe éditoriale a aussi fait la traduction de notre liste de révision, un de nos outils essentiels, afin faciliter et les révisions et l'édition du journal.

La visibilité du journal continue de croître au fil des années. En effet, une cinquantaine d'évaluateurs ont assisté à la formation donnée par notre équipe et notre chef d'édition en septembre dernier. Cette formation offre une chance aux étudiants de premier cycle de prendre part au processus de révision par les pairs. De plus, un article au sujet du fonctionnement du journal et des expériences personnelles des responsables de celui-ci sera aussi publié dans le journal étudiant en psychologie *L'Amnésique* de l'Université de Montréal. Pour augmenter notre visibilité, l'équipe a aussi réalisé diverses campagnes de financement, notamment avec des ventes de pâtisseries au café étudiant *Le Psychic*, des ventes de beignes *Kripsy Creme*, ainsi qu'à la station d'essence *Big Stop* à Saint-Liboire. Nous avons également prévu d'organiser une soirée Vins et fromages avec le concept d'un panel interactif, dans le but d'à la fois permettre aux étudiants de premier cycle d'interagir et de poser leurs questions à des étudiants de cycles supérieurs et d'assurer la visibilité du JIRIRI et du NCACN.

Je tiens à remercier chaque membre de l'équipe du JIRIRI ainsi que chaque auteur qui s'est aventuré dans cette expérience. Mon implication au sein du journal a été très enrichissante et agréable, et tout cela grâce à votre passion et votre dévouement. Ce fut un réel plaisir de travailler à vos côtés. Je tiens aussi à remercier Daniel Sznycer, qui a eu cru en moi et à tous les membres faisant partie de l'équipe éditoriale. Un merci particulier à Diana Cárdenas, qui s'implique continuellement au sein du JIRIRI année après année, et à Sébastien Hétu, qui a renouvelé son implication pour une deuxième année consécutive au sein du journal. Je souhaite également remercier Mathieu Caron-Diotte pour son aide généreuse dans la rédaction des lettres aux auteurs, dans l'édition de la revue et pour avoir conseillé notre cheffe d'édition du début jusqu'à la fin du processus de publication.

Finalement, j'aimerais souligner le travail exceptionnel des responsables : Emy Trépanier (chef d'édition), Cyrielle Low-Kien (directrice des événements) et Lyanne Levasseur Faucher (directrice des communications et trésorière). Sans vous, la publication de ce journal n'aurait pas été possible. Votre travail et votre professionnalisme ont fait de cette année un grand succès pour le JIRIRI. Je souhaite remercier spécialement aussi Charlotte Dupont, rédactrice en chef du 12e volume du JIRIRI, qui a su me guider et me conseiller pour bien me déléguer le poste afin de s'assurer du bon fonctionnement du journal.

Un grand merci à vous tous!

Editorial

VALÉRIE ANGERS
Université de Montréal

It is with great pride that I present you the 13th volume of the *Journal of Interpersonal Relations, Intergroup Relations and Identity* (JIRIRI). This journal, just like the ones that preceded it, attests to the motivation, great potential and dedicated work of our authors and editorial team members, all undergrad students from around the world.

For the thirteenth consecutive year, the JIRIRI continues to attract hundreds of students from all over the world who wish to acquire hands-on experience in the field of scientific publication. The JIRIRI offers undergrad students a unique and innovative way of getting fully involved in research and redaction in addition to allowing them to develop their critical thinking and knowledge of social psychology. With its student-centered approach, the JIRIRI stands out from other teaching methods by placing students at the heart of the peer-review process.

This year, the editorial team was composed of thirteen Associate Editors, nine graduate students, four Senior Associate Editors and more than forty Reviewers from different universities around the world. I would also like to highlight to collaboration of the Editors in Chief, Gabrielle Ross and Patricia Nadeau and Managing Editor, Marie-Ève Cadieux of the journal *Neuropsychologie clinique et appliquée/Applied and Clinical Neuropsychology* (NCACN). Our goal, year-round, is to promote the missions and visibility of the two journals, while maintaining distinctive content.

The thirteenth volume of the JIRIRI is the second volume to be published under the direction of Daniel Sznycer, while retaining the original mission and structure installed by Roxane de la Sablonnière, founder of the journal. For this edition, the JIRIRI received a total of thirteen manuscripts from six different universities. Of these manuscripts, seven were accepted and six were published in this volume, which represents a 46% rejection rate.

As each year, our editorial team had the opportunity to take part in training in order to ensure the quality of the edition letters et evaluations sent to the authors. This year, we took the initiative of improving and further developing the content of these letters in collaboration with Mathieu Caron-Diotte, one of our Senior Associate Editors. The editorial team also translated our revision checklist, one of our essential tools, in order to facilitate revision and editing of the journal.

The visibility of the JIRIRI continues to grow each year. In fact, around fifty Reviewers assisted to the training course given in September by our team and our Editor in Chief. This training gives undergraduate students the opportunity to take part in the peer-review process. Moreover, an article explaining this process and relating personal experiences of team members will soon be published in the student psychology journal *L'Amnésique* of the University of Montreal. To further increase our visibility, our team has also held fundraisers, such as bake sales in our student café *Le Psychic*, *Krispy Creme* donut sales at various entrances of the University of Montreal as well as collecting donations at the *Big Stop* gas station in Saint-Liboire. We also intend to host an interactive Wine and Cheese fundraiser to give undergrad students the opportunity to discuss with graduate students while ensuring the visibility of the JIRIRI and the NCACN.

I would like to thank every member of the JIRIRI team as well as every author who ventured into this experience with us. My involvement in the JIRIRI has been very instructive and rewarding thanks to your passionate work and dedication. It has been a real pleasure to work along side you all. I would also like to thank Daniel Snzycer who believed in me and our editorial team. A special thanks to Diana Cárdenas who is continuously involved in the JIRIRI, year after year, and to Sébastien Hétu, who continued his association with us for a second consecutive year. I also wish to thank Mathieu Caron-Diotte for his generous help in writing the edition letters to the authors, in editing the journal and for offering advice to our Managing Editor during the whole process of publication.

Finally, I want to emphasize the exceptional work of Emy Trepanier (Managing Editor), Cyrielle Low-Kien (Events Coordinator) and Lyanne Levasseur Faucher (Communication director and treasurer). Without you, the publication of this journal would have been impossible. Your work and professionalism have made this year a great success for the JIRIRI. Special thank you to Charlotte Dupont, Editor in Chief of the twelfth volume of the JIRIRI, who guided and advised me, ensuring the proper functioning of the journal.

Many thanks to you all!

Lettre des rédacteurs adjoints séniors

DIANA CÁRDENAS, PH. D.[1], MATHIEU CARON-DIOTTE, M. SC.[2], SÉBASTIEN HÉTU, PH. D.[2], & DANIEL SZNYCER, PH. D.[2]
Australian National University[1], Université de Montréal[2]

Nous sommes très heureux de vous présenter le 13e volume du *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI), un journal de psychologie sociale produit par des étudiants de premier cycle de l'Université de Montréal.

Treize ans se sont écoulés depuis le début de cette initiative étudiante qui a permis à de nombreux étudiants de premier cycle à travers le monde de prendre leurs premiers pas dans la production de savoir dans le domaine de la psychologie. Le JIRIRI leur offre également l'opportunité de s'impliquer dans le processus de la publication scientifique, incluant la révision, la relecture et l'édition d'articles rédigés par leurs confrères de premier cycle.

Cette année, Valérie Angers a été l'étudiante-leader du JIRIRI en tant que Rédactrice adjointe. Valérie était responsable de former les étudiants et de veiller au bon fonctionnement des activités du JIRIRI. Elle a travaillé en collaboration avec Emy Trépanier, Chef d'édition, qui a coordonné l'édition et la mise en page du JIRIRI. Valérie et Emy ont toutes les deux fait partie de l'équipe du volume précédent du JIRIRI et leur apport en connaissances s'est avéré indispensable pour mener à bien cet ouvrage. Nous les remercions pour leur dévouement and leur travail acharné. Valérie et Emy ont également travaillé en collaboration avec Gabrielle Ross et Patricia Nadeau, Éditrices en chef du quatrième volume du journal de *Neuropsychologie Clinique et Appliquée/Applied and Clinical Neuropsychology* (NCACN).

Nous avons accueilli en tant que nouveau Rédacteur adjoint senior, Mathieu Caron-Diotte, membre de l'équipe du JIRIRI depuis de nombreuses années. Il a tout d'abord été Chef d'édition, puis Rédacteur adjoint et finalement Éditeur consultant pendant cinq ans, avant de devenir Rédacteur adjoint senior cette année. Il a apporté son expertise et ses connaissances aux Rédacteurs adjoints et a servi de mentor à notre Chef d'édition, Emy Trépanier.

Le JIRIRI est publié parallèlement au journal de *Neuropsychologie Clinique et Appliquée/Applied and Clinical Neuropsychology* (NCACN), une initiative similaire pour les étudiants de premier cycle dans le domaine de la neuropsychologie, maintenant à sa quatrième année. L'objectif du JIRIRI et du NCACN est d'offrir aux étudiants de premier cycle en psychologie ou étudiant dans des disciplines connexes une expérience pratique dans la production de savoir scientifique et de les former à utiliser les outils conceptuels et techniques du métier. Ces articles, qui sont souvent les premiers rédigés par ces chercheurs en herbe, sont conceptuellement novateurs et rigoureusement étudiés.

Nous espérons que vous apprécierez le 13e volume du JIRIRI!

Letter from the Senior Associate Editors

Diana Cárdenas, Ph. D.[1], Mathieu Caron-Diotte, M. Sc.[2], Sébastien hétu, Ph. D.[2], & Daniel Sznycer, Ph. D.[2]
Australian National University[1], Université de Montréal[2]

We are very excited to launch the 13th volume of the *Journal of Interpersonal Relations, Intergroup Relations and Identity* (JIRIRI), an undergraduate-run social psychology journal homed at the Université de Montréal.

Thirteen years have passed since this student-led initiative began, which has allowed many

undergraduate students from universities around the world to take their first steps in the production of psychological knowledge. The JIRIRI has also offered undergraduate students the opportunity to be involved in the editorial process, reviewing, editing, and copyediting papers authored by fellow undergraduates.

This year's student-leader of the JIRIRI was Valérie Angers as Editor in Chief. Valérie was in charge of training the students and managing the JIRIRI operations. She also worked in collaboration with Managing Editor Emy Trépanier, who oversaw the JIRIRI's edition and layout. Valérie and Emy had both been part of a previous edition of the JIRIRI and they brought their invaluable knowledge needed to make all of this work. We thank them for their tireless work. Valérie and Emy also worked in collaboration with Gabrielle Ross and Patricia Nadeau, Editors in Chief of the fourth volume of the journal *of Neuropsychologie Clinique et Appliquée/Applied and Clinical Neuropsychology* (NCACN).

Our team welcomed new Senior Associate Editor Mathieu Caron-Diotte, who has been in the JIRIRI's team for a long time. He started in the JIRIRI as a Managing Editor, went on as Associate Editor, and was Consulting Editor for five years before becoming Senior Associate Editor this year. He has brought his expertise and his knowledge to Associate Editors and mentored Managing Editor Emy for this year's issue of the journal.

The JIRIRI is published in tandem with the journal of *Neuropsychologie Clinique et Appliquée/Applied and Clinical Neuropsychology* (NCACN), a similar initiative for undergraduate students in the field of neuropsychology— now in its fourth year. The goal of the JIRIRI and the NCACN is to give undergraduate students in psychology and allied fields first-hand experience with the production of scientific knowledge and the conceptual and technical tools of the trade. These papers, often the first papers produced by junior scientists, are conceptually innovative and rigorously researched.

We hope you will enjoy the 13th volume of the JIRIRI!

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 reçoit 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 organiser des ateliers de formation pour les évaluateurs et à superviser le processus de mise en page du JIRIRI. Le *directeur des communications* est responsable de la promotion du journal, de la rédaction des demandes de bourses et le *coordonnateur des événements* est est responsable de l'organisation des collectes de fonds. Le *trésorier* est responsable des transactions et de la gestion des fonds du JIRIRI. Finalement, le *responsable des médias* coordonne les publications sur notre page *Facebook* et notre compte *Instagram*, ce qui vise l'augmentation de la visibilité du journal. *Les rédacteurs adjoints* sont responsables du processus de révision et de publication des manuscrits soumis.

Le processus d'évaluation des manuscrits se déroule en trois étapes. Le rédacteur en chef amorce le processus en effectuant une sélection parmi les manuscrits soumis, puis il envoie ces manuscrits aux rédacteurs adjoints. Ceux-ci s'assurent que tous les manuscrits font d'abord l'objet d'une évaluation par quatre *évaluateurs*, dont trois étudiants de premier cycle et un *évaluateur invité*

provenant des cycles supérieurs. Suite à ces évaluations, un des membres du comité éditorial prend en charge l'intégration de l'ensemble des évaluations formulées 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 rédacteurs. De plus, Diana Cárdenas, Ph. D., Mathieu Caron-Diottre, M. Sc., Sébastien Hétu, Ph. D. et Daniel Sznycer, Ph. D. agissent à titre de *rédacteurs adjoints séniors* et supervisent tout le processus en collaboration avec le rédacteur en chef. Suite à une nouvelle soumission du manuscrit par l'auteur, de nouveaux tours d'évaluation se déroulent selon le même principe jusqu'au moment où l'article est jugé convenable pour fin de publication. Plus le processus de révision avance, plus les modifications exigées deviennent spécifiques et détaillées. Ainsi, le premier tour vise principalement à s'assurer de la contribution scientifique du manuscrit. Puis, les étapes subséquentes visent l'amélioration d'aspects précis, telle 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 les membres du journal, 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 to develop 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 organizing workshops for reviewers and supervising the page layout of the JIRIRI. The *Communications Director* promotes the journal, submits grant applications and the *Events Coordinator* organizes multiple fundraisers. The *Treasurer* is responsible for the transactions and fund management of the journal. The *Media Director* oversees publications on our *Facebook* page and *Instagram* account that ensure the journal's visibility. 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 three 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*, Diana Cárdenas, Ph. D., Mathieu Caron-Diotte, M. Sc., Sébastien Hétu, Ph. D., and Daniel Sznycer, Ph. D., in collaboration with the Editor-in-Chief. Several rounds of reviews may be undertaken until the manuscript is judged suitable for publication. As the review process moves from the first to the last round of reviews, the comments and modifications required become more 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 is able to reach its goals and mission.

Psychological Cues to Political Stands: An Experiment with Italians on Regional Autonomy

Elisabetta Mannoni, M. A.
University of Milan

The human mind is not necessarily willing to assess costs and benefits every time it faces a decision. It often prefers to rely on cognitive shortcuts (i.e., heuristics) enabling it to decide rapidly and satisfactorily. Most literature on heuristics and biases suggests that a common cognitive shortcut individuals take is looking at what is close to judge what is far. An experiment involving 300 Italian citizens used a questionnaire to test whether it may work the other way around when it comes to politics. This paper investigated whether citizens might use mere exposure to information on a foreign issue as a heuristic to express an opinion on a similar issue at the domestic level. Furthermore, it strived to test whether this occurs more frequently when the individual considers the two cultures involved to be relatively close to each other. Results show data can only partially confirm the expectations.

Keywords: regional autonomy, independentism, heuristics, mere exposure, cultural distance

L'esprit humain n'est pas toujours disposé à évaluer les coûts et bénéfices des décisions à prendre. Il a souvent recours à des raccourcis cognitifs (heuristiques) permettant de décider de manière rapide et satisfaisante. Plusieurs publications sur les heuristiques suggèrent qu'un raccourci cognitif fréquent consiste à juger ce qui est accessible afin de juger ce qui est distant. Une étude basée sur un questionnaire rempli par 300 citoyens italiens a évalué si ce processus fonctionnait dans le sens inverse lorsqu'il est question de politique. L'intérêt était de savoir si la simple exposition à de l'information sur un problème à l'étranger pouvait servir de base à une heuristique pour exprimer une opinion sur un problème similaire au niveau national. De plus, cette étude tente de vérifier si cela se produirait davantage lorsque l'individu considère que les deux cultures impliquées sont relativement similaires. Les résultats confirment seulement partiellement les hypothèses.

Mots-clés : autonomie régionale, indépendantisme, heuristiques, simple exposition, distance culturelle

Lately, Italy has been the theatre of several notable political events particularly related to national powers going against local powers: a referendum for constitutional reform in favor of centralization held in 2016, two consultative referendums in two regions in 2017 and the formation in 2018 of an Italian government comprising a formerly secessionist regional party. This would suggest that the issue of regional autonomy is salient in the Italian political agenda (Clemente, De Chiara, & Martini, 2017; Morelli, 2017; Salerno, 2017). How are Italians taking a stand on this issue? Are their opinions affected by their exposure to information about similar issues in other countries? Investigating the role that exposure to international politics has on position-taking in Italy might give us interesting insights on the potential impact of the huge amount of news we are exposed to on a daily basis in the globalized world of the 21st century that we live in.

According to behavioral science (Kahneman, 2011; Kahneman, Slovic, & Tversky, 1982; Tversky & Kahneman, 1974), when something important is at stake, people are willing to undertake a cognitively-demanding decision-making process. Gathering information toward an imminent necessary choice is, in fact, an example of a cognitively-demanding decision-making process. On the other hand, when our brains feel the need to go for cost-effective mental processes–which is actually what happens most of the time–they rely on heuristics (i.e., cognitive shortcuts that avoid us the costly effort of gathering information and conducting a meticulous analysis of costs and benefits before taking a sound decision). Human beings use heuristics in a variety of situations. An example might be them being unwilling to go through the history of a country or a region in order to decide whether to stand for unity rather than independentism in that area. Looking for shortcuts is what helps us take decisions anyway–provided that it is a shorter way.

The question this paper wants to tackle is whether the shorter way might indeed be a thousand miles away from the decision maker. Could having an opinion on an issue at the international level be helpful to us in forming an opinion on a similar issue at the domestic level? What are the odds of individuals looking at their perception of a phenomenon occurring abroad and at their perception of the country involved, in order to figure out how to side when the same issue occurs in theirs?

The following analysis constitutes an attempt to evaluate whether referring to opinions on foreign political issues could influence one's political stands on similar issues at the domestic level. A first expectation is that this is possible. So far, the literature on the topic has shown that our positions at the national level might help us figure out how to take positions at the international level. Clark and Rohrschneider (2009) supported the idea that in some cases, a mechanism of transfer applies, where individuals operate evaluations of domestic-level phenomena at the international level. This idea actually goes back to Campbell et al. (1960); they showed that political party identification served as a shortcut to evaluate political issues in foreign policy. A clear example of that would be the vote choice at the European elections for EU citizens, which sometimes mirrors voters' expectations and opinions more strictly related to the national rather than to the European-level (Clark & Rohrschneider, 2009). Thus, by looking at the literature, we could say that, so far, what has been mainly shown is how domestic politics can be used as a proxy to judge events occurring in the international scenario, rather than the other way around. However, there is no reason to believe that the two processes should be mutually exclusive. It is indeed reasonable to think that and interesting to test whether it can work the other way around, too. Nevertheless, if the theory of national politics as a proxy to judge international issues is supported by the literature, the same cannot be said for the international political scenario used as a proxy to judge facts at the national level. In fact, this question has remained so far unanswered, and it will be the aim of this study to contribute by starting to fill this gap.

Besides this first intuition, one should consider how close individuals feel about the foreign object they are trying to evaluate. In particular, using evaluations of international facts to judge national ones might occur more evidently when the two cultures are taken into account–the individual's and the one the subject is looking at as a reference–and considered to be somewhat similar by the respondent. In other words, the more similarities exist between the cultures, the more one could expect individuals to use their perception of the foreign to judge the domestic.

Theoretical Framework

Research shows how common it is for citizens to lack political knowledge in general (Delli Carpini & Keeter, 1991). In particular, it has been noted that this is more likely to occur when individuals have to deal with complex, unfamiliar issues that would require a significant mental effort in order to collect new information about it, process it, and eventually form an opinion on it (Hooghe & Marks, 2005).

However, lack of political knowledge does not act as a deterrent for people to express a preference–be it in the form of casting a vote or simply taking a stand on a given issue. Indeed, citizens' use of cues and heuristics to form opinions is well documented in the literature (Brady & Sniderman, 1985; McDermott, 2005; Sniderman, 2000; Sniderman, Brody, & Tetlock, 1991), evidencing how individuals, instead of engaging in in-depth examinations of issues regarding policy contents, rather rely on external cues that help them overcome their information shortfalls and get to a satisfying final decision (Baldassarri, 2005; Baldassarri & Schadee, 2006; Campbell & Cowley, 2014; Hobolt, 2007; Lau & Redlawsk, 2001; Torcal, Martini, & Orriols, 2018; Tucker, De Sio, Paparo, & Brader, 2014).

Mere exposure effect. Although relying on external cues might include the possibility of relying on one's peers opinions, there are differing opinions among a similar group of peers. A reason why people belonging to the same group end up taking at times opposite stances can be found in the different perceptions people may have of the same object. A theoretical rationale behind this is the mere exposure effect (Zajonc, 1968), also known as the familiarity heuristic (Park & Lessig, 1981). By mere exposure is meant "a condition making the stimulus accessible to the individual's perception" (Zajonc, 1968, p. 1) and what has been attested to this regard is that such a condition of exposure of a person to an object enhances their attitude toward it. In other words, the mere act of encountering something makes individuals familiar with it, and that familiarity, in turn, makes them have a more positive attitude toward it than they did before they encountered it (Hansen & Wänke, 2009; Zajonc, 1968).

It has been empirically verified that the link between the exposure and the consequent attraction is not generated by a conscious process of information (Monahan, Murphy, & Zajonc, 2000). Indeed, for this to happen, the individual does not even have to be conscious of being exposed to the stimulus (Zajonc, 2001), which would explain why, in the literature, a significant amount of application of this theory can be found in the areas of marketing strategy and brand elaboration for the construction of advertisements

(Atkin & Heald, 1976; Dawar & Lei, 2009; Kent & Allen, 1994; Lee & Ganesh, 1999). Building on this, this paper aims at testing whether mere exposure can also work when it comes to taking a stand on a political issue such as supporting various extents of regional autonomy vis-à-vis various extents of centralization.

Psychic distance. Although mere exposure can be related to our decision-making process, according to international business literature, another concept that could also be related to the influence of others' opinions on decision-making processes is the concept of psychic distance, often treated as a synonym of cultural distance[1]. It was first used in a study on international trade (Beckerman, 1956) and tended to be defined in terms of the disturbing factors which hinder the relationship between a supplier and a customer when they happen to come from two foreign environments (Nordstrom, Vahlne, & Landeck, 1994; O'Grady & Lane, 1996; Vahlne & Wiedersheim-Paul, 1973). However, just like Evans and Mavondo (2002) pointed out, the etymology of the word psychic relates to the semantic area of mind and soul, which would suggest that psychic distance cannot be determined solely by external factors but is instead formed at the mental level of the individual, stemming from the personal perception of cultural differences. In fact, it has subsequently come to be defined as the perceived socio-cultural distance between the home and the target countries in terms of language, religion, education, business practices, and legal and political systems (Dow & Karunaratna, 2006; Lee, 1998).

Borrowing this concept from the international business literature, this study attempts to see whether cultural distance may affect the extent of the mere exposure effect on political stands once the stimulus is associated to a foreign country or culture. The reason why this could be the case can be found in the literature on social comparison and social identity theory (Tajfel & Turner, 1985). As proposed by Festinger (1954), people make large use of comparisons with others in order to realize what their position in society is. According to social identity theory, feeling part of a social group is fundamental for these comparisons to take place. When human beings think in social rather than individual terms, they tend to associate themselves to a certain group and not to others. This helps people in setting a more or less clear line, dividing us from them, and allows them to differentiate the groups they consider as their in-groups (i.e., those sharing certain characteristics) from those they see as their out-groups (i.e., those lacking those common features), and behave accordingly toward both (Ashforth & Mael, 1989; Tajfel, 1978; Tajfel & Turner, 1985). Sharing the same nationality, the same religion, and the same

leisure preferences has been shown to be a remarkable basis for individuals to identify themselves with other individuals and feel a sense of belonging to some groups and not to others (Evans & Mavondo, 2002; Stets & Burke, 2000). Similarly, the same reason that would make individuals feel a given culture as close to their own might also make them perceive both cultures as belonging to the same group, as opposed to distant cultures that are falling out of the group. Thus, this type of mental process may constitute a shortcut and facilitate the expression of preference if two different groups are involved and the subject perceives one of them as closer than the other.

Building on all this, the analysis of this paper stems from the idea that, given citizens' diffuse lack of political knowledge and tendency to take political stands through the use of heuristics, they might indeed be influenced by mere exposure to information on a foreign issue. Mere exposure might be used as a cognitive shortcut that enables them to express an opinion on a similar domestic issue – especially if they consider the two countries or cultures involved to be close enough.

The hypotheses to be tested throughout this analysis are the following:

(1) Mere exposure to arguments in favor of regional autonomy could enhance the exposed subject's supporting opinion on regional autonomy of the country, compared to a subject who was not exposed to arguments in favor of regional autonomy or to a subject who was exposed to another stimulus (e.g., another argument on another topic).

(2) Mere exposure to arguments against regional autonomy could enhance the exposed subject's anti-autonomist position in the country, compared to a subject who was not exposed to arguments against regional autonomy or to a subject who was exposed to a different stimulus.

(3) The mere exposure effect is stronger when the stimulus is associated to a culture that subjects perceive as culturally close to theirs.

Method

There are several reasons to consider Italy a relevant case for the purpose of this research. Since the objective is to investigate whether issues in a foreign country can be used as a proxy to judge similar issues in the domestic country, it is true that the same experiment could potentially be conducted with any other population. However, in this case, Italians have been selected as the sample and Spain as the reference country. This is due to the fact that Italy and Spain, besides being close to each other, happened

to be dealing with the same issue (i.e., regional autonomy) at the very same time–which made them the perfect couple of countries to run the tests this research required. The choice of Italy and Spain therefore allowed to take advantage of the current events to test whether being exposed to them at the international level affected the way people perceived similar issues in their home country. Why Spain and Catalonia can both be perceived as close or far from Italy and how, at the time of the experiment, Spain was facing similar political challenges to Italy's will be explained in the next section.

Context of the experimental design

Firstly, "Italy and Spain represent the prototypes of the so-called 'Mediterranean' or 'southern European' societies" (Coppola, 2004, p. 225): Spanish and Italian populations underwent similar socio-demographic processes, which led them to have strong similarities that go from family formation processes to welfare systems, from institutional settings to labor markets and education systems–a diffuse similarity that becomes even more evident when compared to other European countries (Eurostat, 2018). This common background is mainly what lays behind the expectation that Italians would feel much closer to Spanish culture than to other cultures.

As for the formulation of hypotheses in this research, a key element lays precisely in the distinction between Spanish and Catalan culture. The rationale for using this distinction is that, on the one hand, the very fact that Catalan culture belongs to one particular autonomous community (out of seventeen) in Spain makes it less likely for Italians to feel closer to that culture in particular rather than with Spanish culture in general. Indeed, as Murphy, Diaz-Varela, and Coluccello (2002) pointed out, Catalonia represents for Spain what only Padania[2] is for Italy– namely, a privileged enclave where the development of capitalism and the flourishment of industrialism were possible and paid the regions back through time. However, although some Italians live in those Northern areas that have common aspects with Catalonia and might for this reason have formed a positively biased attitude toward Catalan culture, other Italians might well have inherited an opposite attitude toward it (i.e., the legacy of old merchants working on the Mediterranean who saw Catalans, as well as Southern French people, as their main competitors and, therefore, enemies; Abulafia, 1990). In other words, it is reasonable to think that those who sympathize with the features that characterize Catalan culture are outnumbered by those who sympathize with the more general features of Spanish culture.

Secondly, a hint on why Spain, at the time of the experiment, was facing similar political challenges to

Italy's was partly given above when Catalonia was juxtaposed to Padania as exceptional cases for economic development in their respective countries. This common feature led to similar political repercussions that probably peaked in both countries right before this experiment was conducted, although to different extents and according to different modalities.

In Italy, on December 4, 2016, a constitutional referendum rejected a reform aimed at, among other things, increasing the extent of centralization and changing the degree of regional autonomy of most Italian regions (Clemente et al., 2017; Salerno, 2017), precisely the single most disliked point in the content of the reform (D'Alimonte, 2016). Then, on October 22, 2017, two consultative referendums were held in the Northern (Padanian) regions of Lombardy and Veneto (Morelli, 2017), questioning residents on whether they wanted to ask the central government for an increased and differentiated degree of regional autonomy. On June 1st, 2018, the current Italian government was formed, constituted by the alliance of the Five Star Movement and the League, formerly known as the Northern League–an extreme-right party well known for its history of secessionist claims. This series of recent events clearly shows how the issue of regional autonomy and centralization has come to play a role in the Italian political agenda, making it relevant, nowadays, to investigate this issue.

As for Catalonia, an important starting point in the last few years is definitely September 27, 2015, when, during regional elections, independentist parties got 72 out of 135 seats in Parliament. These parties then started to move in the direction of what they called the disconnection from Spain, which, since 2016, entered the Catalan political agenda and, on October 1st, 2017, turned into a unilaterally announced and internationally unrecognized consultative referendum for Catalan independence (Turp, Caspersen, Qvortrup, & Welp, 2017). Beyond the results of the vote and the immediate consequences of that political action, what is of interest for the purpose of this research is the centrality of the issue of regional independence vs. centralization in the recent Spanish political agenda (Cetrà, Casanas-Adam, & Tàrrega, 2018). In fact, this shows how there are regions–in both Italy and Spain– that in the past few years have undergone a process to further increase their regional autonomy; that this process reached its peak right in the months that preceded the analysis, although to different degrees of intensity; and that the demarcation between regional autonomy and centralization was definitely a concern in the political agenda of both the countries when the experiment was conducted.

Participants and Procedure

The study was conducted online as a between-subject survey experiment, involving three hundred Italian citizens coming from all the twenty regions of Italy. Participants (119 males and 181 females) received a link to the study through e-mail or text message. Participation was voluntary. The collection of data stopped once the rhythm of responses slowed down and no further responses came in. Data was collected through five days. At the moment of stopping the collection of data, the actual number of participants involved was 336. However, 36 respondents had not completed the task and their questionnaire could therefore not be used for the purpose of the study. The participants were randomly assigned to one of three experimental groups and asked to fill in a questionnaire online.

Questionnaires were identical across the three group conditions. They were all structured as follows: a first block of questions, followed by a text section, and then a second block of questions. The only distinctive element between the three questionnaires was the short text included between the first and the second block of questions. The length of the texts in the first, second, and third group was respectively of 153, 216, and 165 words in the original Italian version. All three texts consisted of a seven-point summary on a different topic. In the first treatment group, this summary consisted of a list of seven reasons why Catalonia should become independent, exposing respondents in that group to arguments in favor of increasing the level of autonomy of a certain region (first treatment condition). In the second treatment group, seven reasons were displayed against Catalan independence, exposing its respondents to arguments favoring Spanish national unity and centralization instead (second treatment condition). Finally, in the third control group, a general and neutral classification of party systems was presented, without exposing the participants belonging to this group to any kind of information related to issues of regional autonomy, centralization or independentism

(control condition), yet assuring that all the respondents taking part to the study were required the same extent of mental effort to complete the task.

