

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

Journal of Identity, Interpersonal Relations and Intergroup Relations



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

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

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JIRIRI

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

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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 et étudiantes 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 et étudiante 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, l'équipe de rédaction 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 ou étudiantes de premier cycle et à un étudiant ou une étudiante des cycles supérieurs. Ces étudiants et étudiantes rendront une évaluation anonyme, sous forme d'une grille d'évaluation, ainsi qu'une section de commentaires destinés à l'auteur ou l'autrice, qu'ils enverront à la personne responsable du suivi du manuscrit.

Ensuite, le rédacteur adjoint ou la rédactrice adjointe fait la synthèse de ces évaluations dans une lettre d'édition destinée à l'auteur ou l'autrice. La rédaction de la lettre d'édition est supervisée par les éditeurs et éditrices consultantes, des étudiants et étudiantes 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 ou l'autrice 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 et étudiantes de premier cycle de toute université sont invités à soumettre leur manuscrit en français ou en anglais. Dans une lettre destinée à

l'équipe de rédaction en chef, l'auteur ou l'autrice qui soumet un manuscrit doit confirmer qu'il est étudiant ou étudiante 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 ou une étudiante au baccalauréat peut soumettre un article qu'il a coécrit avec un ou une professeure ou encore un étudiant ou une étudiante aux cycles supérieurs, mais il doit impérativement en être le premier auteur ou la première autrice. 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 ou l'autrice 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 et étudiantes de premier cycle qui souhaitent soumettre un manuscrit et les étudiants et étudiantes de premier cycle et des cycles supérieurs qui souhaitent s'impliquer dans le processus de révision en tant qu'évaluateurs et évaluateuses sont invités à nous contacter au : jiriri@umontreal.ca.

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

Adresse postale

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JIRIRI

Journal of Interpersonal Relations, Intergroup Relations and Identity

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 their ideas or results pertaining to identity, interpersonal or intergroup relations is invited to submit a manuscript.

Reviewing Process

First, the Editors-in-Chief make a preliminary selection of the manuscripts and retain those that comply with the JIRIRI's mission. Then, the manuscripts are sent to three undergraduate students and one graduate student. These students write anonymous reviews to the author and send them to an associate editor responsible for the manuscript.

The associate editor writes an edition letter to the author, which synthesizes the reviewers' comments. This process is 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 then considers 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 their letter to the Editors-in-Chief, the author submitting a manuscript must confirm that they are an undergraduate student and that their manuscript has neither been published nor submitted for publication elsewhere. An undergraduate student may submit a manuscript that they have co-written with a professor or a graduate student only if they are the first author. It is not possible to be the first author of an article in the JIRIRI if one's undergraduate degree was completed more than **six months** prior to the submission of the manuscript.

The cover page must include the title of the 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.

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Remerciements

L'équipe du *Journal sur l'identité, les relations interpersonnelles et les relations intergroupes* (JIRIRI) tient tout d'abord à remercier le Département de psychologie de l'Université de Montréal et sa directrice, Madame Michelle McKerral, Ph. D. Nous remercions également tous les étudiants et étudiantes qui ont collaboré au JIRIRI. Nous remercions aussi tous les éditeurs et éditrices consultantes, ainsi que Audrey-Ann Deneault, Ph. D., Diana Cárdenas, Ph. D., Julie Caouette, Ph. D., Laura French Bourgeois, Ph. D. et Mathieu Caron-Diotte, Ph. D., qui ont su guider généreusement les rédactrices adjointes et rédacteur adjoint dans leurs lettres d'édition. La publication du présent volume n'aurait pu être possible sans l'implication et l'expertise de toutes ces personnes. Par ailleurs, nous exprimons notre reconnaissance à Roxane de la Sablonnière, fondatrice du JIRIRI, et à nos collègues du Laboratoire de recherche sur les changements sociaux et l'identité (CSI).

Nous tenons à remercier le comité organisateur du 47e congrès de la SQRP, dont les responsables du comité scientifique, Jean-Sébastien Boudrias, Ph. D. et Marie-Ève Daspe, Ph. D. Nous remercions aussi le comité organisateur de la 18e Journée scientifique du Département de psychologie de l'Université de Montréal. Nous remercions également le comité organisateur de la CIP 2025, ainsi que la présidente du psycolloque 2025, Gabrielle Sirois.

Sur une note plus personnelle, nous tenons à remercier Audrey-Ann Deneault pour son dévouement et son appui continu. De plus, nous remercions les rédacteurs et rédactrices en chef des volumes précédents, qui continuent d'agir en tant que guides année après année. Nous remercions aussi Jacob Lalongé, rédacteur en chef du 15e volume, et Dominic Laquerre pour avoir occupé les postes d'auxiliaire cette année.

Un grand merci final aux auteurs et autrices qui ont fait confiance au JIRIRI pour la publication de leur manuscrit ainsi qu'aux lecteurs et lectrices qui font vivre ce journal depuis maintenant 18 ans!

Acknowledgments

The team of the *Journal on Identity, Interpersonal Relations and Intergroup Relations* (JIRIRI) would first like to thank the Département de psychologie of the Université de Montréal and its Director, Michelle McKerral, Ph. D. We thank all the students who contributed to the JIRIRI. We also thank all of the consulting editors as well as Audrey-Ann Deneault, Ph. D., Diana Cárdenas, Ph. D., Julie Caouette, Ph. D., Laura French Bourgeois, Ph. D., and Mathieu Caron-Diotte, Ph. D., who generously guided the associate editors through their edition letters. The publication of this volume would not have been possible without the involvement and expertise of all these people. In addition, we are grateful to Roxane de la Sablonnière, founder of the JIRIRI, and our colleagues at the Social Change and Identity Research Laboratory (CSI).

We would like to thank the organizing committee of the 47th SQRP Convention, including the heads of the scientific committee, Jean-Sébastien Boudrias, Ph.D., and Marie-Ève Daspe, Ph.D. We also thank the organizing committee of the 18th Journée scientifique of the Département de psychologie of the Université de Montréal. We would finally like to thank the organizing committee of the ICP 2025, and the psycolloque 2025's president, Gabrielle Sirois.

On a more personal note, we would like to thank Diana Audrey-Ann Deneault for her dedication and ongoing support. Furthermore, we would like to thank the editors-in-chief of previous volumes, who continue to act as guides year after year. We also thank Jacob Lalongé, editor-in-chief of the 15th volume, and Dominic Laquerre for acting as teaching assistants this year.

Finally, we thank the authors who trusted the JIRIRI for the publication of their manuscript as well as the readers who have kept this journal alive for the past 18 years!

Éditorial

Camille Landry & Sandra Mohanna
Université de Montréal



C'est avec grand plaisir que nous vous présentons le 18^e volume du Journal sur l'identité, les relations interpersonnelles et les relations intergroupes (JIRIRI). Cette année encore, nous avons relevé avec succès notre mission de mettre en lumière les travaux d'étudiants et d'étudiantes de premier cycle à travers le monde, une réussite rendue possible grâce à l'engagement et le travail exceptionnel de notre belle équipe.

Notre mandat fût enrichissant autant sur le plan personnel que professionnel, notamment en nous permettant de développer des compétences en gestion d'équipe et en résolution de problèmes. Nous avons eu l'opportunité de travailler avec Prof. Audrey-Ann Deneault, qui, par son expertise en psychologie sociale et son approche humaine et créative, nous a offert un encadrement exceptionnel tout au long du processus. Nous tenons donc à lui adresser nos sincères remerciements pour son soutien.

C'est avec beaucoup d'enthousiasme que l'on souhaite également souligner le travail de notre équipe éditoriale. La qualité de ce volume n'aurait pas été possible sans l'excellent travail de notre Directrice d'édition, Anaïs Ayotte. Sa rigueur, sa communication efficace ainsi que sa disponibilité aux activités de rayonnement ont été particulièrement appréciées. Ali Tarraf, notre Directeur des communications, a su, par son initiative et son dynamisme, amener une belle ambiance au sein de l'équipe et augmenter la visibilité du journal. Ses démarches ont notamment permis d'obtenir du financement. L'énergie positive qu'a amené Juliette Desfossés, notre Directrice des événements, a permis l'organisation et de nombreuses activités qui ont favorisé l'esprit d'équipe, mais également la portée du JIRIRI. Nous sommes reconnaissantes de votre implication tout au long de l'année.

Nous tenons aussi à exprimer notre gratitude envers nos rédacteurs adjoints et rédactrices adjointes. Vous avez toutes et tous fait preuve d'un engagement exceptionnel, favorisant ainsi notre objectif de rendre l'apprentissage de

la recherche plus accessible. Vous avez su répondre à nos attentes, en apportant votre bonne collaboration, votre motivation et votre persévérance tout au long du processus. Vous avez également su surmonter plusieurs défis. Nous espérons donc que vous ressortez de cette expérience en ayant appris de nouvelles compétences. Nous vous félicitons pour ce beau travail.

Dans le prolongement de ces remerciements, il est évident que la réalisation de ce volume n'aurait pas été possible sans l'engagement des évaluateurs et évaluatrices externes, des éditeurs et éditrices consultants, ainsi que des rédacteurs et rédactrices adjoints seniors. Leur travail remarquable, tant dans le soutien que dans la supervision des rédacteurs adjoints et des rédactrices adjointes, a été déterminant à la réalisation du journal. Grâce à cette équipe exceptionnelle, le processus de révision a pu être mis en place efficacement.

Cette année, nous sommes contentes de vous présenter sept excellents articles dans la 18^e édition du journal. Nous tenons à souligner le travail des auteurs et autrices pour rendre ces publications d'une qualité supérieure. C'est une expérience unique d'avoir l'opportunité d'être premier auteur ou première autrice d'un article dès le premier cycle. Nous vous souhaitons beaucoup de succès dans vos projets à venir, en espérant que ce processus a été aussi enrichissant pour vous qu'il ne l'a été pour nous.

Editorial

Camille Landry & Sandra Mohanna
Université de Montréal



It is with great pleasure that we present the 18th volume of the Journal of Identity, Interpersonal Relations, and Intergroup Relations (JIRIRI). Once again this year, we successfully fulfilled our mission of showcasing the work of undergraduate students from around the world, a success made possible by the dedication and outstanding efforts of our incredible team.

Our mandate has been personally and professionally rewarding, particularly in the development of leadership and problem-solving skills. We had the privilege of working with Dr. Audrey-Ann Deneault, whose expertise in social psychology, along with her human and creative approach, provided us with exceptional guidance throughout the editorial process. We extend our heartfelt thanks for her ongoing support.

We are also proud to recognize the work of our editorial team. This volume would not have been possible without the excellent work of our Managing Editor, Anaïs Ayotte. Her precision, clear communication, and commitment to outreach activities were deeply appreciated. Our Communications Director, Ali Tarraf, brought contagious energy and drive to the team, contributing significantly to the journal's visibility and to securing funding. Juliette Desfossés, our Events Director, helped strengthen our sense of community and expanded the JIRIRI's reach through the organization of numerous engaging events. We are sincerely grateful for your dedication to the JIRIRI.

We would also like to thank our associate editors, whose commitment and perseverance were essential in achieving our goal of making research more accessible to undergraduate students. You brought a collaborative spirit, motivation, and persistence to the table, rising to every challenge along the way. We hope that this experience has helped you grow and develop new skills. We congratulate you on your outstanding work.

Finally, we extend our gratitude to our external reviewers, consulting editors, and senior associate editors. Your mentorship and guidance played a crucial role in supporting the associate editors and ensuring a smooth and rigorous review process. This volume simply would not have come together without you.

This year, we are pleased to present seven excellent articles in the 18th edition of the journal. We commend the authors for their outstanding contributions. Having the opportunity to publish as a first author during your undergraduate studies is truly special, and we hope the process was as enriching for you as it was for us. We wish you continued success in all your future academic and professional pursuits.

Lettre des rédacteurs et rédactrices adjoints seniors

Julie Caouette¹, Ph. D., Diana Cárdenas¹, Ph. D., Mathieu Caron-Diotte¹, Ph. D., Audrey-Ann Deneault¹, Ph. D.
et Laura French Bourgeois²

¹ Université de Montréal

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Nous sommes ravis de présenter le 18^e volume du Journal sur l'identité, les relations interpersonnelles et les relations intergroupes (JIRIRI) ! Le JIRIRI est un journal scientifique de psychologie sociale géré par et pour des étudiants et étudiantes de premier cycle. Chaque année, le JIRIRI permet à une quinzaine d'étudiants et d'étudiantes au premier cycle au Département de psychologie de l'Université de Montréal d'apprendre le fonctionnement du processus de révision par les pairs, une expérience unique dans leur formation universitaire. De plus, le journal offre l'expérience inestimable à des étudiants et étudiantes de premier cycle de publier un article comme premier auteur ou première autrice, un but qui est autrement souvent inaccessible. Tout au long de l'année, les auteurs et autrices et l'équipe éditoriale s'engagent dans la révision, l'édition, la correction et la rédaction d'articles de psychologie sociale dans le but de faire l'apprentissage par la pratique, ce qui est au cœur de notre mission.

Cette année, nous avons eu l'immense privilège d'avoir travaillé sous la direction de Camille Landry et Sandra Mohanna, nos rédactrices en chef. Leur dynamisme, leur rigueur et leur vision ont permis au JIRIRI de franchir de nouvelles étapes importantes. Sous la direction inspirante de Camille et Sandra, le JIRIRI a renforcé sa présence dans la communauté scientifique en participant à plusieurs congrès, dont le congrès de la Société québécoise pour la recherche en psychologie, le

Psych colloque et la Conférence interdisciplinaire en psychologie. L'équipe a également poursuivi sa présence locale grâce à l'organisation d'événements tous plus intéressants les uns que les autres, en plus d'avoir étendu notre portée sur les réseaux sociaux.

Au-delà de ces accomplissements, c'est la culture d'équipe qu'elles ont su instaurer qui mérite particulièrement d'être soulignée. Elles ont su mettre en place une atmosphère de collaboration, de soutien mutuel et d'excellence qui se reflète dans la qualité du volume que vous lisez à l'instant. En tant que rédacteurs et rédactrices adjoints seniors, nous tenons à remercier chaleureusement Camille et Sandra pour leur travail exceptionnel, ainsi que l'ensemble de l'équipe éditoriale pour leur engagement indéfectible.

Les articles du 18^e volume couvrent un large éventail de sujets captivants, tels que l'effet de l'identité de groupe sur la volonté de protester chez les personnes LGBTQ+, l'effet du contact intergroupe sur les perceptions capacitistes et les normes sexuelles dans la culture Sourde. Ces articles illustrent la diversité et l'importance de la recherche publiée au JIRIRI, en plus de montrer l'avenir prometteur de la recherche en psychologie grâce à ces jeunes chercheurs et chercheuses.

Nous vous souhaitons une bonne lecture du 18^e volume du JIRIRI !

Letter from the Senior Associate Editors

Julie Caouette¹, Ph. D., Diana Cárdenas¹, Ph. D., Mathieu Caron-Diotte¹, Ph. D., Audrey-Ann Deneault¹, Ph. D. & Laura French Bourgeois².

¹Université de Montréal

²Western University



We are thrilled to present the 18th volume of the *Journal of Interpersonal Relations, Intergroup Relations, and Identity (JIRIRI)*! The JIRIRI is a social psychology journal run by and for undergraduate students. Each year, we offer the opportunity to approximately fifteen undergraduate students from the Department of Psychology at the Université de Montréal to learn the inner workings of the peer review process. This experience is truly unique in their academic journey. The journal also provides undergraduate students with the invaluable opportunity to publish an article as the first author. This achievement is often otherwise out of reach. Throughout the year, authors and editors engage in revising, editing, proofreading, and writing social psychology articles through a hands-on, learning-by-doing approach that lies at the heart of our mission.

This year, we had the immense privilege of working under the leadership of Camille Landry and Sandra Mohanna, our Editors-in-Chief. Their energy, dedication, and vision allowed the JIRIRI to reach new milestones. Under their inspiring leadership, the journal strengthened its presence in the academic community by participating in several conferences, including the annual meeting of the Société québécoise pour la recherche en psychologie, the Psycholloque, and the Interdisciplinary Conference in Psychology. The team also continued to grow its local presence through a variety of engaging events and expanded our reach on social media. Beyond these accomplishments, what truly stands out is the team culture they fostered.

Camille and Sandra created an environment of collaboration, mutual support, and excellence—reflected in the quality of the volume you are now reading. As Senior Associate Editors, we would like to extend our heartfelt thanks to Camille and Sandra for their exceptional work, as well as to the entire editorial team for their unwavering commitment.

The articles in Volume 18 cover a wide range of compelling topics, such as the impact of group identity on protest intentions among LGBTQ+ individuals, the effect of intergroup contact on ableist perceptions, and sexual norms within d/Deaf culture. These pieces reflect the diversity and significance of the research published in the JIRIRI and highlight the promising future of psychological research through the work of emerging scholars.

We hope you enjoy reading the 18th volume of the JIRIRI!

JIRIRI

Équipe éditoriale du Volume 18

Editorial team of JIRIRI's 18th Volume



En haut, de gauche à droite / Top, from left to right : Justin Cicciu, Amélie Gagné, Florence Larouche, Hajar Omary, Florence Rey, Ali Tarraf, Mariève Thibodeau, Audrey-Ann Deneault et Othmane Alwani.

En bas, de gauche à droite / Bottom, from left to right : Camille Landry, Juliette Desfossés, Atéa Carroué, Claudie Joncas, Sandra Mohanna, Isabella Gomez, Élodie Jacques et Anaïs Ayotte.

Processus de révision par les pairs

Le JIRIRI a mis au point un processus de révision par un comité de pairs adapté aux étudiants et étudiantes 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 l'équipe de rédaction en chef, qui assure le bon déroulement du processus de révision et de publication tout en respectant l'échéancier. Les tâches du directeur ou de la directrice d'édition consistent à organiser des ateliers de formation pour les évaluateurs et évaluatrices et à superviser le processus de mise en page du JIRIRI. Le directeur ou la directrice des communications est responsable de la promotion du journal, de la rédaction des demandes de bourses et le directeur ou la directrice des événements est responsable de l'organisation des collectes de fonds. Le trésorier ou la trésorière est responsable des transactions et de la gestion des fonds du JIRIRI. Finalement, le ou la 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 et rédactrices adjointes sont responsables du processus de révision et de publication des manuscrits soumis.

Le processus d'évaluation des manuscrits se déroule en trois étapes. L'équipe de rédaction en chef amorce le processus en effectuant une sélection parmi les manuscrits soumis, puis elle envoie ces manuscrits aux rédacteurs adjoints et rédactrices adjointes. Ceux-ci s'assurent que tous les manuscrits font d'abord l'objet d'une évaluation par quatre évaluateurs ou évaluatrices, dont trois étudiants ou étudiantes de premier cycle

et un évaluateur invité ou une évaluatrice invitée 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 ou l'autrice une synthèse des commentaires par le biais d'une lettre d'édition. Ensuite, les éditeurs consultants et éditrices consultantes, des étudiants et étudiantes aux cycles supérieurs ou des étudiants et étudiantes ayant complété leurs études de premier cycle, passent en revue les lettres d'édition dans le but de mieux guider les auteurs et autrices, ainsi que superviser le travail des rédacteurs adjoints et rédactrices adjointes. De plus, Audrey-Ann Deneault, Ph. D., Diana Cárdenas, Ph. D., Julie Caouette, Ph. D., Laura French Bourgeois, Ph. D. et Mathieu Caron-Diotte, Ph. D. agissent à titre de rédacteurs adjoints seniors et rédactrices adjointes seniors et supervisent tout le processus en collaboration avec l'équipe de rédaction en chef. Suite à une nouvelle soumission du manuscrit par l'auteur ou l'autrice, 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 et autrices. 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 Editors-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 and submits grant applications, while the Events Director 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 Editors-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, Audrey-Ann Deneault, Ph. D., Diana Cárdenas, Ph. D., Julie Caouette, Ph. D., Laura French Bourgeois, Ph. D. and Mathieu Caron-Diotte, Ph. D. in collaboration with the Editors-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.

School Climate Factors Associated with Remote Help-Seeking Preferences and Behaviors among Ontario Adolescents

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Less than 20% of Canadian adolescents with mental health difficulties receive professional help. Prior research indicates that social dimensions of school climate (e.g., students' perception of belongingness) are positively related to perceptions and use of in-person mental health resources, such as school counselors. However, no studies have examined the relationship between school climate and preferences/use of remote mental health services (RMHS), defined as services which are offered virtually. The present study addresses this gap through secondary analyses ($N = 7,552$) of the 2019 dataset of the *Ontario Student Drug Use and Mental Health Survey*. Analyses indicated that school climate was positively related to student preferences/use of in-person mental health services. However, school climate was not associated with preferences/use of RMHS. These results broaden our understanding of factors related to adolescent help-seeking.

Keywords: school climate, interpersonal relationship, help-seeking, psychological distress

Moins de 20 % des adolescents canadiens ayant des problèmes de santé mentale reçoivent de l'aide professionnelle. Des recherches antérieures ont démontré que le climat scolaire, notamment le sentiment d'appartenance des élèves, est positivement lié à la perception et à l'utilisation des ressources de santé mentale en personne (p.ex., auprès d'un conseiller d'orientation). Cependant, aucune étude n'a examiné la relation entre le climat scolaire et les préférences/utilisation des services de santé mentale à distance (SSMD), définis comme des services offerts virtuellement. Cette étude comble cette lacune en analysant les données de l'Enquête sur la consommation de drogue et la santé des élèves de l'Ontario, menée en 2019 ($N = 7\,552$). Les analyses révèlent que le climat scolaire était positivement lié aux préférence/utilisation des services en personne, mais pas aux préférences/utilisation de SSMD. Ces résultats enrichissent notre compréhension des facteurs influençant la recherche d'aide chez les adolescents.

Mots-clés : climat scolaire, relation interpersonnelle, recherche d'aide, détresse psychologique

Nearly 1.2 million Canadian adolescents between the ages of 15 and 24 struggle with mental illness. However, less than 20% of them receive treatment (Mental Health Commission of Canada, 2017). This is an alarming statistic, given that adolescents who seek help for their mental health problems experience improved outcomes in their interpersonal relationships, cognitive performance, and overall quality of life (Das et al., 2016). As such, it is important to study factors influencing adolescents' help-seeking preferences and behaviors.

Dimensions of School Climate

Adolescents' experiences with teachers, peers, and the larger school community represent important influences on their attitudes, identity, and motivations (Arwas & Flum, 2020; Ragelienė, 2016). According to Loukas (2007), school climate is a "multidimensional construct that includes physical, social, and academic dimensions" (p. 1). Specifically, social dimensions of school climate include the quality of relationships within the school population, students' perception of belongingness, and equitable treatment of students. Physical dimensions of school climate include school location, the school's comfort, the student-to-teacher ratio, and resource availability. Lastly, academic dimensions of school climate include prioritization of education, quality of education, and emphasis on achievement. Past research suggests that social dimensions of school climate are especially important for interpersonal and psychological outcomes. Indeed, positive social dimensions are associated with reduced bullying, increased student classroom engagement, and

I would like to thank Dr. Graham Reid for his supervision throughout the year. With his guidance, I have walked away from my undergraduate studies as a more confident researcher, armed with a valuable repertoire of analytical skills, and no longer alarmed by the sight of a massive dataset. I would also like to thank Taylor Meiron and the rest of the Reid Lab for their assistance with my thesis. Finally, I would like to thank the reviewers for their valuable suggestions and feedback throughout the editing process. Correspondence concerning this article should be addressed to Vanit Shah (vshah65@uwo.ca).

improved socio-emotional development (Fatou & Kubiszewski, 2017; Hultin et al., 2021; McCormick et al., 2015). For this reason, the present study focuses on the social dimensions of school climate in relation to adolescent help-seeking.