Immediately after the text section, the dependent variable was tested in the second block of questions: participants were asked to declare the extent of their approval on a set of statements concerning the degree of centralization and level of regional autonomy in Italy. This allowed us to test whether–compared to those in the control condition–respondents exposed to arguments in favor of Catalan independentism (first treatment group) showed a higher propensity to support regional autonomy and/or a lower propensity to favor centralization; likewise, to test whether–compared to those in the control condition–respondents exposed to arguments against Catalan independentism (second treatment group) showed a lower propensity to support regional autonomy and/or a higher propensity to favor centralization.

Measurement

Regional autonomy and centralization. As per what has just been introduced, participants were asked to assess their level of agreement with seven statements in the second block of questions. They could *strongly disagree*, *disagree*, *agree* or *strongly agree* with them. The item included four statements favoring different extents of regional autonomy in Italy, plus three statements supporting ideas of national unity and centralization (cf. Table 1).

A seven-item index indicating an overall attitude toward the issue was created and Cronbach's alpha coefficient (.59) was computed to measure its internal consistency, thus assessing how closely the seven items were related as a group. The coefficient was computed for the different attitudinal statements concerning regional autonomy in Italy. It revealed that the scale indicating the attitude in favor of Italy as a centralized and united country was better off ($\alpha = .62$) once the mildest and most moderate statement was dropped. Citing from the translated version of the questionnaire: *Italy, despite its differences at the*

Table 1
Factor 1 loadings for each of the seven items on regional autonomy and centralization in Italy

Statement	In favor of	Factor
Italy is too centralized a country	RA	0.43
The new government should increase the extent of autonomy of Italian regions	RA	0.78
All Italian regions should be more autonomous	RA	0.77
Some Italian regions should be more autonomous	RA	0.49
Centralization is a good thing	C	-0.48
Italy, despite its differences at the regional level, is a country that has its own national unity	C	-0.17
Centralization should be fostered	C	-0.53

Note. RA = regional autonomy; C = centralization.

regional level, is a country that has its own national unity.

Precisely after realizing that not all the items of the dependent variable were contributing to a coherent and valid index of attitude toward regional autonomy and centralization, a factor analysis was conducted, which allowed us to measure the ratio of each item's unique variance to its shared variance. What emerged from the factor analysis was a confirmation of the inconsistency of the statement *Italy, despite its differences at the regional level, is a country that has its own national unity* with respect to the index as a whole. Factor eigenvalues smaller than 1 were excluded from the analysis, which mainly looked at the factor loadings for Factor 1 (eigenvalue = 2.16). Item loadings were examined to remove any item which did not load equal to or above 0.40. As shown in Table 1, the above-mentioned mild statement was the only one that did not load enough.

A potential explanation to this lack of fit to the index could be found in the fact that its content somehow calls upon more affective values, rather than proper stances on specific policies. The divergence can, in other words, be explained by the fact that only six out of the seven statements, originally selected to create one single index, seem to be suitable for it; while one of them arouses a different type of reaction in the respondents, probably because it is worded in such a way so to immediately recall affective values more than policy stances.

As a matter of fact, at the time of constructing the questionnaire, the original idea was to use all seven items as a whole and create an index of propensity to support regional autonomy to use as the dependent variable of the analysis. Those statements indicating a negative attitude toward regional autonomy had actually been worded as in favor of centralization and national unity, so they needed to be reversed before including them into the index. However, the mismatch of one of the seven items required to drop it from the index. Nevertheless, considering what has just been said about the reasons why that particular statement could not fit, it could be interesting to run the same regression with two different dependent variables: on the one side, the (six-item) index, as conceived in the original idea; on the other side, the dropped-from-the-index statement. In this way, it would be possible to see how different–if anyhow–the effects of the independent variable are with respect to statements strictly related to policy measures and a statement more connected to personal values. The treatment condition, which is the main independent variable, was treated as a categorical variable and its effects were tested controlling for age and gender.

Psychic distance. Finally, two crucial cultural distance variables were included in this study: the one between Italian and Spanish cultures, and the one between Italian and Catalan cultures. They were built out of a specific survey battery asking respondents how distant from their own culture they considered a set of 10 national and regional cultures, including Spanish and Catalan. Responses were measured on a scale from 0 (*very close to my culture*) to 10 (*very distant from my culture*). Adding this further variable to the model allowed us to see whether it strengthens or weakens the association between the outcome variable(s) and the main independent variable in this analysis.

For this purpose, psychic distance from Catalan culture and psychic distance from Spanish culture were unified into a single variable, generated by subtracting psychic distance from Spain to psychic distance from Catalonia. Therefore, values in this new variable range from -10 to 10. The lowest value (-10) indicates those who perceive Catalan culture as very close to their own and Spanish culture very far from it; whereas the highest value on the scale (+10) indicates those who perceive Catalan culture as very far from their own and Spanish culture very close to it. Hence, the higher the value on this scale of psychic distance, the closer to Spanish culture and farther from Catalan culture, while the opposite applies to the lowest values on the scale. The closer one gets to zero, the smallest the difference respondents perceive between those two cultures with respect to theirs.

Results

Regional Autonomy and Centralization

Regressions were run both for the index and for the abovementioned "mildest statement" according to which Italy is a country with its own unity notwithstanding the differences at the regional level.

Although at a first look, no relevant finding seems to be detected, an interesting Table 2 shows results from the first regression. Setting the control group as the reference category, neither being in the treatment group condition in favor of Catalan independentism, nor being in the treatment group condition siding with Spanish national unity would make any significant difference on the way respondents assessed both the statements included in the index and the single statement alone. Figures 1 and 2 show this even more clearly–being in one of the treatment groups rather than in the control group did not significantly impact participants' attitudes as measured by the index and by the single statement. However, being in one of the treatment groups rather than in the other one had an impact on the way they answered the single statement (cf. Figure 2). In other words, those who were exposed

Table 2

Regression Results on the Effect of the Two Treatment Conditions with Respect to the Control Condition on the Index and on the Single Statement, Controlling for Age and Gender

Condition and control variables	ß	SE	p	F	df	P	R^2	n
Six-item Index (model 1)				0.95	4, 289	.434	.01	294
Constant	2.93	0.47	.000					
Gender	-0.51	0.28	.074					
Age	0.00	0.01	.970					
Pro Spain treatment	0.07	0.33	.823					
Pro Catalonia treatment	0.25	0.34	.451					
Single Statement (model 2)				1.70	4, 293	.149	.02	298
Constant	2.08	0.20	.000					
Gender	0.05	0.12	.651					
Age	0.00	0.00	.165					
Pro Spain treatment	0.11	0.14	.424					
Pro Catalonia treatment	-0.19	0.14	.182					
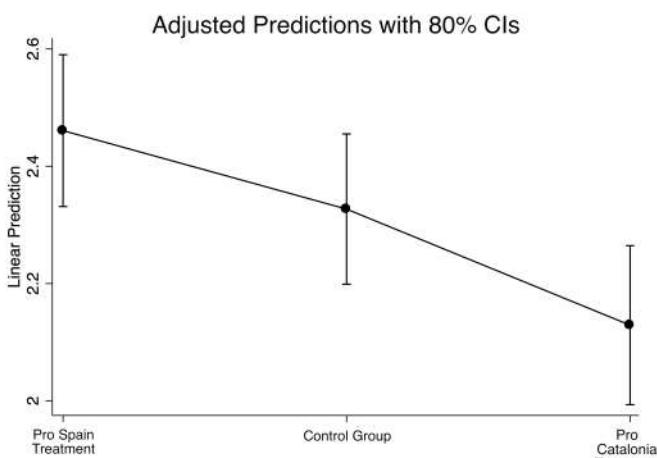
Figure 1. Predicted probabilities for participants belonging to different group conditions for the six-item index of attitude toward regional autonomy and centralization.
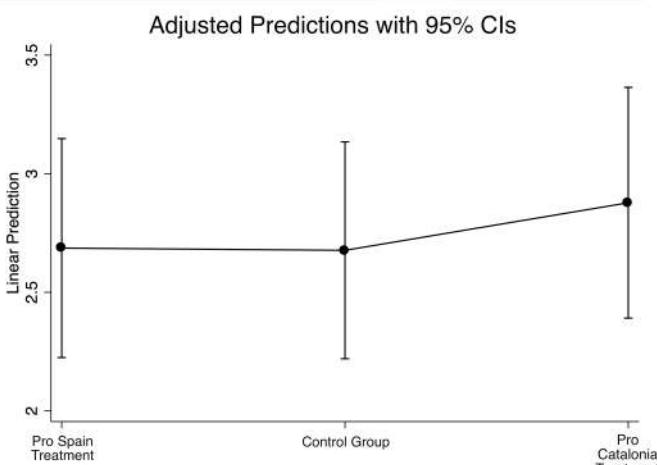
Figure 2. Predicted probabilities for participants belonging to different group conditions for the single statement "Italy, despite its differences at the regional level, is a country that has its own national unity".

to arguments in favor of Catalan independentism evaluated that statement in a significantly different way than those who were exposed to arguments in favor of Spanish national unity (cf. Table 3).

What data shows here is that there is a statistically significant relation between having been merely exposed to a text in favor of Catalan independentism and having the tendency to disagree with the fact that Italy maintains its own unity at the national level in spite of all the discrepancies at the regional level. In other words, the participants who had read seven reasons why Catalonia should be independent tended to show their disagreement more evidently and significantly to the idea that national unity in Italy can win over its historical regional fragmentation, compared to those participants who had read seven reasons why Catalonia should be a dependent part of Spain. Uniquely for this case (cf. model 4), the mere exposure hypothesis can be said so far to find confirmation in data[3].

Psychic Distance. Contrary to our expectations, participants did not perceive, on average, Catalan culture as significantly more distant from their own than Spanish culture. However, what is interesting here is to look at the individual level, and to see how the perceived distance between the respondent's culture and those two cultures affected their attitude toward regional autonomy in Italy. Indeed, it is interesting to see the extent to which the effect of this perceived distance depends on the treatment condition the respondent was assigned to.

For this purpose, a regression was run, including in the previous models, the independent variable measuring psychic distance and the interaction between psychic distance and the treatment condition. Besides psychic distance having no significant effect by itself on the index or on the statement, once again

the regression revealed that there was no significant effect of the interaction of psychic distance with the two treatment conditions with respect to the control condition (cf. Table 4).

However, to have a more immediate sense of the effect of this interaction, we may look at the plot of predicted probabilities for the combination of the categories of our variable (cf. Figures 3 and 4). If we look at both the index and at the single statement, what we notice from the graph is that belonging to the treatment group in favor of Spanish national unity did not, at any level of psychic distance, increase the

predictability of the respondent's preferences. On the other hand, in both cases, belonging to the treatment group in favor of Catalan independentism, happened to be relevant in terms of predicted probabilities, when the respondents placed themselves at the extremes of the psychic distance scale (i.e., when they considered either Spain very close and Catalonia very far from Italy or Spain very far and Catalonia very close to it).

More specifically, Figure 3 shows how those in the pro-Catalan independence treatment condition who also considered Catalan culture as very close to Italian culture and Spanish culture quite far from it, tended to

Table 3
Regression Results on the Effect of Being in the Pro Catalonia Treatment Condition or in the Control Group with Respect to the Pro Spanish Unity Treatment Condition on the Index and on the Single Statement, Controlling for Gender and Age

Condition and control variables	ß	SE	p	F	df	p	R^2	n
Six-item Index (model 3)				0.92	4, 289	.454	.01	294
Constant	3.38	0.50	.000					
Gender	-0.50	0.28	.077					
Age	0.00	0.01	.885					
Placebo	-0.09	0.33	.771					
Pro Catalonia treatment	0.13	0.34	.691					
Single Statement (model 4)				1.70	4, 293	.149	.02	298
Constant	2.19	0.21	.000					
Gender	0.05	0.12	.651					
Age	0.00	0.00	.165					
Placebo	-0.11	0.14	.424					
Pro Catalonia treatment	-0.31	0.15	.035					

Table 4
Regression Results on the Interactive Effect Between the Psychic Distance and the Treatment Condition on the Index and on the Single Statement, Controlling for Gender and Age

Condition and control variables	ß	SE	p	F	df	p	R^2	n
Six-item Index (model 5)				1.19	7, 253	.310	.03	261
Constant	2.96	0.50	.000					
Gender	-0.49	0.30	.104					
Age	0.00	0.01	.998					
Pro Spain treatment	0.07	0.36	.853					
Pro Catalonia treatment	0.11	0.37	.750					
Psychic distance (PS)	-0.01	0.11	.951					
Pro Spain treatment X PS	0.06	0.15	.674					
Pro Catalonia treatment X PS	-0.24	0.15	.112					
Single Statement (model 6)				0.84	7, 255	.557	.02	263
Constant	2.10	0.21	.000					
Gender	0.03	0.13	.790					
Age	0.00	0.00	.256					
Pro Spain treatment	0.96	0.15	.537					
Pro Catalonia treatment	-0.17	0.16	.280					
Psychic distance (PS)	-0.03	0.04	.501					
Pro Spain treatment X PS	0.03	0.06	.644					
Pro Catalonia treatment X PS	0.08	0.06	.213					
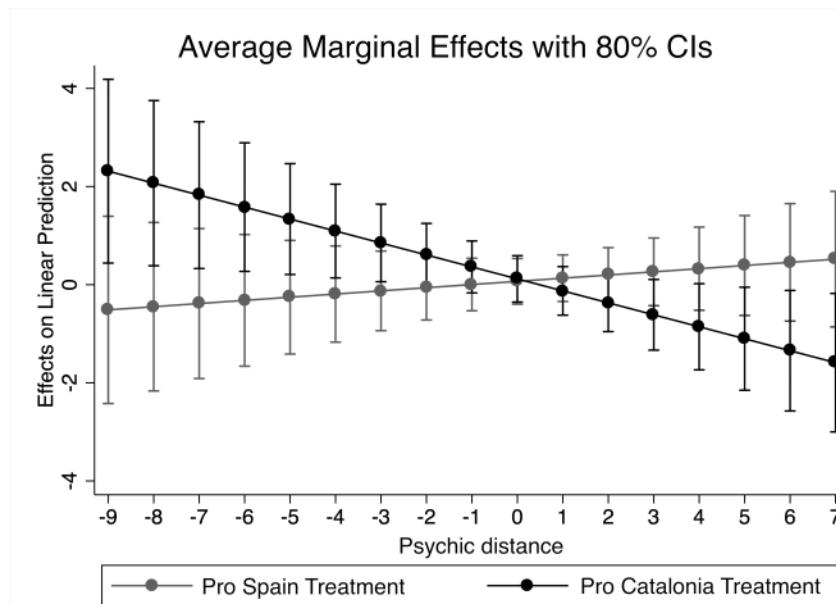
Figure 3. Predicted probabilities for participants belonging to different group conditions for the six-item index of attitude toward regional autonomy and centralization at different levels of psychic distance.
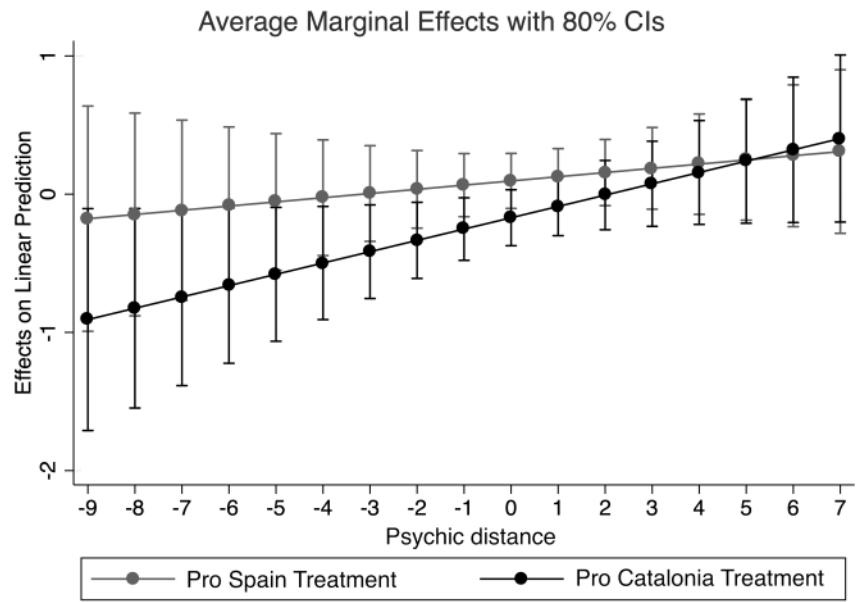
Figure 4. Predicted probabilities for participants belonging to different group conditions for the single statement *Italy, despite its differences at the regional level, is a country that has its own national unity* at different levels of psychic distance.

have a more positive attitude toward regional autonomy in Italy, as measured by the six-item index. On the other hand, those in the same treatment condition who considered Catalan culture far from them and Spanish culture closer, would not support regional autonomy against centralization in Italy.

On the other side, Figure 4 displays how, among those treated in favor of Catalan independentism, those who felt Catalan culture closer to them than Spanish culture tended to disagree more with the idea that Italy can overcome regional discrepancies and

still maintain its national unity. Contrariwise, those in the same group who felt Spanish culture closer to them than Catalan culture would stand in favor of the image of Italy as a country that is not disrupted by its regional fragmentation.

Discussion

Given the level of connections available, what happens within the national borders nowadays does not stay within the national borders. It is reasonable to believe that our perceptions of national and

international dimensions somehow affect each other, even though so far, the most accredited theory is that individuals tend to transfer their evaluation of national-level issues to the international scenario (Campbell et al., 1960; Clark & Rohrschneider, 2009).

This paper aimed at investigating whether the opposite was a possible pattern of decision-making, as guided by the mere exposure heuristic, according to which just by getting exposed to something, people enhance their attitude toward it. This hypothesis was tested on the issue of regional autonomy by means of an experiment conducted with Italians. The relevant political events Italy has been through in the past two years suggest that the issue of regional autonomy has become increasingly salient in the Italian political agenda, which made Italy a good case for the development of this analysis. Hypotheses 1 and 2 of the analysis were that being exposed to arguments in favor or against regional autonomy and centralization in a foreign country would make the participants more inclined to adopt the view they were exposed to when came similar issues in their own country. The experiment had three groups, including two different treatments, and a placebo. The treatments were directly linked to, respectively, Spanish culture and Catalan culture, to check for the potential mediating factor of the cultural distance in the realization of the mere exposure effect that had been hypothesized (as formulated in Hypothesis 3).

Results did not confirm the hypotheses to the extent that was expected, as no statistically significant predictor was found when the reference category for the treatment variable was the control group. In other words, according to our results, being given a certain treatment, as opposed to the control condition, doesn't seem to explain the variation in attitudes toward regional autonomy. However, when taking the groups exposed to the different treatment conditions, our results indicate that the difference in treatment does explain a percentage of the variation in attitudes. Along this line of reasoning, the effect of mere exposure was found on one of the statements meant to form the index of support to regional autonomy; it was the statement that was eventually dropped from the index as it happened to be different from the others, probably because it sounded more moderate and did not convey the idea of a strong political stand in the centralization vs. regional autonomy arena. It was more of a value-related statement, not strictly connected to an idea of policy measures to be applied. In other words, it did not have the prescriptive and normative nature that could be found in the other six statements.

As for why the outlined expectations could not find strong confirmation in the data, we identified more than one potential explanation. A first option is the nature of the experiment itself. Given that the topic had been discussed a lot in Italy and that the respondents might already have had an opinion on the issue before taking part in the experiment, the results obtained may suggest that mere exposure to the treatment was not enough to affect their stands, maybe to avoid falling in a situation of cognitive dissonance with respect to the previously formed opinion. In this case, a conceivable alternative path for future research in this direction could be opting for a distinct procedure and type of experiment, maybe by providing a stronger and more lasting exposure to the treatment, and/or by identifying a more effective way of wording the statements, in order to make the respondents perceive all of them as moderate, or as proper value-judgement rather than policy prescriptions. This could also avoid the risk of having them answering following other kind of shortcuts.

A second option is the choice of the reference cultures for the treatment. Choosing the dichotomy Spain-Catalonia allowed us to identify two cultures without having to select two countries, so avoiding the risk that participants would have a different level of knowledge about them, which in turn could affect their degree of biased-thinking. However, a potential issue might have been precisely the fact that Catalonia belongs to Spain. One may doubt that people actually perceive it as something different or separated. What if Spanish culture is part of the Catalan culture? Isn't Catalan culture sort of embedded in the Spanish one? Far from attempting to answer rather complex questions like these, the point here is that the fact that one's perception of foreign cultures tends to be intrinsically subjective might be the very reason why the results did not go consistently in the direction expected.

Nonetheless, a mere exposure effect was found on the reaction to a statement that somehow managed to distinguish itself from the others, for its moderate and mild nature. Six statements out of seven happened to be worded in such a way to present the respondent to an aut-aut situation. Declaring that centralization should be fostered or that some regions in Italy should be given more autonomy can be associated to some of the political stands that actors take in the everyday political scenario in Italy nowadays when covering the issue. Those sentences resemble the kind of sentences that one might happen to listen to in a politician's speech or read in a party's manifesto. They seem to have either a prescriptive (suggesting a course of action) or normative nature (clearly expressing a value judgement on whether a given situation is desirable or not). Eventually, they sound like strong political stands and it might be that the respondents' opinion on them was not to be affected because it was already

well-formed and firm in that sense. On the other hand, the statement for which an effect was found could actually be perceived just like a no-strings-attached opinion that one is free to agree or disagree with, notwithstanding one's previous political stands on centralization and regional autonomy. That statement might be the one which shows that there is not always space for mere exposure to affect people's attitudes, especially if other forces are acting in people's minds– cognitive dissonance, for instance.

Finally, the analysis of interaction between treatment conditions and perception of cultural distance between Catalonia, Spain and Italy revealed some interesting findings. Although, once again, comparing the treatment conditions to the control group did not reveal any statistically significant results. The graphic representation of predicted probabilities for this interaction was crucial to highlight how being exposed to arguments in favor of Catalan independentism and, at the same time, considering Catalan culture relatively close and Spanish culture relatively far, translated into support to regional autonomy in Italy; and being exposed to the same arguments but having opposite sentiments of closeness to those two cultures reverted the attitude toward regional autonomy. The same mechanism applied for the single statement: solely among those who read seven reasons why Catalonia should be independent, sympathizing for Catalan culture more than for Spanish culture made the respondent deny that Italy keeps its national unity despite its regional differences; while those in the same group, who sympathized more with the Spanish culture and less with the Catalan one, were more inclined to support this argument.

Conclusion

Sentiments of independentism and regional autonomy are shaking several European countries nowadays, making us wonder how people get to feel the need to challenge the status quo and strive to get something that requires substantial effort. And once the challenge is settled by those who wanted it, how do all the others react to this? How do they take a stand?

This analysis stemmed from the idea that, given citizens' diffuse lack of political knowledge and their tendency to take political stands through the use of heuristics, they might indeed use mere exposure to information on a foreign issue as a mental shortcut to express an opinion on a similar domestic issue– especially if they consider the foreign country or culture involved to be quite close to their domestic reality.

The question was investigated by means of an online survey experiment conducted with 300 Italian adult citizens, randomly exposed to three different stimuli. The experiment showed that (1) mere and short-lasting exposure in the form of a brief text only had the hypothesized effect for a mild statement more similar to a value judgment, suggesting that in front of a potentially firmer political stance on a policy issue, either a more effective and enduring exposure is needed or other types of heuristics are more likely to dominate the human mind; and that (2) psychic distance might mediate the effect of mere exposure, when people sympathize strongly to one culture at the expense of the other.

Footnotes

[1]A study conducted by Sousa and Bradley (2008) clearly shows how these two concepts tend to be used interchangeably with no clear distinction and a large number of studies actually fail at outlining the different properties of both.

[2]Alternative name for Po valley, a plan in Northern Italy, that includes parts of some Norther regions and the most developed areas of the country.

[3]Considering this as a preliminary study, it might be useful to collect further information in order to add to *gender* and *age* other control variables aimed at measuring participants' claimant tendencies or personality traits that might have an influence on the way they assessed the statements.

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Le rôle de la préoccupation envers l'erreur dans la relation entre la théorie implicite de l'intelligence et la perception de compétence

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La relation entre la théorie implicite de l'intelligence et la perception de compétence reste peu connue. Cette étude examine le rôle potentiellement médiateur de la préoccupation envers l'erreur dans cette relation. Les 508 élèves participants (255 filles) de 4e année ou 5e année du primaire au début de l'étude ont répondu aux questionnaires pendant quatre ans consécutifs. Les résultats des analyses de médiation faites tous les ans indiquent que plus les élèves ont une conception dynamique de l'intelligence, plus leur perception de compétence est élevée ($r = .25$ à $.32$, $p < .001$) alors que plus ils sont préoccupés par l'erreur, moins leur perception de compétence est élevée ($r = -.18$ à $-.26$, $p < .001$). À chaque temps de mesure, la préoccupation envers l'erreur diminue significativement le lien entre la conception de l'intelligence et la perception de compétence, mais ce dernier reste significatif et modéré.

Mots-clés : théorie de l'intelligence, préoccupation envers l'erreur, perception de compétence, analyse de médiation, enseignement primaire et secondaire

Little is known about how implicit theories of intelligence and perceived competence are related. This study examines whether concern over mistakes mediates this relationship. A total of 508 students (255 girls) in grade 4 or 5 completed self-reported surveys for four consecutive years. Each year, the results of the mediation analysis indicate that students who perceive their intelligence as more malleable have a stronger sense of competence ($r = .25$ to $.32$, $p < .001$), while the more concerned they are over mistakes, the lower their perceived competence ($r = -.18$ to $-.26$, $p < .001$). At each time of measurement, the concern over mistakes weakens the relationship between the conception of intelligence and perceived competence, which remains significant and moderate, but the role of concern over mistakes tends to fade over time.

Keywords: intelligence theory, mistake preoccupation, perception of competence, mediation analysis, elementary and high school education

L'apprentissage scolaire des élèves représente un défi de taille. En 2014-2015, le Ministère de l'Éducation et de l'Enseignement supérieur du Québec recensait un taux de décrochage, maintenant nommé « taux de sorties sans diplôme ni qualification parmi les sortants en formation générale des jeunes », de 13,5 % pour l'ensemble des écoles du Québec. Le décrochage occasionne plusieurs problèmes pour l'individu, mais représente aussi un lourd fardeau sur le plan économique et social (Homsy & Savard, 2018). Par exemple, parce que le revenu de l'individu ayant décroché est généralement moins élevé, la société perd une part des revenus fiscaux potentiels

(Fortin, 2009). Aussi, les décrocheurs utilisent davantage les services d'aide sociale, d'aide au revenu et de soins de santé, ce qui engendre des coûts pour la province (Lafond, 2008). Ils sont également plus enclins à la criminalité et à la délinquance (Lafond, 2008). Or, le décrochage scolaire est principalement l'aboutissement d'un processus de désengagement pouvant prendre racine très tôt dans l'histoire scolaire des jeunes (Archambault, Janosz, Morizot, & Pagani, 2009; Christenson, Reschly, & Wylie, 2012; Janosz, Archambault, Morizot, & Pagani, 2008).

Des études ont montré que la propension à s'engager dans une activité donnée, qu'elle soit scolaire ou d'une autre nature, dépendrait davantage de facteurs internes, telles les émotions et les pensées, que de facteurs externes, comme le résultat de l'activité (Ryan & Deci, 2017). La motivation intrinsèque réfère à cette propension à s'engager dans

une activité, soit la tendance à s'investir dans une tâche ou une activité par intérêt et par choix (Deci, 1975). Trois besoins psychologiques seraient essentiels chez l'humain selon la théorie de l'autodétermination : se sentir autonome dans ses choix et ses actions, se sentir compétent dans son environnement et se sentir connecté avec les personnes de son environnement social, soit sentir qu'il a une place et qu'il compte pour les autres. Si un de ces besoins n'est pas satisfait durant une activité, même si elle l'a réussie, la personne aura moins tendance à s'y réengager dans le futur (Ryan & Deci, 2017). Plusieurs études en milieu scolaire soutiennent la pertinence de la théorie de l'autodétermination. Ainsi, plus un enseignant soutient l'autonomie de ses élèves et moins il est contrôlant, plus il favorise la motivation intrinsèque et la qualité des apprentissages de ses élèves (Fortier, Vallerand, & Guay, 1995; Grolnick & Ryan, 1987; Ommundsen & Kvalo, 2007; Reeve & Jang, 2006; Ryan & Deci, 2016). Dans l'étude de Vallerand, Fortier et Guay (1997), les élèves ayant une autodétermination faible avaient davantage l'intention de décrocher, ce qui, plus tard, pouvait résulter par un abandon réel des études.

La théorie sociocognitive de Bandura (1986) explique la motivation scolaire de manière assez similaire. La personne y est vue comme un agent actif dans son environnement : les résultats qu'elle anticipe dans une situation donnée dépendraient largement de son jugement des ressources dont elle dispose et de sa capacité à les utiliser correctement dans la situation. Dans cette perspective, la motivation de l'élève est analysée via une causalité triadique réciproque entre des facteurs individuels internes comme sa perception de compétence, des facteurs relatifs aux déterminants de ses actions et comportements, comme la confiance ou la défiance, et des facteurs propres à l'environnement, comme les contraintes et opportunités qu'il offre à l'élève.

En somme, la théorie de l'autodétermination et la théorie sociocognitive suggèrent que la perception que l'élève a de sa capacité joue un rôle important dans son devenir, et plus spécifiquement, la poursuite de ses études.

Perception de compétence

La perception de compétence fait référence à l'auto-évaluation de sa compétence qui représente la confiance avec laquelle un individu se croit capable d'accomplir les actions requises pour réussir une activité (Bandura, 1986; Harter, 1986; Marsh, Byrne, & Shavelson, 1988). L'évaluation par l'élève de sa compétence dans son fonctionnement scolaire est appelée différemment selon les auteurs. Très spécifique à une tâche donnée, Bandura (1986) parle

de sentiment d'efficacité personnelle. De manière moins spécifique, mais relative à une matière donnée, Marsh, Byrne et Shavelson (1988) parlent de concept de soi (p. ex., en mathématiques). Plus générale encore et relative à un domaine, Harter (1986) parle de perception de compétence. Ce dernier terme étant le plus englobant, c'est lui qui sera utilisé dans le présent article. Appliquée à l'éducation, la perception de compétence concerne l'évaluation de l'élève de sa capacité à réussir dans les mathématiques, la compréhension de texte, ou d'autres matières. Lorsqu'il débute l'école, sa perception de compétence est généralement élevée et c'est autour de huit ans qu'il commence à acquérir les habiletés mentales nécessaires pour mieux évaluer sa compétence (Bouffard, Markovits, Vezeau, Boisvert, & Dumas, 1998). Des études ont montré que la perception de compétence prédisait bien la motivation et la qualité des apprentissages des élèves (Harter, 1992; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Simões & Alarcão, 2014; Zimmerman, 2000). Une perception positive de l'élève de sa propre compétence a été associée à la fixation de buts d'apprentissage et à plus de curiosité. Des liens positifs ont aussi été observés avec un engagement actif dans sa tâche, plus de participation en classe, des efforts, et une persévérance soutenue devant la difficulté, et des demandes d'aide au besoin (Bryan & Solmon, 2012; Cairney, Kwan, Velduizen, Hay, Bray, & Faught, 2012; Elliot & Church, 1997; Obach, 2003; Robbins, Lauver, Le, Davis, & Langley, 2004; Schunk & Pajares, 2005; Stephan, Caudroit, Boiché, & Sarrazin, 2011; Zimmerman, 2000). Inversement, une perception de compétence négative a été associée à plus d'anxiété, de frustration, de passivité et au désintérêt envers l'école (Bandura, 1997; Miserandino, 1996; Stephan et al., 2011). Au vu de toutes ces caractéristiques du fonctionnement associées à la perception de compétence, il est peu étonnant que cette dernière soit un prédicteur du rendement scolaire parfois même plus important que les ressources réelles ou les résultats antérieurs de l'élève (Bordeleau & Bouffard, 1999; Bouffard, Vezeau, Lengelé, & Roy, 2011; Marsh & Martin, 2011; Pajares & Schunk, 2002; Yeung, Craven, & Kaur, 2014).

L'avantage d'une perception de compétence élevée a été observé chez les élèves qui réussissent facilement, ceux qui sont en cheminement régulier et ceux en difficulté d'apprentissage (Bouffard & Couture, 2003). La relation entre la perception de compétence et le rendement scolaire des élèves serait bidirectionnelle (Marsh & Craven, 2006; Marsh & Martin, 2011; Valentine, DuBois, & Cooper, 2004). Enfin, divers facteurs sont réputés pour contribuer au développement de la perception de compétence d'un élève : ses expériences antérieures de réussite et

d'échec, l'observation de modèles positifs, la comparaison sociale, les encouragements d'autrui, son âge, etc. (Bandura, 1997; Gillet, Vallerand, & Lafrenière, 2012; Marsh, 1986). Mieux connaître les facteurs susceptibles d'agir sur cette perception de compétence est alors important. Dans notre étude, nous centrons notre attention sur deux facteurs pertinents au regard de travaux de recherche antérieurs, soit la théorie implicite de l'intelligence et la préoccupation envers les erreurs des élèves. Selon Bandura (1986), considérer son intelligence personnelle comme pouvant se développer, privilégier ses progrès personnels plutôt que la comparaison sociale et faire des efforts serait récompensé par une augmentation de la perception de compétence. Ceci suggère que la théorie implicite de l'intelligence de la personne, soit sa manière de percevoir son intelligence et le développement de celle-ci, pourrait être un facteur de développement de la perception de compétence.

Théories implicites de l'intelligence

Dans ses premiers travaux, Dweck (1988) a étudié le rôle de la motivation et de la personnalité dans les comportements ainsi que les processus psychologiques qui les sous-tendent. Avec ses collègues, elle a distingué deux patrons de réponses devant l'adversité : une réponse d'impuissance (*helplessness*) et une réponse de maîtrise (*mastery-oriented*) (Diener & Dweck, 1978, 1980). Ceux adoptant un patron d'impuissance évitent les défis et leur performance diminue lorsqu'il y a des obstacles. Ceux adoptant un patron de maîtrise recherchent les tâches représentant un défi et maintiennent les efforts devant les difficultés. Ces patrons de réponses seraient associés à des buts de performance pour le patron d'impuissance et à des buts d'apprentissage pour le patron de maîtrise (Dweck & Leggett, 1988). La visée d'un but de performance est de bien paraître et de prouver sa compétence à autrui alors que celui d'apprentissage est plutôt orienté vers l'acquisition d'habiletés et l'augmentation de sa compétence. Selon Dweck (1991), la théorie implicite de l'intelligence de la personne peut expliquer qu'elle opte pour l'un ou l'autre de ces buts.

La théorie implicite de l'intelligence d'une personne créerait une base d'interprétation pour traiter les informations liées à l'apprentissage. Dweck (1991) distingue deux théories implicites de l'intelligence : une dite statique et l'autre dite dynamique. Sous une théorie statique, l'élève croit que son intelligence restera la même tout au long de sa vie, qu'il n'y peut rien changer, peu importe les efforts qu'il pourrait faire. Sous une théorie dynamique, l'élève conçoit plutôt son intelligence comme une caractéristique personnelle malléable qu'il peut changer en y mettant

les efforts nécessaires. La théorie que l'élève endosse influencerait son approche devant les tâches et les buts qu'il se donne. Alors que celui ayant une théorie statique de l'intelligence voit l'échec comme un signal de son manque d'intelligence, ce même revers est vu par celui ayant une théorie dynamique comme une occasion de développer de nouvelles habiletés ce qui le préparerait mieux à affronter les obstacles (Blackwell, Trzesniewski, & Dweck, 2007; Dweck & Leggett, 1988).

Une étude expérimentale de Bempechat, London et Dweck (1991) a confirmé ces hypothèses. Après avoir été exposés à un scénario mettant l'accent sur une conception statique ou dynamique de l'intelligence, des élèves de sixième année devaient choisir entre des problèmes à résoudre où certains correspondaient à un but de performance (problèmes peu difficiles sans trop de risques d'erreurs) et d'autres à un but d'apprentissage (problèmes difficiles impliquant de réussir moins bien que les autres, mais permettant d'apprendre). Un premier choix de problèmes avait lieu avant de les faire et un second choix après en avoir fait une première série et avoir reçu une rétroaction négative sur certains et une rétroaction positive sur d'autres. Lors du premier choix, aucune différence n'a été observée dans le choix d'un but d'apprentissage entre les élèves selon la théorie de l'intelligence à laquelle ils avaient été exposés. Lors du deuxième choix, 63 % des élèves exposés à la théorie dynamique ont choisi le type de problèmes correspondant au but d'apprentissage contre seulement 38 % de ceux exposés à la théorie statique. Ces résultats vont dans le même sens que ceux de l'étude de Leggett (1985) où, parmi les 21 élèves rapportant une théorie statique de l'intelligence, 50 % adoptaient un but de performance et évitaient les défis tandis que parmi les 41 élèves rapportant une théorie dynamique, 61 % adoptaient un but d'apprentissage et recherchaient les défis. Dans une étude chez 487 étudiants universitaires, Vezeau, Bouffard et Dubois (2004) ont observé que la théorie dynamique était liée positivement au but d'apprentissage, mais pas la théorie statique. Dans cette étude, le lien entre les deux types de théorie était de $r = -.45$ suggérant qu'ils ne sont pas mutuellement exclusifs, mais qu'ils peuvent coexister chez une même personne. Enfin, selon la méta-analyse de Burnette, O'Boyle, VanEpps, Pollack et Finkel (2013), les théories implicites de l'intelligence sont généralement distribuées de manière égale dans une population donnée et, en fonction du contexte ou de la situation, la théorie d'une personne peut varier. Ceci suggère que la théorie à laquelle adhère un élève peut être modifiée (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, Tenney, & Dinces, 1982).

Théories implicites de l'intelligence et sentiment de compétence

Selon Dweck (1991), outre qu'une théorie dynamique de l'intelligence amène l'élève à se fixer des objectifs de compréhension et de développement, elle serait aussi associée à sa perception de compétence. L'étude de Komarraju et Nadler (2013) auprès de 407 étudiants universitaires a montré que ceux ayant une perception de compétence plus élevée adhéraient plus fortement à une théorie dynamique de l'intelligence que ceux qui avaient une perception de compétence plus faible. L'inverse est vrai pour l'adhésion à une conception statique de l'intelligence. Wolters, Yu et Pintrich (1996) ont examiné les facteurs prédictifs du sentiment de compétence chez 437 élèves du secondaire. Ils ont conclu que le but axé sur l'apprentissage adopté par les élèves ayant une théorie dynamique de l'intelligence était le meilleur prédicteur d'une perception de compétence élevée. Vezeau et al. (2004) ont montré qu'une théorie dynamique était liée positivement à la perception de compétence, laquelle était aussi liée positivement au but d'apprentissage. En somme, ces études suggèrent qu'une théorie dynamique de l'intelligence est associée positivement à une perception de compétence élevée. Cependant, d'autres études laissent penser que cette relation n'est pas directe et que des variables médiatrices, dont le perfectionnisme, pourraient être en cause (Chan, 2012; Dinger, Dickhäuser, Spinath, & Steinmayr, 2013).

Perfectionnisme et préoccupation envers l'erreur

Le perfectionnisme est une caractéristique de la personne qui l'incite à entreprendre de grands défis, à constamment viser l'excellence, à avoir des standards personnels très élevés et à se soucier des erreurs possibles ou commises. En stimulant la persévérance, la méticulosité, le sens du devoir et le succès, cette caractéristique peut être un puissant facteur de réussite. Dans des conditions moins favorables, elle peut constituer un facteur de vulnérabilité (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 2007). La conceptualisation multidimensionnelle du perfectionnisme et la création d'outils d'évaluation efficaces ont fait ressortir que certains aspects caractérisent un perfectionnisme positif alors que d'autres relèvent plutôt d'un perfectionnisme négatif. Selon Terry-Short, Owens, Slade et Dewey (1995), c'est la fonction (ou le but) associé au perfectionnisme qui détermine s'il est positif ou négatif. Le perfectionnisme est jugé positif si le but est d'atteindre des conséquences positives, mais est jugé négatif si le but est d'éviter des conséquences négatives. Par exemple, un élève qui travaille très fort pour obtenir de bonnes notes afin de décrocher des bourses d'études fait preuve de perfectionnisme positif, tandis

qu'un élève faisant le même travail dans le but d'éviter le rejet de ses parents fait preuve de perfectionnisme négatif (Seidah, Bouffard, & Vezeau, 2002).

Selon le modèle de Frost et al. (1990), le perfectionnisme négatif comporte six dimensions : des standards personnels élevés, une perception d'attentes élevées d'autrui, une perception d'un taux élevé de critiques d'autrui, le doute de la qualité des actions entreprises, une préférence pour l'ordre et l'organisation et une grande préoccupation envers l'erreur. Cette dernière, qui se manifeste par une inquiétude excessive de commettre une erreur, est définie comme une réaction négative à l'erreur, une croyance que l'erreur signifie l'échec et que cela peut entraîner la perte du respect d'autrui. Cette préoccupation envers l'erreur est la dimension du perfectionnisme qui a été la plus liée aux symptômes psychopathologiques (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993).

Chan (2012) s'est intéressé aux relations entre la théorie de l'intelligence et le perfectionnisme et a montré que les élèves ayant un perfectionnisme négatif adhéraient plus fortement à une théorie statique de l'intelligence que ceux ayant un perfectionnisme positif. L'étude de Shih (2011) chez 481 étudiants taïwanais du secondaire indique des résultats semblables. Le perfectionnisme positif regroupant la fixation de standards personnels élevés et le souci de l'organisation était positivement lié à la théorie dynamique et négativement lié à la théorie statique, cette dernière étant positivement liée au perfectionnisme négatif mesuré par la préoccupation envers les erreurs et les doutes sur ses actions. Quant à Dinger et al. (2013) et Elliot et Church (1997), ils ont montré que la peur de commettre des erreurs était positivement liée au but de performance, mais qu'elle l'était négativement avec les buts d'apprentissage et la perception de compétence. Enfin, dans l'étude de Mofield et Parker (2018), la préoccupation envers l'erreur était liée positivement à une théorie statique et négativement à une théorie dynamique de l'intelligence.

En somme, les études antérieures ont montré une relation entre la théorie de l'intelligence et la perception de compétence. D'autres études ont montré que la théorie de l'intelligence de l'individu est aussi liée au type de perfectionnisme adopté (Chan, 2012; Shih, 2011) et, plus spécifiquement, qu'une théorie statique est associée à une plus grande préoccupation envers les erreurs (Mofield & Parker, 2018). Cependant, comme toutes ces études ne comportent qu'un seul temps de mesure, la question de savoir si ces relations sont momentanées ou si elles sont observables sur plusieurs temps de mesure demeure

entière. De plus, comme aucune étude n'a encore examiné les relations entre ces trois variables, une autre question qui est toujours sans réponse est celle de la nature exacte de ces relations. L'examen de ces deux questions est au centre de la présente étude.

Objectifs et hypothèses

Cette étude s'intéresse aux rapports entre la théorie de l'intelligence de l'élève, sa préoccupation envers l'erreur et sa perception de compétence, et ce, sur une période de quatre ans permettant ainsi de vérifier la durabilité de ces rapports. L'objectif principal est de tester un modèle de médiation où la préoccupation envers l'erreur explique la relation entre la théorie de l'intelligence de l'élève et sa perception de compétence. Ce modèle prédit que la théorie dynamique de l'intelligence est positivement liée à la perception de compétence et négativement à la préoccupation envers l'erreur. Selon ce même modèle, plus la préoccupation envers l'erreur est faible, plus la perception de compétence est élevée. Enfin, sachant que sous une théorie dynamique de l'intelligence, l'élève ne voit pas l'échec comme un signal d'un manque de compétence de sa part, notre modèle prédit que sa préoccupation envers l'erreur explique, en partie du moins, la relation entre sa théorie d'intelligence dynamique et sa perception de compétence scolaire.

En mettant en lumière le lien entre les variables, il pourrait être plus facile de déterminer comment intervenir sur celles-ci et ainsi aider les jeunes à avoir une meilleure expérience scolaire et à demeurer sur les bancs d'école.

Méthodologie

Participants

Les participants de la présente étude ont été tirés d'un échantillon d'élèves recrutés dans le cadre d'un projet longitudinal plus vaste ayant débuté en 2005 portant sur le développement des biais d'auto-évaluation de compétence entre la deuxième moitié du primaire et la fin du secondaire. Sept des neuf écoles de provenance des élèves desservaient une clientèle de milieu socio-économique moyen et les deux autres de milieu socio-économique faible. Le taux de consentement parental pour la participation de leur enfant à l'étude a atteint plus de 95 %. Les parents ayant donné leur consentement étaient invités à fournir quelques renseignements sociodémographiques (degré le plus élevé de scolarité du père et de la mère, revenu familial total et nombre d'enfants dans la famille). De manière à pouvoir comparer les mêmes élèves à chaque temps de mesure, seuls ceux dont les données étaient disponibles à chacune des années de l'étude ont été retenus. Il en est résulté un échantillon de

508 élèves francophones (255 filles) âgés en moyenne de 10 ans et 8 mois ($É.$-$T.$ = 7,73 mois) et en 4e ou 5e année scolaire à l'an 1 de l'étude. Le taux d'attrition moyen a été d'environ 4 % par an. Plus de 90 % de cette attrition était due soit à l'absence de l'élève de l'école le jour de la passation des questionnaires, soit à son déménagement hors du territoire de la commission scolaire. Un calcul de puissance effectué via des simulations Monte Carlo à l'aide du logiciel Mplus version 8 (Muthén & Muthén, 2002) a permis de conclure qu'une taille d'échantillon de 508 participants était bien suffisante pour détecter un effet indirect de taille petite à moyenne avec une puissance supérieure à 80 %, et un risque d'erreur de type I de 5 %. Dans cet échantillon, la scolarité respective des pères et des mères était la suivante : 0,2 % et 0,6 % n'avaient aucun diplôme, 31,5 % et 23,4 % avaient complété le secondaire, 22,5 % et 20,7 % avaient un diplôme d'études professionnelles, 23,4 % et 34 % avaient complété un diplôme d'études collégiales et 22,5 % et 21,3 % avaient un diplôme universitaire. 63,7 % des familles avaient un ou deux enfants et 36,3 % en avaient trois ou plus. 23,1 % avaient un revenu familial annuel moyen inférieur à 50 000 $, 22,6 % avaient un revenu entre 50 000 $ et 70 000 $, 41,6 % avaient un revenu supérieur à 70 000 $ et 12,8 % ont refusé de donner cette information.

Mesures

Les données utilisées pour cet article sont tirées d'un projet plus vaste de sorte que les questionnaires remplis par les élèves chaque année portaient sur plusieurs autres variables (p. ex., relation parentale, anxiété) que celles retenues dans la présente étude. Pour toutes les variables autres que la mesure d'habiletés mentales, les énoncés décrivent la situation d'un élève fictif à qui l'élève répondant est invité à se comparer en indiquant sur une échelle de 1 (*pas du tout*) à 4 (*vraiment*) à quel point il juge lui ressembler. Selon Harter (1982), en montrant à l'élève que d'autres personnes présentent les caractéristiques ou comportements décrits dans les énoncés, la référence à un élève fictif contribue à diminuer le sentiment de menace et de malaise que pourraient provoquer certains énoncés.

Perception de compétence. La perception de compétence scolaire a été mesurée à l'aide de la sous-échelle scolaire du questionnaire *Perceived Competence Scale for Children* (Harter, 1982) adaptée en français par Guilbert (1990). Les cinq énoncés, dont deux sont inversés, portent sur la perception de compétence scolaire générale. Voici un exemple : *Cet élève arrive presque toujours à trouver les réponses en classe.* La moyenne des cinq scores est calculée pour chaque élève : un score moyen élevé indique une

perception de compétence élevée. La cohérence interne des cinq énoncés de la sous-échelle est de α = .79, .78, .79 et .82 respectivement aux ans 1, 2, 3 et 4 de l'étude.

Théorie dynamique de l'intelligence. La théorie de l'intelligence de l'élève a été évaluée à l'aide de quatre énoncés inversés repris de l'échelle de Dweck et Henderson (1989) dont voici un exemple : *Cet élève pense que même avec de l'entraînement, c'est impossible d'améliorer son intelligence.* Les scores sont inversés, la moyenne est calculée, et plus elle est élevée, plus elle indique que l'élève a une théorie dynamique de l'intelligence. La cohérence interne est comparable à celle de plusieurs autres études en étant de α = .59, .63, .66 et .78 respectivement aux ans 1, 2, 3 et 4.

Préoccupation envers l'erreur. Six énoncés tirés de la version française du *Positive and Negative Perfectionism scale* de Terry-Short, Owens, Slade et Dewey (1995) ont servi à mesurer la préoccupation des élèves envers l'erreur (Seidah, Bouffard, & Vezeau, 2002). En voici un exemple : *Cet élève pense que s'il fait une faute, c'est comme si tout son travail était mauvais.* Une moyenne est calculée pour chaque élève et plus elle est élevée, plus elle indique une préoccupation élevée envers l'erreur. La cohérence interne des énoncés est de α = .68, .77, .73 et .83 respectivement aux ans 1, 2, 3 et 4.

Habiletés mentales. Les habiletés mentales des élèves ont été évaluées à l'aide de la version française adaptée par Sarrazin, McInnis, Vaillancourt et Chevrier (1983) de l'*Épreuve d'Habiletés Mentales Otis-Lennon*. Il s'agit d'un test standardisé administré en groupe qui évalue les aspects de l'intelligence sensibles à la stimulation et fait appel aux connaissances générales, au vocabulaire, aux notions de sériation, d'ensemble, de similitudes et aux habiletés mathématiques. Il n'est pas considéré comme une mesure d'intelligence globale, mais comme une mesure des habiletés relatives aux apprentissages scolaires. L'épreuve comprend 80 énoncés. Pour chacun, l'enfant doit identifier la bonne réponse parmi cinq options proposées. Pour chaque élève, le nombre total de bonnes réponses a été converti en indice d'habiletés mentales selon son âge chronologique.

Procédure

Les élèves ont été rencontrés au printemps de chacune des quatre années de l'étude et ont répondu au questionnaire auto-rapporté. Exceptionnellement, ils ont été rencontrés deux fois à l'an 1. La première rencontre a servi à la passation d'un test standardisé mesurant les habiletés mentales (Otis & Lennon,

1971) et la deuxième à la passation du questionnaire auto-rapporté. L'ordre de passation des deux instruments a été contrebalancé. Lors des passations, l'enseignant était invité à quitter la classe. À chaque an, avant de débuter la passation, un des deux assistants rappelait aux élèves qu'en dépit de l'accord de leurs parents, leur participation à l'étude était volontaire et que ceux le désirant pouvaient choisir de ne pas répondre au questionnaire et de plutôt faire un travail scolaire prévu par leur enseignant. Ils étaient aussi assurés que le questionnaire était totalement confidentiel (ni leur professeur ni leurs parents n'y auraient accès), fait de manière volontaire, et qu'il n'y avait pas de bonnes ou de mauvaises réponses. Pour assurer un bon déroulement, un assistant lisait les énoncés à voix haute tandis que l'autre circulait dans la classe pour répondre aux questions des élèves.

Résultats

Statistiques descriptives

Dans cette étude, la variable indépendante est la théorie dynamique de l'intelligence, la variable dépendante est la perception de compétence scolaire et la variable médiatrice est la préoccupation envers l'erreur. Les co-variables potentielles sont le sexe des élèves, leur niveau scolaire, leur score d'habiletés mentales et la scolarité de la mère et du père. Le postulat de normalité, nécessaire pour les analyses de médiation, était suffisamment respecté. Le Tableau 1 présente l'étendue (minimum et maximum), les moyennes et les écarts types de l'ensemble des variables aux quatre temps de mesure. L'étendue des scores d'asymétrie est de -2.05 à 1.51 et l'étendue de voussures est de -0.47 à 2.62 exceptée pour les variables de conception de l'intelligence de l'an 3 et de l'an 4 qui sont de 5.94 et 3.48 respectivement.

Analyse corrélationnelle

Des corrélations de Pearson ont été calculées entre l'ensemble des variables, y compris les variables de contrôle afin de vérifier la présence des liens attendus entre la théorie dynamique de l'intelligence de l'élève, sa perception de compétence et sa préoccupation envers l'erreur et la pertinence des variables de contrôle à considérer dans les analyses de médiation subséquentes. Les patrons de relations entre nos variables d'intérêt au travers des quatre temps de mesure étaient similaires. De manière à alléger la lecture, le Tableau 2 ne présente que la matrice de corrélation de l'an 1. Son examen permet de constater un lien positif modéré entre la théorie dynamique de l'intelligence de l'élève et sa perception de compétence. Un autre constat est la relation, aussi modérée, mais négative, entre chacune de ces deux variables d'une part et la préoccupation envers l'erreur d'autre part confirmant ainsi la pertinence d'examiner

Tableau 1

Statistiques descriptives des variables dépendantes et indépendantes de l'an 1 à 4

	An 1		An 2		An 3		An 4	
Variable	*M (É.-T.)*	Étendue	*M (É.-T.)*	Étendue	*M (É.-T.)*	Étendue	*M (É.-T.)*	Étendue
Théorie dynamique de l'intelligence	3.47 (0.59)	1.00-4.00	3.62 (0.47)	1.75-4.00	3.71 (0.41)	1.00-4.00	3.11 (0.37)	1.25-4.00
Préoccupation envers l'erreur	1.69 (0.60)	1.00-4.00	1.52 (0.55)	1.00-4.00	1.52 (0.47)	1.00-4.00	1.57 (0.47)	1.00-3.50
Perception de compétence	3.01 (0.70)	1.00-4.00	3.11 (0.62)	1.20-4.00	3.10 (0.58)	1.00-4.00	2.97 (0.62)	1.00-4.00

Note. N = 508.

son rôle médiateur. Sauf une faible relation positive entre la scolarité du père et la perception de compétence de l'élève, le sexe de ce dernier, son niveau scolaire, et la scolarité de la mère ne sont pas liés aux autres variables. Enfin, les habiletés mentales sont positivement liées à la théorie dynamique de l'intelligence et à la perception de compétence de l'élève, mais négativement liées à sa préoccupation envers l'erreur. En conséquence, par souci de rigueur et de manière à conserver le plus de puissance statistique, seul l'indice d'habiletés mentales est inclus comme co-variable dans les analyses de médiation subséquentes.

Analyses de médiation

À chacun des quatre temps, l'analyse de médiation a été conduite avec la procédure PROCESS pour SPSS de Hayes (2012). La variable indépendante de l'analyse de médiation est la théorie dynamique de l'intelligence, la variable dépendante est la perception de compétence scolaire et la variable médiatrice est la préoccupation envers l'erreur. L'effet direct représente l'influence de la conception dynamique sur la perception de compétence scolaire, sans la préoccupation envers l'erreur. L'effet indirect représente l'effet de la préoccupation envers l'erreur

sur la perception de compétence sans la conception dynamique. L'addition des effets indirect et direct donne l'effet total qui combine l'effet de la conception dynamique et de la préoccupation envers l'erreur sur la perception de compétence scolaire. La procédure de ré-échantillonnage (5000) de Preacher et Hayes (2008) a servi à tester les effets indirects. Les distributions d'échantillonnage des effets indirects sont générées empiriquement en prélevant un échantillon (avec remplacement) de taille *n* sur l'ensemble des données et en calculant les effets indirects dans les ré-échantillons. Des estimations ponctuelles et des intervalles de confiance à 95 % (IC 95 %) sont utilisés pour estimer les effets indirects. Les estimations ponctuelles sont considérées comme significatives dans le cas où le zéro n'est pas inclus dans l'IC à 95 %. Les figures 1 à 4 illustrent les résultats obtenus. Les résultats des effets et des corrélations ont été arrondis à deux chiffres significatifs.

Le modèle de médiation de l'an 1 explique 33,89 % de la variance dans la perception de compétence, dont 10,70 %, soit le pourcentage explicatif du modèle attribué à l'effet indirect (effet indirect, 12/effet total, 38 X 33,89 %), provenant de la contribution de la préoccupation envers l'erreur. Le zéro n'est pas inclus dans l'IC à 95 %. La médiation est significative, mais

Tableau 2

Corrélations de Pearson entre les variables pour l'an 1

Variable	1	2	3
1. Théorie de l'intelligence	–		
2. Préoccupation envers l'erreur	-.52***	–	
3. Perception de compétence	.46***	-.43***	–
Habiletés mentales	.23***	-.19***	.40***
Niveau scolaire	.08	-.06	-.05
Sexe	-.05	.01	-.04
Scolarité mère	.03	-.02	.05
Scolarité père	.10	.04	.14*

Note. Pour le sexe, la cote 0 est attribuée aux garçons et la cote 1 aux filles; * *p* < .05 ** *p* < .01 *** *p* < .001.

β = -.50, *p* < .001

Préoccupation envers l'erreur

β = -.23, *p* < .001

Conception dynamique

Effet direct β = .27, *p* < .001

Perception de compétence scolaire

Effet total β = .38, *p* < .001

Effet indirect β = .12; IC 95% [.07, .17]
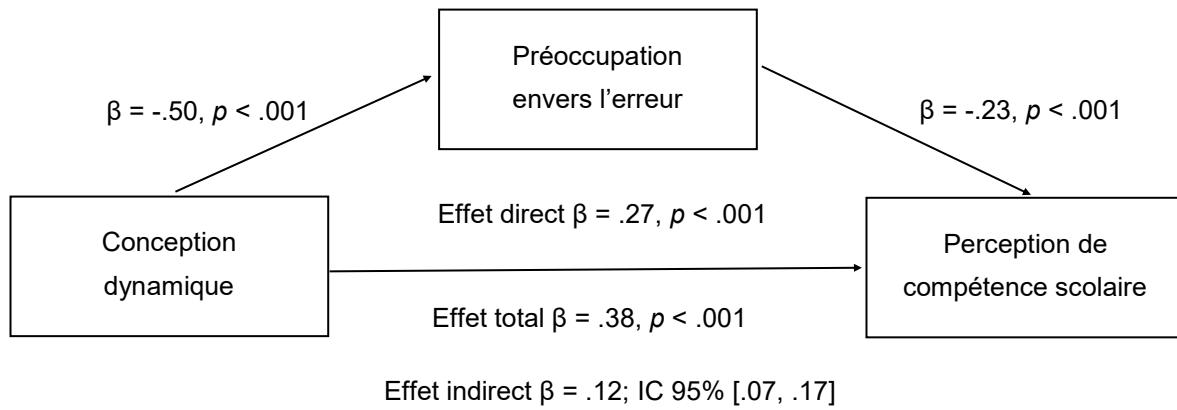
Figure 1. Modèle de médiation de l'an 1.

seulement partielle puisque le lien direct demeure significatif entre la conception dynamique de l'intelligence et la perception de compétence.

À l'an 2, le modèle explique 31,09 % de la variance dans la perception de compétence, dont 12,44 % sont attribuables à la préoccupation envers l'erreur. De nouveau, le lien direct entre la conception dynamique de l'intelligence et la perception de compétence reste significatif, mais le zéro n'étant pas inclus dans l'IC à 95 %, la médiation est significative, mais seulement partielle.

Le modèle de l'an 3 explique 32,50 % de la variance dans la perception de compétence, 7,03 % venant de la contribution de la préoccupation envers l'erreur. Comme aux deux temps précédents, le zéro n'est pas inclus dans l'IC à 95 % permettant d'affirmer que la médiation est significative, mais seulement partielle puisque le lien direct demeure significatif entre la conception dynamique de l'intelligence et la perception de compétence.

Enfin, le modèle de l'an 4 explique 26,01 % de la variance dans la perception de compétence dont 2,89 % viennent de la contribution de la préoccupation envers l'erreur. Bien que cet effet soit faible et que la relation directe entre la conception dynamique de l'intelligence et la perception de compétence est bien

significative, le zéro n'étant pas inclus dans l'IC à 95 %, on doit conclure que la médiation est encore une fois significative, mais seulement partielle.

En somme, les liens attendus entre la théorie dynamique de l'intelligence, la préoccupation envers l'erreur et la perception de compétence scolaire sont observés à chaque temps et sont relativement stables. Aux ans 1, 2, 3 et 4, la préoccupation envers l'erreur médiatise significativement, mais seulement partiellement le lien entre la théorie dynamique de l'intelligence et la perception de compétence scolaire. Cependant, sa contribution à cette relation est généralement faible et passe d'environ 10 % à l'an 1 et à l'an 2 de l'étude à moins de 3 % à l'an 4. Considérer que l'intelligence est une caractéristique personnelle pouvant se développer reste, à chaque temps de mesure, lié positivement à la perception de compétence. Il est possible d'interpréter les résultats comme suit : puisque l'élève qui a une vision davantage dynamique de l'intelligence est moins préoccupé à l'idée de faire des erreurs, il a plus tendance à se sentir compétent. Ainsi, une préoccupation envers l'erreur plus faible explique en partie pourquoi il existe un lien entre la théorie dynamique de l'intelligence et un sentiment de compétence élevé.

β = -.61, *p* < .001

Préoccupation envers l'erreur

β = -.26, *p* < .001

Conception dynamique

Effet direct β = .25, *p* < .001

Perception de compétence scolaire

Effet total β = .40, *p* < .001

Effet indirect β = .16; IC 95% [.09, .22]
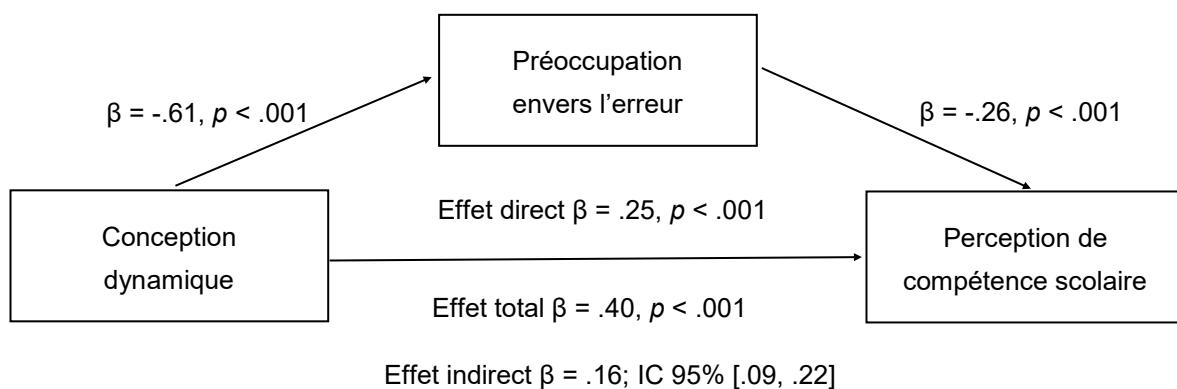
Figure 2. Modèle de médiation de l'an 2.