Help-Seeking Preferences vs. Behaviors

Help-seeking behaviors refer to any formal or informal coping process attempting “to obtain external assistance to deal with a mental health concern” (Pretorius et al., 2019, p. 2). In other words, help-seeking behaviors refer to the actual use of mental health resources, while help-seeking preferences indicate a more general predisposition towards certain kinds of mental health resources. According to Rickwood and Thomas’ (2012) Help-Seeking Framework, informal help-seeking methods include advice and support sought from friends and family, while formal resources encompass in-person counseling, internet-based services, and telephone counseling provided by trained professionals. In the context of this study, we focus on formal help-seeking behaviors.

In the context of seeking help from formal mental health resources, it is particularly important to distinguish between preferences and usage. Indeed, the literature shows an intention-behavior gap, such that people with preferences toward help-seeking do not always make use of services (Widnall et al., 2022). This is due to factors such as knowledge of mental illness, knowledge of how to access supports, perceived self-efficacy to handle problems, and perceived behavioral control, that are positively associated with making use of services (Rüsch et al., 2011; Tomczyk et al., 2020). Thus, these factors may exert additional influence on adolescents’ actual help-seeking behaviors. This finding indicates the importance of studying help-seeking preferences and help-seeking behaviors independently.

Remote Sources of Formal Help-Seeking in Adolescents

Internet-Based Help-Seeking

Adolescent reliance on the internet is reflected in their growing use of web-based services for mental health resources (Dooley & Fitzgerald, 2012). Formal help-seeking via the internet involves web chat or texting with a trained professional, and does not include the simple act of accessing mental health information online (e.g.,

reading a blog post on anxiety). A longitudinal analysis of youth helpline use in Australia from 2012 to 2018 indicated an increase in contacts made via web chat and a decrease in contacts made via phone or email (Watling et al., 2021). Young people are demonstrating a preference for internet counseling as opposed to phone or in-person services, perceiving internet resources as being safer, more private, less emotionally intense, and granting more control to the user (Navarro et al., 2019). Internet services also offer complete anonymity, a feature that makes youth more likely to disclose serious emotional problems such as suicidality, as opposed to using in-person or phone services (Huang & Alessi, 1996).

Phone-Based Help-Seeking

Despite the growing popularity of internet resources, most remote mental health contacts still occur over the phone. In a study of American youth from inpatient and outpatient clinical settings, 41% of respondents indicated a preference for phone counseling. In comparison, 25% indicated a preference for web chat, and only 19% favored texting services (Crosby Budinger et al., 2015). This may be due to the high effectiveness of phone counseling services, with callers generally reporting higher satisfaction and reduced distress at the end of an interaction (Matthews et al., 2023). Through the provision of important verbal cues and additional real-time information that might otherwise be missed by internet services, phone counseling providers can conduct risk assessments and address the mental health concerns of users (Predmore et al., 2017).

Social Dimensions of School Climate and Formal Help-Seeking

Prior research has examined how social dimensions of school climate influence adolescent preferences and use of formal mental health resources. Students who perceive school staff as negative, judgmental, and ‘out of touch’ with student issues are less likely to seek formal help (Helms, 2003; Lindsey & Kalafat, 1998). Alternatively, students in a national sample of Canadian high schools who reported greater school belongingness, school inclusion, fair treatment by teachers, and school safety were more willing to seek formal help for mental health concerns (Doan et al., 2020). Taken together, these findings show that better perceptions of school climate are associated with adolescents seeking psychological help, and that promoting school climate has the

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potential to address the mental health crisis among adolescents. However, virtually all the research concerning social dimensions of school climate has operationalized formal help-seeking with in-person resources (e.g., school psychologists, teachers, and counselors), while ignoring formal mental health support sought through telephone or internet services. As such, it is important to determine whether this association with school climate holds when examining remote mental health services (RMHS).

Given that schools play an important role in establishing a community of safety, privacy, and trust, it is surprising that no prior research has examined how school climate impacts preferences/use of internet-based services. In the present study, we consider the possibility that adolescents who do not experience a positive school climate may endorse a higher willingness to use an internet platform to address their mental health as opposed to in-person or phone services. Although there is limited research examining the effectiveness of internet-based services, youth may perceive a tradeoff between the helpfulness of phone lines, and the privacy benefits, ease of access, and control offered by internet resources (Berry et al., 2017).

Even though youth are more likely to seek phone counseling if a friend recommends doing so (Crosby Budinger et al., 2015), no prior research has examined the impact of school climate on the preferences/use of phone-based mental health services. There may thus be a possible positive association of school climate with phone counseling. In the present study, we consider the possibility that adolescents who perceive a better social school climate will be more receptive to telephone-based mental health resources.

Present Study

The influence of school climate on Ontario adolescents' preferences and use of telephone- and internet-based mental health resources has yet to be examined. The present study seeks to answer this question through secondary analyses of the 2019 Ontario Student Drug Use and Health Survey (OSDUHS) dataset (CAMH, 2024). To isolate the influence of school climate, several variables known to predict preferences and use of formal mental health resources were included as covariates. Specifically, increased age is associated with a lower likelihood of seeking help for mental health concerns (Newman et al., 2001; Smith et al.,

2001). Sex was also included as a covariate, as men are less likely to seek help (Tedstone Doherty & Kartalova O' Doherty, 2010). Given that minority groups are less likely to engage with mental health resources, ethnicity was also included as a covariate (Kim & Lee, 2022; McGuire & Miranda, 2014). Self-reported mental health was also a covariate.

Hypotheses

H1: Higher ratings of school climate will be associated with greater preference and use of in-person formal mental health resources.

H2: Higher ratings of school climate will be associated with greater preference and use of telephone-based formal mental health resources.

H3: Lower ratings of school climate will be associated with greater preference and use of internet-based formal mental health resources.

Methods

Data Source and Procedure

The current study used a subset of data collected from the 2018-2019 cycle of the Ontario Student Drug Use and Health Survey (OSDUHS), a project led by the Center for Addiction and Mental Health (CAMH, 2024). The OSDUHS is a cross-sectional survey administered every two years since 1977 to Ontario students from grades 7 through 12. It tracks changes across a range of physical health, mental health, educational, and behavioral outcomes among adolescents (CAMH, 2024).

In the 2018-2019 school year, 14,142 students from 263 English and French language schools in the public and Catholic sectors participated. A disproportionately stratified (region by school), two-stage (school by class) cluster sampling design was employed, resulting in 13 regional strata (e.g., City of Ottawa, Peel region) from which two school types (middle and secondary) were chosen. Middle schools were excluded in three of the strata, resulting in 23 final regions by school-level strata. First, within each stratum, schools had a proportionate probability of being chosen based on their size; that is, larger schools had a higher probability of being sampled. Second, within each selected school, classes were stratified by grade, with one class being chosen from each grade. Schools were excluded from the study if they were

located in First Nations communities, military bases, or medical/correlational institutions, or if they were funded privately or geographically remote. In addition, special education classes, English as a Second Language (ESL) classes, and classes with fewer than four students were excluded. Students were also excluded if they were homeschooled and/or did not comprehend English or French. Informed consent was sought from school boards, principals, teachers, parents, and students. The survey was administered in paper-and-pencil form by trained staff during classroom hours between November 2018 and June 2019, with the anonymous, voluntary, and optional nature of participation emphasized beforehand. Detailed information and further elaboration on the OSDUHS study design may be found elsewhere (Boak et al., 2020), and a depiction of the OSDUHS sampling procedure may be found in Appendix A. Four different versions of the survey were administered to gather information on a range of topics, with two versions containing the measures relevant to the present study.

Present Study

Participants

The present study used a subsample of students who completed the two relevant versions of the survey ($n = 7,617$). Missing value analyses (MVA) in SPSS 29.0.0 (IBM, 2024) were used to examine patterns in missing data across all variables. The MVA indicated that 7.6% ($n = 578$) of participants had at least one missing value across demographic, psychological distress, and school climate variables. Little's test of Missing Completely at Random (MCAR) was significant, $\chi^2 = 905.279$, $df = 588$, $p < .001$, suggesting that the data were not missing completely at random. An expectation-maximization (EM) algorithm was used to impute missing data. Participants were excluded from final analyses if they were missing data across all measures; 65 cases were omitted. The final sample for this study consisted of $n = 7,552$ participants between 11 and 20 years of age ($M = 15.14$, $SD = 1.79$). A schematic description of the inclusion process for participants can be found in Appendix A. Respondents were predominantly girls (51.0%). A repeated-measures cross-sectional study of the Canadian Community Health Survey from 2011 to 2016 revealed similarities between certain ethnic groups regarding their perceptions and use of mental health services. The study's participants were grouped into 4 discrete categories based on these findings. Most participants identified as

White (50.0%), followed by South Asian, Black, or Aboriginal (17.4%); East, West, and Southeast Asian (15.6%); Mixed (11.5%); and Latin, Central, and South American (2.3%). The rest of the participants (3.4%) were uncertain about their ethnicity or did not respond to this question. Most participants (48.4%) self-reported mid-high SES, as measured with the MacArthur Scale of Subjective Social Status. A comprehensive description of participant characteristics after imputation can be found in Table 1.

Measures

Three sets of measures were used to operationalize social dimensions of school climate, preferences of formal health-seeking resources, and use of formal help-seeking services.

Social Dimensions of School Climate

The OSDUHS assessed students' perceptions of school climate with four items. Students were asked to rate feelings of school safety, school connectedness, and school belongingness (i.e., *I feel safe in my school, I feel close to the people in my school, I feel like I am part of this school*) on a 4-point Likert scale. Response items for these three items were: (1) *Strongly Agree*; (2) *Agree*; (3) *Disagree*; and (4) *Strongly Disagree*. Using the *MacArthur Scale of Subjective Social Status*, students also rated their social status within the school on a scale of 1 = *Lowest Status* to 10 = *Highest Status*.

Preferences of Formal Help-Seeking Resources

Students' preferences for in-person and remote mental health resources were assessed using the following question: *If you needed professional help with an emotional problem, how would you prefer to get it?* Response items included: (1) *in-person*; (2) *over the phone*; (3) *internet (web/chat/text)*; (4) *not get help*; and (5) *not sure*. Students could not select multiple response items.

Use of Formal Help-Seeking Resources

Students reported their in-person and remote help-seeking behaviors using two items. They reported on in-person help-seeking behaviors with the following question: *How many times did you visit a doctor/nurse/counselor about mental health in the last 12 months?* Response options included: (1) *did not seek these services in the last 12 months*; (2) *once*; (3) *2 or 3 times*; (4) *4 or 5 times*;

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Table 1

Participant Characteristics and Demographics

Variable	% or M (SD)
Ethnicity	
White	50.0%
South Asian, Black, or Aboriginal	17.4%
East, West, or Southeast Asian	15.6%
Mixed	11.5%
Latin, Central, or South American	2.3%
Missing/Unsure	3.4%
Age	15.1 (1.79)
Sex	
Boy	49.0%
Girl	51.0%
Grade	
7	11.9%
8	11.9%
9	17.9%
10	18.5%
11	17.9%
12	22.0%
SES	6.9 (1.68)
Low	8.2%
Mid-Low	27.2%
Mid-High	48.4%
High	16.1%
School climate score	3.2 (0.62)
Low climate	13.4%
Middle climate	31.7%
High climate	54.8%
K6 Psychological distress	7.7 (5.51)
Low distress	79.7%
High distress	20.3%
Preferences for help-seeking behaviors	
In-person	43.0%
Remote	8.7%
No-help	47.2%
Missing	1.1%
Displayed in person help-seeking?	
Yes	25.9%
No	73.5%
Missing	0.6%
Displayed remote help-seeking?	
Yes	4.4%
No	94.9%
Missing	0.6%

(5) 6 or 7 times; (6) 8 or 9 times; (7) 10 or 11 times; and (8) 12 or more times. Remote help-seeking behaviors were assessed with the question: *In the last 12 months, have you phoned a telephone crisis helpline or gone on a website, such as KidsHelpPhone.ca, because you needed to talk to a*

counselor about a problem? Response items included: (1) *phoned a helpline only*; (2) *posted a question on a website only*; (3) *phoned and posted a question on a website*; and (4) *neither*. Students could not select multiple options.

Preliminary Data Analyses

Several data transformations, a missing value analysis, and an imputation procedure were undertaken to prepare data for final analyses.

Validity of School Climate Scale

Although the OSDUHS creators included four survey items that were relevant to school climate, it is important to note that they were not part of a pre-established school climate scale, such as the *School Climate Questionnaire* (SCQ). However, the four items had high face validity to the constructs of school safety, school connectedness, and school belongingness (Ahmadi et al., 2020; O’Brennan & Furlong, 2010; Williams et al., 2018), which motivated the initial decision to use them as measures of school climate in the present study. Preliminary analyses still had to be undertaken to determine whether the four climate items could be combined into a school climate scale.

The school social status item was reverse-coded. Examination of frequency distributions for each of these four items showed that responses violated the normality assumptions. Hence, Spearman coefficients (*r_s*) were used to examine correlations among the four items. An examination of inter-item correlations revealed low to moderate correlations, ranging from *r_s* = .28 to *r_s* = .54. Reliability analyses indicated that removing the social status item from the climate scale would improve Cronbach’s alpha from .613 to .689, which was an acceptable internal consistency to establish the reliability of our scale (see Appendix B for analyses). Thus, the school status item was dropped, and a 3-item school climate scale was constructed with the remaining items. All three items were reverse-coded such that higher scores represented more positive ratings of school climate. An average climate score was computed with the three items. Scores were recoded into the following categories: (1) scores of 1 to 2.5 were collapsed into ‘low climate’; (2) scores above 2.5 to 3 were collapsed into ‘middle climate’; and (3) scores above 3 to 4 were collapsed into ‘high climate.’

Recoding Preferences of Formal Help-Seeking Resources

The formal help-seeking preferences variable was also recoded. The ‘not seek help’ and ‘not sure’ categories were combined into a ‘no help’ group as they both signaled a negative preference or hesitancy toward seeking help. Extensive literature indicates that individuals who indicate either of these preferences typically endorse similar barriers (i.e., stigmas, concerns about service utility, lack of mental health literacy) regarding mental health help (Gulliver et al., 2012; Salaheddin & Mason, 2016). Thus, these individuals may share similar attitudes around mental health, supporting the idea that they can be examined as a single group. Although the present study initially intended to test the ‘over the phone’ and ‘Internet’ preferred groups separately, the small cell sizes for the former category would have caused a small-sample bias when running the logistic regression. Thus, we did not examine phone and internet preferences separately and instead examined them together as a ‘remote’ service category. This focus on remote help-seeking still represents a novel addition to the literature. Multinomial logistic regression analyses were conducted to analyze the impact of school climate on help-seeking preferences. A common practice in multinomial logistic regression is to use the largest group as the reference category to ensure adequate power (Sperandei, 2014), leading to the decision to use the ‘no help’ group as the reference category.

Recoding Use of Formal Help-Seeking Resources

Two new dichotomous variables were created to measure help-seeking behaviors. The in-person analysis variable was coded as 0 = “did not seek ANY mental health help” and 1 = “only sought in-person help.” The former group was made the reference group as it was larger. The remote analysis variable was coded as 0 = “did not seek ANY mental health help” and 1 = “only sought remote help.” The former group was made the reference outcome. Two binary logistic regressions were conducted to analyze the impact of school climate on in-person and remote service use.

Final Data Analyses

To account for the complex sampling method used in the OSDUHS, statistical analyses were done in STATA (version 17), a software that allows for survey weighting procedures specified in the

2019 OSDUHS to be applied (Boak et al., 2020). Table 1 characteristics are reported after applying these weights.

Results

Help-Seeking Preferences and School Climate

A multinomial logistic regression was used to test the association between school climate and preferences for in-person and remote mental health services. Grade, sex, ethnicity, SES, and psychological distress were entered as covariates. Table 2 presents the unadjusted relationships between school climate and help-seeking preferences. The adjusted multinomial logistic regression model for school climate as a predictor of help-seeking preferences, after controlling for covariates, was significant (see Table 3); $F(34, 204) = 8.28, p < .01$.

In-Person Help-Seeking Preferences

School climate was a significant predictor of in-person help-seeking preferences after controlling for other covariates. Students who perceived their school as having a positive school climate (i.e., high climate) were more likely to prefer in-person help (10.1% increased likelihood; $OR = 1.71, p < .01$), relative to students who had the most negative perceptions of their school (i.e., low climate). For ease of interpretability, significant odds ratios for the key correlate, school climate, were converted into percent changes; the process for this conversion is detailed in Appendix C. However, there were no significant differences between students in the low and middle school climate groups with respect to in-person help-seeking preferences; $OR = 1.16, p = .26$.

Remote Help-Seeking Preferences

School climate was not a significant predictor of remote help-seeking preferences. Odds ratios for both middle and high climate groups relative to the low climate group were statistically non-significant; $OR = 0.82, p = .36$; $OR = 0.94, p = 0.78$.

Help-Seeking Behaviors and School Climate

Binary logistic regressions were used to test the association between school climate and help-seeking behaviors (i.e., use of both in-person and remote mental health services). Grade, sex, ethnicity, SES, and psychological distress were

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Table 2

Bivariate Relationships and Unadjusted Odds Ratios between School Climate and Help-Seeking Preferences

School climate	In-person preferred ^a		Remote preferred ^a		No help preferred	
	% (<i>n</i>)	Unadjusted OR [95% CI]	% (<i>n</i>)	Unadjusted OR [95% CI]	% (<i>n</i>)	Unadjusted OR [95% CI]
Low	37.0 (349)	-	9.9 (93)	-	14.1 (502)	-
Middle ^b	40.0 (909)	1.08 [0.82, 1.38]	9.4 (214)	0.82 [0.51, 1.14]	32.3 (1,150)	-
High ^b	46.8 (1,988)	1.50** [1.22, 1.84]	8.2 (349)	0.94 [0.51, 1.15]	53.7 (1,914)	-

Note. Bivariate relationships between school climate and help-seeking, as well as unadjusted odds ratios (*OR*) without any covariates are displayed. ^aThe reference category in-person preferred and remote preferred is ‘no help preferred.’ ^bThe reference category for middle and high climate is low climate. ** $p < .01$.

entered as covariates. Table 4 presents the unadjusted relationships between school climate and help-seeking behaviors. The logistic regression model was significant for both in-person and remote services; $F(17, 221) = 8.87, p < .01$; $F(17, 221) = 5.71, p < .01$.

Use of In-Person Services.

Students in the high climate group were less likely to seek in-person help relative to the low climate group in the unadjusted (i.e., bivariate) model; $OR = 0.73, p < .01$. However, after controlling for covariates, the difference between the low and high climate groups was no longer significant; $OR = 0.91, p = 0.40$. There were also no statistically significant differences in in-person service use between the low and middle climate groups; $OR = 1.21; p = 0.11$.

Use of Remote Services

There were no significant differences in help-seeking odds between the low climate group and either of the middle or high climate groups; $OR = 1.38 p = .27$; $OR = 1.09, p = .53$.

Discussion

To our knowledge, this was the first study to examine the association between social dimensions of school climate and preferences/use of remote mental health services in adolescents.

School Climate and In-Person Service Preferences

Students who had higher ratings of school climate as measured by school safety, connectedness, and belongingness were more likely to prefer seeking in-person help. This aligned with prior results from the COMPASS study (Doan et al., 2020), further validating the positive association between school climate and in-person help-seeking preferences. Students who feel more interpersonally supported at school may endorse greater beliefs that they will benefit from disclosing problems in-person to a trusted professional, leading to more positive attitudes toward help-seeking. Favorable help-seeking preferences may also be explained by the fact that students who are more socially supported at school possess higher levels of self-regard (Mitchell et al., 2010), which protects against feelings of embarrassment and fear that may be associated with help-seeking. Results from the present study indicated that the percentage of students who prefer in-person help increased steadily with higher levels of school climate. However, there were no significant differences in help-seeking preferences between the middle and low school climate groups. This finding aligns with the results from a large-scale study of German university students, which found significant differences in help-seeking intentions only between participants who endorsed very high and very low ratings of mental health based on their school experiences. However, participants who endorsed moderate mental health ratings did not differ significantly in their help-seeking intentions relative to either extreme (Guenther et al., 2023). Thus, it may be

Table 3

Multinomial Logistic Regression Model for School Climate as a Predictor of Help-Seeking Preferences in 2019 (Adjusted)

Variables	In-person preferred ^g		Remote preferred ^g	
	<i>RRR</i>	95% CI	<i>RRR</i>	95% CI
Grade ^a				
7	0.58**	[0.46, 0.72]	0.71	[0.47, 1.08]
8	0.63**	[0.49, 0.80]	0.80	[0.54, 1.19]
9	0.57**	[0.44, 0.74]	0.77	[0.51, 1.15]
10	0.81*	[0.67, 0.99]	0.71	[0.50, 1.03]
11	0.86	[0.69, 1.07]	0.84	[0.60, 1.18]
Sex ^b				
Boy	0.63**	[0.56, 0.71]	0.63**	[0.51, 0.79]
Ethnicity ^c				
South Asian, Black, or Aboriginal	0.66**	[0.57, 0.77]	1.07*	[0.76, 1.50]
Latin, Central, and South American	1.28	[0.79, 2.07]	0.91	[0.44, 1.92]
East, West, and Southeast Asian	0.71**	[0.59, 0.85]	1.29	[0.92, 1.82]
Mixed	0.83	[0.67, 1.02]	1.12	[0.78, 1.60]
Missing/unsure	0.34**	[0.23, 0.51]	0.39**	[0.19, 0.78]
SES ^d				
Low	0.89	[0.68, 1.09]	1.16	[0.77, 1.75]
Mid-low	0.85	[0.71, 1.01]	1.02	[0.79, 1.32]
High	1.07	[0.89, 1.29]	0.95	[0.63, 1.41]
Kessler 6 ^e				
High distress	1.20*	[1.02, 1.42]	1.36*	[1.03, 1.80]
School climate ^f				
Middle	1.16	[0.89, 1.50]	0.82	[0.54, 1.25]
High	1.71**	[1.36, 2.15]	0.94	[0.61, 1.44]

Note. Relative risk ratios (*RRR*) are equivalent to odds ratios (*OR*).^a The reference category for grade is grade 12. ^b The reference category for sex is girl. ^c The reference category for ethnicity is White. ^d The reference category for SES (socio-economic status) is mid-high. ^e The reference for psychological distress is low. ^f The reference for school climate is low. ^g The reference category for in-person preferred and remote preferred is ‘no help preferred.’

* $p < .05$, ** $p < .01$

that while steady increases in school climate ratings are associated with greater in-person help-seeking preferences, the correlation is weak, which leads to group differences being significant only when extremes are compared. Further research is needed to verify this possibility.

School Climate and In-Person Service Behaviors

The present study sought to address the mixed findings in the literature regarding the association between school climate and in-person service use given that some studies found that students who are more socially supported are less likely to seek formal help (Sherbourne, 1988). The present study

found that while higher ratings of school climate were associated with greater preferences for in-person service, there was no association between school climate and the use of in-person services after covariates were added. Therefore, our findings provide support for an intention-behavior gap such that help-seeking preferences often do not align with actual service use, as has been robustly established by numerous adolescent studies (Murphy et al., 2022; Srebnik et al., 1996).

School Climate and RMHS Preferences and Behaviors

The present study indicated that school climate ratings were not related to preferences for RMHS.