β = -.37, *p* < .001 — Préoccupation envers l'erreur — β = -.22, *p* < .001

Conception dynamique

Effet direct β = .29, *p* < .001

Perception de compétence scolaire

Effet total β = .37, *p* < .001

Effet indirect β = .08; IC 95% [.04, .14]
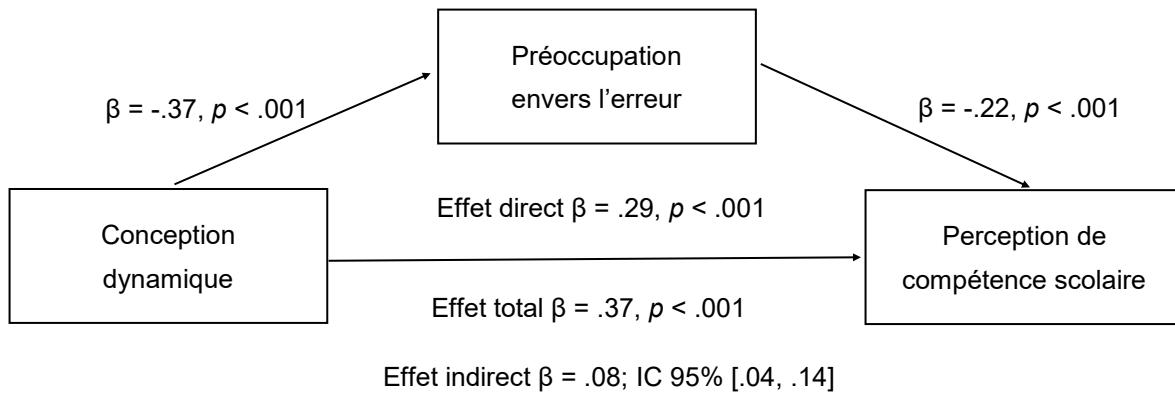
Figure 3. Modèle de médiation de l'an 3.

Discussion

L'objectif de cette étude était de tester, sur une période de quatre ans, un modèle de médiation de la relation entre la théorie dynamique de l'intelligence et la perception de compétence scolaire. Plus précisément, nous voulions étudier si la relation entre ces deux variables était médiée par la préoccupation envers l'erreur. Notre hypothèse d'une médiation partielle par la préoccupation envers l'erreur s'est avérée exacte à chacun des quatre ans de l'étude.

Au vu des études antérieures sur les théories implicites de l'intelligence et la perception de compétence (Baranik, Stanley, Bynum, & Lance, 2010; Dinger et al., 2013; Dweck, 1991; Elliott & Church, 1997; Komarraju & Nadler, 2013; Wolters, Yu, & Pintrich, 1996), nous attendions qu'avoir une théorie dynamique de l'intelligence soit positivement liée à la perception de compétence scolaire à chacun des quatre temps de l'étude. Ce lien positif est observé et il est stable et modéré à chaque an. Ainsi, considérer l'intelligence comme une caractéristique personnelle pouvant s'améliorer est propice au développement d'une perception de compétence positive. Centrant son attention sur ses progrès et ses acquisitions et consacrant les efforts nécessaires, l'élève constate alors qu'il devient plus compétent.

Toutefois, on ne peut pas écarter la possibilité que la relation soit dans la direction inverse : la présence d'une perception de compétence positive s'accompagnant de prises de conscience qui amèneraient la personne à adopter une théorie dynamique de l'intelligence. L'étude de Gonida, Kiosseoglou et Leondari (2006) va dans ce sens et a exploré la direction des liens entre trois variables : la théorie implicite de l'intelligence, la perception de compétence scolaire et la réussite scolaire. Les résultats ne soutiennent pas la théorie de Dweck (1991): les auteurs trouvent que la théorie implicite de l'intelligence est le résultat de performances scolaires passées et que la perception de compétence scolaire est un médiateur de cette relation. Ainsi, bien que les trois variables de notre étude soient liées, il serait pertinent de se pencher sur la direction des liens et de tester plusieurs modèles à l'aide d'analyses d'études longitudinales corrélationnelles. Il est aussi plausible que la relation soit plutôt réciproque, les deux variables s'alimentant l'une l'autre d'année en année. Ces hypothèses mériteraient d'être explorées.

En accord avec Dweck (1991), nos résultats indiquent aussi une relation nettement négative entre la théorie dynamique de l'intelligence et la préoccupation envers l'erreur. Selon Dweck (1991),

β = -.23, *p* < .001 — Préoccupation envers l'erreur — β = -.18, *p* < .001

Conception dynamique

Effet direct β = .32, *p* < .001

Perception de compétence scolaire

Effet total β = .36, *p* < .001

Effet indirect β = .04; IC 95% [.01, .08]
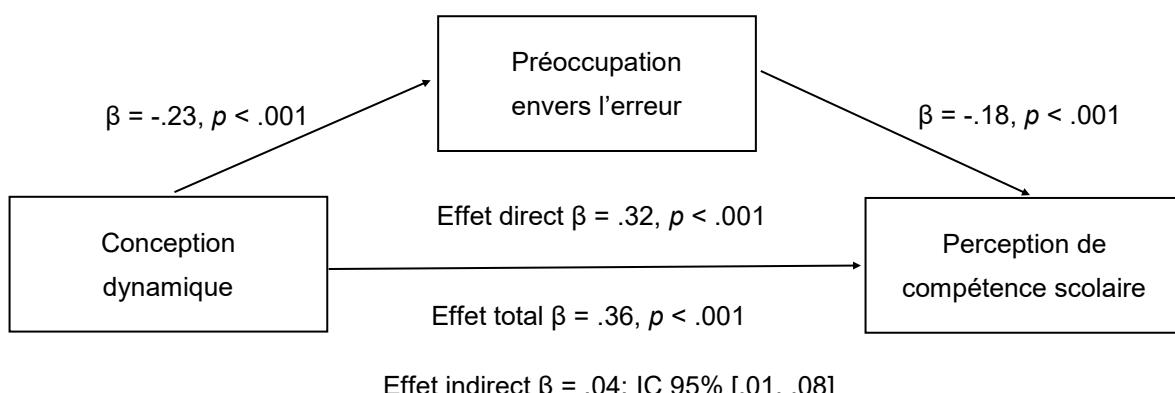
Figure 4. Modèle de médiation de l'an 4.

les personnes croyant que l'intelligence peut se développer sont moins préoccupées par les erreurs vues comme des occasions d'améliorer leur intelligence. Ces personnes ne sont pas centrées sur la protection d'une image publique de leur compétence, mais optent plutôt pour des objectifs de maîtrise impliquant parfois des risques plus élevés d'erreurs et se traduisant par des efforts positifs vers l'excellence (Dweck & Leggett, 1988). Enfin, la relation négative observée entre la préoccupation envers l'erreur et la perception de compétence va dans le sens des études antérieures (Conroy, Douglas Coatsworth, & Fifer, 2005). On peut croire que la personne ayant une perception élevée de sa compétence a appris à travers ses expériences d'apprentissage que l'erreur n'est pas menaçante et constitue plutôt une opportunité de développement. Dans ce même esprit, on aurait pu s'attendre à ce que la relation entre la théorie dynamique de l'intelligence et la préoccupation envers l'erreur devienne plus négative à mesure que l'élève renforce sa conviction que son intelligence peut s'améliorer. C'est plutôt l'inverse qui survient; très négatif à l'an 1 et à l'an 2 de l'étude, ce lien diminue significativement à l'an 3 et diminue encore plus à l'an 4. Nous n'avons pas vraiment d'explications pour ce résultat inattendu et cette étude étant la première à avoir examiné l'évolution des rapports entre la théorie dynamique de l'intelligence et la préoccupation envers l'erreur, cette observation est inédite. Notons cependant que l'an 4 de l'étude est celui où la théorie dynamique de l'intelligence diminue très nettement et où l'écart type est aussi le plus petit, alors que la préoccupation envers l'erreur demeure quasi identique. Ces données sont possiblement de nature à expliquer, en partie du moins, le lien plus faible observé à l'an 4 entre les deux variables. Une autre piste d'exploration est que la préoccupation envers l'erreur, avec le temps, est plutôt vue comme une opportunité d'apprentissage, faisant en sorte que la corrélation négative est moins élevée. L'attention portée aux erreurs se transformant en but pour s'améliorer, une augmentation de cette préoccupation pourrait être liée, cette fois, à un perfectionnisme positif. La nature d'un lien éventuel entre le perfectionnisme positif et la préoccupation envers l'erreur pourrait être explorée.

Concernant la relation entre la théorie dynamique de l'intelligence et la perception de compétence scolaire, nous présumions que la préoccupation envers l'erreur devrait l'expliquer en partie. En effet, comme sous une telle théorie qui soutient que l'élève ne voit pas l'erreur comme un signal de son manque de compétence, son attitude envers l'erreur ne devrait pas entacher la relation entre sa croyance qu'il peut s'améliorer et sa perception de compétence. Les études antérieures avaient examiné la relation de ces variables deux à deux, mais aucune n'avait mis les

trois variables en relation (Elliot & Church, 1997; Komarraju & Nadler 2013; Mofield & Parker, 2018; Vezeau et al., 2004; Wolters, Yu, & Pintrich, 1996). Nos résultats de chacune des années vont dans le sens attendu et soutiennent notre hypothèse. Si la préoccupation envers l'erreur médiatise le lien entre la théorie dynamique de l'intelligence et la perception de compétence scolaire, cet effet indirect est toujours faible. Ainsi, considérer que l'intelligence est une caractéristique personnelle pouvant se développer reste, à chaque temps de mesure, lié positivement à la perception de compétence. Ces résultats vont dans le sens des études ayant lié la perception de compétence scolaire et la théorie dynamique de l'intelligence (Dinger et al., 2013; Komarraju & Nadler, 2013; Mofield & Parker, 2018). Ce constat suggère aussi que sous une telle théorie, les personnes acceptent davantage de relever des défis et font une meilleure autorégulation de leurs activités. Elles craignent moins de commettre des erreurs et, même si elles redoutent parfois l'imperfection et peuvent être très exigeantes envers leurs résultats, elles voient l'intelligence comme pouvant se développer avec l'entraînement. Elles considèrent les efforts comme une manière d'y parvenir et évaluent plus positivement leur compétence scolaire.

Le rôle de la préoccupation envers l'erreur dans le lien entre la théorie dynamique de l'intelligence et la perception de compétence diminue d'une année à l'autre et, à l'an 4, sa contribution est au plus faible. Ceci peut suggérer qu'avec l'âge, même en s'inquiétant et en acceptant mal les erreurs, le constat répétitif que celles-ci lui permettent de progresser et l'habituation aux erreurs font que la croyance des personnes que leur intelligence peut s'améliorer va dès lors de pair avec une perception positive de leur compétence. Pour autant, il est probable que d'autres processus que l'attitude envers l'erreur soient impliqués dans la relation entre la théorie dynamique de l'intelligence et la perception de compétence. À cet effet, des études ont montré qu'une autorégulation active est associée à une meilleure performance, laquelle est la source première du développement de la perception de compétence (Bakracevic Vukman & Licardo, 2010; Boekaerts, Maes, & Karoly, 2005; Burnette et al., 2013; Cleary, Callan, Malatesta, & Adams, 2015; Cleary & Chen, 2009). Blackwell et al. (2007) ont observé qu'à la transition du primaire au secondaire, une théorie dynamique des élèves prédisait des patrons motivationnels plus positifs et des résultats plus élevés en mathématiques deux ans plus tard. Chen, Chen, Dai, U et Cheng (2017) rapportent aussi qu'une théorie dynamique de l'intelligence plus élevée était associée à un meilleur engagement motivationnel. Des études ultérieures devraient examiner le rôle médiateur potentiel de l'autorégulation et de la

motivation dans la relation entre la théorie dynamique de l'intelligence et la perception de compétence.

Limites et forces de l'étude

Cette étude comporte plusieurs forces, dont celle d'être la première à avoir étudié un modèle de médiation regroupant la théorie dynamique de l'intelligence, la préoccupation envers l'erreur et la perception de compétence. Le devis longitudinal d'une durée de quatre ans a permis de constater la stabilité du modèle de médiation et des liens entre chaque variable. L'échantillon important d'élèves provenant de plusieurs écoles et comportant une distribution équilibrée de garçons et de filles est aussi un atout. De plus, plusieurs variables de contrôle ont été considérées, notamment le sexe, le niveau scolaire, le niveau d'habiletés mentales des élèves et la scolarité de leurs deux parents. Ceci permet d'avoir un portrait représentatif de la population étudiée. La confidentialité des réponses des élèves entraîne une diminution du risque de désirabilité sociale. La puissance de l'étude supérieure à 80 % est élevée, de sorte que les résultats sont probablement représentatifs des mécanismes retrouvés dans la population et que les chances qu'ils soient dus au hasard sont réduites.

Cette étude, comme toute autre, comporte également des limites. D'abord, essentiellement corrélationnelle, elle ne permet pas de statuer sur la direction des liens puisqu'à chacun des quatre temps, toutes les variables ont été mesurées à un même moment. La présente étude ne permet pas de statuer sur un possible effet de causalité. Une autre limite concerne le recours exclusif à des mesures auto-rapportées, ce qui soulève la possibilité que les résultats soient légèrement modifiés en raison d'une représentation de soi erronée. Cependant, considérant le caractère relativement privé des variables, on peut difficilement imaginer une manière différente de les mesurer. On voit mal, par exemple, en quoi une tierce personne serait en mesure de donner des informations plus valides que celles rapportées par l'élève. Il faut aussi mentionner l'échantillon qui, étant constitué d'une population francophone issue de milieux socio-économiques moyens et faibles, rend difficile la généralisation des conclusions à d'autres populations. Toutefois, les résultats concordent avec ceux d'études antérieures conduites avec des échantillons variés, ce qui laisse supposer que leur validité dépasse les caractéristiques de l'échantillon particulier examiné.

Recherches et applications futures

Dans cette étude, seule la théorie dynamique de l'intelligence a été mesurée. Longtemps considérées comme les pôles opposés d'un même continuum, les théories statiques et dynamiques sont maintenant vues par certains comme deux théories ne s'excluant pas

nécessairement. Il serait dès lors pertinent d'examiner les relations entre la théorie statique de l'intelligence de l'élève, sa préoccupation envers l'erreur et sa perception de compétence. Un tel élève voit l'erreur comme signalant son manque de compétence et préfère généralement les tâches faciles où il y a moins de risque d'erreur. Dans ce contexte, on peut postuler qu'une préoccupation élevée envers l'erreur devrait accentuer la relation négative entre une théorie statique de l'intelligence et la perception de compétence observée dans d'autres études (Komarraju & Nadler, 2013; Shih, 2011).

À l'instar d'autres études, la nôtre a fait ressortir l'importance, en milieu scolaire, de rétroactions mettant l'accent sur la relation étroite entre les efforts et le développement de l'intelligence : faire des efforts ne signifie pas un manque de compétence, mais plutôt une opportunité d'apprentissage. Il en ressort également la démonstration du rôle positif de l'erreur dans tout processus d'apprentissage : faire des erreurs permet de progresser et de mettre à l'épreuve nos compétences et de les développer davantage. Certaines études s'intéressent à la possibilité de modifier ou de manipuler les théories implicites d'intelligence et la perception de compétence. Par exemple, les interventions d'un enseignant mettant l'accent sur l'importance du but d'apprentissage et sur le rôle des efforts dans le développement de la compétence peuvent amener les élèves à développer davantage une théorie dynamique de l'intelligence et se percevoir comme plus compétents (Blackwell, Trezesniewski, & Dweck, 2007; Hooper, Haimovitz, Wright, Murphy, & Yeager, 2016; Sun, 2015). Il faudrait donc se pencher sur le développement d'outils cliniques que les enseignants pourraient utiliser afin d'avoir un impact sur la conception d'intelligence des élèves. Encourager le développement de ces caractéristiques contribuerait à augmenter la motivation et les résultats scolaires des élèves (Dinger et al., 2013).

Terminons en rappelant trois idées de recherches futures soulevées par cet article : l'étude de la direction des liens entre les variables, la transformation de la préoccupation envers l'erreur en caractéristique adaptative qui pourrait possiblement être liée au perfectionnisme positif et le rôle médiateur potentiel de l'autorégulation et de la motivation dans la relation entre la théorie dynamique de l'intelligence et la perception de compétence. Ces études pourraient permettre de mieux cibler les interventions scolaires pertinentes au développement positif des élèves.

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Acceptability of Clinical Services Provided to First Nations Families

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Canadians should have equal qualities and levels of healthcare. This has not always been the case, especially for First Nations Peoples in Canada, as the death of Jordan River Anderson, a First Nations boy from Norway House Cree Nation, illustrated. In response to this gap in services, Jordan's Principle was created to provide First Nations Children with increased access to adequate healthcare. The present study assessed the social validity of community-based clinical services provided under Jordan's Principle. Three respondent groups were surveyed to measure satisfaction with current services. Research findings serve to inform service providers of the quality of the services and may ultimately increase the quality of life of individuals served by similar endeavours. Results indicated high levels of satisfaction amongst service recipients, a promising outcome for service providers and funders. Through this research endeavour, it is evident that further services are not only warranted but actively welcomed.

Keywords: Indigenous, First Nations, social validity, consumer satisfaction, service delivery

La qualité et les niveaux de services de santé chez les peuples des Premières Nations du Canada n'ont pas toujours été égaux, comme l'illustre la mort de Jordan River Anderson. En réponse à cette inégalité, le Principe de Jordan a été créé pour offrir aux enfants des Premières Nations un accès accru à des soins de santé adéquats. La présente étude a évalué la validité sociale des services cliniques communautaires fournis en vertu du Principe de Jordan. Des répondants ont été interrogés pour mesurer leur satisfaction des services actuels. Les résultats de la recherche informeront les prestataires de services par rapport à la qualité des services, ce qui pourrait augmenter la qualité de vie des personnes servies par des services similaires. Les résultats ont indiqué des niveaux élevés de satisfaction parmi les bénéficiaires des services. Grâce à ce projet de recherche, il est évident que d'autres services sont justifiés.

Mots-clés : Autochtones, Premières Nations, validité sociale, satisfaction des consommateurs, prestation de services

In 1999, Jordan River Anderson, a boy from Norway House Cree Nation in Manitoba, was born with complex medical needs which rendered him unable to leave the hospital from birth (Government of Canada, 2018b). When Jordan reached the age of two, doctors determined that he was able to transition to assisted living, home-based care. At this time, however, federal and provincial governments disputed over which government was responsible for the cost of Jordan's transition. The Governments of Manitoba and Canada could not reach a decision in time for Jordan to experience life outside of the hospital and Jordan passed away at the age of five having never been given a chance to live in his community.

In response to Jordan's death, the House of Commons passed Jordan's Principle in 2007 as a dedication to First Nations children. Jordan's Principle is a legal obligation for the federal government to pay for health services to First Nations children living on reserve without service delays, denials or disruptions (Government of Canada, 2018c). To carry out this obligation, numerous service providers are now federally funded to provide services and programming on-reserve.

It is critical to evaluate the relevance, safety, and social validity (Schwartz & Baer, 1991; Wolf, 1978) of health services, particularly when delivered to vulnerable individuals with disabilities who are racially marginalized. In other words, it is important to investigate whether First Nations individuals receiving health services find the interventions to be connected

to their cultural and personal beliefs, as well as spiritually and physically safe. Assessing the social validity of an intervention helps inform researchers, service funders, and service providers of the acceptability of, and satisfaction with, an intervention. The goal of the present study was therefore to assess the social validity of clinical services provided through Jordan's Principle by a community-based service provider and determine which elements of service are linked with participant satisfaction. Formal hypotheses were not proposed as this study was exploratory in nature. Given the limited prior research on the social validity of services in First Nations communities in Canada, the primary purpose of this research was to describe how services delivered by a community-based service provider under Jordan's Principle were received. We also sought to identify key service elements that contributed to stakeholder satisfaction in this context.

First Nations Communities in Manitoba

In 2014, there were 148,455 registered First Nations Peoples in Manitoba, with roughly 60% of First Nations Peoples living on Reserves. Of the 63 First Nations within Manitoba, 23 are not accessible by an all-weather road, which limits these communities to alternate transportation such as air (Government of Canada, 2014). To demonstrate the seriousness of topographical seclusion, the Government of Canada stated, "geographic isolation has segregated Manitoba First Nation communities socially and economically from mainstream Manitoba. This has created unique challenges in the region regarding […] delivery of services" (Government of Canada, 2014, para. 11).

The specific prevalence of autism spectrum disorder and developmental disabilities within First Nations communities is currently unknown. However, in Canada as a whole, 1 in 66 children are diagnosed with autism spectrum disorder (Government of Canada, 2018a). This accounts for approximately 1.5% of the Canadian population in this age demographic. For individuals who are diagnosed with a disability, it is likely that various supports will be needed for much, if not all, of their lives (Government of Canada, 2018d). Supports may include, but are not limited to, behavioural interventions, self-care, transportation, social interactions, finances, education, and employment (Mirenda, 2014). The origin of such supports varies, whether it be caregivers, direct support staff, or health care providers, and it is likely that individuals with disabilities will depend heavily on these supports throughout their lives. This has various impacts on the provider of care, whether it be emotional distress, physically demanding work, or financial implications and hardship (Government of

Canada, 2018a). Prior to Jordan's Principle, it was unclear who would fund these services for individuals living on-reserve, resulting in significant delays for services, if any service was received at all.

Research on the social validity of health services provided to First Nations or indigenous communities in Canada has been limited. In one exception (Oosterveer & Young, 2015), researchers conducted semi-structured interviews to examine the challenges faced by Indigenous people in the far north in accessing primary health care services. Satisfaction among service recipients was high when service was provided within the community as compared to requiring travel for access. Respondents emphasized the importance of clinician training and rapport development, and also the need for increasingly more frequent services. Given that the study context was primary health care, no special focus was given to the perspectives of families living with a developmental disability.

St.Amant's Jordan's Principle Services

St.Amant, a provincially funded non-profit organization that provides services to Manitobans with intellectual and developmental disabilities and their families, has completed its pilot year of services through Jordan's Principle. In this initiative, St.Amant provides a range of on-reserve services to First Nations children and their families, including nursing services, behavioural psychology services, counselling services, and a family care program (St.Amant, n.d.). The program promotes inclusivity, transparency, and active collaboration between Jordan's Principle staff and service recipients. The present study focused on satisfaction with St.Amant's behavioural psychology services. Services also included in the scope of this study were educational resources on challenging behaviour given to service providers such as workshops, telehealth sessions, and in-service school training.

First Nations children referred for behaviour support through St.Amant typically show challenging behaviours, which include, but are not limited to, aggression to others or self, disruptive behaviours, non-compliance, undesirable verbal behaviours, property destruction, academic difficulties, as well as deficits in life and self-care skills (B. Adaman, personal communication, May 7, 2018). Many of these children have a diagnosis of developmental disabilities or autism spectrum disorder, but this is not a requirement of service. As of March 31, 2018, St.Amant had received 321 referrals for over 150 children in 39 First Nations communities.

Once a child is referred, a behaviour analyst will begin providing Comprehensive Clinical Intervention

to the child and his family. Behaviour analysts at St.Amant are clinicians who have a minimum of a Master's Degree in Applied Behaviour Analysis, are working toward becoming a Board Certified Behaviour Analyst, and receive supervision from a certified psychologist. The analyst begins the intervention by interviewing the caregivers on the child's challenging behaviours and the circumstances in which they occur. There is a large focus on relationship building and families are encouraged to share their concerns and thoughts freely. After gaining this preliminary information, the analyst will ask the family to record information as the behaviour occurs and the analyst may return to conduct observations. Based on these data, the analyst will determine what is likely causing and maintaining the behaviour and discuss potential intervention choices with the family. Examples of interventions that may be commonly recommended are implementations of daily schedules, minimizing reactions to challenging behaviour, and teaching socially appropriate alternative behaviours. After the family selects what will best suit their needs and preferences, the analyst will begin caregiver training. Analysts will train parents on how to implement programming in their home and change their own behaviour in order to better manage their child's behaviour. If the child is having challenges in school as well as at home, analysts will work with teachers and educational assistants in order to create and implement behaviour change programming.

Social Validity of Jordan's Principle Services

To initiate research efforts in the area of Jordan's Principle, Chad Nilson (2018) conducted a community impact case study that looked at Manitoba's Jordan's Principle Circle of Care Approach[1]. Findings suggest that this approach increased collaboration of human service professionals, reduced barriers (including barriers related to access to services, access to qualified service professionals, collaboration with clients; rapport and trust, follow-up and communication, as well as overall client comfortability with services), improved relationships with stakeholders, increased community engagement, increased advocacy, among other positive service outcomes. This study serves to extend the valuable research conducted by Nilson (2018), by investigating the social validity of the goals, methods, and outcomes of interventions provided under Jordan's Principle.

In order to expand on Nilson's (2018) research, we used a survey to directly measure social validity. Social validity refers to the acceptance of a program's goals, methods, and outcomes (Wolf, 1978). According to Schwartz and Baer (1991), "sound social validity assessment consists of asking the right questions, to the right people, in the appropriate

manner" (p. 195). To do so, Schwartz and Baer (1991) suggested that consumers (the recipients of the intervention) be evaluated at various levels, depending on involvement with the treatment plan. The levels include Direct Consumers, Indirect Consumers, members of Immediate Community, and members of Extended Community (Schwartz & Baer, 1991). Social validity evaluation should address various aspects of the treatment program, such as validity, reliability, cost-effectiveness (Schwartz & Baer, 1991), cultural competency[2] (Najera, 2012), and mode of service delivery (Blake et al., 2017; Heitzman-Powell, Buzhardt, Rusinko, & Miller, 2014). As Nilson (2018) suggested, the inclusion of various role categories (i.e., Direct Consumers, Indirect Consumers, members of Immediate Community, and members of Extended Community) encourages collaboration, rapport, and autonomy amongst individuals who experience Jordan's Principle services in different scopes.

Special Considerations

In 2018, Gregory Younging advocated for the need to *Indigenize* publishing. Younging argued for literature to be representative in nature by presenting the Aboriginal culture in a truthful manner. To do so, Younging (2018) advocated for collaboration with Indigenous Peoples. As a result, researchers avoid overgeneralizations and misrepresentations of First Nations individuals and foster a trusting relationship by demonstrating cultural awareness and sensitivity. Younging (2018) offered the recommendation that researchers seek true and authentic information from Elders, arguing for the significance of the Elder role to the integrity of Indigenous culture and accurate sources of knowledge. Here, Elders are people who have gained superior wisdom through various life experiences and reflections, and are given the utmost levels of authority and respect. In sum, it is evident that in order to ensure cultural competency and safety of Indigenous populations, researchers should openly collaborate with First Nations Peoples during every step of the research process. Furthermore, it is important to recognize that consulting with Elders is a respectful way of ensuring that the information received is authentic in nature. Unfortunately, literature has routinely failed to follow the above recommendations.

To promote these goals, one Elder and seven Manitoba Jordan's Principle Service coordinators representing various Tribal Councils were consulted prior to the initiation of the research study and provided insight, feedback, and guidance to St.Amant on the content of the various surveys.

Method

Participants

Participants were 44 persons who responded to a service satisfaction survey conducted by St.Amant in early 2019 for quality assurance purposes. The research team requested anonymous service data from St.Amant to conduct this study. Respondent demographics such as age, gender identity, ethnic and/or racial background, level of education, socioeconomic, generational, and/or immigrant status, disability status, sexual orientation, and language preference were not included in the questionnaires and thus were not available for analysis. Only adults were invited to complete the survey.

Populations of interest for this retrospective analysis included families of children participating in Jordan's Principle who live on First Nations Reserves, Jordan's Principle staff (both on and off reserve), education providers (school, daycare, and nursery schools), clinicians, direct support providers, the community at large on each respective reserve, Community Leaders, Elders, outside professionals, and the funding agencies of Jordan's Principle. As mentioned, children and adolescents supported by St.Amant's efforts in Jordan's Principle do not need to have an official diagnosis of a disorder. In fact, a suspected disorder can ensure getting service, even in the absence of formal medical evaluation (C. Cressman, personal communication, December 4, 2018).

Respondents were asked to identify as belonging to one of four role categories: person receiving services, parent, family member, or other caregiver (direct consumers, $n = 17$); Case Manager, Child Development Worker, or other community staff member (indirect consumers, $n = 22$); Chief, Elder, Band Councilor, Education Director, Health Director, or other community leader (immediate community, $n = 0$); or First Nations political organization, service coordinator, funder, specialized service provider, or other professional (extended community, $n = 5$). There were no responses received from the immediate community. Respondents were provided with the opportunity to indicate the length of service involvement as a measure of the survey[3].

Materials and Procedure

Four versions of social validity questionnaires were developed and distributed by St.Amant. The first questionnaire was delivered to the direct consumers, who were families and caregivers of children supported in Jordan's Principle. The second questionnaire was delivered to the indirect consumers, who were the case managers and community teams of Jordan's Principle. The third questionnaire was delivered to the immediate community, which included stakeholder groups who were asked to identify themselves as Chiefs, Elders, Councillors, educators, health directors, or other. The fourth questionnaire was delivered to the extended community, which included First Nation Inuit Health Branch, Jordan's Principle-Child First Regional Representatives & Indigenous Service Canada, Manitoba Jordan's Principle Service Coordinators Collaborative, Eagle Urban Transition Centre, outside professionals or clinicians, and Special Needs Advocates. Respondent groups completed different questionnaires, but many questions were identical or very similar (minor word changes typically reflected the respondent's role) across versions.

The questionnaires all included open-ended items, so there was a potential for participants to unintentionally or purposefully include identifying information, despite the fact that no items solicited it. Answers to open-ended questions might also have disclosed the observation or suspicion of abuse. If this were the case, the research team was prepared to fulfill legal obligations of reporting. However, St.Amant Clinical Services staff reviewed all questionnaires before providing the data and reported that no identifying or sensitive information was included, nor any information about abuse. The research team found none during our subsequent analysis.

Design

The dependent variable of this study was satisfaction with aspects of Jordan's Principle services provided by St.Amant. Survey data were analyzed descriptively, inferentially, and qualitatively. The data analysis procedures employed reflect the exploratory nature of this research as well as the design of the questionnaires. With the exception of an initial question about the respondent's role, and several closing questions that were completely open-ended, all survey items were formulated as *yes/no* questions about features of service that would be desirable (e.g., *Does St.Amant delivers services that are culturally safe and appropriate?*). Each *yes/no* survey question included a "radio button" option (i.e., no more than one item could be selected) for respondents to select *yes, no*, *not sure*, or *don't know*. Responses to these items were analyzed using both descriptive and inferential statistics.

As many of the survey questions were identical or very similar across versions, the research team identified questions according to their topic and compared items between groups when the items addressed the same topic. Topics were abstracted from the content of the surveys that St.Amant created,

based upon commonalities of questions across the surveys delivered to various respondent groups. The eight topics were: *Comfort*, *Respect*, *Time Effectiveness*, *Alignment with Beliefs*, *Goal Setting*, *Ease of Understanding*, *Helpfulness*, and *Relevance/ Meaning*.

Satisfaction was compared within each respondent group. Within-group proportions of satisfaction were computed by dividing the number of *yes* responses to each item by the number of *yes* responses plus *no* responses. A between-groups analysis was also used to evaluate identical survey items between various respondent groups. Here, the percentage of satisfaction for each satisfaction item was compared across the different respondent groups.

All items save question 1 (soliciting the respondent's role) invited written comments. As the present study was exploratory in nature, no formal research hypotheses were proposed before the study commenced (Charmaz, 2006). Therefore, a grounded theory qualitative analysis was conducted (Figure 1): all comments were grouped and coded by the research team according to recurrent subjects. The research team then grouped the subjects into broader themes such as *Increased Face-to-Face Support, Increased Funding,* and *Increased Collaboration.*

Results

Descriptive Statistical Analysis

We calculated each respondent's satisfaction as the percentage of *yes* responses among items with either a *yes* or *no* response. Mean satisfaction across all 44 respondents was 94% (*SD* = 11.78, Min = 50, Max = 100).

Table 1
Percentage of Respondents Who Indicated Approval Across Various Survey Topics

Survey Question Topics	Direct Consumers	Indirect Consumers	Extended Community
Overall Satisfaction	92%	94%	96%
Comfort	100%	84%	-
Respect	100%	100%	100%
Time Effectiveness	92%	86%	50%
Alignment with Beliefs	94%	84%	-
Goal Setting	94%	85%	-
Ease of Understanding	100%	100%	100%
Helpfulness	92%	100%	-
Relevance/Meaning	-	100%	100%

Note. N = 44; dashes denote cells in which could not be filled due to unreported data (participants were not provided with the survey).

Proportions of satisfaction were compared between groups and across topics (Table 1). Mean satisfaction for direct consumers was 92% (*n* = 17, *SD* = 7.14, Min = 71.43, Max = 100). The items of least satisfaction for direct consumers were *Time Effectiveness* and *Helpfulness.* Mean satisfaction for indirect consumers was 94% (*n* = 22; *SD* = 14.80, Min = 50, Max = 100). The items of least satisfaction for indirect consumers were *Comfort* and *Alignment of Beliefs.* Mean satisfaction for extended community members was 96% (*n* = 5; *SD* = 8.94; Min = 80, Max = 100). The item of least satisfaction for extended community members was *Time Effectiveness*.

Inferential Statistical Analysis

Overall satisfaction was high for all groups and the differences between groups were small. We, therefore, applied inferential analysis to the individual topic with the greatest between-group variation: *Time Effectiveness*. A Fisher's exact test was used to examine the similarities between respondent groups on this satisfaction topic. Fisher's exact test was chosen over other statistical tests of pairwise comparison because proportional data was being analyzed, and chi-square distributions can tolerate more than one population in a single test. Seventeen direct consumers, twenty-two indirect consumers, and five extended community respondents were included. Fisher's exact test was chosen to account for scenarios where the sample number for one or more groups was *n* < 5. A significant relationship between *Time Effectiveness* and respondent group was observed (*p* = .029, value = 7.205), indicating that satisfaction with *Time Effectiveness* was significantly influenced by respondent group identification.

Qualitative Statistical Analysis

The initial stages of the grounded theory approach involved identifying theoretic samples derived from reoccurring themes in the raw survey responses (Table 2). The second stage included the theoretical coding of the topics into three prevalent themes (Table 3). The final stage included the composition of the overall theory, which proposes a general desire for increased service delivery (Table 4).

Examples of theoretical samples derived from reoccurring themes in the raw survey responses can be found in Table 5.

Discussion

All responses, across all topics, indicated approval with St.Amant's Behavioural Services program. This program places a focus on the needs and desires of the family while providing behavioural assessment in a culturally safe and informed way. This is valuable
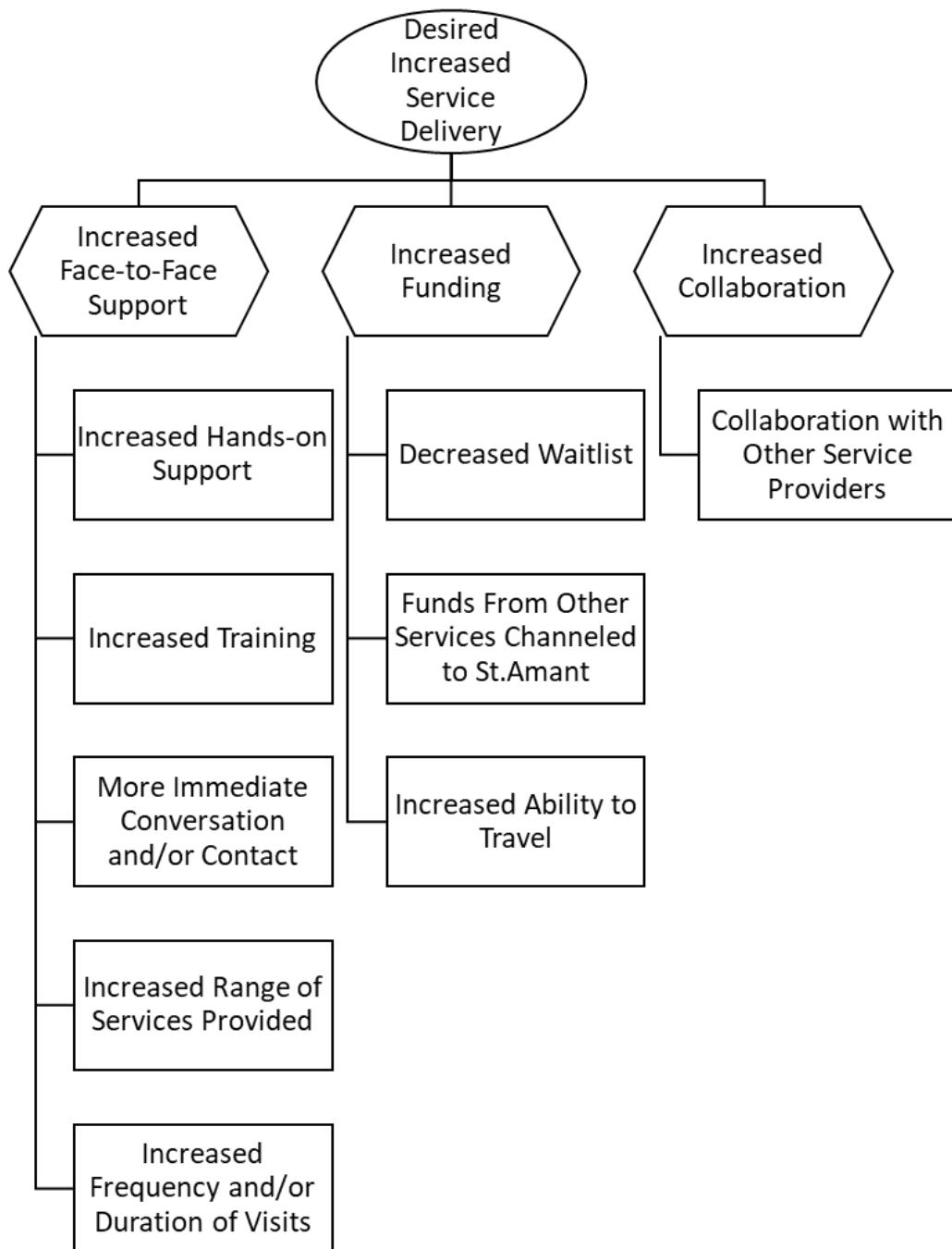
Figure 1. Thematic flow chart demonstrating the process of grounded theory. Rectangles denote the initial stage of grounded theory; the theoretical samples derived from reoccurring topics in the raw survey responses. Hexagons represent the next stage of grounded theory; the theoretical coding of the topics into three prevalent themes. Finally, the oval denotes the final stage of grounded theory; the composition of the theory. In this case, the theory proposes an overall desire for increased service delivery.

information for the service provider, as the overall acceptability of services indicates that the service is satisfactory. The extended community group had the highest levels of approval: 96% of responses across all topics indicated approval.

The various respondent groups sampled similarly (> 84% approval) for topics of *Comfort, Respect,* *Alignment with Beliefs, Goal Setting, Ease of Understanding,* and *Helpfulness.* The topics that reflected the most satisfaction were *Respect, Comfort, Relevance/Meaning,* and *Ease of Understanding* which received a unanimous 100% approval across respondent groups. The topic that reflected the least satisfaction was *Time Effectiveness,* where 92% of direct consumers, 86% of indirect consumers, and

Table 2

Percentage of Respondents Who Commented on Reoccurring Themes in Initial Stage of Grounded Theory Approach

Theoretical Samples from Reoccurring Themes in Raw Survey Responses	Respondent Group		
	Direct Consumers (*n* = 17)	Indirect Consumers (*n* = 22)	Extended Community (*n* = 5)
Increased Hands-on Support	11%	13%	-
More Immediate Conversation and/or Contact	6%	22%	-
Decreased Waitlist	6%	43%	14%
Increased Range of Services Provided	11%	17%	14%
Increased Frequency and/or Duration of Visits	17%	17%	-
Increased Training	-	26%	14%
Increased Funding	-	4%	-
Increased Ability to Travel	-	4%	-
Collaboration with Other Service Providers	-	4%	14%

Note. Dashes denote cells in which could not be filled due to unreported data (participants did not comment on the particular theme).

50% of the extended community respondents indicated satisfaction.

Qualitative analysis demonstrated an overarching theme of desire for increased service delivery. This is valuable feedback for relevant funding agencies. Through the qualitative analysis, it is evident that the initiative would greatly benefit from increased funding, which would give service providers increased resources to ensure high quality and socially relevant services.

Research on satisfaction with on-reserve health services has been limited, but our findings are consistent with those of Nilson (2018): Jordan's Principle services can have positive impacts regarding collaboration, access to healthcare, and quality of healthcare. The results of our study highlight service aspects that one community-based provider has done well (such as *Comfort, Respect, Alignment with Beliefs, Goal Setting, Ease of Understanding, Helpfulness,* and *Relevance/Meaning*), and other aspects that may merit further examination (such as

Time Effectiveness, *Increased Face-to-Face Support, Increased Funding,* and *Increased Collaboration*). The knowledge gained from these outcomes may ultimately increase the quality of life for both the service recipients (consumers) and service deliverers. As mentioned, First Nations Peoples are largely marginalized in empirical research, and findings in which support increased delivery of services are promising.

Limitations

The present study had several limitations. First, the modest (*n* = 44) and self-selected sample limited the generality of our findings. Response rates were also uneven across the stakeholder groups. No responses at all were received from the immediate community group; valuable feedback from community leaders was consequently unavailable. The sample size of the extended community was small (*n* = 5).

Second, the research team was not involved in the creation of the final version of the surveys. While this was ethically appropriate, there are several areas we could identify for improvement from a research design perspective. Firstly, surveys did not include an overall satisfaction item, which would have provided a uniform way to directly compare respondent groups. Secondly, the use of binary *yes* and *no* options (versus

Table 3

Number of Comments Made on Prevalent Themes

Prevalent Themes	Respondent Group		
	Direct Consumers (*n = 17*)	Indirect Consumers (*n = 22*)	Extended Community (*n = 5*)
Increased Face-to-Face Support	8	22	2
Increased Funding	1	12	1
Increased Collaboration	-	1	1

Note. Dashes denote cells in which could not be filled due to unreported data (participants did not comment on the particular theme).

Table 4

Number of Comments Made on Overall Theory

Overall Theory	Respondent Group		
	Direct Consumers (*n = 17*)	Indirect Consumers (*n = 22*)	Extended Community (*n = 5*)
Increased Service Delivery	9	35	4

Table 5

Theoretic Samples Derived from Reoccurring Themes in the Raw Survey Responses

Topic	Increased Hands-on Support	Increased Training	More Immediate Conversation and/or Contact	Decreased Waitlist	Increased Range of Services Provided	Increased Frequency and/or Duration of Visits	Increased Funding	Increased Ability to Travel	Collaboration with Other Service Providers
Description	i.e., more face-to-face contact with service staff	i.e., more educational opportunities provided to families and staff on and off reserve	i.e., shorter periods of time between points of contact	i.e., immediate or more timely access to services	i.e., a more diverse set of services	i.e., increased number of visits, and longer visits	i.e., an increase in money provided to the service providers carrying out Jordan's Principle	i.e., increased access to routes and modes of travel to communities	i.e., partnership between St.Amant and clinicians working for other service providers
Example	*More hands on working with the children is needed, so staff can have a better understanding.*	*We would like more hands-on community training and workshops.*	*More follow up after referral and more timely.*	*There should be no waiting for services.*	*Would like to have someone work with our children for Speech and Language.*	*There should be more visits, wee-kly or bi-weekly.*	*Nothing, just wish some of the money going to other service providers to be channeled to St. Amant...*	*Increased capacity/ability to travel and provide services to First Nations communities.*	*It would be great if service providers got in touch when they are seeing a child that is open to other specialized service providers.*

an agreement scale), along with both *not sure* and *don't know* options may have reduced the amount of information about satisfaction provided by each respondent.

A third limitation exists due to the high proportion of the direct consumer group who did not identify their length of service involvement. Here, this lack of information makes it difficult to make accurate inferences regarding these individuals' personal experiences with Jordan's Principle, and also reduces the ease of replication and generalization of research findings.

Finally, inter-observer reliability checks were not conducted during the qualitative data analysis. All generation of thematic codes and assignment of comments to themes was performed by the principal investigator.

Future Directions

Future research should continue to assess the social validity of Jordan's Principle services delivered by care providers and should try to overcome the limitations described above regarding sample size, survey design, and qualitative analysis. More specifically, future research should work toward sampling from some of the populations who were not represented in this study, including members of the immediate community.

Finally, further research efforts should investigate the various mechanisms of service delivery that aid in positive outcomes. Mechanisms may include transparency, collaboration, and inclusivity. Further mechanisms may include investigating certain elements of Indigenous style in order to ensure the integrity of Indigenous culture.

Conclusion

Outcomes of this research build upon the Community Impact Case Study that Nilson (2018) completed. More specifically, this study evaluated the aspects of St.Amant's services under Jordan's Principle that are successful–a valuable finding for other service providers aiming to embark on similar endeavors. Successful services, as determined in this study, consist of relevant and realistic goals, acceptable methods, and meaningful outcomes.

Research outcomes indicated a desire for increased service delivery, and high levels of overall service satisfaction, which are promising results to both the service provider and the service funder. Future research should continue to assess the social validity and acceptability of services provided to First Nations Peoples in order to strengthen the literature in an area that is sparse in representative efforts. The lack of

research conducted in collaboration with First Nations Peoples represents the overarching history of misrepresentation and lack of respect for Indigenous culture in Canada. Above all, future research should focus on representing the Indigenous voice by presenting Indigenous Peoples' perspectives and knowledge of themselves, rather than simply presenting information about Indigenous Peoples. Here, it is crucial that researchers do not simply speak for Indigenous Peoples, but rather that research is an accurate testimony of Indigenous Peoples speaking.

Footnotes

[1] A Circle of Care Approach is defined as "initiatives [that involve] the fostering of collaboration between Indigenous, Federal, Provincial, and Regional governments; as well as a variety of health, human, social, justice, and other services required by First Nation children and their families" (Nilson, 2018).

[2] Cultural Competency can be defined as providing culturally sensitive services to clients who are from a different cultural background than the clinician (Najera, 2012).

[3] The majority ($n = 15$) of direct consumer respondents did not indicate their service involvement. All indirect consumer respondents indicated length of service involvement, with the majority ($n = 12$) reporting service involvement of a year or more. Of the extended community, three respondents indicated 6-12 months, three respondents indicated a year or more, and one respondent did not identify their length of service involvement.

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Perceptions of Sexual Assault: Effects of Victim Physiological Arousal and Victim Gender on Jurors' Decisions

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Limited research has assessed juror decision making in cases of female perpetrated sexual assault and the role played by factors such as victim's gender, physiological arousal, and participant's gender in the decision making process. Participants ($n = 215$) were presented with one of four trial vignettes that varied the perpetrator and victim's gender and victim's physiological arousal. The impact of these variables was examined on guilty verdicts rendered, credibility, and blameworthiness of the victim and accused. Results demonstrate that the male victim was blamed more than the female victim. Further, male participants viewed the male victim to be less credible than the female victim. Lastly, male participants viewed the accused to be more credible when the victim was depicted as male with signs of physiological arousal. The results reveal the disadvantages a male victim of female perpetrated sexual assault may face if he pursues his sexual assault at trial.

Keywords: sexual assault, rape myths, juror bias, gender, physiological arousal

La prise de décision par un jury en matière d'agression sexuelle perpétrée par une femme et le rôle joué par des facteurs tels que le sexe de la victime, l'excitation physiologique et le sexe du participant sont aujourd'hui peu étudiés. Deux cent quinze participants ont reçu l'une des quatre vignettes variant le sexe et l'excitation physiologique de la victime. Ces variables ont été examinées sur le blâme, la crédibilité et la culpabilité de la victime et de l'accusé. Les résultats ont montré que la victime masculine était plus blâmée que la victime féminine. Les participants masculins croyaient que la victime masculine était moins crédible que la victime féminine. Enfin, les hommes ont estimé que l'accusé était plus crédible lorsque la victime était un homme montrant des signes d'excitation physiologique. Les résultats montrent les conséquences négatives qu'un homme victime d'agression sexuelle perpétrée par une femme subira s'il porte plainte.

Mots-clés : agression sexuelle, mythes sur le viol, parti pris des jurés, genre, excitation physiologique

Within the legal system, beliefs or expectancies about a specific crime can play a detrimental role in jurors' decisions. This is especially apparent in sexual assault cases, where much of the evidence is ambiguous and circumstantial (Schuller, McKimmie, Masser, & Klippenstine, 2010). Sexual assault is defined by Canada's criminal code as "sexual contact with another person without that other person's consent" (Consolidated Federal Laws of Canada, Criminal Code, s. 271). There are approximately 460,000 sexual assaults in Canada each year, with only 5% of victims reporting their sexual assault (Canadian Association of Chiefs of Police, 2017). Even when sexual assault victims do report their assault, the legal system often has difficulty identifying and prosecuting the perpetrators. Indeed, research notes that sexual assault cases have the highest rates of acquittal and lowest rates of

guilt,compared to other offences (Allen, 2016; Boyce, 2015; Conroy & Cotter, 2017; Keighley, 2017). This may be due to the generally accepted notions held by many of those within our legal system (jurors, judges, and law enforcement officers) and their propensity to perceive victims of sexual assault in negative terms (Schuller et al., 2010). Sexual assault victims tend to be judged on factors that are outside the scope of the determination of consent and these judgements are often influenced by rape myths, which are defined as "prejudicial, stereotyped or false beliefs about rape, rape victims, and rapists" (Burt, 1980; Cadaret, Johnson, & Devencenzi, 2019), that bias the juror (Abbey, Clinton, McAuslan, Zawacki, & Buck, 2002; Abrams, Viki, Masser, & Bohner, 2003; Conroy & Cotter, 2017; Schuller et al., 2010).

The majority of research examining juror bias and rape myths has focused on female victims of male perpetrated sexual assault (Abbey et al., 2002; Abrams et al., 2003; Schuller et al., 2010; Taylor & Mouzos, 2006). These studies suggest that for a female victim of sexual assault to be considered a "true victim" by

jurors, she has to fall within the parameters of the "genuine" rape victim. For instance, she had to be sober at the time of the assault, had to have resisted the assailant, and to have been assaulted by a stranger (Gager & Schurr, 1976; Schuller et al., 2010; Viki & Abrams, 2002). These are important studies and provide valuable information for our legal system, but the singular focus on only one type of victim (i.e., female) perpetuates the false narrative that only females are victims of sexual assaults and only men are the perpetrators (Anderson, I., 2007).

Despite limited research devoted to rape myths associated with male victims of sexual assault, the existing literature suggests that different rape myths do exist for male victims of sexual assault. Irina Anderson (2007) outlined several rape myths that prevail for male victims of sexual assault. These myths include: 1) men cannot be sexually assaulted; 2) real men can defend themselves against sexual assault; 3) only gay men are victims of sexual assault; 4) a woman cannot sexually assault a man; 5) male sexual assault only occurs in prisons; 6) if a victim does not physically resist his assaulter, he must have wanted it; and 7) physiological arousal only occurs in consensual sex. In light of this research, the focus of the present study was to ascertain how the gender of the victim and victim's signs of physiological arousal influence both men and women's judgements in sexual assault cases.

As mentioned, sexual assault crimes are extremely underreported (Conroy & Cotter, 2017). This is especially apparent in male sexual assault cases (Bullock & Beckson, 2011). Research has demonstrated that male sexual assault is notoriously underreported compared to its estimated prevalence, with researchers suggesting that only approximately 13% of male survivors of sexual assault will report their sexual assault (Conroy & Cotter, 2017). The exact number of sexual assaults occurring, however, is unknown. This conceivably might be due to the stigma surrounding male victims of sexual assault and the notion held that men could not be victims of sexual assault (I. Anderson, 2007). Research suggests that even when victims do report their sexual assaults, they are not always provided with sufficient resources to support them (Maddox, Lee, & Barker, 2012; Mgoqi-Mbalo, Zhang, & Ntuli, 2017; Weiss, 2010; Wyatt, Ahrens, Cabral, & Abeling, 2017). This is especially apparent for male victims of sexual assault (Beckson & Beckson, 2011).

Perhaps, the idea of male victimization, especially by a female perpetrator, directly conflicts with the concept of gender roles that ascribes men as more assertive and women as more passive (Stemple & Meyer, 2014). As a result, male victims of sexual assault are often blamed more for their assaults (Hammond, Berry, & Rodriguez, 2011). Few empirical studies, however, have examined a male victim with a female perpetrator, with the bulk of the research using a male perpetrator.

Irina Anderson and Bissell (2011) conducted one of the few studies that have varied the gender of the victim and perpetrator. The researchers were interested in participants' perceptions of a male victim of female perpetrated sexual assault in relation to blame and credibility attributed to the male victim. The researchers were also interested in examining if the status of the assault (strangers, acquaintances) impacted participants' judgments. The results found that a male victim of a stranger female perpetrated sexual assault was blamed more and seen as less credible, compared to the scenario where the victim was a woman and the perpetrator was an unknown man. Interestingly, their findings indicated that the male victim of a female acquaintance sexual assault was not blamed more than the female victim of a male acquaintance sexual assault.

Another study (Pica, Sheahan, & Pozzula, 2018) presented participants with vignettes in which a female or male professor sexually assaulted a female or male student. The study manipulated the location of the sexual assault (i.e., professor's office or at a fraternity party), as well as the presence of intoxication of the victim and the accused. Overall, the results indicated that participants judged sober female victims more favorably (i.e., more credible, less blame, more defendant guilt) than sober male victims. Female and male intoxicated victims were similarly perceived and were viewed less favorably than their sober victim counterparts.

The above-cited research helps broaden the body of work in psychology and law regarding the influence of victim and accused gender on jurors' decisions. However, the psycho-legal literature is missing a variable whose influence on jurors' decisions could have serious implications. To our knowledge, no study has examined how the variable of victim's signs of physiological arousal might influence jurors' perceptions of the victim or the validity of the sexual assault claim. The justification to study the potential influence of victim's signs of physiological arousal on jurors' decisions stems from the assumption that physiological arousal is only present in times of consensual sexual activity (Bullock & Beckson, 2011). Additionally, due to the male rape myth that men are always enthralled by sex (Anderson, I., 2007), the male victim's sign of physiological arousal is predicted to heighten participants' acceptance of this myth and perceive the victim as being excited by this incident. This assumption seems to have entered the

legal system, as suggested by a Canadian case in 2004, where the court held that maintaining an erection may be reasonably interpreted as consent (*R. v. R.J.S*, 2004, pp. 113-114). Physiological arousal, however, is only partially under voluntary control and is known to occur during times of extreme duress, in the absence of sexual pleasure (Giuliano & Clement, 2005). Bullock and Beckson (2011) have studied the issue of physiological arousal and suggest anxiety can cause physiological arousal. This contention is supported by several researchers who propose that involuntary physiological arousal can occur in the context of non-consensual, receptive anal or vaginal sex (Feldman, 1951; Gager & Schurr, 1976; Gerger, Kley, Bohner, & Siebler, 2007; Giuliano & Clement, 2005). The indication of physiological arousal in the absence of sexual pleasure is supported by Sarrel's (2002) collection of case reports describing several cases of men forcibly sexually assaulted, who nevertheless maintained erections during the assault. Yet, many judiciary systems in North America attest to the assumption that penile erection implies consent (Bullock & Beckson, 2011). If, as research suggests, arousal is not under human control and can occur in times of stress, for instance during a sexual assault (e.g., Bullock & Beckson, 2011), then the legal system should be apprised of the full strength of this rape myth and its potential influence on jurors, to ensure fair trials.

In summary, the above research demonstrates the strong influence that rape myths can have on people's perceptions of sexual assault. The *Rape Myth Acceptance Scale* was developed to measure individuals' endorsement of rape myth acceptance (RMA) in relation to female victims of sexual assault (Bohner, Danner, Siebler, & Samson, 2002; Payne, Lonsway, & Fitzgerald, 1999; McMahon & Farmer, 2011). To date, there is little research on the conceptual factors underlying the acceptance of rape myths regarding male victims of sexual assault, or the specific attitudes that might predict them. Nor, to our knowledge, does a scale exist that measures male rape myth acceptance.

Studies regularly report, however, that men tend to have higher scores on the *RMA Scale* than women (Chapleau, Oswald, & Russell, 2008; Davies, Pollard, & Archer, 2006). At this time, the exact reasons for why men score higher on the *RMA Scale* than women are not fully understood, but previous research examining participants' gender on perceptions of victims of sexual assault has consistently found that men blame victims more than women do (Chapleau et al., 2008; Davies et al., 2006).

The present study sought to examine the potential relationship between rape myths and how decisions regarding guilt, blame, and credibility are influenced by the gender of the victim, the accused, and the participant due to previously established research suggesting that men are more likely to accept rape myths than women. Specifically, the study focused on the rape myths that men cannot be sexually assaulted by women and that physiological arousal only occurs in consensual sex. No previous study has examined the variable of the victim's sign of physiological arousal on jurors' decisions. Further, there is a paucity of research within the Psychology and Law field that examines both male and female victims and how jurors (both men and women) would respond to varying genders of the same victim of a sexual assault. As such, the current study contributes to the growing body of literature on juror decision making by examining how the gender of the victim, gender of the participant, as well as the victim's signs of physiological arousal influence juror decision making in sexual assault cases. The decision was made to tie the gender of victim and gender of accused to one another, whereby target gender was a function of perpetrator gender. The justification for this decision will be explained in more detail within the "Trial Material" in the Methods section.

Objectives

The objectives of the present study were:

1. To identify if male victims of female perpetrated sexual assault are judged differently than female victims of male perpetrated sexual assault.

Hypothesis 1a. In accordance with previous research (I. Anderson & Bissell, 2011; Pica et al., 2018) in which results indicated that male victims were blamed more and held less credible than female victims, it is hypothesized that male victims compared to female victims would be viewed as less credible and more blameworthy overall, regardless of condition.

Hypothesis 1b. In further accordance with these past studies, which also found less guilty verdicts when the victim was depicted as male compared to female, the present study hypothesizes that fewer guilty verdicts would be found when the victim was depicted as male compared to female.

2. To identify if the presence of physiological arousal affects jurors' decisions.

Hypothesis 2a. As previously mentioned, there is a false assumption that physiological arousal equates with enjoyment. As such, an interaction between victim gender and physiological arousal was predicted where male victims who showed signs of physiological arousal would be blamed more than

their female victim counterparts and would be viewed as less credible by both men and women participants.

Hypothesis 2b. It was predicted that physiological arousal would have more of an influence on decisions regarding male victims than female victims, due to men's physiological arousal (erection) being more evident and visible compared to women's physiological arousal (wetness). As such, it was predicted that physiological arousal would not impact perceptions regarding female victims of sexual assault.

3. To identify if men and women judge victims differently.

Hypothesis 3. In accordance with previous research (Chapleau et al., 2008; Davies et al., 2006) ,men compared to women will render less guilty verdicts and view the victim more negatively and the perpetrator more positively in terms of blame and credibility, when the victim was portrayed as a male compared to a female.

Methods

Procedure and Participants

Given the sensitive nature of the topic, the decision was made to use a web-based survey, which has been found to reduce the likelihood of socially desirable responding (Booth-Kewley, Edwards, & Rosenfeld, 1992). Research ethics approval was obtained from the University's Human Participant Review Subcommittee. Participants were recruited from an undergraduate research participant pool. Because of the potential stress that reading about a sexual assault could engender, participants who had shared that they experienced a sexual assault through the undergraduate research participant pool were restricted from participation. After signing the informed consent, participants received a stimulus package that contained the initial instruction sheet asking them to assume the role of a juror for the duration of the study, the trial summary, and the dependent measures. Upon completion, they were provided with a debrief form explaining the nature of the study. The study required approximately 30 minutes to complete and in return for their participation, participants received partial course credit.

Participants (n = 215; 106 men, 109 women) were randomly assigned to one of four conditions. The assignment was done separately for men and women to ensure an equal proportion of men and women per condition. Table 1 presents the breakdown of male and female participants in the four conditions. All participants were jury eligible (i.e., 18 years of age).

Table 1

Breakdown of Participants by Gender per Condition

Condition	Men	Women	Total
Male Victim-Female Perpetrator			
Physiological arousal	26	29	55
No physiological arousal	24	28	52
Female Victim-Male Perpetrator			
Physiological arousal	32	23	55
No physiological arousal	24	29	53
Total	106	109	215

The average age of participants was 20 (M_{age} = 19.6, SD = 3.47). The sample showed a wide range of ethnic diversity, with 16.7% identifying as South Asian, 36.1% identifying as North American, 12.1% as East Asian, 9.7% as Caribbean, 6.9% as African, 4.6% as Eastern European, 3.7% as Latin American, 8.8% as South East Asian, 16.7% as Western European, 12% as West Asian/Arab, and 3.7% identifying with a different ethnicity. The sample also showed wide diversity in religious affiliation with 34.7% identifying as Catholic, 24.5% identifying as Atheist/Agnostic, 11.6% as Muslim, 3.2% as Sikh, 5.1% as Hindu, 2.8% as Buddhist, 2.8% as Jewish, and 12% identifying with a different religious faith.

Trial Materials

Men and women were provided with one of four hypothetical trial summary vignettes depicting an acquaintance sexual assault involving either a male accusing a female of sexual assault or a female accusing a male of sexual assault. The four vignettes were identical with the exception of the victim and the accused's gender and the victim's arousal. Within these conditions, half of the participants were informed that the victim was Lauren and the accused was Ted, while the other half were told that the victim was Ted and the accused was Lauren. Within these conditions, half of the participants were informed that the victim (Ted or Lauren) displayed physiological arousal during the event (i.e., erection or genital area wet), while the other half were given no information regarding victim's physiological arousal. Physiological arousal was indicated in the trial summary by the perpetrator. In the male victim arousal condition the trial summary stated, "According to Lauren, Ted seemed to really enjoy the kissing and had an erection." The trial summary in the female victim arousal condition stated, "According to Ted, Lauren seemed to really enjoy the kissing and that, in

fact, her genital area was very wet." The variables of gender of victim and gender of accused were tied to one another, whereby victim gender was a function of perpetrator gender. Therefore, when the victim was depicted as a man, the perpetrator was always depicted as a woman, and when the victim was depicted as a woman, the perpetrator was always depicted as a man. If the perpetrator's gender had varied, it would have resulted in conditions that included same-sex sexual assault. This form of sexual assault has its own rape myths (Carlson, 2013; Davies, Gilston, & Rogers, 2012; White & Kurpius, 2002). As such, inclusion could have influenced the participants' perceptions instead of the variable of interest, victim gender. All vignettes explicitly stated that both the victim and the accused abstained from drinking on the night in question and that the victim and accused briefly knew each other (the accused was a frequent visitor of the victim's workplace). This information was provided in an attempt to avoid the inclusions of two pre-established rape myths; namely, the stranger myth and the alcohol rape myth. The stranger myth is the idea that only a stranger can commit a sexual assault (Abrams et al., 2003; Lonway & Fitzgerald, 1994). The alcohol rape myth asserts that a victim has to be sober at the time of their assault to be considered a "true victim of sexual assault" (Abbey et al., 2002; Lonway & Fitzgerald, 1994; Schuller & Wall, 1998).