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Table 4

Bivariate Relationships and Unadjusted Odds Ratios between School Climate and Help-Seeking Behaviors

School climate	In-person used ^a		Remote used ^a		Did not seek any help	
	% (n)	Unadjusted OR [95% CI]	% (n)	Unadjusted OR [95% CI]	% (n)	Unadjusted OR [95% CI]
Low	29.8 (258)	-	6.2 (17)	-	11.2 (609)	-
Middle ^b	27.5 (597)	1.03 [0.82, 1.38]	6.1 (39)	1.11 [0.51, 2.42]	28.9 (1,574)	-
High ^b	21.3 (884)	0.73 ** [0.59, 0.91]	4.4 (41)	0.63 [0.28, 1.41]	59.9 (3,261)	-

Note. Bivariate relationships between school climate and help-seeking, as well as unadjusted odds ratios (OR) without any covariates are displayed. ^a The reference category in-person used and remote used is the ‘did not seek any help’ group. ^b The reference category for middle and high climate is low climate.

** $p < .01$

Table 5

Binary Logistic Regression for School Climate as a Predictor of Help-Seeking Behaviors in 2019

Variables	In-person used [§]		Remote used [§]	
	RRR	95% CI	RRR	95% CI
Grade ^a				
7	1.12	[0.83, 1.51]	1.77	[0.55, 5.70]
8	1.24	[0.93, 1.66]	2.60	[0.77, 8.85]
9	0.84	[0.61, 1.16]	1.78	[0.70, 4.51]
10	0.79	[0.62, 1.00]	3.14*	[1.31, 7.52]
11	0.83	[0.64, 1.07]	3.83**	[1.55, 9.46]
Sex ^b				
Boy	0.75**	[0.66, 0.87]	0.48*	[0.27, 0.86]
Ethnicity ^c				
South Asian, Black, or Aboriginal	0.79*	[0.64, 0.98]	0.90	[0.45, 1.83]
Latin, Central, and South American	0.81	[0.52, 1.25]	2.22	[0.44, 11.27]
East, West, and Southeast Asian	0.71	[0.57, 0.90]	0.84	[0.44, 1.61]
Mixed	0.97	[0.75, 1.24]	0.88	[0.40, 1.94]
Missing/unsure	1.54	[0.97, 2.46]	1.11	[0.25, 4.83]
SES ^d				
Low	1.01	[0.76, 1.35]	1.03	[0.39, 2.72]
Mid-low	0.99	[0.81, 1.21]	1.01	[0.49, 2.05]
High	1.36**	[1.10, 1.66]	1.65	[0.83, 3.27]
Kessler 6 ^e				
High distress	1.97**	[1.63, 2.40]	4.04**	[2.57, 6.36]
School climate ^f				
Middle	1.21	[0.96, 1.53]	1.38	[0.63, 3.02]
High	0.91	[0.73, 1.14]	1.09	[0.49, 2.41]

Note. ^a The reference category for grade is grade 12. ^b The reference category for sex is girl. ^c The reference category for ethnicity is White. ^d The reference category for SES is mid-high. ^e The reference for psychological distress is low. ^f The reference for school climate is low. [§] The reference category for in-person used and remote used is the ‘did not seek any help’ group.

* $p < .05$, ** $p < .01$

Results also indicated no significant differences in the odds of students who used remote services as school climate ratings increased. Therefore, the novel finding in this study was that school climate was not implicated in preferences or use of RMHS.

Taken together, these findings suggest that both preferences and use of RMHS may be better explained by factors other than school climate. Specifically, odds ratios for psychological distress were stronger for remote service preferences/use than they were for in-person service preferences/use. This indicates that psychological distress may be a stronger predictor of adolescent engagement with RMHS rather than school climate. A study of over 200,000 Crisis Text Line conversations in the United States concluded that users typically reported very severe mental health issues, with a high prevalence of suicidal ideation and self-harm tendencies (Szlyk et al., 2020). Thus, adolescents dealing with high levels of psychological distress may tend to prefer and engage with remote services. After accounting for the effects of psychological distress, school climate may no longer be a significant predictor of remote service preferences or use. For both in-person and remote services, psychological distress was a stronger predictor of use than preferences. This aligned with prior literature showing that an individual's self-perception of their mental health is one of the strongest predictors of service engagement (Simo et al., 2018).

Limitations and Future Directions

Beyond psychological distress, there could be other variables that are better predictors of remote service preferences/use that were not captured in the present study. For instance, heavy internet use is negatively associated with social relationships, potentially causing a reduction in the user's physical social circle (Pantic, 2014). It seems plausible that the amount of time youth spend on social media and the internet may predict greater preferences and use of remote mental health services, owing to a lack of comfort in disclosing their problems in-person.

The present study had many strengths, including a large sample size that was representative of the Ontario student population, measures that accurately captured school climate and help-seeking constructs, and the ability to account for many covariates. However, several limitations should be mentioned. First, the school climate measure used did not rely on a previously

validated scale and was constructed solely using items available in the OSDUHS. While the internal consistency of the scale was thoroughly tested, only three items were used to construct the scale, which limits the scale's internal validity in capturing the social dimensions of school climate. Future studies should utilize a substantially validated measure of school climate, such as the *School Climate Questionnaire* (Bochaver et al., 2022).

Another limitation concerned the differences in the time frame between the school climate scale and outcome variables. The school climate scale asked students specifically about their current perceptions of school climate, while the service use questions asked students if they had utilized a mental health service in the past 12 months. Thus, the present study was unable to account for students who experienced changes in school climate during the year, which may have subsequently influenced service use.

Given that the association between school climate and phone preferences/use was expected to be opposite to the relationship between school climate and internet preferences/use, combining these categories into a single remote category may have resulted in a non-significant association with school climate. Thus, in the present study, we could not conclusively rule out an association between school climate and remote service preferences/use. Future studies should strive to recruit a sample with greater endorsement of phone and internet-based services so that purported differences between these groups can be measured.

These findings have important implications for the ways that schools can promote students' mental health. It is evident that school climate plays a significant role in student engagement with in-person mental health services, and increasing the presence of on-site professionals such as school psychologists should be a priority across school boards. Unfortunately, Canadian school systems are severely lacking in school psychologists, facing issues in training and retention of professionals who are equipped to handle the mental health needs of an increasingly diverse student base (Kang & Shaw, 2024). As we transition away from online learning in a post-COVID world, the present study suggests that remote mental health services should only act as a supplement to in-person resources. Given that children spend most of their formative years in the classroom, the onus should be on schools to fund

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and provide accessible, in-person mental health support for their students.

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Appendix A

Figure A1

Sampling Strategy for the 2019 OSDUHS

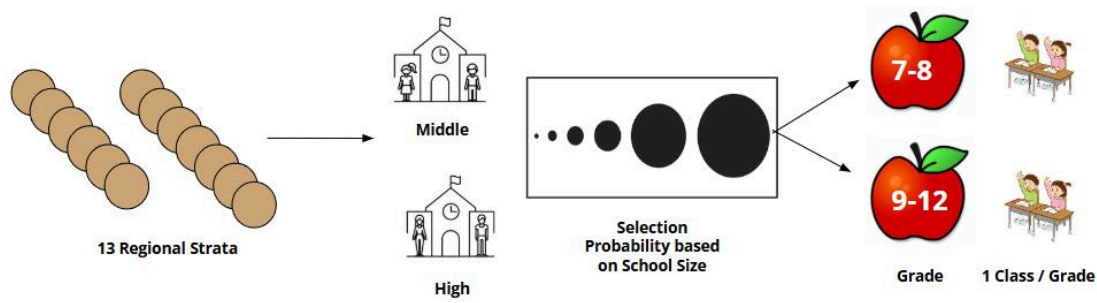
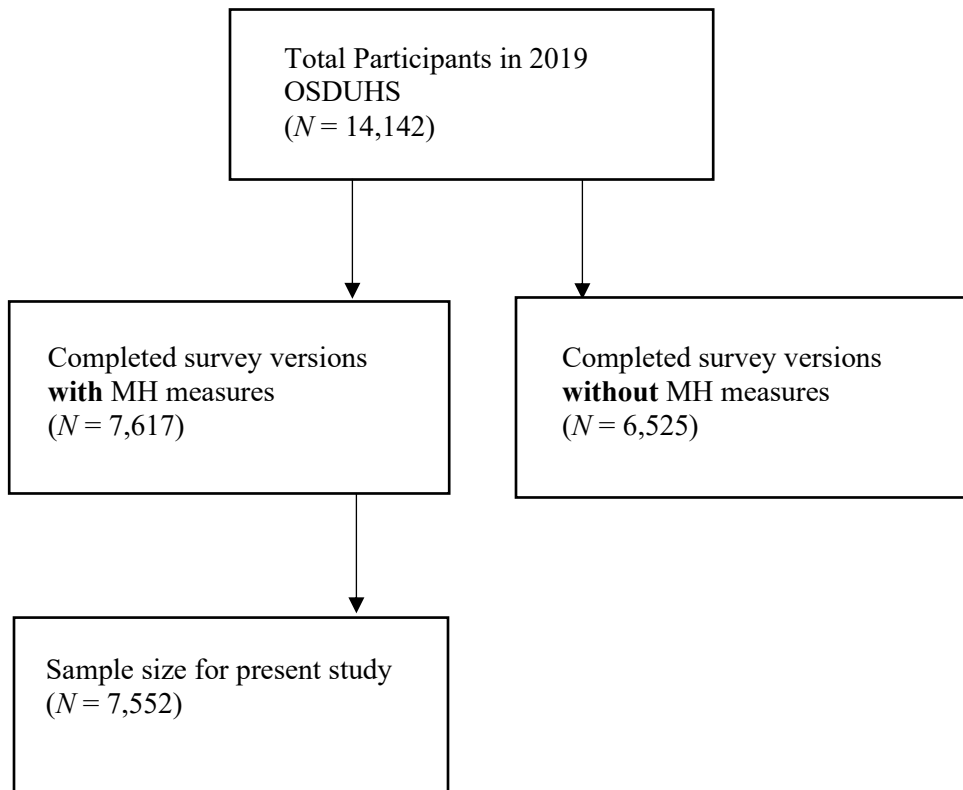


Figure A2

Flowchart for Participant Selection



Note. Schematic depicting OSDUHS sampling procedure, and flowchart detailing participant selection for the present study. The final sample size for the present study was $N = 7,552$.

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Appendix B

Table B1

Inter-Item Correlation Matrix, Means, and Standard Deviations for 2019 School Climate Items

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. I feel safe in my school	1.67	0.69			
2. I feel close to people at this school	1.78	0.79	.30**		
3. I feel like I am part of this school	1.85	0.82	.38**	.54**	
4. Social status within the school – R	4.17	1.87	.23**	.36**	.38**

Note. Spearman rank correlation coefficients are reported as item responses violated normality assumptions. R indicates reversed item.

** $p < .01$.

Table B2

Inter-Total Statistics Table for 2019 School Climate Items

Variable	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
1. I feel safe in my school	7.80	7.86	.35	.16	.59
2. I feel close to people at this school	7.69	6.87	.53	.36	.49
3. I feel like I am part of this school	7.62	6.63	.57	.40	.47
4. Social status within the school – R	5.31	3.27	.44	.20	.69

Note. Reliability analyses indicate that removing the school status item would improve Cronbach's alpha to an acceptable threshold. R indicates reversed item.

Appendix C

Garson (2006) details a method of expressing odds ratios in terms of probability changes, which aids reader interpretability. Based on this method, the following steps were taken to express the significant odds ratio for in-person help-seeking preferences.

1. The original probability of the dependent variable ‘prefers in-person help’ was 42.5% after survey weighting was applied to the 2019 sample.
2. This corresponds to an odds of 73.9% ($42.5\% / 57.5\%$).
3. With an adjusted odds ratio of 1.71, a new odds ratio of the dependent of 1.2649 ($1.71 * 0.739$) was calculated.
4. Letting ‘x’ be the new probability, $x / (1 - x) = 1.2649$.
5. Solving for x results in a value of 55.85%.
6. Thus, an odds of 1.71 corresponds to a 13.4% ($55.85 - 42.5\%$) increase in preferring in-person services.
7. If the unadjusted odds ratio of 1.50 is substituted, a percentage increase of 10.1% is calculated.

ADHD Impulsivity and Sexual Health: An Exploratory Review and Logical Analysis of STI and HIV Risk

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Although attention-deficit/hyperactivity disorder (ADHD) has been linked to elevated sexually transmitted infections (STIs), human immunodeficiency virus (HIV) risk remains understudied within the literature. PubMed, Scopus, and Google Scholar databases were searched using combined keyword sets on ADHD and HIV based on descriptions from national health agencies. Due to current gaps in the research literature, deductive reasoning patterns were used to identify neuropsychological and social risk factor pathways, which were then represented visually through the ADHD Impulsivity Model. Nearly all pre-selected HIV risk factors were found in the literature, with hyperactive-impulsive subtypes demonstrating higher rates of victimization, substance use, sexual risk-taking, STIs, and HIV, suggesting a probable link between hyperactive-impulsive ADHD subtypes and HIV risk. This review suggests that health risks might also be greater among untreated populations. As an underrepresented public health concern, ADHD-related impulsivity may reduce long-term health outcomes, increase STI and HIV transmission rates, and raise medical expenditures.

Keywords: ADHD, STI, HIV, impulsivity, risky sexual behavior

Bien que le trouble du déficit de l'attention/hyperactivité (TDAH) ait été associé à davantage d'infections transmises sexuellement (ITS), le risque associé au virus de l'immunodéficience humaine (VIH) reste peu exploré. Les bases de données PubMed, Scopus et Google Scholar ont été consultées à l'aide de combinaisons de mots-clés sur le TDAH et le VIH basés sur les descriptions fournies par les agences de santé nationales. En raison de lacunes actuelles dans la littérature, des modèles de raisonnement déductif ont été utilisés pour identifier des facteurs de risque neuropsychologiques et sociaux, qui ont ensuite été représentés visuellement par le modèle d'impulsivité liée au TDAH. La quasi totalité des facteurs de risque liés au VIH présélectionnés ont été retrouvés dans la littérature. Les sous-types hyperactifs-impulsifs présentaient des taux plus élevés de victimisation, de consommation de substances, de comportements sexuels à risque, d'ITS et de VIH, suggérant un lien probable entre les sous-types hyperactifs-impulsifs du TDAH et le risque de VIH. Cette recherche indique que les risques pour la santé pourraient être plus importants pour les populations non traitées. En tant que problème de santé publique sous-représenté, l'impulsivité liée au TDAH pourrait nuire à la santé à long terme, augmenter les taux de transmission d'ITS et du VIH et accroître les dépenses médicales.

Mots-clés: TDAH, ITS, VIH, impulsivité, comportement sexuel risqué

Attention-deficit/hyperactivity disorder (ADHD) is a complex neurodevelopmental condition characterized by a single or combined clinical presentation of inattention and hyperactivity-impulsivity (American Psychiatric Association, 2022). ADHD is the most commonly diagnosed neurodevelopmental condition worldwide, with prevalence rates ranging from 5-8% in children and 4.4-5.29% in adults (Kessler et al., 2006; Polanczyk et al., 2007; Willcutt, 2012).

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Although researchers were once skeptical about the persistence of ADHD symptoms into adulthood (e.g., Shaffer, 1994), this position has largely been refuted over the past two decades (Faraone et al., 2006; Moffitt et al., 2015). Beyond the high prevalence rates of the condition, researchers have indicated that symptoms persist in 60-90% of childhood cases (Biederman et al., 2010; Sibley et al., 2022). According to the recently published Multimodal Treatment Study of ADHD (MTA), a complete reduction in clinical symptoms only occurs in 1 in 10 individuals (Sibley et al., 2022). Moreover, the authors of this study also claim that most adults with ADHD would only ever achieve temporary periods of symptom remission.

In a study on the prevalence of ADHD subtypes in adults, Salvi et al. (2019) identified that 18.3% of the sample were primarily inattentive (ADHD-PI), 8.3% were primarily hyperactive-

impulsive (ADHD-HI), and 70.3% had a combined subtype (ADHD-C). Interestingly, research has identified differences in cognition, risk factors, and lifetime outcomes between hyperactive-impulsive (ADHD-HI and ADHD-C) and inattentive (ADHD-PI) subtypes (Murray et al., 2020; Reimherr et al., 2020). Lifespan outcomes for hyperactive-impulsive individuals have been associated with significant health risks and a lower estimated life expectancy, including an average decrease of 9-13 years to a 25-year decrease in the most severe cases of hyperactivity (Barkley & Fischer, 2019). Given their high impulsivity, individuals with ADHD-HI or ADHD-C are more prone to rule-breaking, self-destructive behavior, substance use, accidental death, and early mortality (Barkley et al., 1990; Franke et al., 2018).

In recent decades, research has emerged on the association between ADHD and adverse sexual health outcomes (e.g., Young et al., 2023). While impulsivity is widely recognized as a risk factor for HIV (e.g., Jones & Sullivan, 2015), ADHD-related impulsivity encompasses unique clinical presentations, such as adventurousness, meriting further exploration (Grimm et al., 2020). Investigating these nuances is crucial for developing intervention strategies that are specifically tailored to the needs of individuals with ADHD. By distinguishing ADHD-related impulsivity from general impulsivity, public health initiatives can move beyond generic approaches and design more effective, targeted prevention and treatment programs to reduce STI and HIV risk within this population.

As ADHD is a multifaceted and heterogeneous condition, negative interpersonal outcomes and adverse sexual risk factors may be better understood through impulsivity, defined as “the predisposition toward rapid, unplanned reactions to internal or external stimuli without regard to the negative consequences of these reactions” (Moeller et al., 2001, p. 1783). Impulsive individuals often respond to stimuli without carefully considering the potential costs of their behaviors, thereby putting themselves and others at greater risk. Given that roughly 80% of adult cases of ADHD feature hyperactive-impulsive symptoms (Salvi et al., 2019), more attention should be given to ADHD and public health risks, including STIs and HIV.

Indeed, individuals with ADHD are at an increased risk for engaging in impulsive behaviors, including risky sexual practices (e.g., Hertz et al.,

2022), which can elevate the likelihood of contracting STIs and HIV. Research consistently shows that ADHD-related impulsivity contributes to behaviors such as unprotected sex, multiple sexual partners, and sexual activity under the influence of substances, all of which significantly increase the chances of STI transmission (Barkley et al., 2006; Flory et al., 2006; Rohacek et al., 2022). Studies have found that individuals with ADHD are more prone to risky sexual behaviors due to poor decision-making and that they have a tendency to prioritize immediate rewards over potential future consequences (Berry et al., 2021; Marsh et al., 2015). This behavior may lead to unsafe sexual activities, increasing the risk of long-term health consequences, such as contracting and spreading STIs.

The health risks associated with ADHD-related impulsivity and unsafe sexual practices can be severe. For instance, contracting an STI can lead to long-term health complications, including chronic illness, infertility, and, in the case of HIV, life-long dependency on antiretroviral treatments (Swinkels et al., 2024). Furthermore, undiagnosed or untreated STIs can lead to more severe conditions such as pelvic inflammatory disease, cervical cancer, and an increased susceptibility to other infections (Henkel, 2021; Smolarczyk et al., 2021; Tsevat et al., 2017). At a societal level, the healthcare costs associated with managing these conditions are substantial, as they often require ongoing medical care, treatment, and follow-up (Bingham et al., 2021; Elendu et al., 2024).

Regarding interpersonal dynamics, those with ADHD commonly struggle with personal (Moyá et al., 2014; Spender et al., 2023) and romantic relationships (Babinski et al., 2011; Canu & Carlson, 2003), with long-term partnerships being prone to greater marital dissatisfaction and higher rates of divorce (Ben-Naim et al., 2017; Murphy & Barkley, 1996). When faced with negative social outcomes, such as interpersonal challenges, individuals with ADHD often resort to maladaptive coping responses, including avoidance and substance use (Margherio et al., 2021; Torrente et al., 2014). As they may feel isolated due to peer rejection or difficulty sustaining relationships across lifespan development (e.g., Beaton et al., 2022; Mrug et al., 2012), some individuals with ADHD may seek validation or intimacy through risky sexual behaviors or substance use. On the other hand, once they initiate a romantic relationship, individuals with ADHD commonly struggle to maintain them (e.g., Kahveci Öncü &

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Tutarel Kışlak, 2022), reporting higher rates of infidelity and greater dissatisfaction with their sexual partners (Young et al., 2023).

Despite the well-documented association between ADHD and risky sexual behaviors (e.g., Barkley et al., 2006), the specific risks of HIV transmission remain surprisingly underexplored within the research literature. While considerable attention has been given to STIs in relation to ADHD-related impulsivity, the lack of research on HIV risk represents a significant gap in both neurodevelopmental and health research. This exploratory review and logical analysis seeks to address this gap by examining how the current body of literature may support the connection between ADHD-related impulsivity and heightened vulnerability to STIs and HIV. Specifically, this review is guided by the following research question: How does the existing literature support the association between ADHD-related impulsivity and HIV risk?

To achieve this objective, I will conduct a comprehensive examination of various neuropsychological and social theories, including executive dysfunction, delay discounting, reward deficiency syndrome, motivation deficit, and self-medication. This exploratory review aims to construct an integrated framework that captures the cognitive, behavioral, and interpersonal dimensions of impulsivity and risky sexual behaviors associated with ADHD. By synthesizing these theories, this research aims to provide a clearer understanding of the mechanisms driving ADHD-related impulsivity, how these factors manifest across the lifespan, and their role in increasing vulnerability to contracting HIV. It is important to address these risks because of the ongoing need for psychoeducational resources and tailored interventions that target not only the behavioral manifestations of ADHD but also their broader implications for sexual health and social wellbeing (Barkley & Fischer, 2019; Young et al., 2023). Effective support systems may need to incorporate strategies that mitigate impulsivity and risk-taking behaviors while promoting healthier decision-making in sexual relationships. Unfortunately, few studies have undertaken a comprehensive approach to reviewing and analyzing the neuropsychological and social factors that may contribute to adverse sexual health outcomes in those with ADHD. Without such awareness, impulsivity-driven behaviors are likely to persist, perpetuating unsuspected cycles of adverse health behaviors, relational difficulties,

and higher rates of STIs and HIV infections within this population.

Method

Inclusion and Exclusion Criteria

The inclusion criteria for this exploratory review were determined by consulting STI and HIV and risk factors provided by the Centers for Disease Control and Prevention (CDC, 2023) and Public Health Agency of Canada (PHAC, 2012):

- being sexually active but not testing for STIs, including HIV,
- being diagnosed with other STIs,
- engaging in unprotected anal or vaginal sex,
- having multiple sex partners;
- having anonymous sex partners,
- alcohol and drug use,
- shared drug equipment, and
- social determinants of health (e.g., poverty, inequity, and sex work).

The review focused on generalizable cognitive, behavioral, and social factors associated with ADHD rather than particular geographic or demographic factors. The search covered work published between January 1, 1990 and December 31, 2023. Excluding articles before 1990 helped to narrow down those related to ADHD, which became an official diagnosis in the late 1980s in the Diagnostic and Statistical Manual of Mental Disorders, Third Edition Revised (DSM-III-R; American Psychiatric Association, 1987). All selected literature was published in English without limitations on the country of origin. Eligible studies included journal articles, reviews, meta-analyses, books, and book chapters.

Literature Search

An online literature search was conducted using PubMed, Scopus, and Google Scholar, which were chosen for their effectiveness in locating neurodevelopmental and health psychology research documents. The literature search consisted of the following keyword combinations: “ADHD,” “alcohol use,” “comorbidity,” “drug use,” “HIV,” “impulsivity,” “sexual activity,” “sexually transmitted diseases,” and “sexually transmitted infections,” combined using Boolean Operator (“AND”). Given the high number of retrieved results, no additional databases were consulted. Abstracts were first reviewed for relevance, and then full-text documents were

assessed for quality using five criteria: claims, methods, implications, strengths, and weaknesses.