Dependent Measures

Unless otherwise indicated, the dependent measures were assessed using 7-point Likert scales with the endpoints defined by either the wording of the item (*not at all appropriate* to *completely appropriate*) or participants' degree of agreement (*not at all* to *completely*). The measures tapped guilty verdicts rendered, perceptions of given consent, credibility of both the alleged victim and the accused, and blame attributed to the alleged victim and the accused. All measures are discussed more fully below.

Guilt Assessment. Participants were asked to render a verdict (guilty, not guilty) and to rate their confidence in this decision. Guilty verdicts were assigned a score of +1 and non-guilty verdicts were assigned a score of -1. This value was then multiplied by their confidence rating in this decision. This measure formed a continuous scalar measure of guilt that ranged from +7 (*complete confidence in a guilty verdict*) to -7 (*complete confidence in a not guilty verdict*) (α = .83). This continuous measure of guilt, originally developed by Kassin and McNall (1991), is a more sensitive measure than that of the dichotomous one and is commonly used by jury researchers (Bornstein et al., 2017; Erentzen, Schuller, & Gardner, 2018; McKimmie, Newton, Schuller, & Terry, 2013).

Case judgments. Participants' views concerning various aspects of the case were examined along several dimensions. Specifically, participants were given separate questions designed to measure the degree of appropriateness of the two targets' behaviours, as well as their degree of blameworthiness (e.g., *To what extent was Lauren's behaviour on the night in question appropriate?*) and their credibility (e.g., *To what extent do you believe Lauren's claims?*). Fourteen items in total were measured blameworthiness allocated towards the victim and accused (7 items per the two targets' behaviours). Each of the seven items was combined and averaged to create a composite measure of victim blameworthiness and accused blameworthiness (α = .82, for both the victim and the accused). The credibility measures combined eight items in total, tapping the targets' credibility, as well as their claims (four questions designed to tap victim credibility and four questions to tap accused credibility). These four items were combined and averaged for the victim and accused to create composite measures of credibility (α = .81, for complainant and accused, respectively). Finally, participants answered three questions designed to measure their attitudes surrounding the nature of the alleged victim's consent (e.g., *To what extent did Lauren/Ted consent?*). The three items were combined and averaged to create a composite measure of consent (α = .83).

Manipulation Checks. Participants were asked three questions regarding the manipulations of the independent variables (gender of victim, gender of accused, and victim's physiological arousal). Participants, in a closed-ended response format, were asked the following: *Who is being accused of sexual assault? What is the name of the alleged victim?* Further, a question was posed regarding the physical arousal of the victim (i.e., Lauren testified that Ted had an erection, or this information was not provided).

In order to ensure participants were paying attention to the case, two other questions asked facts that were constant in all conditions. In the trial vignettes, it was directly stated that Lauren and Ted abstained from drinking on the night in question. A question asked participants if Ted and Lauren had been drinking that night. The other question asked where Lauren and Ted met each other. Finally, to assess if participants were paying attention, three random responding items were inserted throughout the questionnaire instructing participants to select a particular number on the 7-point Likert scale.

Rape Myth Acceptance Scale. Participants completed ten items from the *Rape Myth Acceptance Scale* (Bohner et al., 2002) which assesses a person's

endorsement of various rape myths (e.g., *When girls get raped, it's often because the way they said "no" was unclear*). All questions were scored on a 7-point Likert scale. A composite measure of RMA was created by summing and averaging the scores across the items ($\alpha = .88$).

Results

Manipulation Checks. We examined the manipulation checks and the RMA before turning to the analyses. The results of the manipulation checks for the three target-independent variables revealed that a total of 25 participants incorrectly reported the victim's gender ($n = 13$) and the accused's gender ($n = 12$), but the decision was made to include these participants due to their correct answers regarding the case specifics (e.g., where the victim and accused met) and the random responding questions. It can be inferred from these results, however, that the rape myth that men cannot be victims of sexual assault perpetrated by a female is strong enough to influence participants' recall of the event. They were explicitly told the victim was a man, yet despite getting other details of the case correct, they answered incorrectly regarding the victim and accused's gender.

Results of the manipulation check question to measure participants' recognition of the victim's state of physiological arousal revealed that more participants in the male victim-no-arousal condition ($n = 9$) believed the victim had shown signs of physiological arousal, despite this information not being provided. In comparison, only one participant believed the female victim showed signs of physiological arousal in the female victim-no-arousal condition. Fourteen participants got the identification of the victim and perpetrator manipulation question correct, yet got the arousal manipulation question wrong. The decision to include these participants in the analysis was based on the fact that these participants were not inattentive, but perhaps believed that arousal is necessary for a sexual event to occur.

Analysis of the question regarding if Lauren and Ted had been drinking that night revealed that 41 participants believed that Lauren and Ted were drinking that night, despite being explicitly told that both abstained from alcohol. These 41 participants answered the remaining manipulation and discrimination questions correctly, thus the decision was made to include these participants within the analysis. It is suggested that the association of alcohol with sexual assault is such a widely prevalent rape myth (Schuller & Wall, 1998) that participants could not help but believe that if a sexual assault occurred, alcohol must have been involved.

Analysis of the three random responding items revealed that two participants answered at least one of these three questions incorrectly and were excluded from the subsequent analyses as they demonstrated inattentive responding.

RMA. Analysis of RMA revealed a gender effect, where male participants had higher RMA ($M = 3.54$, $SD = 0.86$) scores compared to female participants ($M = 3.02$, $SD = 1.24$), $F(1, 118) = 7.63$, $p = .007$, $\eta^2 = .97$. As such, the decision was made to use RMA as a covariate in the analysis of variance.

Analyses of Main Measures. To investigate the impact of the manipulated variables on participants' perceptions of the case, the continuous dependent measures (i.e., scalar measure of guilt, degree of consent, credibility and blameworthiness of the victim and accused) were examined via a 2 (Victim Gender: male victim, female victim) by 2 (Physiological Arousal: present, absent) by 2 (Participant Gender: male, female) ANCOVAs using RMA as the covariate. ANCOVA was chosen as the measure of analysis due to its ability to reveal the influence of the different variables once removing the influence of the covariate. To maintain our experimental Type 1 error rate at .05, the present study employed a Bonferroni correction, making the significance threshold .025. The decision was made to use Howell's (2006) recommendation that only independent variables that are manipulated by the researchers are to be included in the Bonferroni correction.

The results displayed in Table 2 provide support for hypothesis 1a regarding participants blaming the male victim more than the female victim. This is illustrated by the significant main effect for victim gender on the measure of victim blame, $F(1, 204) = 5.25$, $p = .005$, $\eta^2 = .04$. As predicted, the male victim of a female perpetrated sexual assault was blamed more ($M = 4.04$, $SD = 0.15$) than the female victim of the male perpetrated sexual assault ($M = 3.53$, $SD = 0.15$). The results did not support hypothesis 1a regarding victim credibility. There were no significant main effects found for victim gender on the measures of victim credibility $F(1, 204) = 4.15$, $p = .043$. The male victim was not found to be less credible ($M = 4.21$, $SD = 1.28$) than the female victim ($M = 4.60$, $SD = 1.37$).

The current findings did not support hypothesis 1b that less guilty rating would be provided to the male victim ($M = .90$, $SD = 5.19$) compared to the female victim ($M = .33$, $SD = 5.51$) of the sexual assault case, $F(1, 204) = 0.04$, $p = .847$.

The study was also interested in examining if the presence of signs of physiological arousal in victims would affect jurors' decisions. Hypothesis 2a posited that male victims with signs of physiological arousal

Table 2

Results of ANCOVAs on Scalar Measure of Guilt, Degree of Consent, Victim Blame, Victim Credibility, Accused Blame, Accused Credibility

	$F (\eta^2)$				
Source	Scalar Measure of Guilt	Victim Blame	Accused Blame	Victim Credibility	Accused Credibility
Main effects					
VG	0.04	5.25* (.04)	0.54	4.15	0.66
VPA	0.52	0.77	0.81	0.16	1.52
PG	2.69	0.72	0.04	0.40	0.60
Interactions					
VG X VPA	0.26	1.03	0.22	0.83	0.759
VG X PG	0.04	0.15	0.08	1.53* (.01)	0.84
VPA X PG	0.03	0.07	0.67	0.40	0.002
VG X VPA X PG	1.51	0.08	0.10	5.42* (.05)	3.40

Note. VG = Victim Gender. VPA = Victim Sign of Physiological Arousal. PG = Participant Gender. * $p < .25$.

would be blamed more and seen as less credible compared to male victims without signs of physiological arousal and all conditions of the female victim. Hypothesis 2b predicted that physiological arousal would have more of an influence on decisions regarding male victims than female victims of sexual assault. Results only supported both of these hypotheses with regard to credibility. The results revealed a significant three-way interaction between the victim's gender, participants' gender, and victim's signs of physiological arousal on the measure of accused credibility, $F(1, 204) = 5.42$, $p = .002$, $\eta^2 = .05$. As such, when signs of physiological arousal were present for the male victim, male participants judged the accused to be more credible ($M = 4.52$, $SD = 0.38$) than when signs of physiological arousal were present for the female victim ($M = 3.63$, $SD = 0.34$) or when the male victim had no signs of physiological arousal ($M = 3.72$, $SD = 0.39$). In contrast, men judged the accused's credibility rather similarly when the female victim was aroused ($M = 3.44$, $SD = 0.30$) or not aroused ($M = 3.81$, $SD = 0.37$).

No main effects or interactions were revealed for the victim's gender, and the victim's signs of physiological arousal on the measures of victim blame $F(1, 204) = 1.03$, $p = .312$. As such, victim blame did not significantly differ between the male victim with signs of physiological arousal ($M = 3.81$, $SD = 0.20$) and the female victim with signs of physiological arousal ($M = 3.39$, $SD = 0.18$) nor between the male victim without signs of physiological arousal ($M = 4.11$, $SD = 0.19$) and the female victim without signs of physiological arousal ($M = 3.51$, $SD = 1.98$). No significant main effects or interactions were revealed for the victim's gender and the victim's signs of physiological arousal on the measures of accused

blame $F(1, 204) = 0.22$, $p = .643$. The victim depicted as a male with signs of physiological arousal ($M = 4.22$, $SD = 0.26$) or without signs of physiological arousal ($M = 4.29$, $SD = 0.25$), or female with signs of physiological arousal ($M = 4.58$, $SD = 0.18$) or without signs of physiological arousal ($M = 4.74$, $SD = 0.19$) did not attribute to significantly different amounts of accused blame. Lastly, no significant main effects or interactions were revealed for the victim's gender and the victim's signs of physiological arousal on the measures of victim credibility $F(1, 204) = 0.09$, $p = .759$. Consequently, the victim depicted as a male with signs of physiological arousal ($M = 4.03$, $SD = 0.23$) or without signs of physiological arousal ($M = 4.26$, $SD = 0.22$), or female with signs of physiological arousal ($M = 4.61$, $SD = 0.17$) or without signs of physiological arousal ($M = 4.50$, $SD = 0.17$) did not attribute to significantly different amounts of victim credibility.

Results supported Hypothesis 3 in regard to credibility by revealing a significant interaction between participants' gender and victims' gender on the measure of victim credibility, $F(1, 204) = 1.53$, $p = .022$, $\eta^2 = .009$. The results suggest that the amount of credibility attributed towards the victim was a function of the participant's gender, in particular males. As predicted, male participants found the victim to be less credible ($M = 3.8$, $SD = 0.23$) than did female participants ($M = 4.5$, $SD = 0.21$). The results, however, did not fully support hypothesis 3 in regards to guilty verdicts, blame attributed to the victim or the accused, or credibility attributed to the accused. No significant main effects or interactions were found for victim's gender and participants' gender on the measures of accused credibility $F(1, 204) = 0.84$, $p = .773$, whereby accused credibility did

not significantly differ for the male victim for male participants (M = 4.10, SD = 0.25) or female participants (M = 3.10, SD = 0.23), or between the female victim for male (M = 3.92, SD = 0.18) and female participants (M = 3.80, SD = 0.19). Nor were significant main effects or interactions found for the measure of victim blame, $F(1, 204) = 0.15$, $p = .098$, regarding the male victim for both male participants (M = 4.21, SD = 0.23) and female participants (M = 3.76, SD = 0.22) or when the victim was depicted as female for male participants (M = 3.71, SD = 0.17) and female participants (M = 3.14, SD = 0.17).

Lastly, no significant main effects or interactions were found on the measure of accused blame $F(1, 204) = 0.08$, $p = .774$, for when the victim was depicted as male for the male participants (M = 4.01, SD = 0.26) and female participants (M = 4.51, SD = 0.19) or when the victim was depicted as female for male participants (M = 4.51, SD = 0.25) and female participants (M = 4.84, SD = 0.21).

Discussion

No previous studies have assessed how men and women's judicial decisions in cases of female perpetrated sexual assault are influenced by having a male victim accuse a female of sexual assault and the role that physiological arousal of the victim plays on such decisions. Results of the present study illustrate that victim's gender, gender of the participants, and victim's signs of physiological arousal can play a multifaceted role in shaping observers' perceptions of sexual assault and legal decisions. The results from each hypothesis will be discussed in more detail below.

Hypothesis 1

The first research objective the researchers were interested in examining was whether jurors would judge male victims of female perpetrated sexual assault differently, in terms of blameworthiness and credibility, than female victims of male perpetrated sexual assault. The researchers expanded on previous research, which found that male victims are blamed more and viewed as less credible compared to their female counterparts. The present study, however, wanted to avoid including the pre-established rape myths that a victim needs to be sober and assaulted by a stranger in order to be viewed as credible and not blamed for the assault. Thus, participants were provided with a hypothetical acquaintance sexual assault, which purposely instructed participants that both the victim and the accused restrained from drinking the night in question. As such, Hypothesis 1a predicted male victims compared to female victims would be viewed as less credible and more

blameworthy overall, regardless of the condition. This hypothesis was partially supported. The present study found no significant effects for victim's gender on the measure of victim or accused credibility. More research is warranted to fully understand these results' outcomes. Nevertheless, the present study's results revealed a main effect for victim's gender on the measure of victim blame. These results demonstrate that the male victim was blamed more than the female victim, regardless of whether or not physiological arousal was present. Consistent with prior research (Pica et al., 2018), the results of the present study demonstrate that male victims were judged more negatively in terms of blame than female victims by both male and female participants.

The literature's focus on male perpetrated sexual assault of a female is well placed given its prevalence in our society however, this serves to marginalize other forms of sexual assault. The predominant focus by research on this one form of sexual assault helps perpetuate the notion that male sexual victimization committed by a woman is rare, and as such, facilitates its exclusion from the sexual assault discourse, research, and services. It may also help explain the present study's results, where male victims were blamed more, and their female perpetrators were blamed less, perhaps due to participants not perceiving that a man can be a victim of a female perpetrator.

The present study hypothesized that less guilty verdicts would be rendered towards the male victim of sexual assault and participants would be more confident in these verdicts. The present results did not support this hypothesis. Perhaps, participants were more aware of the issue of sexual assault, due to Canadian Universities' mandatory frosh week workshops on consent (Chung, 2015). Pica and Pozzulo (2017) examined if sexual assault familiarly influences mock jurors' decision making in terms of guilt verdicts in sexual assault cases. The results suggest that sexual assault familiarity does have the potential to influence mock jurors' decisions on guilt verdicts. Relating Pica and Pozzulo's (2017) findings to the present study, perhaps the non-significant guilt verdicts may be elucidated by the participants being familiar with sexual assault due to the mandatory frosh week education program. More research is warranted to examine the underlying causes of these results.

Hypothesis 2

The second research question proposed to examine the variable of a victim's signs of physiological arousal, which has never been empirically studied within the context of decision making in sexual assault cases. Given the often-held assumption that physiological arousal implies enjoyment, it was

predicted, within hypothesis 2a, that victims displaying signs of physiological arousal would be blamed more than victims without signs of physiological arousal. It was further predicted, within hypothesis 2b, that the male victim would be viewed as more blameworthy and seen as less credible by both male and female participants. These hypotheses were not fully supported, with statistical significance only occurring on the measure of perpetrator credibility. Nevertheless, important findings were made regarding the influence of this variable on both men and women's decision making in sexual assault cases. The results from the three-way interaction for the measure of perpetrator credibility allude to the idea that men believe in the rape myth that arousal indicates consent and enjoyment. When arousal was present for the male victim, men found the accused more credible than when it was absent. The results suggest that perhaps, this rape myth is more salient for male victims than for female victims. As predicted, it is possible that participants in the current study viewed arousal to be more evident for men than women. It is conceivable that this is due to erections being visible to perpetrators of sexual assault, whereas female arousal (i.e., wetness) may be harder to judge.

In accordance with previous research (Pica et al., 2018), female victims in the present study were judged more positively compared to male victims. This is illustrated by men judging the perpetrator as more credible when the victim was depicted as a man with signs of physiological arousal as compared to a woman with signs of physiological arousal. Humans may not be in conscious control of their physiological arousal, and as such, its presence or absence is not an indicator of perpetrator credibility. In accordance with previous research, there are numerous sound reasons why someone may be aroused that have nothing to do with enjoyment or consent. (Feldman, 1951; Giuliano & Clement, 2005; Sarrel, 2002). However, as the present study demonstrates, perpetrators with victims who displayed physiological signs of arousal will be seen as more credible by both men and women, and will be seen as even more credible if their victim was a male.

Hypothesis 3

The third question of interest in the present study was to examine if men and women judge victims differently. In harmony with previous research (Chapleau et al., 2008; Davies et al., 2006), it was predicted that men compared to women would judge the male victim more negatively and the perpetrator more positively. The third hypothesis was confirmed with regards to its credibility predictions: male participants held the male victim as less credible than did female participants.

The current study implies that the extent to which a sexual assault victim will be seen as credible is dependent upon the victim's and participants' gender. This is illustrated by the two-way interaction involving victim gender and sex of participants on the measure of victim credibility. Men judged the male victim as less credible than they judged the female victim and judged the victim overall as less credible than women did.

The third hypothesis was however not confirmed in terms of participant gender influence on the measures of guilty verdicts, blame attributed to the victim and accused, or accused credibility. Perhaps, in accordance with hypothesis 1b, guilty verdicts were not significant because participants were more aware of issues of sexual assault due to Canadian universities' mandated sexual assault awareness workshops (Chung, 2015). Research conducted by Rothman and Silverman (2007) suggests that students who partake in these programs are more likely to answer in a socially desirable manner in terms of guilt rendered towards an accused. In accordance with Rothman and Silverman's findings, it is conceivable that due to the sexual assault programs, participants in the present study answered in a socially desirable manner. Additional research is merited to examine the underlying causes of these results.

Perhaps, accused credibility was not significant for participant gender due to Benevolent sexism which refers to an evaluation of gender that appears positive in tone but is damaging to gender equality (Abrams et al., 2003)–for instance, believing that women are nurturing. This assumption, in turn, is used to blame women who choose not to have children because those who hold these benevolent sexist notions see these women as acting against the stereotype of their gender (Abrams et al., 2003). Benevolent sexism has been associated with men not viewing women as being credible (Abrams et al., 2003). These findings raise imperative questions regarding the importance of the gender distribution of juries in trials of sexual assault. As well, they open the door for future research to examine benevolent sexism's role on the victim and accused credibility in juror decision making.

It remains of interest as to why participant gender was non-significant on the measures of victim and accused blame. More research and replication of the present study is warranted to assess if the results would change if community members were used as participants rather than undergraduates. University students tend to represent a more educated and liberal population (Jaschik, 2016), and are more likely to be exposed to sexual assault education and information regarding consent and victim blame within their frosh week activities (Chung, 2015). Linda A. Anderson and

Whiston (2005) conducted a meta-analysis of the effectiveness of college sexual assault educational programs on rape attitudes and blaming attitudes, albeit the study did not specify if blame was towards the victim, the accused or both. Nevertheless, their results revealed that any form of intervention exposure lowered blaming attitudes, although longer sexual assault interventions are more effective than brief interventions for combating rape attitudes. Perhaps, Linda A. Anderson and Whiston's findings can explain why, in the current study, these mandatory sexual assault workshops did not appear to influence participants' credibly ratings for the victim. Credibility ratings are associated with rape attitudes (Wierzbicki, 2018). Perhaps, due to the short time frame of intervention during a university's frosh week (approx. 1-week duration), it is too brief to make a large enough influence on students' rape attitudes such as credibility ratings, but it is long enough to reduce blameworthiness. This, seemingly, helps to explain why in the present study, victim and accused blame was not significant but credibility was. As such, more research is warranted to assess the validity of these workshops and their influence on mock juror decision making in sexual assault cases for both the victim and the accused.

Conclusion

The present study found that extralegal factors such as victims' gender, participants' gender, and victims' signs of physiological arousal, in particular a male victim of female perpetrated sexual assault with signs of physiological arousal, may be influencing jurors' (especially males) interpretations of the event.

Limitations and Directions for Future Research. In closing, several caveats of the present study must be noted. While the study employed a realistic trial simulation, participants completed the study in their own homes and were only exposed to a written summary of the case. They were not required to take part in juror deliberations with other participants. On this latter note, however, research has demonstrated that different modes of presentation have little impact on studying the variable of gender (Hanel & Vione, 2016).

As previously mentioned, physiological arousal was indicated in the trial summary by the perpetrator. In the male victim arousal condition, the trial summary stated, "According to Lauren, Ted seemed to really enjoy the kissing and had an erection." The trial summary in the female victim arousal condition stated, "According to Ted, Lauren seemed to really enjoy the kissing and that, in fact, her genital area was very wet." Whereas, in the no arousal condition this information was omitted. It is conceivable that participants did not believe the perpetrator that the

victim was aroused, and as such did not use it to aid in their assessments of the case.

Additionally, a potential limitation of the current study might have been including the participants who got the alcohol manipulation wrong, as perhaps their believing that alcohol was involved influenced their judgments of the case and the results. Future studies should either exclude those who get this manipulation wrong or include alcohol consumption as a variable of interest.

As stated earlier, the variables of victims' gender and perpetrators' gender were tied together. Consequently, the accused's gender was not fully crossed. This decision was made to mediate against rape myths associated with same-sex sexual assaults from influencing the present study. The goal of the present study was to ascertain how the gender of victims and victims' arousal influence men and women's decision making in sexual assault cases, with a special focus on the differences between male victims of female perpetrated sexual assault and female victims of male perpetrated sexual assault. By fully crossing perpetrator gender and creating conditions of same-sex sexual assault, this goal could have been influenced by confounds such as homophobia and the belief that female on female sex is "sexy and just a phase" (Carlson, 2013). Same-sex sexual assault is prevalent in today's society (Rothman, Exner, & Baughman, 2011) and research is certainly required to investigate decision makers' judgments around these cases, as well as to examine whether fully crossing the variable of perpetrators' genders would alter the findings of the current study.

Social Implications. The issue of a victim's gender becomes imperative when we realize that due to the underreporting of male victims of female perpetrated sexual assault and its previous exclusion from the literature, there is no known data on its prevalence. With that said, the present study endeavoured to bring male victims of female perpetuated sexual assault to the conversation pertaining to sexual assault, in the hopes of opening the door to more research about this underrepresented population.

The issue of a victim's signs of physiological arousal becomes a variable of interest when we realize that people are not necessarily in control of their outward expressions of arousal. As indicated by research, signs of physiological arousal can become apparent in times of stress. An unwarranted sexual encounter would cause a multitude of stress, and there is no way to definitively prove that one is aroused due to sexual attraction or as a consequence of stress (Giuliano & Rampin, 2004; Sarrel, 2002). As such, physiological signs of arousal should not be used as an

indicator of consent. As revealed by the present study, if a male victim showed signs of arousal, decision-makers (especially males) viewed the perpetrator as more credible. This can have damaging effects on the rendering of fair trials and outcomes. Future research should continue to examine the variable of victim's signs of physiological arousal on juror decision making and include other indicators of arousal. Erection and wetness are good indicators of sexual arousal, but a victim can also have an orgasm or an ejaculation. Therefore more research is warranted to examine all variations of the forms of physiological arousal to continue to understand the full impact of this variable on jurors' decisions.

A number of important findings emerged from the study that demonstrate the disadvantages a male victim of sexual assault with signs of physiological arousal faces if he pursues his sexual assault claim at trial. Results indicate that participants, mainly males, were making their decisions about the victim and the perpetrator, in the current case of sexual assault, based on the victim's gender and the victim's signs of physiological arousal.

Overall, the results of the present study illustrate that male victims of female perpetrated sexual assault with signs of physiological arousal will be judged more negatively in terms of blameworthiness and credibility and their accuser will be judged more positively, especially if their jury is made up of more men than women.

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Taxi Tipping in New York City (2014-2017): Reciprocity in Hailed vs. Dispatched Cab Fares

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The present study evaluated the extent to which reciprocity (equity) theory could explain differential levels of tipping in New York taxi fares. From 2014 to 2017, the database recorded 73 million cab fares; however, only credit transactions (i.e., recording patrons' tips) were included (28 million fares). Based on a reciprocity hypothesis, patrons in cabs hailed randomly off the street were expected to tip more compared to patrons who arranged travel at a dispatch centre. An analysis of covariance for each of the four years supported this, wherein patrons in hailed cabs tipped twice the percentage (14%) than patrons in dispatched cabs (7%); these results were confirmed using equivalent procedures that assumed neither normality nor variance homogeneity. Several limitations are discussed, as are directions for future research.

Keywords: reciprocity, tipping, equity, genuine intention, taxi

La présente étude a tenté d'évaluer dans quelle mesure la théorie de la réciprocité pourrait expliquer les différences de pourboire à la suite des courses de taxis à New York. La base de données incluait exclusivement les transactions par crédit (c.-à-d., 28 millions de courses sur 73 millions) de 2014 à 2017. À partir d'une hypothèse de réciprocité, nous prédisions que les chauffeurs de taxis hélés au hasard reçoivent plus de pourboire que ceux ayant été dépêchés par un centre de répartition. Une analyse de covariance pour chacune des quatre années a permis de déterminer que les clients des taxis hélés ont donné des pouboires deux fois plus importants (14 %) que les clients des taxis expédiés (7 %). Ces résultats ont été confirmés en utilisant des procédures équivalentes qui ne supposaient ni normalité ni homogénéité de la variance. Plusieurs limites sont abordées, ainsi que les orientations des recherches futures.

Mots-clés : réciprocité, pourboire, équité, véritable intention, taxi

Merriam-Webster (Tip, 2019) defines a tip as "a gift or a sum of money tendered for a service performed or anticipated." The practice of tipping in the service industry is believed to have begun in sixteenth-century England, in coffee shops frequented by higher class individuals. Coffee shop owners would display a brass box labelled "To Insure Promptitude" into which individuals would place a coin at various times throughout their stay (Azar, 2003). The custom of tipping was also prevalent throughout sixteenth-century Europe in the hotel industry, wherein residents were expected to tip specific amounts to all staff members; not doing so could result in consequences like an injured horse (Azar, 2003). Tipping made its way to the United States in the mid-1800s by way of wealthy Americans gloating of their travels abroad (Segrave, 2009). Today, in much of North America, tipping has become a social norm: "people often […] feel guilty, unfair and embarrassed if they do not tip" (Azar, 2005, p. 142). Tipping occurs across a wide range of occupations, including hairstylists and beauticians, bartenders and waitstaff, and taxi and delivery drivers. Because several occupations rely on tips to supplement up to 75% of their income (Payscale, 2019), research on tipping behavior remains worthwhile and relevant. In particular, a broader knowledge of what influences tipping can help develop more effective strategies for increased take-home income in the service industry. Beyond the obvious benefits to service staff, familiarity with the psychology of tipping should prove useful for managers and business owners so as to better satisfy patrons in the provision of optimal customer service. Whereas the majority of research has focused on predicting tips offered to waitstaff, Lynn (2016) found that the taxi industry ranked 5th among 21 occupations for the likelihood of tip, surpassed only by bartenders, hairstylists, food delivery personnel, and waitstaff. Given the spectrum of interpersonal relations and group dynamics that naturally transpire in the course of a taxi fare, the present study evaluated the feasibility of reciprocity theory to predict New York City taxi tips from 2014-2017.

Interpersonal Antecedents in Tipping

The practice of tipping constitutes one of several interpersonal interactions between the consumer and service provider, as dictated by social norms and informal rules. Generally speaking, the price for goods and services is set by the service provider and is often known well before the transaction. Conversely, any tip amount is determined by the consumer and varies based on a host of social, performance, and interpersonal factors. Research on what influences tipping (whether absolutely or as a percentage of the bill) has focused on the possible social, psychological, and strategic motivating factors that prompt individuals to leave a particular size of gratuity (Azar, 2005, 2007, 2010; Lynn, 2016; Lynn & Latané, 1984).

Studies suggest that the service provider can increase tip amounts by utilizing subtle interpersonal interaction techniques, such that tips are markedly higher when the provider: touches or compliments the patron (Crusco & Wetzel, 1984; Seiter, 2007; Seiter & Dutson, 2007), introduces themselves (Garrity & Degelman, 1990), returns excess change to the patron (Azar, Yosef, & Bar-Eli, 2015), or includes a candy or "thank you" with the bill (Rind & Bordia, 1995, 1996; Strohmetz, Rind, Fisher, & Lynn, 2002). Lynn, Jabbour, and Kim (2012) found that tips were higher with more time spent in the restaurant, but only when the bill was relatively small. They suggested that patrons elected to compensate waitstaff for taking up their time, which compromised service (and tip) opportunities with other customers while they lingered (or loitered). Whereas the above study addressed restaurant service only, we extend this body of research into the taxi industry.

Moreover, Van Vaerenbergh and Holmqvist (2013) evaluated whether being served in one's native language (as opposed to their second language) would influence the decision to tip; indeed, results showed patrons as more willing to tip when served in one's native language–even when visiting outside their country of origin. These data show that people appreciate the effort and accommodations from service personnel, further supporting the notion that tipping is a way of rewarding a service provider for "going the extra distance" (i.e., offering additional service and comfort beyond expectations). Whereas the authors only investigated waitstaff, Van Vaerenbergh and Holmqvist (2013) further employed an unfortunate binary measure of tipping (i.e., "would you tip or not") rather than a more informative continuous measure that we adopted presently.

Beyond the restaurant industry, a recent observational study on tipping taxi drivers sheds valuable light on those factors that predict driver tip (Aydin & Acun, 2019). Although blind to the purpose of the study, data were collected by drivers trained to observe and record patron gender, fashion, conversation levels, and efforts of patrons to seek status; they further logged both tip amount and distance travelled. With little surprise, results showed that tips increased with greater distances and with more conversation between driver and patron. Additionally, patrons who sought more social status (by wearing more fashionable clothing and choosing to sit in the back seat) similarly offered higher tips. The authors, however, noted one key drawback in their use of observational data, that is, clothing fashion and conversation levels were left at the discretion of the driver, and open arguably to bias. To address these concerns, the present study utilized an electronic database free of observational bias.