Screening and Selection Process

All retrieved studies underwent a two-stage screening process. First, I reviewed abstracts for relevance, excluding studies that did not focus on ADHD and its associations with health risk behaviors. Second, full-text articles were evaluated based on five criteria:

- **claims:** the central arguments and conclusions of the study,
- **methods:** the study design, sample characteristics, and statistical analyses used,
- **implications:** the significance of the study's findings for ADHD-related health risks,
- **strengths:** aspects such as sample size, methodological rigor, and novel contributions, and
- **weaknesses:** limitations, biases, and gaps in research design.

Only studies that aligned with the health risk factors outlined by major public health agencies and met the above quality criteria were included.

Data Extraction and Thematic Analysis

Key data points were extracted, including study objectives, sample populations, primary findings, and relevant methodological considerations. A pragmatic review approach was employed, emphasizing the identification and synthesis of core findings. These findings were then categorized into three overarching themes: (1) neuropsychological factors, (2) social and environmental factors, and (3) risky behaviors. Each theme was further analyzed for direct effects, indirect effects, and contextual utility, ensuring a nuanced understanding of ADHD-related health risks.

Logical Analysis

The combination of an exploratory review and logical analysis can help overcome the limitations of narrowly focused investigations that neglect extant gaps within social science research (Stebbins, 2011; Yao, 2024). These methods allow researchers to synthesize fragmented data, draw inferences, and produce working frameworks of social phenomena, which can then be used to triangulate data, test new hypotheses, and consider emerging theoretical models (Mahoney, 2023;

Steel, 2024). Therefore, the data was analyzed and synthesized using deductively valid argument patterns known as hypothetical syllogisms or chains of reasoning. The findings were organized into logic tables, a method commonly found in philosophy to evaluate statements, connectives, and truth values (Marcus, 2018). These patterns were then visually represented in the ADHD Impulsivity Model (AIM), showing the neuropsychological and social risk factor pathways linking ADHD-related impulsivity with STIs and HIV.

Results

This exploratory review and logical analysis synthesized findings on ADHD-related impulsivity and sexual health risks. The identified factors fall into three primary categories: (1) neuropsychological factors, (2) social and environmental factors, and (3) risky behaviors. Each category is discussed in turn, followed by a model integrating these findings to illustrate risk factor pathways for STIs and HIV.

Neuropsychological Factors

Over the previous decades, the underlying causes of ADHD symptomology have remained unclear. Hypotheses include neurotransmitter dysregulation (Yasumura et al., 2019), atypical dopamine transporter levels (DAT) in the striatum (Volkow et al., 2010), alterations in grey matter networks (Duan et al., 2021), and executive function (EF) deficits via delayed brain growth and cortical thickness (Barkley et al., 2008). As a neurodevelopmental condition, ADHD impacts how the brain functions and develops and, therefore, has a strong neurobiological underpinning (Curatolo et al., 2010). Theories of altered neurotransmission plausibly explain the pathophysiology of ADHD. Indeed, dopaminergic and norepinephrinergic deficiencies in various brain areas, including the striatum and prefrontal cortex (Arnsten, 2009), contribute to cognitive and behavioral challenges. The commonly prescribed medications for ADHD, including methylphenidate and amphetamine, work by blocking dopamine reuptake and inhibiting norepinephrine transport, with the latter of the two also releasing more extracellular dopamine and norepinephrine in the synapses (Brown et al., 2018; Del Campo et al., 2011). Because those with ADHD have altered neurotransmission, including higher DAT transporter density. Vital catecholamines, such as dopamine, are removed

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from the synapses too readily (Volkow et al., 2001). Lower levels of these catecholamines, in turn, contribute to deficits in behavioral inhibition, attention, and motivation, which are common ADHD manifestations.

Although a convergent etiology has yet to be determined, neurotransmitter deficiency and medication effectiveness align with EF theories. According to Barkley (2012), “EF is self-regulation. It can now be defined as the use of self-directed actions (self-regulation) to choose goals and to select, enact, and sustain actions across time toward those goals” (p. 104). Rather than viewing ADHD as a purely attentional or hyperkinetic disorder, EF addresses the complex dysregulation in various adaptive processes, including planning, implementing, regulating, reflecting, and adjusting behaviors (Barkley, 2012). By accounting for the daily processing demands associated with ADHD, researchers and clinicians can comprehensively describe the condition’s subsequent risks across lifespan development. Notably, EF is a mechanism associated with behavioral inhibition and future-oriented goals and actions (Barkley, 2012). With the clinical phenomenology of impulsive ADHD subtypes, individuals may not act upon immediate stimuli without adequate consideration and risk aversion.

Other theories of interest, including reward and motivation deficit, propose that ADHD is associated with atypical functioning of the dopamine pathway, including the midbrain and nucleus accumbens (Blum et al., 2008). The disorder impairs motivation and reward processing through intracellular cascade disruptions, such as inhibitory and excitatory responses, which contribute to impulsivity, impatience, and stimulus-seeking. With inhibited reward processing or reward deficiency syndrome, those with ADHD often seek out dopamine-releasing behaviors, including overeating, smoking, sex, gambling, and substance use (Blum et al., 2000, 2008). In conjunction with executive dysfunction and the phenomenon of temporal myopia, which can make planning, selecting, and deferring activities more difficult (Barkley, 2012), people with reward deficiency syndrome struggle to look outside the immediacy of cravings, especially when experiencing stress, pressure, and anxiety (Blum et al., 2000, 2008).

In recent years, researchers have adopted new ways to measure ADHD-related impulsivity in experimental settings. One promising way to

operationalize impulsivity is by using delay discounting tasks, where individuals choose between an immediate or future reward (Paloyelis et al., 2010). The key measurement in delay discounting is the tendency for individuals to devalue future rewards as the delay to receiving them increases—an inverse relationship where the subjective value of a reward declines as the waiting time grows. Greater discounting of future rewards (i.e., a stronger preference for immediate but less optimal rewards) has been identified in impulsive individuals, including those with ADHD (Jackson & MacKillop, 2016).

In an experimental study by Berry and colleagues (2021), the researchers measured delayed discounting in individuals with ADHD ($N = 275$). The study sought to determine if participants with more significant ADHD symptoms ($n = 169$) discounted delayed condom-protected sex more than those with lower ADHD symptoms ($n = 106$). The ADHD group expressed significantly greater discounting of delayed condom-protected sex in three out of four hypothetical scenarios. As the results indicated, those with ADHD were more likely to take impulsive risks (i.e., not waiting for condom-protected sex), showing lower self-control than the non-ADHD comparison group. According to the researchers, “given that greater delay discounting may lead to STIs such as HIV . . . it may therefore be an important, but underexplored clinical harm of adult ADHD” (Berry et al., 2021, p. 199).

Meta-analyses have identified similar findings for ADHD and risky behaviors, claiming that adults with ADHD display suboptimal delay discounting scores compared to non-ADHD comparison groups (Dekkers et al., 2016; Roberts et al., 2021). Based on the results provided by Berry and colleagues (2021), EF deficits may help explain why impulsivity contributes to a preference for immediate gratification. As a clinical phenomenon, inhibited delay discounting has been regarded as a bias toward the present (Beauchaine et al., 2017), similar to the association between executive dysfunction and temporal myopia (Barkley, 2012). Interestingly, even in scenarios where sexual risks are known, such as where a hypothetical sexual partner likely has an STI, the participants with ADHD were less likely to defer immediate condomless sex for eventual condom-protected sex (Berry et al., 2021).

Social and Environmental Factors

In addition to neuropsychological risk factors, individuals with ADHD are more susceptible to social and environmental risks. For example, children with ADHD are twice as likely to experience adverse childhood experiences (ACEs) than their non-ADHD peers (Stern et al., 2018). Individuals in the hyperactive-impulsive subtypes are at a heightened risk of experiencing physical abuse specifically (Ouyang et al., 2008). According to Felitti and colleagues (1998), ACEs are defined as potentially traumatic events occurring before the age of 18, which may include abuse, neglect, and household dysfunction. In a study by Briscoe-Smith and Hinshaw (2006), females with ADHD ($n = 140$) had significantly higher rates of childhood abuse (14.3% vs. 4.5%) relative to the comparison group ($n = 88$). Similar results have been found in other cultures, including in a large Danish study ($N = 679,683$) on victimization identifying that 30.8% of children and adolescents with ADHD reported sexual abuse compared to 10.8% for the control group (Christoffersen, 2022).

These are particularly troubling statistics when viewed in conjunction with the research by Brown and Anda (2009), who found that ACEs significantly increase risky sexual behavior and drug use, including intravenous drug use, all of which represent risk factors for HIV (CDC, 2023; PHAC, 2012). Similarly, Hillis and colleagues (2001) identified that females who experienced ACEs had higher rates of risky sexual behavior, including significantly greater numbers of sexual partners and decreased awareness of HIV risk. Moreover, Schilling and colleagues (2007) demonstrated a strong correlation between ACEs and depressive symptoms, drug abuse, and antisocial behavior. When considering the significance of social and relational development, factors such as peer rejection, bullying, and trauma, which occur at much higher rates among those with ADHD (e.g., Stern et al., 2018), have been linked to higher rates of substance use (Dube et al., 2003; Holt et al., 2015), infidelity (Colman & Widom, 2004), and risky sexual behaviors (Holt et al., 2018; Smith et al., 2020).

Indeed, the impulsivity associated with ADHD may contribute to challenges in interpersonal relationships. Individuals with ADHD often struggle with emotional regulation, which can lead to frequent conflict, aggression, and instability in friendships and romantic partnerships (Barkley, 2015). These interpersonal difficulties may create

additional stress, further isolating individuals from social support systems, which are critical for mental health stability (e.g., Jong et al., 2024). With poorer interpersonal relationships, individuals with ADHD may experience heightened feelings of rejection and frustration, which can lead to a cycle of emotional instability and impulsive decision-making (Bagwell et al., 2001; Hoza et al., 2005). For example, a lack of stable and supportive relationships may also drive people with ADHD to seek out temporary or superficial connections, which can increase the likelihood of engaging in risky behaviors (Marshall et al., 2007).

In a sizeable Canadian study ($N = 6,872$), Fuller-Thomson and colleagues (2021) asked participants (ages 20-39) to report on ADHD experiences, substance use, and socioeconomic factors. The results showed that the ADHD group ($n = 270$) had significantly higher prevalence rates of lifetime alcohol use disorder (36.2% vs. 19.3%) and drug use disorders (17.7% vs. 4.9%) than the comparison group ($n = 6,602$). Similar to the results provided by Briscoe-Smith and Hinshaw (2006) and Christoffersen (2022), the participants with ADHD also reported higher rates of sexual abuse (10.7% vs. 4.2%). Moreover, the research indicated a greater occurrence of generalized anxiety disorder in the ADHD group (22.9% vs. 7.4%), supporting the literature on psychiatric comorbidity (Kessler et al., 2006). Possible explanations for these risk factors included self-medication, strained parent-child relationships in early life, and altered dopamine pathways (Fuller-Thomson et al., 2020, 2021). In another nationally representative self-report survey ($N = 21,744$) on Canadian adults, Fuller-Thomson and colleagues (2020) measured the prevalence of suicidal behaviors in adults with ADHD ($n = 529$) versus a non-ADHD sample ($n = 21,215$). As the study's results indicated, those with ADHD had significantly higher rates of suicide attempts than the control group (14% vs. 2.7%), with factors such as comorbid mental illness, substance abuse, and childhood adversities being strong mediating factors.

According to Blum et al. (2008), self-medication with drugs and alcohol is one of “the most destructive coping” strategies for those with ADHD, as the effects provide temporary relief and often lead to habitual use. Furthermore, with greater use comes greater tolerance, which can lead to eventual compulsive substance use. Based on the available literature, maladaptive coping may

develop as a consequence of both neuropsychological and social factors, including ACEs, poor relationships, and underachievement (Al-Yagon et al., 2020; Barkley et al., 2008; Barkley & Fischer, 2019). In a study ($N = 941$) on ADHD and drug use, Dunne et al. (2014) found that ADHD scores were associated with a younger timing of first alcohol, cigarette, marijuana, and cocaine use. Concerningly, those with ADHD ($n = 124$) showed higher rates of intravenous drug use needle sharing (26.1% vs. 15.4%) than the comparison group ($n = 817$).

Risky Behaviors

For highly impulsive individuals, immediate gratification, risk-taking, and sensation-seeking behaviors often override self-regulatory mechanisms (Sullivan & Barkley-Levenson, 2021). Pollak et al. (2019) found that individuals with ADHD were more likely to engage in multiple risk-taking behaviors, such as problematic driving, sexual activity, substance use, aggression, gambling, and compulsive spending. Moreover, in an adolescent sample ($N = 115$), only the hyperactive-impulsive ADHD subtypes were associated with risky sexual behavior, which was mediated by problematic alcohol and marijuana use (Sarver et al., 2014). In their research on incarcerated youth with substance abuse ($N = 377$), Dévieux et al. (2002) observed that the high impulsivity group ($n = 201$) had greater alcohol ($M = 8.48$ vs. $M = 3.92$) and cocaine use ($M = 5.05$ vs. $M = 2.98$) than the low impulsivity group ($n = 176$) over the past three months. Additionally, the high impulsivity group reported higher rates of unprotected sex while under the influence of drugs and alcohol ($M = 17.21$ vs. $M = 8.08$) over the previous three months.

The longitudinal research on ADHD indicates an association with poorer sexual health outcomes. First, in a 13-year longitudinal study by Barkley and colleagues (2006), the hyperactive-impulsive ADHD group ($n = 149$) had significantly higher rates of risky sexual behavior than the control group ($n = 72$). The hyperactive-impulsive group outscored the non-ADHD comparison group on total sexual partners (13.6 vs. 5.4), early pregnancy (32% vs. 4%), and STI rates (17% vs. 4%). It also appears that socioeconomic factors mediated the sexual health outcomes, as the hyperactive-impulsive group had poorer job performance and satisfaction, finances, and educational achievement than the comparison group.

Similar to the results presented by Barkley and colleagues (2006), Flory et al. (2006) found significantly higher risky sexual behavior in the ADHD group ($n = 175$) than in the comparison group ($n = 111$). The results showed that the ADHD group had significantly higher numbers of total multiple sex partners (60% vs. 28%), casual sex with infrequent condom use in the past year (15% vs. 5%), STIs (4% vs. 2%), and partner pregnancy (24% vs. 5%).

Although these studies focused primarily on men, more recent studies have also shown risky sexual behaviors in samples of women with ADHD. In a retrospective mixed-gender study of college students with ADHD ($n = 44$) and without ($n = 48$), Huggins et al. (2015) found that women with ADHD engaged in more unprotected sex than both non-ADHD women and both ADHD and non-ADHD men. On the other hand, men with ADHD reported having more sexual encounters and sexual partners than women with ADHD. Additionally, in a two-part research study on US college students conducted by Marsh et al. (2015), the second portion ($N = 192$) was comprised of 149 women, 40 men, and 3 transgender and nonbinary students. The results demonstrated that higher hyperactivity and impulsivity scores were associated with all four risky sexual behavior subscale categories. These results suggest that ADHD-related impulsivity posed a risk for STIs, including HIV. Interestingly, inattentive symptoms were related to only one of the subcategories (i.e., risky acts). This data demonstrated hyperactivity-impulsivity as being a dominant mechanism of risky sexual behavior in those with ADHD.

Regarding more direct associations between ADHD and HIV risk, Kumar et al. (2014) conducted a study with young men with HIV ($N = 100$). The researchers used the MINI Neuropsychiatric Interview 6.0, Mini Mental State Examination, and the Adult ADHD Self Report (ASRS) version 1.1 to determine whether behaviors were in the clinical range for ADHD, which helped to identify inattentive and hyperactive-impulsive subtypes. The researchers found that 20% of the sample met the criteria for ADHD. Interestingly, these participants had significantly higher rates of regular substance use ($M = 95\%$ vs. $M = 68.7\%$) and scored significantly higher on the 11-item HIV Risk taking Behavior Scale (HRBS), irrespective of their HIV status ($M = 4.75$ vs. $M = 1.01$). People with high ADHD scores were also less likely to

demonstrate consistent adherence to Highly Active Antiretroviral Therapy (HAART) ($M = 55\%$ vs. $M = 88\%$), and fewer individuals with ADHD used HAART in general ($M = 85\%$ vs. $M = 96\%$). According to the researchers, although “it can be presumed that impulsivity and high-risk sexual behavior mediates the association between ADHD and HIV, the directionality of the association needs to be further studied” (Kumar et al., 2014, p. 4).

Lastly, in one of the most extensive longitudinal studies, Chen and colleagues (2018) used a large sample of adolescents (ages 12-17) and young adults (ages 18-29) in Taiwan ($N = 89,400$) to test STI and HIV hazard ratios (HR) from 2001 to 2009. Using the Taiwan National Health Insurance Research Database, the researchers found that the ADHD group ($n = 17,898$) had significantly higher rates of STIs (HR = 3.36) and HIV (HR = 4.61) than the non-ADHD group ($n = 71,592$). The researchers also found a 30% reduction in STI risk with short-term ADHD medication adherence and a 41% reduction with long-term usage. The authors highlighted the importance of medication for those with ADHD, citing EF as a primary mechanism underlying adverse health outcomes. According to the authors, medication can play a fundamental role in “mitigating ADHD-associated executive dysfunction, which could decrease the susceptibility to risky sexual behavior and STIs” (Chen et al., 2018, p. 52).

Analysis

After synthesizing the collected data, I developed the ADHD Impulsivity Model (AIM), which represents a dual-pathway representation of adverse sexual health mechanisms and outcomes. Two logical analysis tables produced deductively valid argument patterns in the form of hypothetical syllogisms, which mapped neuropsychological and social risk trajectories. Attention was also given to pathway interactions, mediators, and moderators found within the research literature. Along the neuropsychological pathway, the proposed mechanisms of ADHD-related impulsivity included atypical neuroanatomy (Duan et al., 2021), altered neurotransmission (Brown et al., 2018), executive dysfunction (Barkley, 2012), reward deficiency syndrome (Blum et al., 2008), and motivation deficit (Volkow et al., 2010). Based on the results of the review, EF remained the dominant theory for explaining the complexity of ADHD symptomology, albeit one that is

challenging to operationalize and measure (Barkley, 2012). With executive dysfunction, individuals with ADHD struggle to self-regulate, plan, and complete tasks necessary for long-term health and wellness. Consequently, they engage in behaviors that reduce their life expectancy, such as smoking, drinking, excessive eating, and sedentary lifestyles, preferring immediate rewards regardless of long-term health and economic consequences (Barkley & Fischer, 2019).

Neurologically, having difficulty deferring immediate gratification during development can lead to diminished life satisfaction, achievements, social interactions, and coping skills. According to the literature, cognitive processing tasks such as delay discounting supported the phenomenon of temporal myopia or time blindness. With less consideration given to future outcomes, individuals with ADHD were more likely to select risky sexual encounters, with greater preference being given to immediate and more pleasurable rewards (Berry et al., 2021). Beyond the rudimentary conceptions of ADHD being purely an attentional or hyperkinetic disorder, EF models presented a more comprehensive construal of cognitive and behavioral challenges, including self-regulatory mechanisms. Executive dysfunction can have a significant impact on multiple life domains, including social relations, romantic partnerships, education, and employment.

Moreover, executive dysfunction has been linked with problematic emotional states and social skill deficits, which contribute to higher relationship turnover, greater numbers of sexual partners, and more frequent unprotected sex. Various theories of impulsivity, including altered neurotransmission, executive dysfunction, and reward deficiency syndrome, also accounted for impatience, risky behaviors, and substance use. Despite various neuroanatomical, neurobiological, and polygenic etiologies, the cognitive and behavioral improvements achieved by medication provided further support for neurotransmitter deficiency theories (e.g., Barkley et al., 2008). These theories were further evidenced by neuroimaging studies showing higher neuromodulators in the prefrontal cortex and basal ganglia after post-medication interventions (Brown et al., 2018; Del Campo et al., 2011; Volkow et al., 2001).

Along the social pathway, individuals with ADHD experienced elevated rates of ACEs,

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trauma, and abuse, which may reinforce risky behaviors, including unsafe sex and substance use. In accordance with risk factors for HIV provided by the CDC (2023) and PHAC (2012), ADHD samples had higher rates of drug and alcohol use, unprotected sex, casual sex, sex with multiple partners, and STI rates. Additionally, socioeconomic challenges associated with ADHD may promote riskier behaviors due to social determinants of health. The stress, frustration, and underachievement accompanying the condition may result in delayed developmental milestones, yielding maladaptive behaviors and coping skills (Barra et al., 2021). For example, some studies considered the implications of gateway models (Dunne et al., 2014) and the self-medication thesis (Fuller-Thomson et al., 2020, 2022). With higher social stressors, individuals with ADHD may be susceptible to using substances to improve their emotional state and cope with negative self-perceptions and enduring traumatic experiences.

Researchers should not overlook social determinants of health, which, as the evidence suggests, may inadvertently expose impulsive subtypes to riskier behaviors, environments, and peer groups. Factors such as environment, upbringing, and social interactions can further expose neuropsychologically susceptible persons to greater risks, especially in the absence of parental and peer support (Barra et al., 2021). The data indicated that concurrent and comorbid disorders might mediate risky sexual behavior (e.g., Sarver et al., 2014), while medication may moderate STI and HIV incidence rates (e.g., Chen et al., 2018). These findings align with earlier suggestions that medication offers protective mechanisms across the lifespan (e.g., Barkley et al., 2008; Pollak et al., 2019).

Discussion

The literature reviewed in this exploratory study addressed nearly all of the pre-selected STI and HIV risk factors outlined by the CDC (2023) and PHAC (2012). The findings indicated two primary risk pathways through which individuals with ADHD are more vulnerable to STIs and HIV risk: social and neuropsychological. Specifically, Marsh et al. (2015) suggested that individuals with hyperactive-impulsive ADHD subtypes demonstrate greater susceptibility to engaging in risky sexual behaviors compared to those with primarily inattentive subtypes. Longitudinal and cross-sectional research data showed significantly higher rates of STIs and HIV in ADHD groups than

in comparison groups (e.g., Chen et al., 2018; Kumar et al., 2014), while several studies explicitly stated that ADHD and ADHD-related impulsivity might increase both STI and HIV risk (e.g., Berry et al., 2021).

According to the CDC (2023) and PHAC (2012), the primary mode of transmission for STIs, including HIV, is unprotected sexual activity. The impulsive tendencies associated with ADHD, such as acting without forethought or considering consequences, may lead to neglecting the use of condoms or other protective measures (e.g., pre-exposure prophylaxis and post-exposure prophylaxis), thus increasing the likelihood of transmission (Huggins et al., 2015; Sarver et al., 2014). Additionally, substance use is identified as a key contributor to HIV risk. The CDC (2023) and PHAC (2012) highlights two main pathways through which substance use elevates this risk: (a) intravenous drug use and the sharing of drug paraphernalia, which directly increases exposure to bloodborne infections such as HIV, and (b) the consumption of drugs and alcohol, which impairs judgment and can lead to impulsive decision-making, further elevating the likelihood of engaging in risky sexual behaviors like unprotected sex.

Research also points to a correlation between ADHD and substance use, further compounding sexual health risks (e.g., Sarver et al., 2014). Some studies indicate that individuals with ADHD may be more prone to substance use as a maladaptive coping strategy for managing their symptoms, such as hyperactivity and impulsivity. Substance use, in turn, increases the risk of engaging in behaviors that lead to STIs or HIV transmission. Other studies suggest that impulsive individuals, particularly those with ADHD, are more likely to engage in risky sexual behaviors when under the influence of drugs or alcohol, increasing the health risks they face (e.g., Dévieux et al., 2002; Kumar et al., 2014). Impulsivity impairs their ability to assess consequences or take preventive measures, contributing to a cycle of risky behavior and vulnerability to STIs and HIV.

Based on these findings, sexual health education tailored to ADHD populations should emphasize the importance of long-term planning, the use of protection, and regular STI testing. Such education should be presented in a format that accounts for ADHD-related difficulties in attention, processing, and retention of information. Moreover, relationship counseling that focuses on

improving communication, trust, and mutual understanding may help mitigate the relational consequences of ADHD-related impulsivity. Interpersonally, partners of individuals with ADHD may benefit from learning strategies to better cope with impulsive behaviors while reinforcing communication about sexual health and risk prevention. Interventions that combine both sexual health education and relational counseling could significantly reduce the risk of STIs and HIV while also improving relationship stability and satisfaction. Public health initiatives should also be designed to target neurodivergent populations who may have different learning and communication preferences, offering accessible resources on safe sex practices and risk management strategies that consider the unique challenges posed by ADHD. By addressing both the individual and relational components of ADHD-related impulsivity, these interventions can help mitigate health risks, reduce STI transmission, and improve relationship outcomes.

Limitations

There are several limitations to this exploratory review and logical analysis. First, there was a lack of studies that directly addressed the connection between ADHD and HIV risk. Although there is considerable data on ADHD and STIs, most researchers did not distinguish between sexual infection subtypes. Second, people with hyperactive-impulsive subtypes commonly engage in risky behaviors. However, neurodevelopmental researchers rarely include HIV risk, while health psychologists studying sexual health outcomes commonly neglect ADHD. Third, although direct associations between ADHD and HIV remain sparse in the literature, this exploratory review uses logical inferences in an attempt to highlight potential mechanisms found along neuropsychological and social risk factor pathways. With that said, a growing demand remains for research grounded in empirical evidence to support this association. Fourth, because of the limited available data, extrapolating and synthesizing data from various populations may result in limited generalizability of research findings due to geographic and cultural variability. For example, particular geographic regions may have higher STIs and HIV rates and associated risk factors (e.g., injection drug use, sex work, and inaccessible healthcare), making it difficult to compare and interpret the available data (e.g., Fetting et al., 2014).

Future Directions

While current research often includes STIs as a broad category, more specific attention should be given to the unique risk factors associated with HIV, especially for individuals with hyperactive-impulsive ADHD subtypes. These individuals are more likely to engage in impulsive behaviors that may directly contribute to the transmission of STIs and HIV, such as unprotected sex and substance use. To better understand this association, future studies should specifically examine the link between hyperactive-impulsive ADHD presentations and HIV risk, using robust clinical measures that capture the nuances of impulsivity and sexual risk-taking.

Second, researchers studying STIs and HIV should incorporate ADHD-specific diagnostic tools, including impulsivity scales and ADHD symptom questionnaires, into their study designs. Many studies in sexual health already use clinical screens, interviews, and questionnaires to assess risk factors. Adding ADHD and impulsivity measures would enhance the ability to identify neurodivergent populations at heightened risk for unsafe sexual behaviors. By integrating these measures, future studies could provide clearer insights into how ADHD contributes to sexual health vulnerabilities and help inform the development of targeted interventions.

Third, given that ADHD is a spectrum disorder with varied clinical presentations (Heidbreder, 2015), it is essential for future studies to consistently differentiate between ADHD subtypes (i.e., hyperactive-impulsive, inattentive, and combined presentations). Future research could explore whether the impulsive behaviors characteristic of the hyperactive-impulsive and combined ADHD subtypes contribute to higher risks of STI and HIV transmission, whereas individuals with the inattentive subtype may exhibit different patterns of sexual risk-taking. Investigating these potential differences could provide insight into the role of ADHD symptomatology in sexual health outcomes, independent of the broader discussion on ADHD subtypes.

Fourth, current literature on ADHD, impulsivity, and sexual health risks does not sufficiently explore the efficacy of various treatment modalities. Future research should investigate the effectiveness of single versus multimodal treatment plans in addressing the

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sexual health risks faced by individuals with ADHD. For instance, comparing psychopharmacological treatments alone versus integrated approaches that combine medication with behavioral interventions and psychotherapy could reveal important insights into managing impulsivity and reducing risky sexual behaviors. Given the bidirectional interactions between neuropsychological factors (e.g., executive dysfunction) and social pathways (e.g., interpersonal challenges), multimodal treatment approaches may offer more comprehensive solutions.

Fifth, in addition to psychopharmacology, psychoeducational programs should be prioritized in efforts to reduce STIs and HIV risks in individuals with ADHD. Psychoeducational programs could provide individuals with ADHD and their partners with crucial information about the specific risks they face and strategies for managing impulsivity in sexual and relational contexts. For example, relationship counseling focusing on communication and emotional regulation could benefit neurodivergent individuals and their partners, fostering healthier relationships and reducing conflict that might otherwise lead to risky sexual behaviors.

Sixth, future research and interventions should also address the broader social risk factors associated with ADHD-related impulsivity, such as victimization, peer rejection, and social isolation. Incorporating a social risk framework into interventions can help identify external factors that exacerbate sexual health risks and provide more holistic support for individuals with ADHD. This may include social skills training, peer support networks, or community-based programs that promote healthy relationship dynamics and safer sexual practices.

Conclusion

This exploratory review and logical analysis provided a comprehensive investigation of ADHD-related impulsivity, STIs, and HIV risk. The findings may serve to promote further discussions among neurodevelopmental and health researchers. ADHD-related impulsivity appears to contribute to risk-taking behaviors, adverse health outcomes, and the spread of sexual infections. However, further empirical evidence is needed to verify the association and mechanisms of ADHD and HIV risk specifically. With these implications, greater awareness of ADHD-related sexual health

risks may promote effective prevention and treatment strategies. One effective strategy identified in the research literature for reducing adverse sexual health outcomes is adherence to psychopharmacological treatments, which has been shown to play a crucial role in moderating the risks associated with STIs and HIV (Chen et al., 2018). In addition to medication compliance, it is essential to focus on the social pathways and interpersonal relationships that commonly impact individuals with ADHD. The quality of these social connections may greatly influence behaviors, including the likelihood of engaging in risky sexual practices and substance use. Developing healthier relationships and enhancing social support systems can create an environment that encourages safer decision-making and promotes overall wellbeing for those living with ADHD. From a public health perspective, interventions may play a critical role in preventing the transmission of sexual infections among at-risk groups, such as hyperactive-impulsive ADHD subtypes and their sexual partners. These efforts may, in turn, enhance the quality of life of those living with ADHD and lower the medical costs associated with the condition.

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Appendix

Table 1

Logical Analysis of the Social Risk Pathway

HIV Risk Pathway	Logic Pattern	Mediating Variables	Moderating Variables
A) Hyperactivity- Impulsivity	If A then B,	Psychiatric	
B) Adverse Experiences	If B then C,	Comorbidity	
C) Poorer Outcomes	If C then D,	Psychiatric	
D) Maladaptive Responses & Coping	If D then E,	Comorbidity Psychiatric	
E) Risky Sexual Behaviours	If E then F,	Comorbidity	Medication elicits protective effect
F) Higher STI Risk	If F then G,		
G) Greater HIV Risk	A ----- ∴ G.	Psychiatric Comorbidity	Medication elicits protective effect

Table 2

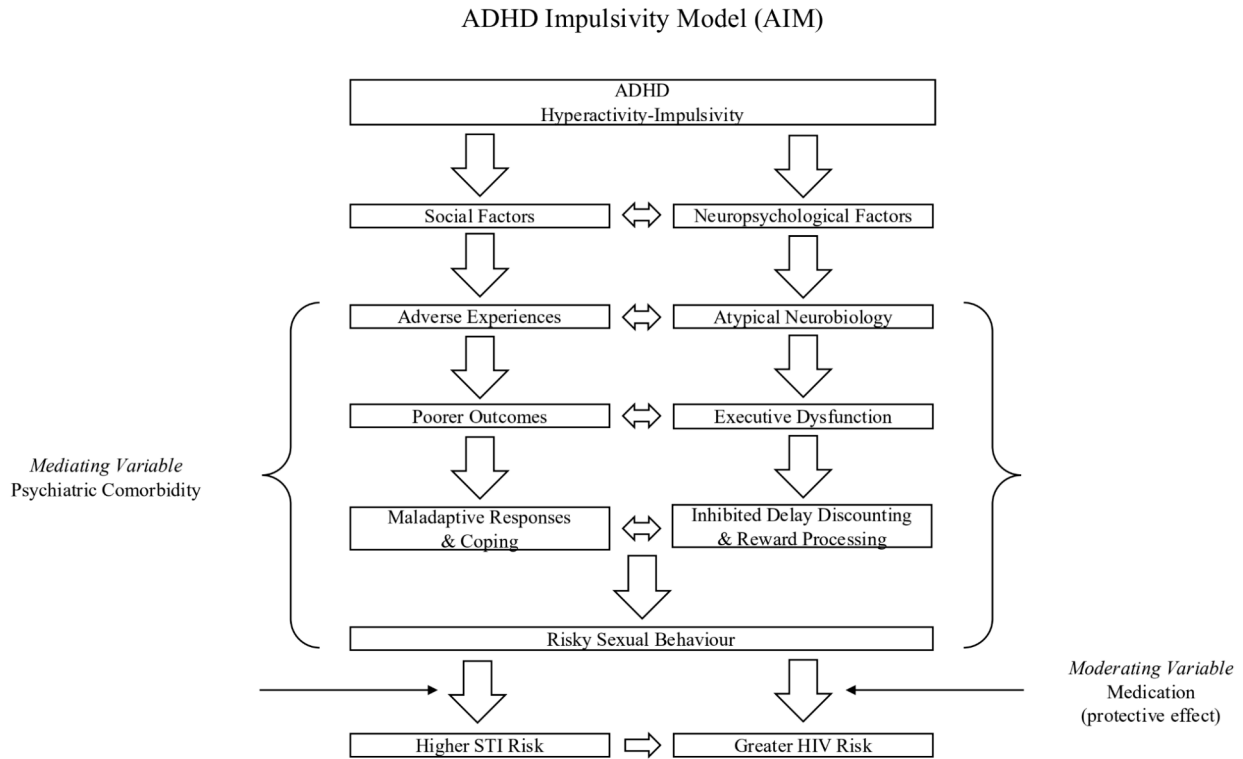
Logical Analysis of the Neuropsychological Risk Pathway

HIV Risk Pathway	Logic Pattern	Mediating Variables	Moderating Variables
A) Hyperactivity-Impulsivity	If A		
B) Atypical Neurobiology	then B,	Psychiatric	
C) Executive Dysfunction	If B then C,	Comorbidity	
D) Inhibited Delay Discounting & Reward Processing	If C then D, If D then E,	Psychiatric Comorbidity Psychiatric	
E) Risky Sexual Behaviours	If E then F,	Comorbidity	Medication elicits protective effect
F) Higher STI Risk	If F then G		
G) Greater HIV Risk	A ----- ∴ G.	Psychiatric Comorbidity	Medication elicits protective effect

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Figure 1

ADHD Impulsivity Model (AIM)



The Effect of Group Identity on Perceptions of Bias and Willingness to Protest: Group Identity and LGBTQ+ Microaggression

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With increasing social diversity, subtle forms of discrimination, referred to as microaggression, have pervaded. By conducting an experiment, the present research identifies the effect of group identity (common identity, emphasizing similarities between groups vs dual identity, emphasizing a distinct subgroup within a superordinate group) on heterosexuals' perceptions of bias against sexual minorities and willingness to protest on their behalf. Specifically, the study focuses on gay men as a target of subtle discrimination. Participants ($N = 49$)—Korean heterosexuals in their 20s—were randomly allocated to the common identity, dual identity, and control condition. We found that group identity had a significant effect on perceptions of bias and a marginally significant effect on willingness to protest. Specifically, dual identity, compared to common identity, marginally heightened perceptions of bias and willingness to protest. Theoretical and practical implications are discussed regarding the effect of group identity representation on intergroup relationships in the Korean context.

Keywords: sexual minority, heterosexual, common identity, dual identity, microaggression

Avec l'augmentation de la diversité sociale, de formes subtiles de discrimination, appelées microagressions, se sont répandues. En menant une expérience, la présente recherche identifie l'effet de l'identité de groupe (identité commune, mettant l'accent sur les similitudes entre les groupes, vs double identité, mettant de l'avant un sous-groupe distinct au sein d'un groupe superordonné) sur la perception qu'ont les hétérosexuels des biais à l'encontre des minorités sexuelles et sur leur volonté de protester en leur faveur. L'étude se centre spécifiquement sur les hommes gais en tant que cibles de discrimination subtile. Les participants ($N = 49$)—des personnes hétérosexuelles coréennes dans la vingtaine—ont été répartis aléatoirement dans l'une des trois conditions : identité commune, identité double et contrôle. Les résultats ont indiqué que l'identité de groupe a eu un effet significatif sur la perception des préjugés et un effet marginalement significatif sur la volonté à protester. Plus spécifiquement, l'identité double, comparée à l'identité commune, a augmenté de façon marginalement significative la perception du biais et la volonté de protester. Les implications pratiques et théoriques sont discutées concernant l'effet de la représentation de l'identité de groupe sur les relations interpersonnelles dans la société coréenne.

Mots-clés : minorité sexuelle, hétérosexuel, identité commune, double identité, microagression

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Microaggression Toward Sexual Minorities

With increasing social diversity, intergroup prejudice and discrimination have also become more implicit and complex by nature (Crandall & Eshleman, 2003; Saucier et al., 2005). Prejudice refers to a positive or negative attitude toward individuals based on their membership in a specific group (Jones, 2002, p. 4). Discrimination can be defined as inappropriate and potentially unfair treatment of individuals due to group membership (Dovidio et al., 2010). The Stereotype Content Model (SCM) provides one theoretical explanation for the increasing subtlety of modern prejudice, with warmth and competence constituting its two primary dimensions (Fiske, 2018). The first dimension, warmth, denotes how trustworthy or

sociable others are, while the second dimension, competence, indicates the capability or agency of others (Fiske, 2018). According to the model, people are not unilaterally stereotyped on a dichotomic good-bad dimension, but can be evaluated on an ambivalent or mixed basis (e.g., high in warmth but low in competence and vice versa; Clausell & Fiske, 2005). Rather than nullifying the prejudice, the positive stereotype dimension tends to align with negative stereotypes on the other dimension (Fiske et al., 2002), engendering more mixed and subtle forms of stereotypes that are harder to detect.

Unlike the past in which outgroup bias was expressed explicitly but consciously, many prejudices today are more implicit and automatically activated (Dovidio, 2001). For example, people sympathize with the outgroup and support the principle of equality, while believing themselves to be free from prejudice. However, beneath the surface of hospitality, negative beliefs and emotions toward the outgroup may persist, remaining unnoticed by those who hold them (Dovidio et al., 2016). This implicit prejudice is often manifested as anxiety and discomfort rather than aversion and hostility (Dovidio & Gaertner, 2004). In tandem with this trend, the term microaggression, or “verbal and nonverbal interpersonal exchanges in which a perpetrator causes harm to a target, whether intended or unintended,” has also been widely used to coin the modern form of prejudice (Sue & Spanierman, 2020, p. 8). The concept highlights the target’s interpretation in identifying harm, reflecting the subtle nature of aggressions in which the perpetrators are often unaware of when they partake in the harm.

Various social minority groups are subject to such subtle stereotypes and discrimination. Substantial empirical evidence documents implicit prejudice and subtle discrimination toward race (Dovidio & Gaertner, 2000; Greenwald & Pettigrew, 2014; Pearson et al., 2009), gender (Natalie et al., 2020), and disability (Vilchinsky et al., 2010). In conjunction with this spotlight also comes attention toward subtle discrimination experienced by sexual minorities. Multiple studies have demonstrated that microaggression toward sexual minorities is conspicuous (for review, see Nadal et al., 2016). Contrary to the decrease in explicitly negative prejudice, implicit attitudes are still negative, implying that the victimization of sexual minorities is of a subtle nature nowadays (Hamtzani et al., 2022; Morrison et al., 2010;

Steffens, 2005). The same goes for actual behaviors rooted in these tacit perceptions. Whereas traditional forms of discrimination—the blatant ones—are relatively easier for sexual minorities to notice and cope with (Shelton & Delgado-Romero, 2011), the equivocality of subtle discrimination obfuscates the issue, leaving the victims confused about whether it is appropriate to ask for help or not (Lee, 2019; Park & Yoo, 2019). Furthermore, these microaggressions and the accompanying confusion can negatively affect sexual minorities, potentially linked to lower self-esteem and increased stress and anxiety among LGBTQ+ (Lesbian, Gay, Bisexual, Transgender, Queer, and other types of non-cisgender identities) individuals (Seelman et al., 2017).

As discussed in the studies above, most microaggression literature on sexual minorities mainly focuses on the perspective of the victims (Botor & Tuliao, 2024). However, considering that microaggression requires an interaction between multiple actors (Sue et al., 2019), it is crucial to inspect the injustice not only from the perspectives of victims and aggressors, but also how it is perceived by a third party witnessing the discrimination (i.e., heterosexual people witnessing but not enacting discrimination against sexual minorities) and how such perceptions impact the situation. People who witness microaggressions have the potential to engage with the situation at varying levels based on how they construe the incident (Baryeh & Rasool, 2023). For example, McGuire et al. (2023) suggest that when heterosexual people perceive microaggression against LGBTQ+ as ‘okay,’ they are less likely to challenge the injustice. The present study aims to extend previous literature by introducing the concept of group identity as a means of amplifying a third party’s sensitivity to discrimination against sexual minorities and, consequently, their intent to engage in the issue. Specifically, the current research examines how group identity influences heterosexuals’ perceptions of bias against sexual minorities and their willingness to protest on their behalf in Korea. In doing so, it can offer guidance on how to nudge majority group members toward greater involvement in challenging such injustices.

Social Movement and Perceptions of Sexual Minorities in Korea

Multiple LGBTQ+ social movements have existed in Korea and are gaining momentum in recent years. The advent of homosexual rights groups—‘Chingu-sai’ and ‘Kkiri-kkiri’—in the

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90s triggered the organization of other LGBTQ+ rights groups such as ‘People to People’ at Korea University, ‘Maum 001’ at Seoul National University, and ‘Come together’ at Yonsei University, thereby creating safe spaces for sexual minorities to come to the surface (Shin, 2010).

Despite their proliferation, the sexual minority rights movement in Korea still has far to go. According to the report by the National Human Rights Commission of Korea (2016), 49.3% of sexual minorities experienced stress and psychological issues after being subjected to hate speech, the symptoms accompanied by poor self-esteem, fear, sadness, tension, helplessness, suicidal impulse, depression, and panic. Such reports reflect the vulnerable position of sexual minorities in Korea, with social distance reported to be higher for them compared to other marginalized groups (Korea Institute of Health and Social Affairs, 2019; Lee & Lee, 2019). For example, a 2018 report found that Koreans rated relationships involving sexual minorities as the least acceptable, ranking them lower than other marginalized groups such as migrant workers, people with disabilities, and North Korean defectors (Korea Institute of Health and Social Affairs, 2019). Nevertheless, Korean society is still void of social discourse on how to deal with violence and injustice against sexual minorities (Choi, 2020). Accordingly, alleviating prejudice and discrimination toward sexual minorities has been a chronic social issue in Korea.

Unlike studies conducted in other cultures on microaggression toward sexual minorities, those in Korea are centered on mental health (Namkoong & Park, 2020). Studies on sexual minorities’ mental health caused by, for example, family rejection (Kim, 2017) or suppression of gender identity (Yeo, 2008) abound, while discrimination against sexual minorities is a less explored field (Lee et al., 2014; Park & Yoo, 2019). Existing research on LGBTQ+ discrimination in Korea documents blatant injustice, its topics ranging from using Q-sorting methodology to analyze general awareness of sexual minorities (Ahn, 2018) to inspecting discrimination toward sexual minorities in different social fields (Chang, 2009). On the other hand, while microaggression cases are being reported (e.g., Jeong & Lee, 2018), there is a lack of LGBTQ+ microaggression research in Korea (Lee, 2019), as far as we know. Specifically, studies are not clearly distinguishing implicit prejudice and subtle discrimination from explicit/blatant ones, despite the Korean LGBTQ+

community experiencing both (Yoon et al., 2016). This study seeks to address the modern form of injustice that perpetuates this marginalization and calls for a more meticulous research approach to microaggressions against sexual minorities in Korea by setting the boundaries between subtle and blatant discrimination.

The goal of this research is to address the lack of research on microaggression in the Korean population by investigating mixed prejudice and subtle discrimination toward sexual minorities within the Korean context. Although conducted in different cultural and minority contexts, a study by Banfield and Dovidio (2013) provides insight into the issue. The study elaborates on how the subtlety of the discrimination against Black Americans moderates the relationship between White Americans’ group identity and their recognition of such discrimination. Therefore, the present research aims to extend previous literature focused on the White population in the United States by applying their model, to the heterosexual population in Korea.

It is worth noting that the degree of marginalization varies significantly even within the LGBTQ+ community. Especially, the position in which gay men are situated within the Korean context is complex. Homosexuals, including both gay men and lesbian women, are often perceived as prototypical representatives of sexual minorities in Korea (Chun, 2022). Studies on LGBTQ+ issues, more often than not, use the term “homosexuals” interchangeably with “sexual minorities” as a whole (e.g., Im, 2015; Joo et al., 2019; Kang, 2015). When comparing the two homosexual groups, the longer and more frequent exposure of gay men in public makes them more salient than lesbian women (Yoon & Sung, 2011). For example, the initial discourse on sexual minorities in the 1980s revolved around gay men, stigmatizing them as contributors to the spread of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS; Chun, 2015). There are also more public figures self-identifying as gay men, such as the well-known comedian Hong Seok Cheon, compared to openly lesbian figures (Bae, 2014). These trends allude to the salience of gay men and their prototypicality as sexual minorities.

Somewhat paradoxically, the visibility of gay men in Korean society often renders them more vulnerable to stereotyping and hostility, compared to other sexual minorities (Hankook Research,

2024; Kim & Yu, 2020) because repeated exposure to a target with an initial negative impression may amplify negative affective reactions (Brickman et al., 1972). According to a recent survey by Hankook Research (2024), societal hostility toward gay men surpasses that directed at any other sexual minorities, including lesbian women, bisexual people, and transgendered people (Hankook Research, 2024). Furthermore, stereotypes against gay men—such as them being “likely to commit sexual violence,” “responsible for spreading AIDS,” or “sexually promiscuous”—persist despite their frequent presence in the media (Kim & Yu, 2020, p. 427). These biases can be attributed to Korea’s patriarchal and conservative norms, especially the hostility toward individuals “deviating” from heterosexual expectations (Kang & Auh, 2019).

Given the salience and perceived prototypicality of gay men as sexual minorities, as well as the negative societal attitudes toward them, they provide a meaningful context for examining microaggressions in Korea. This context is particularly important due to the potential impact of microaggressions on the lives of Korean gay men, which aligns with the aim of our study. We believed that such characteristics would not only lead participants to perceive the victim in our microaggression vignette, whose sexual orientation is unspecified, as a sexual minority but also elicit stronger and more distinct responses to the incident. Thus, the present study focuses on gay men as the target population of microaggressions, with manipulations designed specifically around their experiences.