Mechanism of Reciprocity in Taxi Tipping

The above examples may each be explained by the norm of reciprocity, wherein we feel compelled to treat others as they have treated us. Under Hammurabi's Law's, this principle would guide matters of justice (i.e., "an eye for an eye"), but in everyday interactions, reciprocity refers simply to the mutual exchange of favors. As Gouldner (1960, p.162) notes: "social equilibrium could not exist without the reciprocity of service and return service." For the present discussion of tipping, we refer to the definition from Fehr and Gächter (2000, p.159): "Reciprocity means that in response to friendly actions, people are frequently much nicer and much more cooperative than predicted."

A classic study by Regan (1971) should elucidate the construct and its impact on compliance. A participant and confederate were seated together in an aesthetics experiment, specifically judging the quality of artworks. The confederate was instructed secretly to behave toward the participant in either a likeable or unlikeable manner. In one condition, the confederate left the room and returned with two bottles of cola (offering one to the participant). In another condition, the confederate returned with no beverage. The confederate said they were selling raffle tickets to raise money for their sports club ($0.25 each) and asked if the participant wished to purchase any. Results showed that even when the confederate was perceived as unlikeable, participants who received the free cola felt compelled to purchase more raffle tickets (on average spending $0.43). With respect to the present study, we review herein a variety of ways by which reciprocity can explain the interpersonal transaction between customer and service provider following a cab ride, including (a) need for equity and (b) repaying someone for their genuine intention to help.

Need for Equity. The results of Van Vaerenbergh and Holmqvist (2013) offer initial support for the reciprocity theory (Gilovich, Keltner, Chen, & Nisbett, 2019). The imbalance created within the individual by "taking without giving" causes one to fell indebted to another, resulting in guilt, which motivates correction. The reciprocity norm was empirically identified in the service industry by Becker, Bradley, and Zantow (2012) using factor analysis of customer tip motives for services provided. In the context of the taxi industry, it is likely that individuals who hail a cab (i.e., waved down haphazardly in the street) would be more grateful than those who specifically dispatch a hired car. This has been referred to as the State-Relief Motive (Cialdini, 1993). In other words, the cab driver stopping by chance may have rescued the passenger from any number of unpleasant circumstances, including excessive delay or fatigue, foul weather, or even a dangerous neighborhood. The norm of reciprocity suggests that, compared to pre-arranged or dispatched cabs, patrons will appreciate and tip hailed drivers more because patrons enter a direct reciprocal relationship with hailed drivers. They however enter a reciprocal relationship with a company (and not the driver) in the case of pre-arranged or dispatched cabs.

In this instance, the tip (especially for hailed fares) is seen as a reciprocal reward based on the patron's gratitude toward the driver. According to research by Fehr and Gächter (2000), reciprocity applies to both long-term and random encounters from service providers unlikely to have future encounters with those same patrons. According to the New York City Taxi and Limousine Commission (2019), there are approximately 13,500 cabs within the greater New York metropolitan area. Therefore, the likelihood of securing the same driver multiple times is minimal, suggesting future service is not likely the reason for leaving a tip. Overall, the reciprocity theory would predict that a hailed cab would generate greater tips from grateful patrons.

Perceived genuine intention. Whereas it is arguable that a patron can be rescued from a negative state or situation by an opportune taxi, it is also conceivable that patrons are grateful for the hailed taxi driver who chose to pull over through a genuine intention to help. As such, the hailed taxi driver who chooses to stop may be perceived as more helpful which thus renders a larger gratuity. Rind and colleagues (Rind & Bordia, 1995, 1996; Rind & Strohmetz, 1999; Strohmetz et al., 2002) showed that including a candy or "thank you" increased tip amount by upwards of 17%, and attributed this phenomenon to customers' perceptions of server kindness. That kindness, much like a driver's choice to intercept the pedestrian, would thus compel offering a greater gratuity. The present study argues that patrons recognize the dispatched driver's arrival at the pre-arranged time and place. Yet they perceive more positively the hailed driver who chooses to stop and help a patron in need (thus garnering a larger tip).

Present Study and Hypothesis

This exploratory study evaluated the suitability of reciprocity theory to explain differential levels of tip percentage for New York City cab fares from 2014 to 2017. While the present study is unable to pinpoint the precise mechanism within reciprocity theory that yields greater tipping due to a lack of qualitative data, both needs for equity and altruistic intentions remain relevant. Based on prior research (Aydin & Acun, 2019; Azar et al., 2015; Garrity & Degelman, 1990; Rind & Bordia, 1995, 1996; Strohmetz et al., 2002) that found that tips increased in imbalanced (inequitable) situations that included an introduction, excess change, or a candy or "thank you" on the bill, we hypothesized that after accounting for number of passengers and both day and month travelled, patrons who hail their taxi will tip by a greater percentage than patrons who dispatch taxis by prior arrangement. We refer to our study as exploratory to stress its generation of testable hypotheses using a secondary data source.

Method

We utilized the open-access New York City taxi database (New York City Taxi and Limousine Commission, 2019), which electronically tracks cab fares in the larger metropolitan New York City area. The number of daily fares averaged 56,000 and totalled millions of fares each year. This database represents the bulk of the taxis in New York, though smaller operations (including Uber and Lyft drivers) were not included (a noteworthy limitation we will discuss later). We selected fares from January 2014 to December 2017 inclusive, since they were reasonably complete based on the following measures: Time/Date of fare pickup and drop-off, number of passengers (1 to 9), distance travelled (in miles), travel fare, toll fees, tip amount, and total fare (the sum of the travel fare, the tip and the tolls). For example, data collection prior to 2014 did not specify hailed vs. dispatched fare; in addition, data collection after June 2018 excluded pickup and drop-off coordinates. Our key dependent variable was the ratio of the tip amount to the total fare, what we herein refer to as "tip percentage". The database also recorded the type of trip, that is whether the fares were hailed (~99%) or dispatched through a central operator (~1%; we will discuss this wide disparity later in our discussion). Although patrons could remit payment by either cash or credit, only credit transactions recorded the patron's tip. We presume that in the majority of cases, the tip

was awarded by a single patron in the event of a multiple-passenger fare. We reviewed the dataset from each year for the presence and distribution of missing data and noted one anomalous year in particular. Whereas random data loss was quite low in each of the years 2015-2017 (1.4% to 1.9%), it was markedly higher (11.3%) in 2014. Missing entries in this year were distributed evenly throughout the timeline, and we found no significant relation of missing data to the relevant variables. Having deleted cases with missing values, the final dataset consisted of 28,307,391 taxi fares, broken down by year as follows: 2014 (5,809,416), 2015 (8,710,909), 2016 (7,969,326), and 2017 (5,817,740). The division of analysis by year further offered a replicability verification check into the validity of the findings.

Results

We set the statistical significance to a very conservative level (α = .001) for all analyses (due to the high power and number of observations), and employed Bonferroni corrective measures to prevent any inflation of Type I errors due to multiple testing across the four years. Additionally, we coupled our parametric analysis with a nonparametric equivalent, given some degree of nonnormality in the distribution of tip percentage. Specifically, skewness, "a measure of distribution symmetry" (Field, 2013, p. 884) ranged for hailed cabs from –0.308 to 0.086 but ranged for dispatched cabs from 1.35 to 1.55. All skewness standardizations (i.e., skewness divided by standard error; Field, 2013) yielded z-scores of 30 or more (ps < .001), suggesting nonnormality. Similarly, kurtosis, a measure of clustering or bunching of observations in the distribution tails (Field, 2013), ranged for hailed cabs from 2.46 to 6.16, but from 1.11 to 6.42 for dispatched cabs. All kurtosis standardizations (i.e., kurtosis divided by standard error; Field, 2013) yielded z-scores of 1200 or more

(ps < .001), suggesting nonnormality. Finally, we selected three variables available in the dataset– number of passengers, day of the week, and month of the year–to serve as covariates in an effort to reduce unexplained variance. We believed these variables were likely to account for significant variance in tipping given the greater volume of taxi travel Friday to Sunday and during winter months (New York City Taxi and Limousine Commission, 2019). Overall, we employed Trip Type (hailed vs. dispatched cab) as the grouping variable, tip percentage as the dependent variable, and three variance-reducing covariates in an Analysis of Covariance (ANCOVA) in each of the four years to evaluate the reciprocity hypothesis (see Table 1). A comparison of hailed vs. dispatched mean tip percentage by year revealed a consistent pattern wherein tip percentage was twice as high for hailed cabs (14%) compared to dispatched cabs (7%); this was significant for each of the four years, even with the Bonferroni correction (p < .001). However, we noted that the larger standard deviation (or average spread of scores) occurred in the group with the fewest observations (dispatched fares). This can render a statistical test unacceptably liberal (Tabachnick & Fidell, 2013); indeed, Levene's test of variance homogeneity confirmed for each of the four years that the variances between the two groups were significantly different (ps < .005, after Bonferroni correction).

Whereas ANCOVA may be resistant to modest violations of its derivational assumptions (Field, 2013; Howell, 2010), we elected to take additional precautions by utilizing variance homogeneity corrective procedures (viz., Brown-Forsythe algorithms), which did not assume equivalent variances between conditions. Across each of the four years, results were consistent with the conclusions of the original analysis, wherein drivers in hailed cabs

Table 1

ANCOVA: Tip Percentage for Hailed vs. Dispatched Taxis by Year

Year	Hailed			Dispatched			ANCOVA*			
	M	*SD*	*n*	*M*	*SD*	*n*	F_{HD}	F_P	F_D	F_M
2014	13.93	7.01	5.78M	7.07	9.03	30.0k	28526	518	658	1947
2015	14.14	7.33	8.66M	7.47	9.45	51.4k	41974	738	1216	1577
2016	14.08	7.40	7.92M	7.15	9.13	45.7k	39547	480	1509	812
2017	13.57	7.49	5.79M	7.41	8.96	32.6k	21951	376	3413	23625

Note. F_{HD}: The *F*-statistic comparing hailed to dispatched tip percentage (degrees of freedom are 1 and infinity for each main effect and covariate test).
F_P = number of passengers; F_D = day of the week; F_M = month of the year.
* p < .001, after Bonferroni correction.

were tipped significantly higher than drivers in dispatched cabs.

As one final precaution, we conducted a nonparametric alternative to our original analysis. By converting data to ranks, the Mann-Whitney test is not subject to distributional assumptions like normality and variance homogeneity (Howell, 2010). Once again, the nonparametric analysis confirmed the conclusions from our original analysis, for each of the four years: 2014 ($z = 99.19$, $p < .001$), 2015 ($z = 146.93$, $p < .001$), 2016 ($z = 149.32$, $p < .001$), and 2017 ($z = 112.80$, $p < .001$). We should point out, however, that, consistent by year, the proportion of variance in tip percentage explained by Trip Type was very small, a mere $R^2 = .05$ for each of 2014, 2015, and 2016; and $R^2 = .08$. Conversely, these results showed that 99.2% to 99.5% of the differences in tip percentages are explained by variables other than Trip Type.

Discussion

The present study evaluated whether the reciprocity theory could explain differential tipping percentages as offered to hailed vs. dispatched taxi drivers. We utilized an especially large taxi database from New York City, consisting of both tip percentage and hailed vs. dispatched fares. After controlling for number of passengers and both day and month of travel, our analysis confirmed the hypothesis that patrons in hailed cabs tipped more (double the percentage, 14%) than patrons in dispatched cabs (7%). We grant that the database did not directly measure patrons' perceptions of reciprocity or gratitude, nor could we know the precise mechanism that motivated tipping (viz., need for equity or the driver's intention to help). Yet, we explore those below for future research.

We also address the especially small effect sizes observed in the present study (i.e., 0.5% of explained variance). Whereas this result is not uncommon in the analysis of especially large datasets (Tabachnick & Fidell, 2013), we are reminded that other variables are needed to explain differences in tip percentage. It further invites us to consider how statistically significant results may lack practical significance (Cohen, 1988). We have offered the reader several avenues for future research to introduce successful candidates in the understanding of those variables that account for the variability in tip percentage.

The present results augment an already large body of literature in support of reciprocity theory (Gilovich et al., 2019). Indeed, these results align well with those observed in the context of the service industry. Specifically, tips were higher with longer cab rides and enhanced interactions (Aydin & Acun, 2019), or

after receiving a touch or compliment or introduction from waitstaff (Crusco & Wetzel, 1984; Garrity & Degelman, 1990; Seiter & Dutson, 2007), or a candy with the bill (Azar et al., 2015; Rind & Bordia, 1995, 1996). Similarly, prior research showed patrons who spent more time in the restaurant but incurred a small bill could rebalance the perceived inequity by leaving a larger tip (Lynn et al., 2012). In short, as Regan (1971) noted, when a small favor is done for us, the norm of reciprocity fuels our motivation to right the imbalance. Van Vaerenbergh and Holmqvist (2013) concluded that people do indeed feel the need to balance apparent inequities (receiving something for nothing) in their interpersonal interactions. This may suggest that passengers believe a hailed cab aided them in their time of need (surpassing typical service and garnering a larger tip). Moreover, the taxi service's central dispatch may elect to send a more expensive vehicle on a pre-arranged fare. Conversely, the hailed (and potentially less affluent vehicle) driver might invite a greater tip due to empathy to their financial needs. Future research would also do well to explore in-depth the cognitive processes of customers before, during, and after service from a hailed cab vs. dispatched cab.

Lynn (2016) further explains how the tip amount is influenced by the interaction of occupation and three customer motivations. For instance, patrons may tip by *altruistic motives* (i.e., helping people who appear to be struggling) for all 21 occupations studied, but in particular among occupations who receive occasional tips like an airport porter, casino dealer, hotel maid, and golf caddie. Alternatively, patrons may tip by *duty motives* (i.e., compliance with a social norm) chiefly to those in occupations who receive frequent tips like a taxi driver, bartender, hairstylist, and pizza delivery driver. Finally, patrons may tip by *reciprocity motives* (i.e., a token return for superior service) chiefly among occupations less familiar with tipping like restaurant takeout orders. As expected, altruism motives correlated with neither duty nor reciprocity motives, whereas duty and reciprocity motives were positively related. Whereas it may be argued that duty motives are likely dominant in the taxi industry, we cannot rule out the impact of both altruistic motives (e.g., the driver appears to be struggling financially) or reciprocity motives (e.g., superior service from help with luggage) therein. Future research should explore the role of these motives in the taxi industry (Lynn, 2016).

Limitations and Implications

Various limitations within the present study warrant mention. To begin, whereas both cash and credit transactions were logged, only tips from credit transactions were recorded. Because credit

transactions separated fare and tip, we cannot know whether patrons offered a cash tip following a credit payment on the fare only. As such, this could introduce a significant bias in the interpretation of results, since any cash tipping would be logged as null on the credit card. It is feasible that the tipping patterns and behavior of patrons who carry cash can differ from those of credit-card patrons. Those same two groups may be differentially impacted by the social forces that fuel reciprocity. As such, the inability of the database to adequately track cash tips and transactions would necessarily underestimate the overall variability in the cab patrons' tipping patterns.

Furthermore, although the taxi database represented the bulk of taxi operatives in New York City, smaller operations (including Uber and Lyft drivers) were not included; we must conclude that the database, though useful, was not complete. We found the wide disparity in the proportion of taxi fares that were hailed (99%) versus dispatched (1%) curious. Whereas dispatched fares constituted a modest proportion of the total number of cab fares in New York, the overall number (162,000) remains enormous; so, we remain confident in our conclusions based on analysis of this group. On the one hand, we recognize how the convenience of alternatively recruiting a cab online would necessarily invite private transport services like Uber and Lyft (and lesser known service from Gett, Via, and Juno) that in 2017 overtook New York City cabs as the primary source of cab transport (Bhuiyan, 2018). One would expect an even greater market share to be absorbed by private transport services in future assessments.

We also recognize the differential data loss across the four years (11% for 2014 vs. 1-2% for 2015-2017). Although we cannot know for certain, we hazard to suggest that early data loss (2014) occurred due to the novelty of data collection among cab operators charged with the task of electronic accuracy –likely corrected in later years. Given the comparable results across the four years, we believe that the early data loss in 2014 remains significant but not impactful. Thus, we feel confident that our conclusions can be generalized to the typical tipping behavior of New York City taxi patrons.

The data were collected through an electronic system that recorded strictly factual data (viz., time and date, number of passengers, distance travelled, toll fees, total fare, and tip amount). Other valuable information on passenger gender, age, or ethnic background was not collected. This is especially relevant concerning the interaction between two norms–reciprocity and culture. That is, reciprocity has been found to differ between patrons from individualist nations (e.g., Canada, the United States,

and Western Europe) and those from collectivist nations (e.g., Latin America and Southeast Asia). One study by Jung et al. (2014) uncovered reciprocity norm differences between respondents from Japan and the United States. They further showed two cultures differed in their motivation to reciprocate to either friends or strangers–there was no difference in positive reciprocity between friends and strangers for individualist Americans. Still, Japanese collectivists reciprocated more positively when they believed their unknown partner was their friend. Moreover, American participants reciprocated more positively when treated positively, and negatively when treated negatively, whereas Japanese participants displayed consistently neutral responses regardless of treatment. Hence, future research might explore both (a) how the ethnic congruence between patron and driver might decrease tipping (via a similarity hypothesis), whereas incongruence might decrease tipping; and (b) how cultural background interacts with token favors like paying a compliment.

Conclusion

Our exploratory study is unique in its analysis of differential tipping as a function of hailed vs. dispatched cabs. Within the context of the taxi industry, these results offer empirical support for the reciprocity theory in the psychology of gratuities. It should help inform future drivers on means to garner greater tips upon dispatch, whether through subtle but engaging social interaction rather than more direct compliments and flattery. Future research should step beyond this large dataset and consider smaller experimental designs to address the precise mechanism in reciprocity that motivates enhanced tipping, whether the need for equity or one's intention to help another. These can be addressed either through manipulation of group dynamics (*cf.* Regan, 1971) or through brief surveys upon cab exit at an airport or theater. In short, either approach would add necessary elements so that we may fully understand the underlying process behind reciprocity in taxi tipping.

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Modèle explicatif de la relation d'attachement parent-enfant chez la personne autiste : l'influence de la fratrie et du stress parental

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Le premier lien établi entre un enfant et son parent, occupant souvent le rôle de figure d'attachement principale, demeure essentiel pour le développement de l'enfant qui gagne en autonomie. Alors que le trouble du spectre de l'autisme (TSA) toucherait environ 1 % de la population mondiale (Fédération québécoise de l'autisme, 2019), des facteurs pouvant influencer négativement la création du lien d'attachement entre des enfants TSA et leurs parents sont susceptibles de permettre d'entraîner le développement d'un attachement insécure (Oppenheim et al., 2012). Un modèle explicatif récemment proposé par Lapointe (2017) suggère que certains facteurs, tels que les déficits en communication sociale, les troubles associés et le stress parental, pourraient avoir un effet sur le lien modérateur entre la qualité du lien d'attachement et la présentation symptomatologique du TSA. L'article suivant propose une bonification du modèle théorique tenant compte d'un possible lien bidirectionnel entre la fratrie et le stress parental.

Mots-clés : lien d'attachement parent-enfant, attachement insécure, trouble du spectre de l'autisme, stress parental, fratrie TSA

The first bond formed between a child and his parent, generally his main attachment figure, remains essential for the development of the child's autonomy. While around 1% of the world's population is diagnosed with autism spectrum disorder (ASD; Fédération québécoise de l'autisme, 2019), some factors are said to negatively influence the development of the attachment between children with ASD and their parents, explaining why they seem more likely to develop an insecure attachment style (Oppenheim et al., 2012). An explanatory model has been proposed by Lapointe (2017), which suggests that certain factors, such as social communication deficits, associated disorders and parental stress, could have a moderating effect on the relation between the quality of the attachment and the autistic symptoms. The following article proposes an enhancement of this theoretical model by considering a possible bidirectional link between siblings and parental stress.

Keywords: parent-child attachment, insecure attachment style, autism spectrum disorder, parental stress in autism spectrum disorder, siblings of autistic children

Le trouble du spectre de l'autisme (TSA) est un diagnostic lourd de conséquences pour un enfant, mais aussi pour sa famille, puisque plusieurs sphères du développement sont touchées. Plus particulièrement les habiletés langagières et la manière d'entrer en relation avec les autres sont affectées, ce qui a des impacts sur la dynamique familiale quotidienne. Les interactions entre l'enfant TSA et ses parents peuvent être affectées, de même que celles entre l'enfant TSA et ses frères et sœurs, engendrant parfois un niveau et un type de stress divergent de celui vécu chez les familles n'ayant que des enfants non autistes. Plusieurs contraintes et tracas, comme les nombreux rendez-vous médicaux ou les séances de thérapie, peuvent complexifier le quotidien des familles ayant un enfant TSA, qui doivent répondre à des exigences additionnelles. C'est pourquoi l'interinfluence entre les symptômes autistiques, le type d'attachement, le stress parental et la fratrie est davantage explorée dans cet article.

Le trouble du spectre de l'autisme (TSA)

Depuis la publication de la cinquième édition du Manuel diagnostique et statistique des troubles mentaux (DSM-5; American Psychiatry Association, 2013) succédant au DSM-IV-TR (American Psychiatry Association, 2000), le diagnostic de trouble envahissant du développement a été remplacé par le diagnostic TSA[1].

Actuellement, le TSA est défini à l'aide de quatre critères principaux. Le premier critère traite de déficits cliniquement significatifs et persistants de la communication et des interactions sociales, tel que manifesté par ces trois sous-critères : déficits marqués dans la communication verbale et non verbale utilisée dans les interactions sociales, manque de réciprocité sociale et difficulté à développer ainsi qu'à maintenir une relation avec les pairs appropriée pour le niveau de développement. Ensuite, le deuxième critère

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regroupe la manifestation de comportements moteurs ou verbaux stéréotypés, ou comportements sensoriels inhabituels, l'adhésion excessive à des routines et à des patrons de comportements ritualisés, de même que l'observation d'intérêts fixes et restreints. Le troisième critère précise que les symptômes doivent être présents tôt dans l'enfance et altérer le fonctionnement de manière significative, mais peuvent ne pas être totalement manifestés tant que la demande sociale n'excède pas les capacités limitées de l'enfant. Enfin, le quatrième critère précise que les précédents ne doivent pas être mieux expliqués par un autre trouble.

Prévalence

Le développement de la relation d'attachement entre un parent et son enfant autiste est un sujet d'étude important vu le nombre grandissant de diagnostics TSA dans le monde. S'il n'y a pas véritablement de consensus à l'heure actuelle dans la littérature, quelques hypothèses sont émises en ce qui a trait aux raisons de cette augmentation de diagnostics.

Notamment, cette croissance peut être expliquée par la mise à jour des pratiques diagnostiques, l'augmentation des connaissances scientifiques sur le TSA et le plus grand accès aux services pour les familles, bien que l'offre soit variable d'une région à une autre. En effet, la prévalence du TSA se situe autour de 1 % pour la population mondiale (Fédération québécoise de l'autisme, 2019). En fait, cette prévalence serait identique à celle recensée au sein de la population canadienne, tandis qu'elle s'élève à 1,5 %, pour la province du Québec (Fédération québécoise de l'autisme, 2019).

Les styles d'attachement

Selon la littérature, la fonction de la relation d'attachement est encore aujourd'hui de fournir une base de sécurité à l'enfant, lui permettant d'explorer librement son environnement (Moss & St-Laurent, 2001). L'un des pionniers dans ce domaine de recherche est Bowlby, qui a élaboré la théorie sur l'attachement (Bretherton, 1992). Cette théorie a pour prémisse que chaque enfant a besoin de former une relation d'attachement avec une personne qui en prend soin de manière constante et cohérente, afin de connaître un bon développement social et émotionnel.

Conséquemment, les études sur l'importance de l'attachement se sont d'abord concentrées sur la période de l'enfance grâce aux travaux découlant des résultats de la situation de l'étranger d'Ainsworth (Bretherton, 1992). À partir de ceux-ci, trois styles d'attachements ont été répertoriés : sécurisant, évitant et ambivalent. Les deux derniers étaient regroupés sous le type insécurisant. Main et Solomon (1990) ont

ajouté un quatrième style, soit désorganisé, également associé au type insécurisant.

La qualité de l'attachement entre l'enfant et sa figure d'attachement, habituellement le parent ou le donneur de soin, est variable en fonction du degré de sensibilité avec lequel cette figure répond aux besoins et aux signaux de l'enfant (Bowlby, 1969). Lorsqu'il sollicitera son support ou son réconfort, certaines réponses de la figure d'attachement, traditionnellement la mère, sont généralement associées au développement de l'attachement sécure. Il est par exemple question de la capacité à stimuler adéquatement l'enfant de manière sensorielle (Leyendecker, Lamb, Fracasso, Schölmerich, & Larson, 1997) et d'intervenir rapidement en cas de détresse (Del Carmen, Pedersen, Huffman, & Bryan, 1993). Puisqu'à travers les interactions avec la figure d'attachement, l'enfant apprend à réguler ses émotions ainsi que les compétences sociales de base, la sensibilité aux besoins et signaux de l'enfant permet également une construction graduelle des attentes de l'enfant.

Cependant, les réponses de la figure d'attachement peuvent être inappropriées. Effectivement, des interactions intrusives ne tenant pas compte de l'état émotionnel de l'enfant (Belsky, 1984; Isabella & Belsky, 1991) ou rejetantes en raison d'une apparente aversion de contact physique (Main & Stadtman, 1981) sont liées à l'attachement évitant, tandis que des réponses inconstantes qui visent davantage à répondre aux besoins de la mère (Ainsworth, Blehar, Waters, & Wall, 1978) sont caractéristiques de l'attachement ambivalent; et les réactions effrayantes ou l'absence de réactivité sont associées à l'attachement désorganisé (Madigan, Moran, & Pederson, 2006).

Pour un enfant dont l'attachement se construit de manière insécurisante, les conséquences peuvent être nombreuses et dommageables, entre autres du côté social et affectif. L'enfant avec un attachement insécurisé aura des difficultés de régulation émotionnelle. Il aura tendance à être plus anxieux ou à manifester des signes de dépression, de somatisation et de retrait social (Forest, 2001). Puisque l'attachement insécurisant ne favorise pas le développement de bonnes compétences sociales, les relations avec les pairs sont souvent plus difficiles. L'attachement insécure ne permet pas à l'enfant d'apprendre ces comportements, puisque le parent n'a pas été en mesure de répondre adéquatement aux besoins de son enfant[2].

Le concept d'attachement demeure un sujet étudié par de nombreux chercheurs encore aujourd'hui (Cooke, Kochendorfer, Stuart-Parrigon, Koehn, & Kerns, 2019; Kerr, Buttitta, Smiley, Rasmussen, &

Borelli, 2019; Khan et al., 2019). Selon une méta-analyse, le style d'attachement propre à chaque individu se développe à l'enfance et peut se modifier ou demeurer stable à travers l'adolescence et l'âge adulte, en fonction de différents facteurs (McConnell & Moss, 2011). Par contre, il existe différents facteurs prédicteurs de la stabilité ou du changement du style d'attachement. Par exemple, ceux menant au style d'attachement insécure, tels que l'expérience d'événements négatifs, une sensibilité plus faible de la mère, une moins bonne satisfaction de la relation maritale et une moins bonne qualité de communication avec l'enfant (McConnell & Moss, 2011). Les interactions entre de tels facteurs influençant la relation d'attachement chez les enfants évoluant avec un trouble neurodéveloppemental comme celui du TSA demeurent un sujet à développer.

Le développement de l'attachement chez les personnes TSA

Selon Persini et al. (2013), la relation d'attachement des enfants TSA représente un sujet de recherche intéressant puisque son développement a des retombées significatives sur les plans théoriques et cliniques. Ceci s'explique par l'influence des symptômes autistiques sur la construction de la base de sécurité et sur les moyens pour l'exprimer, lesquels seraient différents de ceux des personnes non autistes (Persini, Viellard, Chatel, Borwell, & Poinso, 2013).

Les facteurs influençant le développement de la relation d'attachement chez les autistes varient selon les modèles théoriques de l'autisme. D'un côté, les modèles qui présentent le TSA comme un déficit global sur les plans social et émotionnel prédisent que l'enfant TSA sera incapable de former un attachement sécure spécifique au donneur de soin (p. ex., Cohen, Paul, & Volkmar, 1987). Les modèles qui conceptualisent le TSA comme impliquant des troubles de nature biologique au niveau de l'attention et de l'éveil auront tendance à prédire une préférence pour le donneur de soin qui serait uniquement lié à l'aspect de familiarité (p. ex., Dawson & Lewy, 1989). Le risque de développer un attachement insécure serait causé par le fait que les interactions sociales s'avèrent trop stimulantes.

D'autres modèles avancent que le TSA constitue un ensemble de déficits sociaux spécifiques menant à des difficultés à inférer les états internes d'autrui (Baron-Cohen, 1989a; Happé & Booth, 2008; Mundy & Sigman, 1989). Les difficultés intersubjectives rendent difficiles pour l'enfant TSA de comprendre, prédire et contrôler le comportement du donneur de soin. Ceci affecte leur capacité à lui faire confiance et donc la qualité de l'attachement (Cortina & Liotti, 2010; Stern, 2004). En somme, les défenseurs de ces modèles argumentent qu'un attachement sécure peut

se former, mais à un rythme plus lent, et que les expressions se manifestent par des schémas de comportements uniques (Rogers, Ozonoff, & Maslin-Cole, 1993).

Pourtant, peu d'études récentes ont été faites pour mettre à jour les connaissances actuelles par rapport aux facteurs d'influence du développement du lien d'attachement chez des enfants ayant des symptômes du TSA. Quels sont les impacts du diagnostic sur le développement de son style d'attachement avec son entourage, c'est-à-dire ses parents et sa fratrie? Un faible niveau de stress parental et la fratrie peuvent-ils constituer des facteurs de protection dans le développement de l'attachement? Ce sont des questions explorées dans cet article en lien avec la bonification d'un modèle théorique existant (Lapointe, 2017).

Revue de littérature

À l'heure actuelle, il n'y a aucun consensus à propos de la prévalence des styles d'attachement chez les enfants autistes. À une certaine époque, il a été question d'une propension plus élevée au développement de l'attachement insécure chez les enfants TSA, comparativement aux enfants non autistes. Une méta-analyse de Rutgers, Bakermans-Kravenburg et Van Berckelaer-Onnes (2004) soulignait que quatre études confirmaient cette hypothèse (Bakermans-Kranenburg, Rutgers, Willemsen-Swinkels, & Van Ijzendoorn, 2003; Capps, Sigman, & Mundy, 1989; Pechous, 2001; Spencer, 1993).

À titre d'exemple, Spencer (1993) avait trouvé que seulement 5 % des enfants TSA saluaient leur mère, comparé à 35 % des enfants ayant un retard de développement et à 80 % des enfants ayant un développement normal. De plus, les enfants TSA approchaient moins fréquemment leur mère. Dans l'étude de Capps, Sigman et Mundy (1989), 60 % des enfants avaient un style d'attachement insécure. Plus récemment, une étude à laquelle participaient 45 enfants TSA a utilisé la situation étrange, dans laquelle l'enfant était laissé seul avec ou sans étranger afin d'observer son comportement en situation de stress (Oppenheim, Koren-Karie, Dolev, & Yirmiya, 2012). Comme résultat, une majorité d'enfants (57,8 %) y était classifiée comme appartenant à la catégorie d'attachement insécure.