Common and Dual Identity Between Groups

Being a part of a group and identifying oneself with it, or in other words, having a group membership (Charness et al., 2007) changes the way humans view themselves and others. When group identities are emphasized, people are perceived not only as individuals but also as belonging to specific social categories such as age, socio-economic status, or culture (Treppe & Loy, 2017). This is also related to self-categorization (Tajfel & Turner, 1979; Turner et al., 1987; Turner & Reynolds, 2012). It describes the process by which an individual compares oneself and others to distinguish between an ingroup (i.e., a group that one identifies as being a member) and an outgroup (i.e., a group that one does not identify as being a member) (Eiser et al., 2001; Stapel & Koomen, 2000). Individuals strive to construct a positive

social identity, emphasizing the similarities of ingroup members and the differences with outgroup members simultaneously and thereby highlighting the positive aspects of one’s ingroup (Tajfel & Turner, 1979; Treppe & Loy, 2017). To maintain a positive social identity, people view their ingroup favorably and readily comply with its norms, opening up the possibility for intergroup conflict (Tajfel & Turner, 1979; Treppe & Loy, 2017).

Previous research has demonstrated that promoting common identity by emphasizing similarities between groups is often associated with lower prejudice toward minority groups (Lemay & Ryan, 2021). This mechanism is explained by the common ingroup identity model (Gaertner & Dovidio, 2012), which suggests that recategorizing members of different groups as part of a shared, inclusive group can reduce intergroup bias through cognitive and motivational processes related to ingroup favoritism (Dovidio et al., 2016). Highlighting a shared identity activates the same positive attitudes, emotions, and actions usually reserved for those within the ingroup, which are now redirected toward people previously seen as part of the outgroup, as they are now integrated into the new ingroup (Dovidio et al., 2016). Just as the coined terms color-blind, gender-blind, and race-blind suggest, the gist of this model is to increase homogeneity between groups by overshadowing intergroup differences and underscoring commonalities. Although such blindness toward identities is often criticized for downplaying structural inequalities and the unfair treatment of disadvantaged groups, it is also recognized as an effective approach to fostering intergroup harmony (Dovidio et al., 2016). Interventions addressing this issue generally follow two key approaches: reshaping intergroup boundaries or shifting perceptions of groups within those boundaries (Paluck et al., 2021). Specific intervention methodologies include promoting positive intergroup contact (Sherif, 1956) and altering how people think about the outgroup (Dovidio et al., 2016) such as reading news articles that promote a common identity with the target outgroup (Banfield & Dovidio, 2013; Glasford & Dovidio, 2011), listing traits shared with the target outgroup and justifying one’s responses (Górska & Bilewicz, 2015), having a conversation with a confederate whose scripted answers emphasize common identity (Saguy & Chernyak-Hai, 2012), and role-playing a target outgroup member (Clore & Jeffery, 1972).

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Research on the common ingroup identity model has shown that it promotes social support behaviors on behalf of the outgroup. Clore and Jeffery (1972), for example, found through an experiment that physically abled college students who take the perspective of physically disabled people (by taking a 25-minute trip from one building to another on a wheelchair and buying a cup of coffee on the way) supported the use of school funds to expand facilities for the outgroup compared to the participants in the control condition. Mallett et al. (2008) also found that participants in the minority perspective-taking condition were more willing to participate in social movements intended to resolve discrimination compared to those in the control condition. In addition, studies conducted in a naturalistic context lend support to these findings, with intergroup empathy eliciting appeasement policy support and welfare concern (Pliskin et al., 2014) and, consequently, improved attitudes toward the outgroup itself (Batson et al., 2002; Dovidio et al., 2010; Mashuri et al., 2013).

However, according to recent studies, promoting intergroup harmony by emphasizing commonalities risks solidifying structural inequality (Banfield & Dovidio, 2013; Glasford & Dovidio, 2011; Saguy et al., 2009; Saguy & Chernyak-Hai, 2012). Saguy and Chernyak-Hai (2012) observed the moderating role of group identity on how people legitimize hierarchy during interactions with members of an outgroup, or in other words, during intergroup contact. Evidence suggests that focusing on commonalities between one's ingroup and the outgroup (i.e., commonality-focused contact) leads disadvantaged group members to view the status hierarchy as more legitimate and less likely to attribute negative treatment to discrimination. This commonality approach pares not only perceptions of equality/inequality but also the motivation of minority group members (Ufkes et al., 2014) and majority group members (Saguy et al., 2009) for collective action against inequality. In this regard, cultivating a common identity is not as effective in motivating collective action as reducing prejudice, mainly due to desensitization to inequality. The above studies thus demonstrate an inverse relationship between awareness and action in reducing intergroup inequality. On the one hand, emphasizing a common identity deflates both the willingness to protest on behalf of an outgroup and prejudice toward it. On the other hand, underscoring intergroup differences prompts collective action (at least from the perspective of minority groups) but

also exacerbates intergroup conflict. This contrast shows the significant tension between challenging outgroup prejudice and promoting collective action.

As an alternative to resolving this tension, recent evidence sheds light on dual identity (Banfield & Dovidio, 2013; Glasford & Dovidio, 2011), which emphasizes a distinct subgroup identity within a more inclusive common group identity (e.g., Blacks in the United States that identify simultaneously as Black and as American; Glasford & Dovidio, 2011). The concept is grounded in the idea that people can have multiple self-categories and the two self-categories of interest are structured in an embedded manner. Thus, the usage of the word "dual" alludes to a nested relationship (e.g., Black American and American) rather than an independent/horizontal relationship (e.g., Black and University student) between the subordinate and superordinate identity (Moura, 2011).

The strategy of emphasizing dual identity is more commonly employed by minority group members than majority group members (Dovidio et al., 2007) mainly due to different strategy preferences in an intergroup context. In the case of advantaged and disadvantaged groups, advantaged members experience a threat to their identity in commonality-focused interactions (Crisp et al., 2006) and prefer maintaining group distinctiveness (Tajfel & Turner, 1979). Glasford and Dovidio (2011) found that dual identity representation increased disadvantaged group members' motivation for social change, whose path was mediated by low optimism about prospective intergroup relations. The study by Banfield and Dovidio (2013) extended the implication to advantaged group members. When they witnessed subtle bias, White participants for whom dual identity was emphasized reported a stronger willingness to protest injustice experienced by Black candidates, compared to emphasizing the common identity and control conditions. By contrast, blatant discrimination produced an inverted result, with common identity conditions yielding the highest degree of motivation. In other words, varying ambiguity of the discrimination moderates the relationship between group identity and willingness to protest on behalf of minority groups.

In the present research, we experimentally examined the effect of group identity on Korean heterosexuals' perceptions of bias toward and

willingness to protest on behalf of gay men when discrimination is subtle. We considered heterosexuals as the majority group and gay men as the minority group, given that the latter faces implicit prejudice and subtle discrimination in Korea. Since the effect of dual identity representation persists regardless of past intergroup contact experience (Frisch et al., 2023), we anticipated dual identity to have an impact on both perceptions of bias against and willingness to protest on behalf of sexual minorities even in the Korean context in which heterosexual-LGBTQ+ interaction is prone to intergroup conflict (Joo et al., 2019). The specific hypotheses of our study are as follow:

1. Perceptions of discrimination toward and willingness to protest on behalf of gay men will differ depending on group identity.
2. Perceptions of discrimination toward gay men will be highest in dual identity condition, followed by the control condition, and then followed by common identity condition.
3. Willingness to protest on behalf of gay men will be highest in dual identity condition, followed by the control condition, and then followed by common identity condition.

Methods

Participants

An a priori power analysis for a multivariate analysis of variance (MANOVA) with three conditions and two response variables was conducted using G*Power (Faul et al., 2007) to determine the minimum sample size required to test the study hypothesis. The result indicated the required sample size to achieve 85% power for detecting a medium effect (.15) using Cohen's (1988) criteria, with a significance criterion of $\alpha = .05$, was 48 participants. In total, 124 Korean heterosexual students in their 20s were recruited online via posts uploaded to student platforms and the study was conducted in Korean. We excluded 13 participants who were not students and 18 participants who identified their sexual identity as a sexual minority (4 homosexuals, 9 bisexuals, 5 others). The participants were randomly divided into three groups for the common identity, dual identity, and control condition respectively. Among the distributed participants, we eliminated responses of 21 participants because they failed to correctly answer attention check questions and 22

participants whose group identity was not manipulated (see Statistical Analysis section for details). A further participant whose response was over 1.5 times the interquartile range below the first quartile was identified as an outlier and so was dropped from the analyses. The final sample size was 49 participants (32 women; age: $M = 22.2$ years, $SD = 2.0$; all married; 84% with a high school diploma and 16% with a bachelor's degree).

Stimulus, Materials, and Measures

Group Identity Manipulation

We used fictitious news articles to manipulate group identity. The articles, modeled after Banfield and Dovidio (2013) and modified by the researchers, were designed to highlight the utility of each group identity for personal and ingroup well-being. In the common identity condition, participants read an article titled "Koreans in their 20s should focus on commonalities rather than differences," in which studies and opinions of experts are quoted to underscore the virtues (e.g., feeling connected to others, improvement of mental and physical health, decrease in depression and suicide rate, and increase in social efficiency and productivity) of a shared identity among young people with diverse sexual orientation (see Appendix A). In the dual identity condition, participants read the same article as those in the common identity condition, except that the article was titled "Koreans in their 20s should focus on commonalities and differences" and the author extolled the virtues of dual identity instead of common identity (see Appendix B). In the control condition, participants read an excerpt from an actual article introducing the newly implemented breakfast program at universities, in which meals are provided to students for one thousand won (see Appendix C).

As a manipulation check, we modified and translated the items developed by Saguy and Chernyak-Hai (2012) who also manipulated group identity during intergroup contact settings to investigate. The items used in this study measured perceptions of common identity ("After reading this article, I feel that Koreans in their 20s are part of the same group in terms of sexual orientation") and perceptions of separate identity ("After reading this article, I feel that Koreans in their 20s are part of different groups in terms of sexual orientation"). The measures used a 7-point scale ranging from 1 = "strongly disagree" to 7 = "strongly agree".

Microaggression Vignette

We designed a vignette, adapted from Banfield and Dovidio (2013), to manipulate subtle discrimination. The vignette consisted of resumes for two candidates (Candidate A and Candidate B) for the Chief Student Electoral Officer position and a dialogue. The resume indicated that Candidate A had experience as a student council member and in multiple extracurricular activities. Although the candidate's sexual orientation was not mentioned in the resume, Candidate A's extracurricular activities alluded to him being a gay man. Meanwhile, Candidate B had experience fewer extracurriculars and there was no mention of his potential sexual orientation. The resumes were designed to hint at Candidate A's better qualifications for the position (see Appendix D).

Pilot testing ($N = 10$) of this manipulation confirmed the validity of the vignette. Pilot participants reported (1 = strongly disagree, 7 = strongly agree) that they were able to infer Candidate A's sexual orientation ($M = 3.8$). Although this score does not strongly indicate a clear perception of Candidate A as homosexual, we interpreted it as such because the score is above the midpoint (3.5). Participants also indicated that they viewed Candidate A as more qualified for the position ($M = 4.9$) than Candidate B, $M_s = 2.2$, $t(18) = 5.96$, $p < .001$. Given that Candidate A was the primary target of discrimination in the main study, our focus on their perceived sexual orientation was most relevant to the manipulation, though we acknowledge that not assessing Candidate B's perceived orientation limits direct comparisons between the two candidates.

In the main study, after reading the resumes, participants were presented with a dialogue between the members of the Student Election Commission in which the two candidates were being evaluated. To manipulate subtle discrimination, the committee members shared a negative assessment of Candidate A despite his better qualifications. Although the committee members did not explicitly mention Candidate A's sexual orientation, the reason they gave for their opinions eluded to stereotypes of gay men ("*Candidate A may not be capable of making fair judgments because he is too soft-hearted*"; "*being concerned that Candidate A's peculiar makeup and outfit would make him ineligible for the Chief Officer position*").

Perceptions of Bias

Perceptions of bias were measured with three items ($\alpha = .82$) taken from Banfield and Dovidio (2013) and translated into Korean: "*The decisions of the committee members were biased*," "*The decisions of the committee members were fair*" (reverse-coded), and "*In the evaluation of Candidate A, to what extent were the comments made by the committee members prejudiced*." Ratings were made on a 7-point scale ranging from 1 = "strongly disagree" to 7 = "strongly agree" for the first two items and 1 = "not at all prejudiced" to 7 = "extremely prejudiced" for the third item.

Willingness to Protest

Willingness to protest was measured with three items ($\alpha = .83$) adapted from Banfield and Dovidio (2013) that were translated into Korean: "*Write a post using social media (e.g., Everytime¹) to complain about the decision*," "*Tell my friends to avoid dealing with the committee members*," and "*Personally avoid getting along with the committee members*". The answers were anchored on a 7-point scale ranging from 1 = "strongly disagree" to 7 = "strongly agree."

Procedure

Participants were recruited for a study about the "perception of situational judgments". The experiment was conducted online using Qualtrics and lasted approximately 25 minutes. Participants were informed of the procedure prior to the experiment. After being randomly assigned to one of three group identity conditions, all participants were presented with stimulus materials in the order of filler material,² main stimuli, and filler material,³ each of which consisted of a news article and a vignette. The main stimuli comprised of a news article intended for group identity manipulation and a microaggression vignette. Participants read different news articles depending on the group identity condition, while the microaggression vignette was identical across all conditions. After

¹ "Everytime" is a social media app in Korea designed for university students.

² The content of the first filler material is as follows: a news article reporting on students using Chat-GPT to cheat on exams and assignments and a subsequent vignette depicting an undergraduate student reporting her classmate to a professor for cheating.

³ The content of the second filler material is as follows: a news article introducing the student online platform "Everytime" and a subsequent vignette depicting an undergraduate student registering for a course taught by a professor accused of sexual harassment.

reading the materials, participants answered attention check questions and manipulation check questions and evaluated their perceptions of bias and their willingness to protest.¹ Participants then completed the third block of filler materials, after which demographic information (age, gender, sexual orientation, marital status, and highest level of education completed) was collected.

Statistical Analyses

We conducted our data analysis using R Studio 2024.04.0, applying a MANOVA to examine the effects of three group identity conditions on two dependent variables: perceptions of bias and willingness to protest. To quantify the identity manipulation for each participant, we created an identity manipulation score derived from their responses to both the common identity and separate identity questionnaires. For the common identity score, we averaged the responses from the common identity questionnaire along with a reverse-coded version of the separate identity questionnaire (based on Saguy & Chernyak-Hai, 2012). The dual identity score was calculated by averaging the scores from both the common identity and separate identity questionnaires, following the conceptualization of dual identity by Banfield and Dovidio (2013), which defines it as a combination of common and separate identity elements.

Furthermore, we set a criterion according to which group identity manipulation could be checked. Participants in the common identity condition with a common identity score of 4 (i.e. midpoint of a 7-point Likert scale) or above were classified as having undergone identity manipulation. Similarly, participants in the dual identity condition who reported a dual identity score of 4 or higher were also considered identity-manipulated, following the procedures of Tanti et al. (2011). This approach aimed to ensure that any effects observed were more reliably attributed to the manipulation, rather than to participants with ambivalent or contradictory identity scores. Excluding responses below the midpoint was necessary given the cultural context of our study. Societal recognition and acceptance of LGBTQ+ identities is limited in Korea (Kim, 2004; Kim et al., 2024), making it difficult to foster or incite

¹Two attention check questions were used to detect a lack of attention or comprehension. Participants answered a multiple-choice question about specific details in the microaggression vignette. The second item instructed participants to select a specific response (“Please select ‘strongly agree’”).

strong group identities related to sexual minorities. By focusing on participants with higher identity manipulation scores, we ensured our analysis centered on those who had a more pronounced response to the identity conditions. This criterion proved to be stringent, as a considerable number of participants ($n = 22$) had an identity score of 4 or higher. To ensure a more conservative approach, we conducted analyses both with the sample after applying exclusions and with the sample including responses with insufficiently manipulated identities. Lastly, due to the skewed distribution of responses on the dependent variables, we applied a square root transformation to normalize the data for subsequent analysis.

Results

Manipulation Checks

To examine whether our manipulation worked as intended, we conducted an independent sample *t*-test with the mean scores of the two identity manipulation questionnaires. As it was intended, participants who read an article on common identity ($M = 4.6$, $SD = 0.8$) reported stronger perceptions of common identity toward people with diverse sexual orientations than participants who read an article on dual identity ($M = 3.5$, $SD = 1.0$), $t(30) = 3.52$, $p = .001$. Also, participants who read an article on dual identity ($M = 4.3$, $SD = 0.4$) reported a higher level of dual identity toward people with diverse sexual orientations than participants who read an article on common identity ($M = 2.9$, $SD = 1.0$), indicating that the manipulation was successful, $t(19) = 4.96$, $p < .001$.

Perceptions of Bias

To test the influence of group identities on perceptions of bias, we ran a MANOVA. There was a significant difference in perceptions of bias across group identity conditions, $F(2, 46) = 3.78$, $p = .030$, $\eta^2 = .14$. Pairwise comparison revealed that participants in the dual identity condition expressed marginally higher perceptions of bias ($M = 5.2$, $SD = 0.9$) than participants in the common identity condition ($M = 4.3$, $SD = 1.2$, $p = .051$), and control condition ($M = 4.2$, $SD = 1.2$, $p = .095$). There was no significant difference between common identity and control condition ($p = .947$).

A supplementary analysis, which included 23 previously excluded participants due to insufficient group identity manipulation or outlier

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status, revealed that there was no significant difference between common identity condition ($M = 4.6$, $SD = 1.2$), dual identity condition ($M = 4.8$, $SD = 1.1$), and control condition ($M = 4.3$, $SD = 1.2$), $F(2, 69) = 0.86$, $p = .429$, $\eta^2_p = .02$.

Willingness to Protest

We ran a MANOVA on willingness to protest with group identities as a between-subjects factor. As expected, the level of willingness to protest followed the order of dual identity condition, control condition, and common identity condition. There was a marginally significant effect of group identities on willingness to protest, $F(2, 46) = 2.85$, $p = .068$, $\eta^2_p = .11$. Pairwise comparison revealed that participants in the dual identity condition were marginally more willing to protest on behalf of gay men ($M = 3.6$, $SD = 1.5$) compared to those in the common identity condition ($M = 2.5$, $SD = 1.2$, $p = .090$). There was no significant difference between dual identity and control condition ($M = 2.8$, $SD = 1.5$, $p = .202$), and common identity and control condition ($p = .898$).

A supplementary analysis, which included 23 participants that were previously excluded due to insufficient group identity manipulation or outlier status, also revealed that there was no significant difference between common identity condition ($M = 3.0$, $SD = 1.4$), dual identity condition ($M = 3.4$, $SD = 1.5$), and control condition ($M = 2.8$, $SD = 1.5$), $F(2, 69) = 1.56$, $p = .217$, $\eta^2_p = .04$.

Discussion

Despite the increasing number of sexual minorities in Korea, there remains limited understanding of the psychological factors that are linked to perceptions of bias against and willingness to protest on behalf of sexual minorities. In this work, we examined whether different types of group identities have varying impacts on majority group members' perceptions of bias against gay men and intentions to protest discrimination on their behalf. We hypothesized that participants in the dual identity condition had a higher perception of bias and a higher willingness to protest than those in the common identity condition and the control condition. Results revealed that dual identity, compared to the control and common identity, promoted higher perceptions of bias and willingness to protest to a marginally significant level.

Previous research has investigated the effectiveness of common identity in mitigating social conflict and promoting harmony between groups (Gaertner & Dovidio, 2012), especially when discrimination is blatant (Banfield & Dovidio, 2013). Sharing a common ingroup identity recategorizes people's construal of "us" versus "them" to a more inclusive "we" connection (Dovidio et al., 2016) and diversity models such as the color-blind model attempt to explain the world using such an appealing approach (Plaut et al., 2018). According to color blindness, the use and significance of racial group membership should be minimized, and race should not matter (Plaut et al., 2018). It thereby not only protects the ego of majority group members by promoting an egalitarian image of society (Knowles et al., 2009), but also cultivates a warm, welcoming atmosphere (Hahn et al., 2015). Such an approach is mainly focused on, but not limited to, racial diversity research and is also applied to other social categories, including sexual orientation (Holmes, 2020).

However, the color-blind model is by no means a panacea and sometimes backfires, justifying current inequality or negating its occurrence (Plaut et al., 2018). To the extent to which subtle discrimination inflates common identity and diminishes separate identities, it can reduce attention to structural inequality and weakening motivation to take action for social change among majority group members (Ryan et al., 2007). With modern prejudice and discrimination becoming more subtle by nature (Crandall & Eshleman, 2003; Saucier et al., 2005), the reported consequence of common identity is worth paying attention to. In a similar vein, present research demonstrates that an emphasis on intergroup commonalities can instead reduce majority group members' sensitivity to discrimination against minority groups.

Nevertheless, the results of our experiments offer promising possibilities for achieving social equality. By demonstrating experimentally that dual identity, rather than common identity, drives perceptions of bias, the present study highlights intergroup settings, in which structural inequality is likely to be ameliorated. This finding is in tandem with previous research (Banfield & Dovidio, 2013), whereby recategorization within a common ingroup identity diverted majority group members' attention toward the discrimination against minority group members. Substantial empirical evidence documented the mechanism of

dual identity (Saguy & Chernyak-Hai, 2012; Tyler & Blader, 2003). Boundaries that divide different groups are clarified (Saguy & Chernyak-Hai, 2012) and ingroup members feel more responsibility toward outgroup members (Tyler & Blader, 2003), thus mediating the path between dual identity and social support. Therefore, the current study sheds light on the consequences of dual identity from the perspective of Korean heterosexuals in their 20s (i.e., advantaged group members), demonstrating that emphasis on intergroup commonality in conjunction with respect for group-based differences leads to heightened perceptions of bias.

While dual identity heightens people's sensitivity towards injustice against social minorities, the current study demonstrated its limitations in instigating action for social change. Specifically, the difference in willingness to protest on behalf of gay men between the dual identity and common identity conditions was small and marginal. This finding is consistent with previous research on intergroup relations. For example, the principle-implementation gap provides explanations for how the privileged contribute to the maintenance of social inequality (Glasford, 2022). According to the concept, majority group members (i.e., heterosexual individuals), on the one hand, report positive attitudes toward minority group members (i.e., homosexual individuals) and advocate social equality, but on the other hand, oppose policies intended to alleviate structural inequality and maintain passive stances in taking action (Dixon et al., 2007). The majority group often resists acknowledging their privilege, as it requires relinquishing some of their power (Lowery & Wout, 2010). Especially in societies with entrenched power structures, majority groups may experience insecurity when their privileged status is threatened, motivating them to uphold the status quo. As a result, they tend to act more passively rather than actively confronting inequality (Pratto et al., 2013).

Wright and Lubensky's (2013) review highlights how this discontinuity reflects the longstanding tension between perception and action in social psychology's analysis of intergroup relations. The study of prejudice reduction and collective action developed along separate paths, with each approach relying on distinct, and often incompatible, mechanisms (Wright & Lubensky, 2013). This tension is evident in their contrasting views on group identity. While the collective action literature advocates (a) strong identification

with, and (b) a focus on, the disadvantaged group to encourage collective action, the prejudice reduction literature emphasizes (a) reducing ingroup identification, which (b) often centers on the role of advantaged group members (Wright & Lubensky, 2013). This sharp contrast aligns the dual identity approach with the latter perspective. There is an implicit understanding that, rather than equally balancing the two subordinate identities, the content of the overarching identity will likely be shaped by the dominant group's subordinate identity (Mummendey & Wenzel, 1999). Consequently, maintaining a dual identity does not eliminate the hierarchy between advantaged (i.e., heterosexual) and disadvantaged (i.e., gay men) groups and remains an insufficient basis for sustained social action. Simply put, while a dual identity approach may reduce immediate intergroup conflict and prejudice, it is unlikely to drive long-term efforts to challenge social injustice.