Toutefois, dans la méta-analyse de Rutgers et al. (2004), une majorité d'études, soit six sur dix, ont obtenu des résultats différents et ont indiqué que les enfants TSA ayant un attachement sécure ne formaient pas une proportion particulièrement plus basse ou significativement plus basse comparée aux groupes de comparaison (Dissanayake & Crossley, 1996, 1997;

Rogers & Dilalla, 1990; Rogers, Ozonoff, & Maslin-Cole, 1991, 1993; Shapiro, Sherman, Calamari, & Koch, 1987; Willemsen-Swinkels, Bakermans-Kranenburg, Buitelaar, Van Ijzendoorn, & Van Engeland, 2000).

Ainsi, des études ont démontré la possibilité pour les enfants TSA de construire un attachement différencié à leur figure d'attachement principale, dans ces cas-ci la mère. Avoir un attachement différencié signifie que l'enfant est en mesure de différencier son parent d'une personne étrangère et de montrer un attachement distinct (Persini et al., 2013). Effectivement, Sigman et Ungerer (1984) ont été parmi les premiers à prouver l'émission d'une réponse préférentielle dirigée vers la mère chez l'enfant autiste. Ce dernier pouvait orienter des comportements sociaux vers sa mère pendant de longues périodes, par exemple en se rapprochant et en restant près d'elle à la suite d'une séparation, ce qui a été reproduit par plusieurs auteurs par la suite (Dissanayake & Crossley, 1996, 1997; Rogers et al., 1991; Shapiro et al., 1987).

Ces données contradictoires concernant l'attachement chez les enfants TSA justifient donc l'élaboration de modèles et de pistes de solution prévenant son développement.

Les facteurs d'influence du lien d'attachement chez les autistes

Divers facteurs peuvent influer sur la capacité ou le type d'attachement développé chez les enfants TSA. D'abord, le lien entre l'attachement de l'enfant TSA et la sévérité du trouble s'appuie sur les altérations des interactions sociales et les troubles de communication entre la mère et l'enfant. Des études soulignent l'incapacité de l'enfant à exprimer ses attentes, de même que la difficulté de la mère à les comprendre pour répondre à ses besoins (Akdemir, Pehlivanturk, Unal, & Ozusta, 2009; Van Ijzendoorn et al., 2007). Certaines études ne rapportent pas de lien entre l'attachement des enfants TSA et leurs capacités cognitives (Akdemir et al., 2009; Rogers & Dilalla, 1990; Shapiro et al., 1987; Sigman & Ungerer , 1984), alors que d'autres en trouvent, tout particulièrement avec l'attachement insécure et désorganisé (Rutgers et al., 2004, 2007; Willemsen-Swinkels et al., 2000). Plus précisément, ce serait l'exigence de meilleures compétences cognitives pour la construction des modèles internes opérants qui serait en cause, ceux-ci étant des patrons d'attachement qui semblent se répéter à travers les relations et qui permettent d'interpréter le monde (Miljkovitch-Heredia, 1998). Ils favoriseraient un attachement sécure chez les enfants (Rogers et al., 1993; Rutgers et al., 2004). De manière similaire, certains chercheurs avancent que les capacités langagières faciliteraient les interactions

mères-enfants, la compréhension des signaux de besoins émis par l'enfant et par conséquent la qualité de l'attachement (Akdemir et al., 2009; Capps, et al., 1994; Dissanayake & Crossley, 1997; Rogers & Dilalla, 1990; Rogers et al., 1991, 1993).

Il est à noter que les caractéristiques individuelles du donneur de soins, comme le stress vécu, sont parfois ajoutées à cette liste comme catégorie de facteur (Lapointe, 2017). Selon les écrits, l'expérience des familles lors de la période précédant le diagnostic de TSA se caractérise par des inquiétudes liées au développement de l'enfant ainsi que par un délai d'attente dans l'accès aux services. L'annonce du diagnostic de l'enfant entraîne un processus de deuil de l'enfant dit normal pour les parents et une variété d'émotions et de réactions y sont liées. Elles peuvent alterner entre de fortes inquiétudes, de la tristesse, de la colère et un sentiment de soulagement (Poirier & Des Rivières-Pigeon, 2013). Bien que l'expérience diffère d'une famille à une autre, bon nombre de parents disent avoir vécu un stress important au moment de l'annonce du diagnostic (Siklos & Kerns, 2007).

Tel que recensé dans Lapointe (2017), le stress parental est un important modérateur de la qualité de l'attachement selon certaines études (Béliveau & Moss, 2009; Bigras & Lafrenière, 1994; Jarvis & Creasy, 1991). Une revue de littérature réalisée par Bristol et Schopler (1983) soulevait qu'il y avait augmentation du stress des parents d'enfants TSA en lien avec leurs performances plus faibles, leurs mesures développementales et leurs difficultés en contexte social. Selon Horowitz (2004), le haut niveau de stress parental serait également attribuable au faible niveau de contrôle perçu par rapport à leur situation.

Modèle de l'effet modérateur de l'insécurité d'attachement sur les symptômes du TSA de Lapointe (2017)

Comme d'autres auteurs (Persini et al., 2013; Rutgers et al., 2007; Van Ijzendoorn et al., 2007), Lapointe (2017) s'intéresse au développement du lien d'attachement chez les enfants ayant un TSA. En se basant sur une recension des écrits en lien avec les styles d'attachement retrouvés chez les enfants ayant un TSA, elle propose un modèle théorique expliquant l'effet modérateur de l'insécurité d'attachement sur les symptômes du TSA (Lapointe, 2017). Elle contribue ainsi à une meilleure compréhension de l'impact du style d'attachement sur la sévérité du TSA.

De cette façon, dans son modèle explicatif, Lapointe (2017) postule que le développement de l'insécurité d'attachement ayant une influence sur les symptômes TSA serait lui-même influencé par trois catégories de facteurs. D'abord, il y aurait les troubles

de communication sociale qui combinent des problèmes sociaux et de communications, de même que des comportements restreints et répétitifs (DSM-V). Ensuite, il y aurait les troubles associés, tels que la déficience intellectuelle. Enfin, les conséquences environnementales comme le stress parental influenceraient aussi l'insécurité d'attachement.

En ce qui concerne le stress parental et la communication sociale, il est important de s'y attarder puisqu'ils sont des facteurs d'influence directs pour le développement de l'attachement. Naturellement, si les parents vivent un stress chronique, ils seront moins sensibles aux différents besoins de leur enfant. Ceci a donc un impact direct sur le développement du lien d'attachement avec celui-ci (Béliveau & Moss, 2009). Dans le même sens, les problèmes de communication sociale inhérents au TSA augmentent d'abord le stress parental, mais affectent aussi la compréhension du parent au niveau des besoins de l'enfant, ce qui complexifie la nature de leur relation (Davis & Carter, 2008; Lapointe, 2017).

Lapointe (2017) infère que l'insécurité d'attachement aurait un impact sur la sévérité des symptômes. En effet, elle rapporte que cette composante pourrait être une variable modératrice agissant directement sur des comportements problématiques associés au TSA. Dans cette perspective, les facteurs entourant les caractéristiques spécifiques de l'enfant TSA moduleraient le développement du lien d'attachement qui serait, de cette manière, affecté positivement ou négativement. De ce fait, la qualité d'attachement des enfants ayant un TSA dépendrait directement des troubles de communication sociale, des troubles associés ainsi que des conséquences environnementales (Lapointe, 2017).

Critique de la littérature

La plupart des modèles ne considèrent pas l'influence de la fratrie, définie comme un ou plusieurs membres importants dans l'entourage des enfants TSA. La fratrie peut avoir un effet sur deux des facteurs du modèle de Lapointe : le stress parental et la communication.

Le modèle de Lapointe (2017) propose l'explication de l'effet modérateur de certains facteurs, tels que les déficits en communication sociale, les troubles associés et le stress parental, sur la relation entre la qualité du lien d'attachement et la présentation symptomatologique du TSA. En soi, le modèle de Lapointe (2017) est pertinent dans l'optique où il permet une meilleure compréhension des facteurs d'influence sur le développement du lien d'attachement, celui-ci ayant un effet modérateur sur la sévérité des symptômes du TSA. Toutefois, il serait intéressant de se pencher sur des facteurs plus spécifiques, c'est-à-dire qu'il serait pertinent d'analyser certains facteurs illustrés dans le modèle de Lapointe (2017) de manière plus approfondie, par exemple la manière dont le stress parental modère le développement du lien d'attachement en lien avec son influence sur la présentation des symptômes du TSA. En effet, le stress parental semble être considéré comme ayant un impact considérable et direct sur le développement du lien d'attachement (Béliveau & Moss, 2009; Rutgers et al., 2007). Ainsi, il serait d'autant plus important de s'y attarder plus en profondeur et d'observer l'effet des variables pouvant l'affecter, telle que la fratrie.

Par ailleurs, comme mentionné dans le modèle de Lapointe (2017), la communication sociale semble
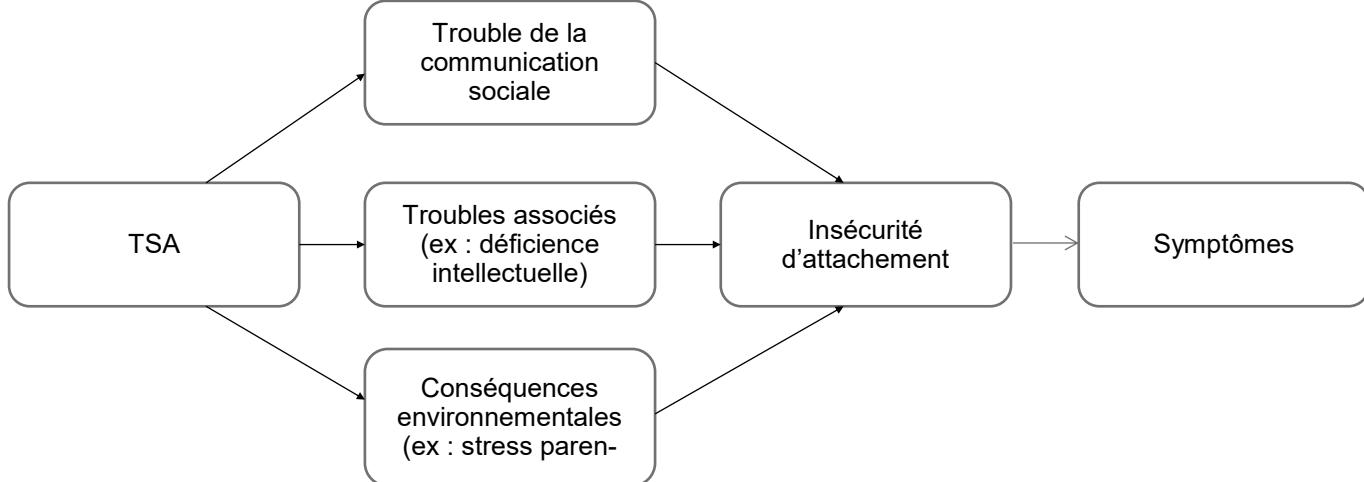

Figure 1. Reproduit de « L'attachement des enfants présentant un trouble du spectre de l'autisme : proposition d'un modèle modérateur de l'insécurité d'attachement sur les comportements et symptômes perturbateurs », par Lapointe, M., 2017, *Devenir*, *29*, p. 165.

avoir un impact sur le développement de l'attachement entre l'enfant ayant un TSA et son parent. Dans cet ordre d'idées, il serait donc également pertinent d'étudier de manière plus élaborée le rôle de la fratrie, notamment en lien avec la communication sociale. En effet, il est important d'adresser cette relation puisque les enfants typiques plus âgés de la fratrie modulent les déficits de communication sociale inhérents au TSA (Ben-Itzchak, Zuckerman, & Zachor, 2016), ce qui aurait, potentiellement, un impact sur le lien d'attachement.

En considérant que de nombreuses familles sont composées de plusieurs enfants, il serait indispensable, autant pour ce qui a trait à la communication sociale que pour le stress parental, d'observer la place de la fratrie dans la dynamique d'interaction menant au développement du lien d'attachement. Ce qui rend le modèle alternatif proposé dans cet article intéressant, c'est qu'il permettra d'étudier cette composante tout en se penchant plus spécifiquement sur la relation entre le stress parental, le développement de l'attachement chez l'enfant ayant un TSA et la fratrie, ainsi que celle entre la communication sociale, la fratrie et le développement de l'attachement chez l'enfant ayant un TSA.

Modèle théorique alternatif

Comme soutenu par le modèle de Lapointe (2017), le stress parental et la communication sociale sont des facteurs majeurs influençant le développement du lien d'attachement entre un parent et son enfant TSA. Toutefois, il est pertinent d'y ajouter la fratrie comme ayant un effet modérateur entre le lien d'attachement et les symptômes du TSA, dans la compréhension de ce modèle théorique. C'est pour cette raison que le modèle alternatif proposé dans cet article observe l'influence de la place de la fratrie dans le développement du lien d'attachement chez l'enfant TSA.

Les bienfaits de la fratrie sur la communication sociale chez les enfants TSA. Tout d'abord, les impacts négatifs des troubles de communication pourraient exacerber le stress parental. En effet, le parent pourrait se heurter à des difficultés de compréhension, et il lui serait plus complexe de répondre adéquatement aux besoins de son enfant TSA. Toutefois, les frères et sœurs plus âgés pourraient venir moduler les déficits de communication sociale chez l'enfant TSA, aussi bien que le niveau cognitif et l'âge de ce dernier (Ben-Itzchak et al., 2016).

Les interactions entre l'enfant TSA et ses frères et sœurs plus vieux sont extrêmement bénéfiques pour ce premier puisqu'ils permettent le développement de la communication sociale et contribuent à l'acquisition de la théorie de l'esprit (Ben-Itzchak et al., 2016; Matthews, Goldberg, & Lukowski, 2013). Cette dernière implique d'être en mesure de se mettre à la place de l'autre, car elle constitue la capacité de se représenter les désirs, les croyances et les intentions d'autrui (Duval et al., 2011). Alors que chez les enfants neurotypiques, elle se développe vers l'âge de sept ans, elle serait déficitaire chez les TSA ayant un âge mental équivalent ou supérieur. Selon Baron-Cohen (1989b), un délai développemental spécifique au niveau du mécanisme de la pensée expliquerait cette lacune. Le délai est lui-même relié aux critères diagnostiques du TSA, c'est-à-dire à leurs difficultés cognitives (Baron-Cohen, 1989c), aux déficits en habiletés langagières (Sparrevohn & Howie, 1995) et aux altérations au niveau des interactions sociales (Holroyd & Baron-Cohen, 1993).

Ainsi, la présence d'une fratrie plus âgée est très importante puisque, comme elle est plus souvent accessible, elle permet à l'enfant TSA d'avoir ses premières expériences d'interactions sociales (Brewton, Nowell, Lasala, & Goin-Kochel, 2012), celles-ci pouvant être moins nombreuses avec les pairs à l'âge scolaire. Par conséquent, l'enfant TSA fait des apprentissages en matière d'habiletés sociales de base,
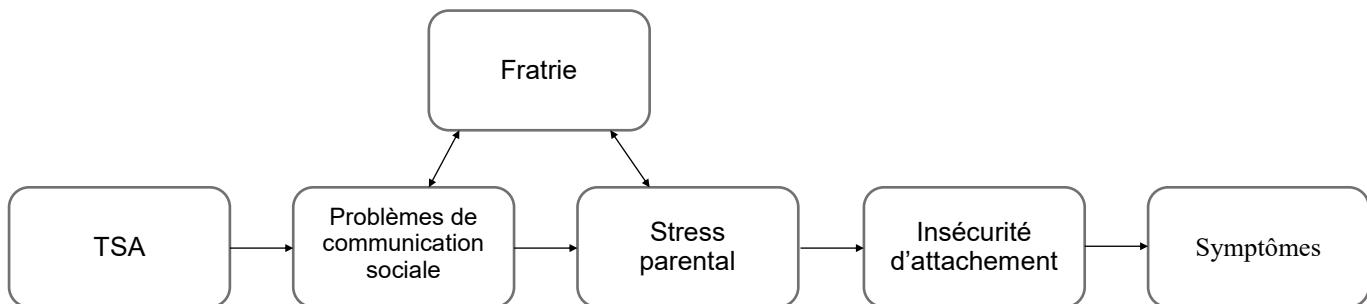

Figure 2. Relation bidirectionnelle entre la fratrie et les problèmes de communication sociale et entre la fratrie et le stress parental. Adapté de « L'attachement des enfants présentant un trouble du spectre de l'autisme : proposition d'un modèle modérateur de l'insécurité d'attachement sur les comportements et symptômes perturbateurs », par Lapointe, M., 2017, *Devenir*, *29*, p. 165.

telles que la gestuelle et le jeu lorsqu'il tente d'imiter sa fratrie aînée (Brewton et al., 2012). Il semble aussi que les déficits en communication non verbale seraient moins sévères lorsque l'enfant TSA a des frères et des sœurs aînés, en comparaison avec un enfant TSA sans fratrie (Ben-Itzchak et al., 2016).

La présence de la fratrie plus âgée permet donc à l'enfant TSA de développer des habiletés sociales, mais aussi émotionnelles. Celles-ci auront été transmises par les parents à la fratrie, permettant à l'enfant TSA de les apprendre avec ses frères et sœurs, plutôt que par le biais du parent uniquement. De cette façon, la vie familiale de l'enfant TSA lui permet de développer différentes habiletés sociales qui l'aideront à surpasser ses déficits (Knott, Lewis, & Williams, 2007). Tout comme la fratrie aînée aide l'enfant à développer des compétences sociales, les parents, à l'aide de leur style parental ainsi que de leur relation avec leur enfant, ont aussi une influence sur le développement socioaffectif de ce dernier. À la base, l'habileté du parent à former et à maintenir un attachement sécure avec son enfant neurotypique est positivement corrélée avec le développement de la théorie de l'esprit. De même, si le parent est porté à parler des émotions avec son enfant TSA, celui-ci sera plus habile pour identifier ses propres émotions. De plus, il existe une corrélation positive entre la tendance de la mère à insister sur les aspects émotionnels dans les relations interpersonnels et le développement de la théorie de l'esprit chez l'enfant. En outre, lorsque les frères et sœurs plus âgés sont impliqués dans des situations sociales conflictuelles, cela permet au parent d'avoir des conversations avec leurs enfants, neurotypiques ou TSA, sur les émotions et les sentiments impliqués dans ces situations (Ben-Itzchak et al., 2016).

Le développement des capacités émotionnelles et interpersonnelles en lien avec la présence de la fratrie plus âgée et les discussions apportées par les parents permettent à l'enfant TSA d'atténuer les déficits d'interactions sociales inhérents à l'autisme. Ceci permet un meilleur développement du lien d'attachement avec ses parents, mais aussi avec ses frères et sœurs. Ainsi, avoir un lien d'attachement sécurisant avec ses frères et sœurs aînés permet à l'enfant TSA d'améliorer ses capacités de jeux sociaux. Conséquemment, l'amélioration de la communication sociale chez l'enfant TSA, due à la présence d'une fratrie plus vieille, lui permettrait de généraliser ses compétences à différentes sphères de sa vie, ce qui entraînerait de meilleures relations interpersonnelles dans le futur (Ben-Itzchak, Nachshon, & Zachor, 2019).

L'influence de la fratrie sur le stress parental. En ce qui concerne l'influence de la fratrie aînée sur le stress parental, il semble y avoir une interrelation entre ces deux composantes. Le fait d'avoir une plus grande famille permettrait aux parents de réduire leur stress concernant leur enfant TSA puisqu'avoir un enfant plus vieux se développant typiquement leur donnerait l'occasion de gagner en expérience, de développer leurs capacités parentales et d'avoir plus de ressources afin de s'occuper de leur enfant TSA de manière plus adaptée. Ils seraient donc moins anxieux concernant leur style et leur capacité parentale, ce qui entraînerait le développement d'un lien d'attachement plus sécure (Ben-Itzchak et al., 2019). Le fait d'être à la fois un parent expérimenté et ayant un niveau de stress moins élevé pourrait offrir une explication en ce qui concerne la réduction des symptômes autistiques lorsque l'enfant TSA a des frères et sœurs plus âgés (Ben-Itzchak et al., 2016).

Comme dans les familles n'ayant pas d'enfant à besoins particuliers, la communication entre les différents membres d'un même foyer est très importante afin d'assurer une compréhension générale des besoins de l'enfant TSA. En effet, lorsque les parents sont ouverts à parler de l'autisme avec leurs autres enfants, cela favorise leur compréhension des comportements parentaux, et permet aussi le développement d'une meilleure empathie ainsi que de meilleures relations familiales, réduisant ainsi le stress parental (Thiefine, 2017; Tsai, Cebula, Liang, & Fletcher-Watson, 2018).

D'après Thiefine (2017), la fratrie s'adapte de différentes manières selon la façon dont les parents réagissent à l'annonce du diagnostic de TSA. Les enfants typiques de la fratrie, c'est-à-dire les enfants n'ayant pas de problématique diagnostiquée, se basent souvent sur les réactions du parent pour moduler leur adaptation au changement. Ils pourraient donc faire preuve de résilience. Plus précisément, ils pourraient faire preuve d'ouverture vis-à-vis de l'enfant TSA, les rendant capables de surmonter des moments plus difficiles (Thiefine, 2017). D'un autre côté, les enfants pourraient être sujets à de la parentification, c'est-à-dire qu'en voyant leurs parents se démener auprès de leur frère ou de leur sœur présentant un TSA, ils pourraient vouloir prendre davantage de responsabilités, ou encore prendre soin de leur frère ou sœur pour donner du répit à leurs parents. Aussi, l'enfant typique pourrait avoir le désir d'exceller dans tout ce qu'il entreprend afin d'améliorer son image et de cette façon compenser le TSA de son frère ou de sa sœur (Thiefine, 2017). D'un autre côté, les enfants n'ayant aucune problématique pourraient aussi se sentir coupables ou honteux du fait qu'ils sont considérés en santé. Par ailleurs, certaines réactions pathologiques ou problématiques peuvent ressurgir au sein de la fratrie. Plus spécifiquement, l'injustice peut être une émotion fortement ressentie due au fait qu'ils

n'ont pas choisi de vivre avec un enfant TSA (Thiefine, 2017). En outre, les enfants typiques de la fratrie peuvent se sentir délaissés, voire négligés, par les parents, étant donné que ceux-ci accordent davantage d'attention à l'enfant ayant des besoins particuliers. Dans bien d'autres cas, les enfants typiques entreront en compétition avec leur frère ou sœur ayant un TSA dans l'optique d'obtenir plus d'attention parentale (Thiefine, 2017).

Il convient d'ajouter que le stress vécu par le parent pourrait résulter d'un déséquilibre en ce qui concerne la gestion de la prise en charge des différents besoins de leurs enfants, typique ou TSA. En effet, accordant énormément d'attention à leur enfant TSA, les parents n'offrent pas beaucoup de temps à la fratrie n'ayant pas de problématique (Denis, 2013). Ainsi, le stress vécu par le parent influencerait la manière dont l'enfant typique se percevrait, c'est-à-dire qu'il aurait l'impression d'être négligé et de ne pas être apprécié par ses parents. La fratrie considère que le parent lui donne trop de responsabilités au sein de la famille et qu'elle doit souvent se débrouiller seule (Denis, 2013). De cette manière, le stress parental influence la manière dont le parent assumera son rôle auprès de tous ses enfants, qu'ils aient un TSA ou non.

Par ailleurs, les différents troubles pouvant affecter l'enfant TSA influent sur le stress parental, augmentant généralement ce dernier. Plus spécifiquement, les troubles du sommeil, d'alimentation, de même que les troubles du comportement provoquent un déséquilibre au niveau de la distribution de l'attention parentale au sein de la fratrie (Vallée-Donahue, 2018). Ceci augmenterait significativement le stress parental, influençant la dynamique familiale et affectant à la fois la fratrie et l'enfant ayant un TSA. De plus, lorsque le stress parental est élevé, il est possible que les relations au sein de la fratrie en soient affectées. Spécifiquement, les membres typiques de la fratrie auraient plus de difficulté à s'adapter et à maintenir des liens positifs avec leur frère ou leur sœur présentant un TSA, et ce, lorsqu'ils sont comparés à des familles vivant peu ou pas de stress et ayant un enfant TSA (Denis, 2013).

Discussion et orientations futures

Lorsque présente, la fratrie occupe une place significative dans l'environnement naturel des enfants TSA. Vu que la fratrie établit une relation avec ses parents en marge du lien privilégié entre ceux-ci et l'enfant TSA, il est possible que le stress des parents ait un impact sur la fratrie (Denis, 2013; Vallée-Donahue, 2018). Cependant, l'influence (positive ou négative) que peut avoir la fratrie sur les enfants TSA devrait être approfondie dans de futures études, particulièrement au sujet de l'influence de la fratrie sur le stress de leurs parents et sur la communication.

Néanmoins, basé sur l'état actuel des connaissances, il serait pertinent d'inclure le rôle possible de la fratrie plus âgée dans une partie du modèle, tel qu'illustré dans la Figure 2. Comme mentionné, il semble nécessaire d'effectuer davantage de recherche évaluant directement l'impact de la fratrie sur le stress parental, à savoir si les parents sont plus stressés quand ils ont d'autres enfants ou si ceux-ci les aident à avoir de meilleures stratégies de gestion du stress. En outre, il serait aussi pertinent d'approfondir les études concernant les types de fratries. Pour l'instant, les études rapportées pour soutenir le modèle alternatif proposé se penchent davantage sur les fratries plus âgées. Ainsi, il serait intéressant d'étudier par exemple l'impact d'une fratrie plus jeune sur le stress parental ainsi que sur la communication sociale chez l'enfant TSA. De ce fait, les conclusions faites sur l'impact des fratries sur la communication sociale chez l'enfant TSA doivent être interprétées en considérant que ce ne sont que les fratries plus âgées qui ont été étudiées.

Par ailleurs, comme la fratrie joue un rôle important dans la dynamique familiale, il convient de la prendre en considération puisqu'elle peut avoir une influence positive ou négative sur l'enfant TSA et sur ses parents. Le modèle alternatif proposé inclut donc la fratrie afin d'inciter les cliniciens à tenir compte du fait qu'elle peut moduler l'influence du stress parental sur la cohésion familiale. Également, ce modèle peut rappeler que, d'un point de vue systémique, la fratrie peut influencer le stress vécu par les parents, ce qui souligne l'importance de favoriser la mise en place d'une relation d'attachement sécurisante.

À l'instar du modèle de Lapointe (2017), le modèle alternatif propose le stress parental comme principal modérateur entre l'attachement insécure et la symptomatologie du TSA, invitant ainsi les cliniciens à agir directement sur celui-ci, considérant qu'il n'affecte pas que le développement du lien d'attachement parent-enfant. Par ailleurs, inclure la fratrie dans le modèle augmenterait le nombre de champs où il serait possible d'intervenir. Plus précisément, en incluant la fratrie comme variable modératrice de l'attachement insécure et des symptômes du TSA, le milieu clinique pourrait considérer la fratrie afin de favoriser une meilleure gestion du stress chez les parents, leur permettant de développer un meilleur lien d'attachement avec l'enfant TSA.

Toutefois, la direction de la relation entre la fratrie et le stress parental demeure non confirmée due au manque d'études empiriques trouvées à ce sujet. En effet, il fut difficile d'établir un lien empirique en ce qui concerne l'impact de la fratrie sur la modulation du stress parental. Peu d'études se sont penchées sur le

sujet, ce qui confère au modèle théorique proposé un caractère original.

Sachant que les relations établies en bas âge entre l'enfant TSA et les membres de son entourage sont primordiales pour son développement, elles mériteraient d'être davantage étudiées. Effectivement, le modèle présenté à la Figure 2 propose de mettre en lumière leur potentiel puisqu'elles pourraient constituer des facteurs de protection ou de risque, influençant positivement ou non le niveau de stress parental et modérant le développement de la relation d'attachement ainsi que la symptomatologie du TSA.

En tenant compte du modèle alternatif proposé, des questionnements supplémentaires peuvent surgir. Par exemple, il serait pertinent d'explorer la façon dont on peut influencer positivement les liens fratrie-communication et fratrie-stress parental. Concernant le lien fratrie-communication, celui-ci pourrait être favorisé par l'entremise de jeux structurés entre la fratrie et l'enfant TSA et par le moyen de techniques d'intervention comportementale prouvées efficaces. Les jeux structurés, incluant un programme de renforcement, pourraient être utilisés pour promouvoir le développement de la communication sociale de manière positive chez la personne TSA (Rivière, 2006). Pour sa part, le lien fratrie-stress parental pourrait être influencé positivement par l'implication du clinicien dans la définition des rôles de chacun. Ainsi, le clinicien pourrait utiliser des notions de psychoéducation afin d'aider le parent et la fratrie non TSA à définir des rôles sains, permettant le développement d'une dynamique familiale équilibrée.

De plus, il serait intéressant de constater l'impact d'ateliers de formation pour les parents d'enfants TSA. À titre d'exemple, ceux-ci pourraient spécialement viser la mise en place de stratégies éducatives mettant à contribution la fratrie, sans toutefois tomber dans la parentification, car cela poserait problème au niveau éthique. Étudier les bénéfices possibles d'ateliers sur la coparentalité pour les couples de parents d'enfants TSA serait aussi intéressant pour leur offrir un accompagnement personnalisé.

Conclusion

En terminant, comme pour tout enfant, la relation d'attachement chez la personne TSA est essentielle pour son développement social et affectif. La littérature permet d'interpréter que le fait qu'un parent réussisse à établir une relation d'attachement sécurisante avec son enfant TSA aide ce dernier à développer ses habiletés socioaffectives. En outre, la relation que l'enfant TSA établira avec sa fratrie plus âgée lui permettra de renforcer les bases de ces habiletés acquises à travers la relation sécurisante

développée avec son parent. Les modèles théoriques permettant de mieux comprendre le développement de l'attachement sécurisant entre un parent et son enfant TSA sont donc importants, dans la mesure où cet attachement permettrait de moduler les symptômes problématiques associés au trouble.

En comprenant l'implication des fratries dans la modulation du stress parental ainsi que des troubles de communication sociale en lien avec le développement de l'attachement, il sera davantage aisé de cibler des stratégies permettant aux parents de favoriser le développement d'un attachement sécurisant avec leur enfant TSA.

Toutefois, d'autres études seraient nécessaires pour arriver à une meilleure compréhension du développement de l'attachement chez l'enfant TSA, autant pour les professionnels cliniciens impliqués que pour leur entourage. Des études pourraient recueillir des données longitudinales sur la manière dont prend forme le lien d'attachement entre l'enfant TSA et son parent comme figure d'attachement et les impacts sur les différentes trajectoires développementales à l'adolescence et à l'âge adulte. Ceci serait d'une part utile à l'amélioration des pratiques chez les professionnels, en menant à l'élaboration de diverses stratégies pour favoriser le développement d'un attachement sécure. D'autre part, de telles études utilisées pour bâtir des plans d'intervention pourraient mieux outiller les parents et diminuer leur détresse ou leur sentiment d'impuissance par rapport au diagnostic. Par le fait même, cela pourrait permettre de diminuer la fréquence de comportements inappropriés résultant d'un lien d'attachement insécure chez l'enfant TSA.

Notes de bas de page

[1] Pour des raisons d'uniformisation et de fluidité, les auteures emploient le terme TSA dans l'ensemble de l'article, même pour faire mention du diagnostic avant le DSM-5.

[2] Il est à noter que les expressions suivantes sont utilisées en alternance à travers l'article pour faire référence au même concept d'attachement insécure : l'insécurité d'attachement, l'attachement insécurisant et l'attachement insécurisé (Miljkovitch, Pierrehumbert, Karmaniola, & Halfon, 2003).

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