The implications of this study are as follows. First, this work extends the previous research of Banfield & Dovidio (2013) to the socio-cultural context of Korea. Whereas the work of Banfield and Dovidio (2013) has juxtaposed Whites' perceptions and motivations toward Blacks according to different group identities, we extended the findings to the heterosexual-LGBTQ+ relationship in Korea, which has come to be an imminent social issue and is prone to social conflict. One example epitomizing the uneasy relationship between the two groups is the tension surrounding the pride parade and anti-pride rally at Seoul Plaza. Ever since the pride parade began taking place at the square in 2015, opposition forces have hitherto staged rallies across the street in tandem, often obstructing the route and disrupting the event (Jung, 2018). These annual confrontations are not mere public events, but rather reflect the deeper societal tensions surrounding sexual minority rights and visibility in Korea (Jung, 2018). However, despite Korean society being highly homogeneous and requiring this of its members (Kim-Bossard, 2018), recognition of different subgroup identities needs to be taken into consideration concurrently. In light of such issues, the current findings propose a novel perspective in approaching the heterosexual-LGBTQ+ relationship in Korea. While previous research has mainly focused on developing new measurement scales or bound heterosexuals as a whole, this study takes a step further by analyzing the majority group through a more nuanced lens—subdividing them into distinct group identities,

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common identity versus dual identity. Such subdivision allows for a deeper understanding of how the majority population relate to and perceive sexual minorities, adding complexity to the dialogue surrounding LGBTQ+ acceptance and resistance in Korea.

Second, extending previous research to sexual minorities, the results shed light on dual identity as a new approach to microaggression against sexual minorities, who are one of the most marginalized minority groups in Korea (Joo et al., 2019). Furthermore, by targeting the dual identity construction of heterosexuals, or advantaged group members, this research suggests that mitigating social inequality is also the responsibility of majority group members. It has been considered the realm of disadvantaged group members to engage in social movements and substantial empirical evidence has also focused on the motivating factors of such movements (Wright, 2015). Nevertheless, intergroup equality calls for the joint action of the majority and minority. Cooperation of the former is especially vital in that they possess various resources to set the agenda for social discourse and bring about practical change (Radke et al., 2020). The embedded and subtle nature of discrimination against sexual minorities adds to the necessity of a comprehensive approach. In this light, this study documents the role of heterosexual majorities in resolving group-based inequality by proposing dual identity as an alternative to common identity.

Nevertheless, some limitations of this research should be addressed. First, the marginal significance of group identity on perceptions of bias is perhaps associated with the status of sexual minorities within Korean culture. While our study's findings have implications for subtle discrimination research, discrimination against sexual minorities in Korea remains blatant in nature (Joo et al., 2019). Explicit prejudice against sexual minorities is still ingrained in Korean society due to a relatively recent acknowledgment of their presence as a disadvantaged group. It is possible, then, that the marginal effect of perceptions of bias to be accounted for by the usage of a microaggression vignette within the experiment rather than a blatant discrimination vignette. Therefore, this study has its limitations in that microaggression against gay men was inspected. Future research should thus inspect conditions under which explicit and implicit prejudice have differing effects on perceptions and attitudes toward sexual minorities in Korea.

Second, the experimental design in the current study did not incorporate the diverse motives of majority group members, thereby limiting its application to real-life contexts. As observed by Radke et al. (2020), the motives of advantaged group members for participating in political movements on behalf of disadvantaged groups can be categorized into four types—(a) outgroup-focused motivation, (b) ingroup-focused motivation, (c) personal motivation, and (d) morality motivation—and the outcome of such movements may also depend on their motivation to participate (Droogendyk et al., 2016). The material used in our research for group identity manipulation prompted ingroup-focused and personal motivations. As the manipulated motivations align with the intrinsic motivation of majority group members (to maintain their group's privileged status, Dovidio et al., 2016), participants reported support for gay men to the extent that their actions did not jeopardize the status quo. Thus, future research should examine the outcomes of dual identity on majority members driven by diverse motives, including outgroup-focused and morality motivations.

Third, it is difficult to generalize our results. Most of the sample (67%) were women and previous literature has identified gender differences in individuals' anticipation of and responses to discrimination against sexual minorities (Aksoy et al., 2023). While women, particularly those who have experienced gender-based discrimination, are more likely to anticipate discrimination against sexual minorities, they tend to express less affinity toward the victims of discrimination (Aksoy et al., 2023). These gender-specific patterns suggest the need for caution when interpreting and generalizing the results. Furthermore, generalization of the results is also difficult to apply to other sexual minority groups because the vignette used in the experiment focused only on gay men. Recent scholarship has started to address variations within the group (Biblarz & Savci, 2010; Dyar et al., 2015; Meyer, 2012). Future insight could be gained by comparing the effect of group identity on perceptions of bias and willingness to protest based on different LGBTQ+ subgroups.

Finally, perhaps the marginal effect of group identity is associated with weak or irrelevant manipulation. In our study, we deemed the manipulation successful when the average score of the two manipulation check questionnaires was over 4 out of 7. Such a manipulation check eliminated 22 participants from the analyses,

resulting in the loss of a substantial amount of data and consequently altering the results before and after the exclusions. This raises the question of whether the manipulation was strong enough and whether the stimuli were truly effective in eliciting the intended group identity. Hence, future studies should establish strict criteria for manipulation check procedures and be cautious in interpreting the results. Employing diverse stimuli other than a vignette (e.g., a video) can be a possible strategy for strengthening the manipulated group identity.

Conclusion

The overarching goal of this article was to investigate the effect of group identity on heterosexuals' perceptions and attitudes toward sexual minorities in the Korean context, with a particular focus on gay men. The current research suggests that dual identity representation may be more effective than common identity representation in arousing perceptions of bias against gay men, though it appears less effective in fostering motivation to protest on their behalf. By shedding light on microaggressions against marginalized sexual minorities, it not only extends the realm of sexual minority research in Korea but also provides possibilities of intergroup harmony and social change. Scholars should further explore the conditions (e.g., the explicitness of discrimination, the type of heterosexuals' motivation) under which intergroup conflict between heterosexuals and sexual minorities can be improved.

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The Effects of Intergroup Contact on Ableist Perceptions

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Since the 1920s, societal status for people with disabilities in the United States has risen dramatically, as stigma and prejudice surrounding disability has decreased. However, ableism is still prevalent. Utilizing ideas from Gordon Allport and Thomas Pettigrew, the current research considers why people may be ableists, and explores variables associated with lower levels of ableism. This study examines whether participants' levels of ableism were influenced by the amount of contact with people with disabilities and intergroup anxiety levels. It was hypothesized that increased contact with disabled individuals would be associated with decreased ableism and lower intergroup anxiety. Psychology undergraduates completed an online survey that measured participants' contact occurrences with disabled individuals, intergroup anxiety levels, ableism, attitudes, and behavioral intentions. Correlations and regression analyses explored relationships between variables. Results suggest the importance of intergroup contact and intergroup anxiety, and their interaction, in understanding attitudes toward disabled individuals.

Keywords: ableism, intergroup contact, disabled attitude, symbolic ableism, intergroup anxiety

Depuis les années 1920, le statut social des personnes en situation de handicap aux États-Unis a considérablement augmenté, à mesure que la stigmatisation et les préjugés liés au handicap ont diminué. Cependant, le capacitisme reste encore très présent. La recherche actuelle examine les variables associées aux différents niveaux de capacitisme. Cette étude analyse si le niveau de capacitisme des participants est influencé par la quantité de contacts qu'ils ont avec des personnes handicapées et par leurs niveaux d'anxiété intergroupe. L'hypothèse était que davantage de contacts avec des personnes handicapées seraient associés à une diminution du capacitisme et de l'anxiété intergroupe. Un questionnaire en ligne a mesuré la fréquence de leurs contacts avec des personnes handicapées, leurs niveaux d'anxiété intergroupe, leur capacitisme, leurs attitudes et leurs intentions comportementales. Des analyses de corrélation et de régression ont été effectuées. Les résultats démontrent l'importance du contact intergroupe et de l'anxiété intergroupe, ainsi que leur interaction.

Mots-clés : capacitisme, contact intergroupe, attitude envers les personnes handicapées, capacitisme symbolique, anxiété intergroupe

People with disabilities in the United States (U.S.) have been discriminated against throughout history. Stigma and misconceptions surrounding disability did not begin to wane in the U.S. until the 1960s, when the disability rights movement was born (Percy, 2018). Despite advancements such as the creation of the Special Olympics (1968), Ed

Roberts' "The Rolling Quads" (1969), the Rehabilitation Act (1973), the Education of All Handicapped Children Act (1975), and the Americans with Disabilities Act (2024), ableism—or, prejudice against people with disabilities—is still prevalent today. Ableism is present across the globe and is unique from other prejudices, as many people are unable to recognize it (i.e., instead, someone might think they are helping a person with a disability; Harpur, 2019). The current study aims to examine whether people's levels of intergroup contact and levels of intergroup anxiety are associated with ableist attitudes.

Disability

Disability can be broadly defined as any physical or intellectual impairment, strong enough

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to affect one's daily life (U.S. Department of Justice, 2024). As of 2021, over 15% of the global population—over 1 billion people—is living with some sort of disability (World Health Organization, 2021). In the U.S., 13% of the population identifies as disabled (U.S. Census Bureau, 2021). Additionally, 61 million American adults ages 18 and up have a disability—25.7% of the American adult population (Okoro et al., 2018). Two main types of disabilities will be discussed in this study: physical and intellectual. Physical disabilities are impairments that affect a person's physical ability to perform everyday tasks, such as brushing one's teeth or walking (World Health Organization, 1976).

Those with physical disabilities frequently face challenges related to mobility. These challenges usually involve a physical barrier (e.g., stairs, non-automatic doors, curbs, fixed-height furniture or slim hallways) that prevents people with a disability from being able to access something else (e.g., a second floor, a building, a room, or a street; World Health Organization, 2021). The terms “physically disabled,” “handicapped,” “crippled,” “degenerate,” and “spaz” are some of the most common labels that have been used to describe those with physical disabilities throughout history (Adler et al., 2017), though the terms “crippled,” “degenerate,” and “spaz” have negative connotations. They are offensive to most people with physical disabilities and should be avoided when discussing people with a physical disability.

Intellectual disability can be defined as any condition that impairs a person's intellectual functioning, intelligence, social skills or life skills (U.S. Department of Health and Human Services, 2021). Those with intellectual disabilities frequently face challenges when engaging in social interaction, communication, learning and other intellectual functions such as decision-making and attention span. The terms “mental illness,” “cognitive disability,” “mental disability,” “neurodiverse,” “neuroatypical,” “crazy,” and “mad” are the most common labels that have been used to describe those with intellectual disabilities throughout history (Price, 2013). Terms such as “mad” and “crazy” are not only incorrect labels for any person with a disability, but are regarded as largely offensive and should be avoided (Price, 2013).

Ableism

Because the structure of many societies will predispose its members to reject things that are unfamiliar and different from what they are used to, and because people with disabilities are a minority group, people with disabilities are frequently the targets of prejudice (Allport, 1954). This prejudice, known as ableism, can be defined using Fiona Campbell's (2001, p.44) definition:

Ableism is a network of beliefs, processes and practices that produce a particular kind of self and body (the corporeal standard) that is projected as the perfect, species-typical and therefore essential and fully human. Disability, then, is cast as a diminished state of being human.

Ableism results in situations where nondisabled people are so much more privileged than disabled people that the privilege level of disabled people results in disadvantage (Bogart & Dunn, 2019). Ableism is also manifested by nondisabled people assuming that disability negatively affects a person for their whole life, whereas disabled people truly know how disability affects them in individual circumstances or certain aspects of life (Dunn, 2015).

Ableist actions include: giving unwarranted help to a person with a disability, calling someone “inspirational” for simply living with a disability, invalidation, “jealous ableism,” and dehumanization or objectification (Nario-Redmond et al., 2019). When someone has helped a disabled person who did not need help, “the nondisabled man has actually helped himself” only (Dunn, 2019, p. 666). The nondisabled person receives social admiration and the disabled person becomes viewed as someone in need of help (i.e., someone who is less capable; Dunn, 2019). Ableism as inspiration occurs when people praise a person with a disability for seemingly “overcoming” its limitations. This “inspiration porn” is harmful because it portrays disability as something one should strive to overcome and disassociate themselves from (Grue, 2016; McKay et al., 2021). Invalidation occurs when nondisabled people assume that because a person has a disability, the things that they think and feel are skewed (Nario-Redmond et al., 2019). Invalidation results in undermining the intelligence of people with disabilities and sends a message to society that if a person has a disability, they are less competent (Nario-Redmond et al., 2019). Jealous ableism takes form when a nondisabled person

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envis a disabled person's accommodations or perceived "privileges" and accuses a disabled person of exploiting their benefits (Nario-Redmond et al., 2019). For example, people with a physical disability frequently experience direct harassment in public places such as work or school due to a nondisabled person's envy of the accommodations that the person with a disability receives (Nario-Redmond et al., 2019). Finally, dehumanization or objectification take place when nondisabled people invade a person with a disability's space or when they treat people with disabilities as an "other" and not as a human.

Reducing Ableism Through Intergroup Contact

Existing literature examines the relationship between ableist and prejudiced attitudes and suggests ways to reduce ableism. Intergroup contact may be one underexplored way to improve attitudes toward disabled individuals and decrease ableism. In the Intergroup Contact Hypothesis, Allport (1954) stated that people form ingroups (a social group in which the members share common traits, values, or experiences) and develop prejudice toward outgroups (a social group that an ingroup member has no direct relation to or even much knowledge of). Because outgroups seem foreign to an ingroup member, they develop a preference to interact with other members of their ingroup, consequently forming negative attitudes (e.g., disdain, coldness, anxiety, hostility) toward outgroup members—potentially resulting in prejudice and discrimination. This process creates what is known as an ingroup bias (Allport, 1954).

Gordon Allport (1954) believed that to reduce prejudice and negative attitudes, contact between ingroup and outgroup members is indispensable. However, if contact is not facilitated correctly, prejudice toward outgroup members can increase. To facilitate optimal intergroup interactions, he developed four conditions for intergroup contact: equal group status, common goals, cooperation, and the support of authorities or law. Equal group status implies that in each situation, respective groups hold similar levels of power or resources. Common goals imply that different groups can work together to achieve the same common interests that are beneficial for both groups and rely on one another for goal completion. Cooperation involves working together to achieve goals common to both groups. Lastly, support of authorities implies that figures high in social or political power, or policies or laws sanction positive interactions and cooperation between

groups (Allport, 1954).

In Thomas Pettigrew's (1998) Intergroup Contact Theory, a fifth condition was added to Allport's Intergroup Contact Hypothesis: having the opportunity for friendships to develop. This implies that mechanisms such as self-disclosure and friendship-developing mechanisms are available during close interactions (Pettigrew, 1998). Pettigrew also acknowledged that there is an abundance of facilitating variables that can aid in intergroup contact, but that they vary depending on the type of groups that are interacting with one another (Pettigrew, 1998). The primary difference between the Intergroup Contact Hypothesis (Allport, 1954) and Intergroup Contact Theory (Pettigrew, 1998) lies in Pettigrew's addition of this fifth condition necessary for intergroup contact to improve outgroup attitudes.

Four processes describe how intergroup contact reduces prejudice: generating affective ties, changing the ingroup member's behavior, learning about the outgroup, and ingroup reappraisal (Pettigrew, 1998, p. 65). Generating affective ties refers to minimizing anxiety or negative emotion about interacting with outgroup members before intergroup contact (Pettigrew, 1998). If there is limited amount of negative emotions or anxiety, learning about the outgroup will occur when people of different ingroups begin to talk about themselves. Changing the behavior of ingroup members can involve things such as intentional conversations and engagement with outgroup members. Generally, after someone has learned about the outgroup that they are interacting with, their attitudes towards that outgroup becomes more positive and prejudice decreases. Ingroup reappraisal occurs after intergroup contact and is characterized by ingroups reevaluating their norms and beliefs to adjust to new knowledge about and attitudes towards outgroup members. Generating affective ties involves positive feelings toward the outgroup that can result from learning about the outgroup, intentional engagement, and reappraisal (Pettigrew, 1998).

In terms of ableism, recent research has explored the effects of intergroup contact on attitudes toward disabled individuals. McManus et al. (2010) found that higher quality of intergroup contact led to more positive attitudes toward people with intellectual disabilities, and that quantity of contact and knowledge were unrelated to disability attitudes. Byrd and Zhang (2020) found that intergroup contact and disability self-disclosure led

to higher social support and lower intergroup anxiety, which in turn led to higher attitudes and lower stereotyping toward disabled people. LaBelle et al. (2013) examined the effects of intergroup anxiety and social dominance orientation on contact with and attitudes toward hearing impaired and deaf individuals. The researchers found that lower social dominance orientation led to lower negative attitudes and that intergroup anxiety led to more negative attitudes, but that intergroup contact mediated this relationship, such that higher contact led to lower negative attitudes toward hearing impaired and deaf individuals. Salimi and Crimando (2018) found that higher levels of intergroup contact led to more positive attitudes toward disability accommodations among college students. Importantly, although these previous studies suggest that intergroup contact can lead to more positive attitudes toward disabled individuals, measures of ableism are not incorporated in their studies, suggesting a gap in the literature.

To our knowledge, only one study (Harder et al., 2019) has focused on the relationship between higher intergroup contact and lower ableism. This study found that higher levels of intergroup contact led to lower levels of implicit prejudice and higher levels of warmth toward disabled individuals. Harder et al. (2019) frame their findings within the context of lower levels of ableism. Although, importantly, their measures of implicit prejudice and warmth were stand-ins as operationalizations of ableism, rather than using a published measure of ableism. Furthermore, intergroup contact was operationalized using a one-item frequency (i.e., quantity) of contact question (*1 = no contact; 7 = constant contact*). Previous research (e.g., Islam & Hewstone, 1993) notes that intergroup contact may be operationalized as quantitative contact or qualitative contact, including the pleasantness and intimacy regarding the interaction with outgroup members. In addition, exploring how ableism is related to other factors when operationalized using multi-item measures of contact (such as the *Contact with Disabled Persons Scale*; Yunker & Hurley, 1987), whose benefit involves providing more information than single-item measures, is important to consider.

Reducing Ableism by Detecting “Red Flags”

Reducing ableism lies in being able to identify variables that affect ableism and targeting ableism-reducing interventions and programs towards them. Conley and Nadler (2022) identified some of

the individual difference variables associated with ableism by conducting an online survey of 324 participants, assessing levels of education, ableism, social distance, and openness to experience. It was found that participants who had higher levels of openness, those with higher levels of education, and those who possessed more liberal or Democratic political views had less ableist attitudes than participants who had the opposite of the previously listed factors. Importantly for our work, Conley and Nadler (2022) included a demographic question regarding whether participants had a relationship and personal experiences with people with disabilities. They found that having personal experiences with people with disabilities (either as a close family member or friend, or as a peer, coworker, or classmate) led to lower levels of ableism as compared to those without personal experiences. This finding is important because personal experiences and intergroup contact are conceptually similar variables, even though the researchers did not use intergroup contact as a frame of reference.

Another variable correlated with ableism is gender. In terms of general prejudice, research suggests that men are more prejudiced than women (Arcieri, 2022; Ekehammar & Sidanius, 1982; Harder et al., 2019; Hoxter & Lester, 1994; Hughes & Tuch, 2003; Seo & Chen, 2009; Sidanius et al., 1979), including ableism. For example, Arcieri (2022) found that COVID-19 anxiety led to higher levels of ageism and ableism as compared to lower COVID-19 anxiety and further that men reported higher levels of ageist and ableist attitudes compared to women. Men in the sample may have been motivated to distance themselves from vulnerable populations (e.g., the elderly and the disabled), given that stereotypes regarding vulnerable populations are in contrast with male gender norms (Arcieri, 2022). Harder et al. (2019; see also Pratto et al., 1994; Ratcliff et al., 2006) note that men report higher social dominance orientation and lower motivation to control prejudice compared to women, factors associated with increased prejudice. Harder et al. (2019) found that a single-item intergroup contact question led to lower implicit prejudice and higher levels of warmth toward disabled individuals. The authors frame their findings of higher warmth and lower implicit prejudice as evidence of lower levels of ableism. Although gender differences in prejudice were not the focus of our study, we felt it necessary to briefly list factors correlated with ableism, particularly gender.

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Reducing ableism lies not only in individual differences such as gender but also in understanding the unpredictable outcomes of interactions. While Allport's (1954) Intergroup Contact Hypothesis focuses on increasing positive interactions, it is crucial to recognize that interactions with people with disabilities can sometimes be negative (Pettigrew, 1998; Stephan & Stephan, 1985). These negative interactions may be caused or influenced by intergroup anxiety and usually lead to an increased amount of prejudice (Pettigrew, 1998; Stephan & Stephan, 1985). Previous work has explored the importance of understanding intergroup anxiety as it relates to intergroup attitudes (e.g., LaBelle et al., 2013; Page-Gould et al., 2008; Paterson et al., 2024; Pettigrew & Tropp, 2008; Price-Blackshear & Bettencourt, 2023; Price-Blackshear et al., 2017; Vezzali & Giovannini, 2012). These results suggest that recognizing one's intergroup anxiety may be a factor in reducing ableism, whereas being unaware of its impact could contribute to its increase.

Synthesizing Evidence

The Intergroup Contact Hypothesis and the Intergroup Contact Theory suggest that if the conditions of intergroup contact are met, attitudes toward outgroup members may improve (Allport, 1954; Pettigrew, 1998). Both perspectives make little mention of those with disabilities and ableist attitudes. Although it is assumed that this hypothesis and theory regarding outgroup attitudes can be applied to disability attitudes specifically, a sufficient application has not previously been given in either one. Without this application, it is uncertain if the phenomenon of ableism can be explained by the Intergroup Contact Hypothesis or Intergroup Contact Theory (Allport, 1954; Pettigrew, 1998). Although there are studies that use the Intergroup Contact Theory to improve attitudes toward disabled individuals, there are few research studies whose primary purpose is to validate the theory in terms of ableism or positive attitudes toward disabled individuals. Given that Pettigrew's Intergroup Contact Theory (1998) suggests that intergroup contact can improve outgroup attitudes generally, the current study seeks to validate Intergroup Contact Theory through an ableist framework, by measuring the specific association between ableism and contact with people with disabilities, as well as the specific association between ableism and "facilitating" factors that might contribute to ableist attitudes, including intergroup anxiety. Narrowing the focus

of Intergroup Contact Theory from outgroup attitudes broadly to an ableist framework expands the application of this theory.

The study by Harder et al. (2019) is an example of one of the rare studies that consider intergroup contact in reducing ableism. However, they did not operationalize ableism in their work using a validated measure of ableism. Conley and Nadler (2022) provided important information regarding some of the individual differences that are associated with lower levels of ableism (education, openness to experience, and liberalism). They also found that a single-item demographic question of personal experiences with those with disabilities (a variable conceptually similar to intergroup contact) led to lower levels of ableism (Conley & Nadler, 2022). However, the Contact Hypothesis and Intergroup Contact Theory were not mentioned and hence they did not measure intergroup contact in their study, nor did they frame their findings within the context of the theories. This is likely because neither Allport (1954) nor Pettigrew (1998) goes into sufficient depth regarding ableism. We were interested in expanding the work of Conley and Nadler (2022) to determine whether ableism could be understood from an intergroup contact lens. We were also interested in expanding the work of Harder et al. (2019), by incorporating a measure of ableism in our work, to determine if intergroup contact could reduce ableism when operationalized using a published ableism measure. Finally, the work of Harder et al. (2019) included a single-item intergroup contact demographics question, and Conley and Nadler (2022) included a single-item personal experiences question. Our approach was to expand on both findings by including a multi-item, validated measure of intergroup contact, the *Contact with Disabled Persons Scale* (Yuker & Hurley, 1987).

In addition, instead of ableism, Allport (1954) and Pettigrew (1998) have focused historically on racial and ethnic prejudice. Within the context of intergroup contact literature, there is evidence to suggest that intergroup contact toward one group may generalize to attitudes and prejudice toward other groups (i.e., the secondary transfer effect; Laar et al., 2005; Pettigrew, 2009; Price-Blackshear et al., 2017; Vezzali & Giovannini, 2012). Secondary transfer effects tend to occur for outgroups of similar categories, such as contact with African American roommates improving attitudes toward Latinos (Laar et al., 2005) and contact influencing attitudes toward outgroups

with similar levels of stigmatization (Pettigrew, 2009). Although attitudes toward one group may relate to attitudes toward dissimilar outgroups (Vezzali & Giovannini, 2012), they are not related in every circumstance, and the nature of prejudice toward one group may be different than the nature of prejudice toward other groups. Prejudice and attitudes toward racial and ethnic groups are categorically different from attitudes toward disabled individuals, with different historical trajectories in the U.S. The current study seeks to use the Intergroup Contact Theory (Pettigrew, 1998) and the Contact Hypothesis (Allport, 1954) as a foundation for drawing conclusions regarding people's levels of ableism, a novel approach within intergroup literature. Understanding this relationship may improve the ability to detect and reduce "red flags" that may facilitate higher levels of ableism, such as intergroup anxiety.

Current Study

For the present study, we conducted research on the relationship between the amount of contact that a person has had with people with disabilities and their levels of ableism with the goal to validate Pettigrew's (1998) Intergroup Contact Theory and ultimately to spread awareness about ways to decrease ableism. Ableism has been operationalized using disability attitudes measures in previous research (Harder et al., 2019). We chose to expand the definition of ableism in our study because we were interested in a multifaceted approach to understanding ableism. Using an expanded approach, ableism was operationalized in our study using three measures: symbolic ableism, attitudes toward disabled persons, and behavioral intentions to interact with disabled persons. In the current study, it was hypothesized that, consistent with Pettigrew's (1998) Intergroup Contact Theory, increased contact would be related to lower symbolic ableism, higher positive attitudes, higher behavioral intentions, and lower intergroup anxiety. We chose to focus on this sole hypothesis because it was the driving force behind our chosen methods and study measures. Furthermore, we explored whether higher intergroup anxiety would be associated with higher symbolic ableism, lower positive attitudes, and lower behavioral intentions, compared to lower intergroup anxiety. We also explored whether intergroup contact and intergroup anxiety would interact to predict the outcome measures. Because these questions were not predicted *a priori*, and we chose to explore them after data collection and in the midst of data analysis, they are identified as

exploratory research questions. We conducted these exploratory analyses given previous research suggesting that intergroup anxiety may play an influential role in intergroup attitudes when examined in higher-order statistical models. Notably, intergroup anxiety has been explored as a direct predictor (LaBelle et al., 2013; Price-Blackshear et al., 2017), a mediator (Price-Blackshear & Bettencourt, 2023; Vezzali & Giovannini, 2012), a moderator (Paterson et al., 2024), and an outcome variable (Page-Gould et al., 2008) within the context of intergroup studies. Addressing and reducing ableism will increase people's communication effectiveness, empathy, and cultural competence—three skills that are rapidly becoming core values in social, institutional, physical, and educational environments across the globe—and help them have successful encounters with people with disabilities.

Method

Participants

Participants in the study were $N = 270$ college students in the psychology department at the University of Central Arkansas (UCA). The mean age of the sample was $M = 20.87$ ($SD = 4.40$; range of 18 to 55 years old). Participants were recruited with a study ad posted online on SONA, the psychology department's participant scheduling website. The study was advertised to students taking psychology classes as a study link on SONA and available on SONA during the Spring 2023 semester (i.e., January–April 2023). Participants could complete the study on any computer or tablet (personal or school-owned); students could participate in the study any time before the study deadline and could complete the study on their own time. Participants were excluded from participation if they were under 18, if they did not have access to SONA, or if they were not enrolled in a psychology class. Participants were compensated for their time with one SONA credit, one of several credits they were required to earn as part of their psychology coursework.

The study included cisgender males ($n = 47$), cisgender females ($n = 212$), a transgender male ($N = 1$), participants who identified as gender variant/non-conforming ($n = 8$), and other ($n = 2$). For racial identity, participants identified as White American ($n = 192$), African American ($n = 40$), Hispanic American ($n = 13$), Asian American ($n = 7$), American Indian ($n = 1$), Multiracial American

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($n = 8$), or other ($n = 9$). For political affiliation, participants identified as conservative ($n = 79$), moderate ($n = 86$), or liberal ($n = 105$). For political party affiliation, participants identified as Democrat ($n = 67$), Republican ($n = 64$), independents or no affiliation ($n = 133$), or other parties ($N = 6$). For sexual orientation, participants identified as heterosexual ($n = 213$), gay or lesbian ($n = 12$), bisexual ($n = 39$), or other sexual orientations ($n = 6$). We also asked participants to report their disability status. When asked about having a physical disability, participants answered either Yes ($n = 12$) or No ($n = 253$); when asked about having an intellectual disability, participants answered either Yes ($n = 33$) or No ($n = 233$). Table 1 shows the responses of participants who reported being “unsure” about having a physical ($n = 5$) or intellectual ($n = 4$) disability.

Table 1

Disability Identification Responses

Disability Type	Number of Responses	Summary of “Unsure” Responses
Physical disability	Yes $n = 12$	<ul style="list-style-type: none"> • Crohn’s disease • Scoliosis • Migraines • Type 1 Diabetes
	No $n = 253$	
	Unsure, please specify $n = 5$	
Intellectual disability	Yes $n = 33$	<ul style="list-style-type: none"> • ADHD, GAD, PTSD, MDD • ADHD • Testing anxiety • Undiagnosed autism
	No $n = 233$	
	Unsure, please specify $n = 4$	

Note. Responses in the same bullet point are from the same participant.

These five measures served as our operationalization of ableism in this study. Participants then answered demographic questions about disability status, race, age, gender, and other identifying factors. After answering all the survey questions, participants were asked what they believed the purpose of the study was followed by the debriefing form was shown to participants. Participants were thanked for their time, compensated with one SONA credit, and given the contact information of the research investigators.

Measures

For our measures, we were interested in attitudes toward people with both physical and intellectual disabilities. As such, in our data analysis, we asked participants to answer questions regarding those with “disabilities”, and we did not differentiate between attitudes toward physical and

Procedure

Once participants registered to participate in the study, they clicked on a link housed on Qualtrics, a survey and study-building website. The Qualtrics link housed the informed consent form, study measures, and debriefing form, and participants completed these materials in one sitting. Study participation took an average of $M = 12.25$ minutes ($SD = 7.65$ minutes; range of 3.40 to 60.68 minutes).

After providing informed consent using the online consent form, participants completed measures regarding contact with people with disabilities, intergroup anxiety, symbolic ableism, attitudes towards disabled persons, and behavioral intentions to interact with people with disabilities.

intellectual disabilities in our study measures.

Quality and Quantity of Interactions with People Who Are Disabled

Yuker and Hurley’s (1987) *Contact With Disabled Persons Scale* is a 20-item measure that seeks to measure the quality and quantity of a participant’s interactions with people who are disabled. This scale was completed by all participants. This measure adapted the wording of the questions: the original measure included labels such as “physical” and “physically,” but in our study, this wording was removed. In line with previous research, we employed an adapted version of the scale that is shorter (8 items; Junco & Salter, 2004), that uses first-person language (Pruett et al., 2008), and that removes reference to physical disabilities specifically (Ioerger et al., 2019) to assess both types of disabilities. Two

example items ask: “How often have you had a talk with a person who is disabled?” ($I = \text{never}; 5 = \text{very often}$) and “How often has a disabled friend visited you in your home?” ($I = \text{never}; 5 = \text{very often}$). High scores indicated that a participant has had frequent and high quality of contact with a disabled person. The internal consistency in the current sample was excellent ($\alpha = .92$).

Intergroup Anxiety

The *Intergroup Anxiety Scale* is a 12-item measure that was created by Stephan and Stephan (1985). This measure seeks to quantify a person’s intergroup anxiety levels (Stephan & Stephan, 1985). Originally asking about attitudes toward Hispanics and Anglophones, this measure was adapted in our study to measure intergroup anxiety related to disability. Previous research has adapted this scale to measure attitudes toward religious groups (Islam & Hewstone, 2003; Price-Blackshear et al., 2017) and other racial groups (Price-Blackshear & Bettencourt, 2023; Price-Blackshear et al., 2017; Stephan et al., 2002), supporting the soundness of our approach.

Participants were asked “If you were interacting with a group of disabled people (e.g., talking with them, working on a project with them), how would you feel compared to occasions when you are interacting with nondisabled people?” and then reported to what degree they would feel certain emotions. Two example emotions were “Awkward” ($I = \text{not at all}; 10 = \text{extremely}$) and “Irritated” ($I = \text{not at all}; 10 = \text{extremely}$). Positive items were reverse-coded, and higher scores indicated higher levels of intergroup anxiety. The internal consistency in the current sample was excellent ($\alpha = .82$).

Ableism

The *Symbolic Ableism Scale* is a published measure of levels of ableism (Friedman & Awsumb, 2019). The *Symbolic Ableism Scale* contains 13 items, with questions measuring individualism (i.e., questions 8-10 & 12-13), recognition of continuing discrimination (i.e., questions 1-3, 7-11), empathy for disabled people (questions 5-6), and excessive demands (i.e., question 4). Two example items are “Disabled people should stay hidden” ($I = \text{strongly disagree}; 7 = \text{strongly agree}$) and “Disabled people are demanding too much from the rest of society.” ($I = \text{strongly disagree}; 7 = \text{strongly agree}$). Questions 4-9 and question 12 are reverse-coded, and higher

scores indicated higher levels of symbolic ableism. The internal consistency in the current sample was acceptable ($\alpha = .70$).

Views Regarding Disability

The *Attitudes Toward Disabled Persons Scale* was administered to all participants (Yuker, et al., 1966). In the current study, only Form O (the original form of the measure; Yuker et al., 1966) was used. Two example items state: “Most disabled people feel sorry for themselves.” ($+3 = I \text{ agree very much}; -3 = I \text{ disagree very much}$) and “Disabled people are often unfriendly.” ($+3 = I \text{ agree very much}; -3 = I \text{ disagree very much}$). Low scores indicate greater prejudicial attitudes towards people with disabilities, whereas higher scores indicated less prejudicial attitudes towards people with disabilities. The internal consistency in the current sample was acceptable ($\alpha = .71$).

Behavioral Intentions

The *Behavioral Intentions Measure* asked participants to report the likelihood of donating to or interacting with disabled individuals. The eight-item measure was created for this research study as there is a lack of available measures that specifically focus on people’s intentions to interact with people with disabilities. Three items asked participants about how likely they would be to donate to three U.S.-based financial causes (i.e., the Special Olympics, the Wounded Warrior Project, and the Autism Society). Five items asked about how likely participants would be to interact with disabled individuals in the future (e.g., “How likely would you be to work with a person with a disability on a class project?”). Participants answered the questions on a scale from 1 (*not at all likely*) to 5 (*very likely*). Higher scores indicated higher behavioral intentions. The internal consistency in the current sample was good ($\alpha = .86$).

Results

Data Analysis

When results were analyzed, the extent to which contact predicted ableist attitudes and intergroup anxiety, and its relationship with demographic variables, was explored using correlational and regression analyses. To test our primary hypothesis, we examined the relationship between intergroup contact and the outcome variables (behavioral intentions, symbolic ableism,

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and disabled attitudes). In the exploratory analyses, we examined the relationship between intergroup anxiety and the outcome variables; we also explored whether there was a significant interaction between intergroup contact and intergroup anxiety in predicting the outcome measures. We used SPSS (Version 27) to conduct data analyses, using both correlational and regression analyses to examine our hypothesis and research questions.

Correlations

Table 2 shows the zero-order correlations among study variables. Higher levels of intergroup contact were associated with higher behavioral intentions and lower intergroup anxiety. Similarly, higher levels of positive intergroup attitudes were associated with higher behavioral intentions and lower intergroup anxiety. Lastly, higher levels of behavioral intentions were associated with lower intergroup anxiety.

Table 2

Correlations Among Study Variables

	Intergroup Contact	Disability Attitudes	Behavioral Intentions	Symbolic Ableism	Intergroup Anxiety
Intergroup Contact	-				
Disability Attitudes	.04	-			
Behavioral Intentions	.37**	.14*	-		
Symbolic Ableism	-.07	-.01	.03	-	
Intergroup Anxiety	-.28**	-.25**	-.47**	-.03	-

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

0.40, $t(266) = -7.54$, $p < .001$, 95% CI [-0.37, -0.22], consistent with Research Question I. It was found that higher levels of anxiety were associated with lower levels of behavioral intentions toward disabled people. We found that there was a significant contact \times anxiety interaction predicting behavioral intentions, $\beta = 0.17$, $t(266) = 3.30$, $p = .001$, 95% CI [0.06, 0.25], consistent with the second research question. As seen in Figure 1, the amount of contact a participant had with disabled persons had little association with behavioral intentions for participants with low intergroup anxiety. However, higher levels of contact with disabled persons were associated with higher

Main Analyses

For each of the outcome measures, we conducted a regression analysis that included intergroup contact, intergroup anxiety, and the contact \times anxiety interaction. These were all included in the analyses simultaneously. Three regression analyses were conducted: one for each of the three outcomes.

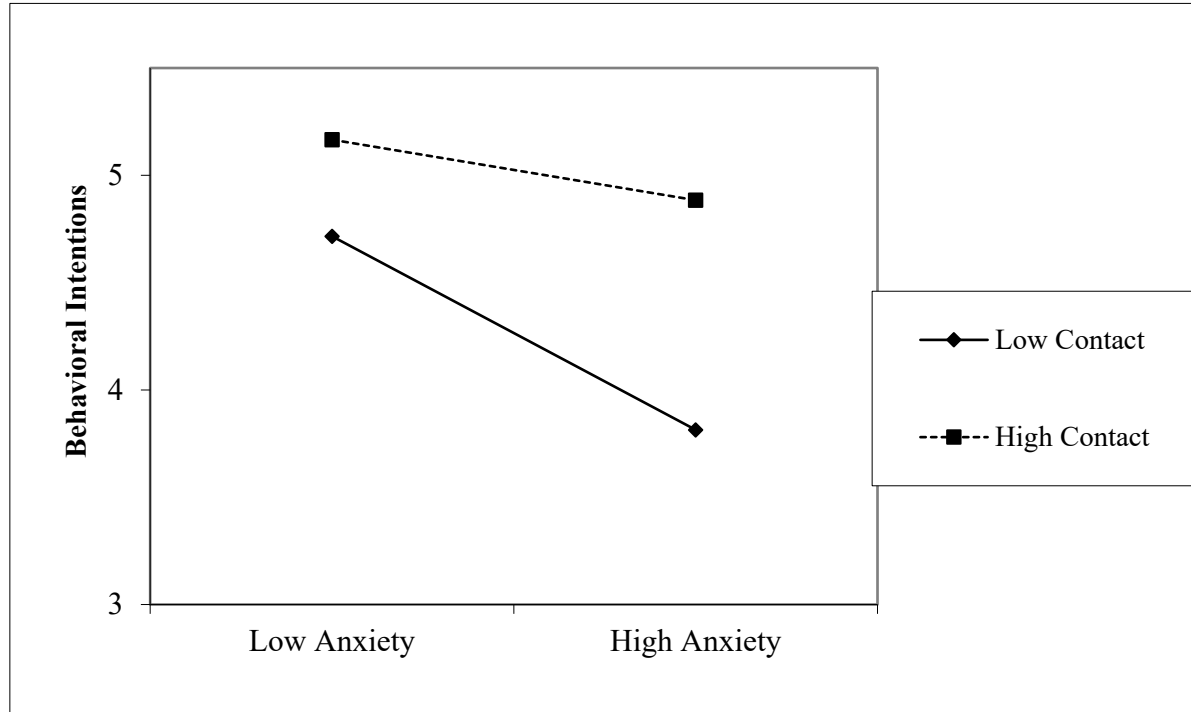
Behavioral Intentions

In a regression analysis, we found that intergroup contact had a significant effect on behavioral intentions toward disabled persons, $\beta = 0.29$, $t(266) = 5.38$, $p < .001$, 95% CI [0.24, 0.52]. The results show that higher levels of contact were associated with higher levels of behavioral intentions. This effect was consistent with our hypothesis. When examining the effects of intergroup anxiety, we found that anxiety significantly predicted behavioral intentions, $\beta = -$

levels of behavioral intentions for those with high levels of intergroup anxiety.

Symbolic Ableism

In a regression analysis, we found that intergroup contact was not significantly related to symbolic ableism, $\beta = -0.05$, $t(266) = -0.83$, $p = .409$, 95% CI [-0.16, 0.06]. These findings are not consistent with our hypothesis. When examining effects for intergroup anxiety, we found that anxiety did not significantly predict symbolic ableism, $\beta = -0.06$, $t(266) = -0.89$, $p = .373$, 95% CI [-0.09, 0.03], inconsistent with the first research

Figure 1*Interaction Between Intergroup Contact and Intergroup Anxiety Predicting Behavioral Intentions*

Note. Contact \times anxiety interaction predicting behavioral intentions.

question. Unexpectedly, we found that there was a significant contact \times anxiety interaction predicting symbolic ableism, $\beta = 0.13$, $t(266) = 2.08$, $p = .039$, 95% CI [0.004, 0.15], consistent with the second research question. As seen in Figure 2, for low levels of anxiety, lower levels of contact were associated with higher levels of ableism as compared to high levels of contact. For high levels of anxiety, levels of contact did not influence levels of ableism.

Disabled Attitudes

In a regression analysis, we found that intergroup contact was not significantly related to attitudes toward disabled persons, $\beta = -0.05$, $t(266) = -0.75$, $p = .454$, 95% CI [-0.11, 0.05]. This finding was not consistent with our hypothesis. When examining effects for intergroup anxiety, we found that anxiety significantly predicted attitudes, $\beta = -0.26$, $t(266) = -4.14$, $p < .001$, 95% CI [-0.14, -0.05], consistent with the first research question. The results indicated that higher levels of anxiety were associated with more negative attitudes toward disabled people. We found that the contact \times anxiety interaction predicting disabled attitudes

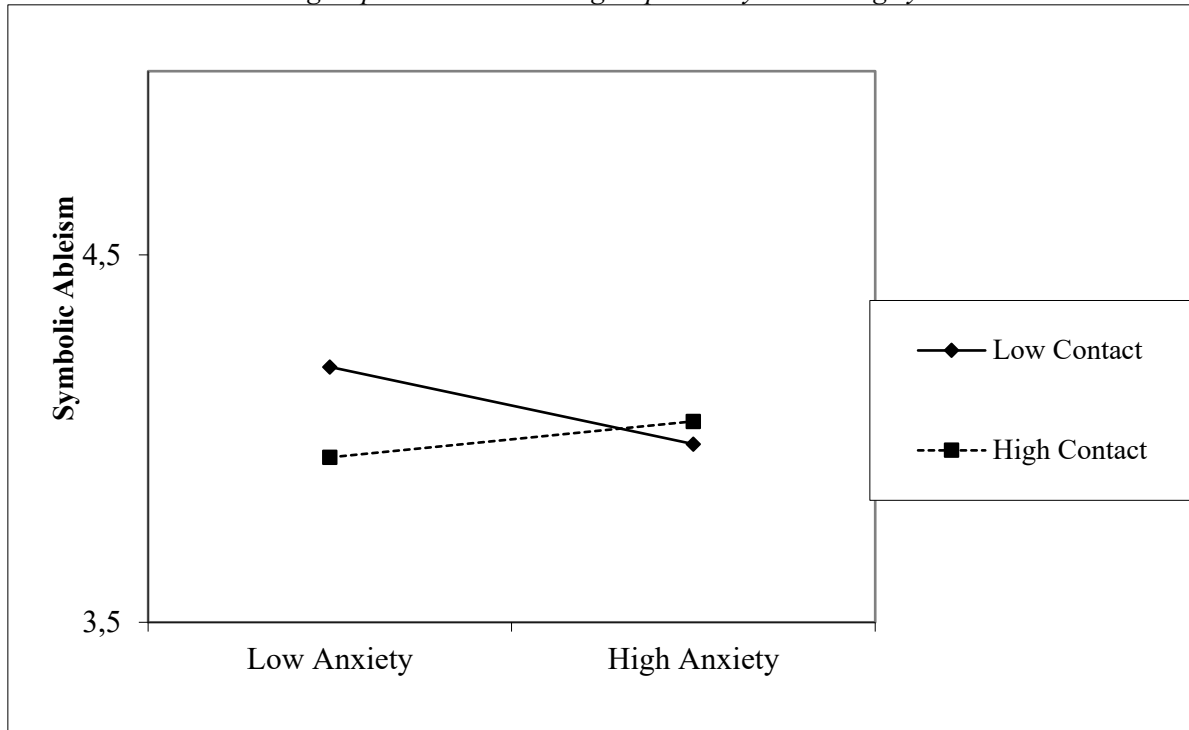
was not significant, $\beta = -0.07$, $t(266) = -1.08$, $p = .280$, 95% CI [-0.08, 0.02], inconsistent with the second research question.

Discussion

It was hypothesized that increased contact with people with disabilities would be related to decreased ableism (operationalized as lower symbolic ableism, higher positive attitudes, and higher behavioral intentions) and lower intergroup anxiety. We also explored as research questions whether intergroup anxiety would predict ableism (first research question), and whether the interaction between intergroup contact and intergroup anxiety would predict ableism (second research question). Surprisingly, contact with people with disabilities was not significantly related to prejudiced attitudes toward those with a disability. However, contact and intergroup anxiety interacted to predict increased behavioral intentions and symbolic ableism. Higher intergroup anxiety consistently led to more negative attitudes. Although contact is theorized to have a negative correlation with intergroup anxiety (Pettigrew, 1998), our results show that they do not

Figure 2

Interaction Between Intergroup Contact and Intergroup Anxiety Predicting Symbolic Ableism



Note. Contact \times anxiety interaction predicting symbolic ableism.

necessarily align with the Intergroup Contact Theory, as higher intergroup anxiety consistently led to more negative attitudes, suggesting that intergroup anxiety may be a stronger predictor of ableism than contact itself.

Strengths and Limitations

Our study had many strengths. Even though each demographic category had a majority group, there was still a diverse range of ages, ethnicities, sexualities, religious affiliations, and political orientations represented in the sample. Although, given the uniqueness of student samples, our results are unlikely to generalize to non-student, non-U.S. samples, such as those from the broader adult population and those in other countries.

Another strength of the study was the novelty of our framework and the evidence we used to support this framework. As mentioned previously, to our knowledge, no prior research has explored the effects of intergroup contact on ableism. Although previous research has explored the effects of intergroup contact on disability attitudes, and ableism has been explored in disability

attitudes research, our work is among the first to frame intergroup contact as a mechanism to reduce ableism. Furthermore, our work replicates and expands previous research. First, we expand the work of Harder et al. (2019) by using a published measure of ableism, in addition to framing lower ableism as higher positive attitudes and more behavioral intentions. We expand the work of Conley and Nadler (2022) by framing lower levels of ableism within the context of the Intergroup Contact Theory and the Intergroup Contact Hypothesis. Finally, we expand the work of both Conley and Nadler (2022) and the work of Harder et al. (2019) by exploring intergroup contact using a validated, multi-item measure of contact, instead of using a single-item demographics question of contact frequency (Harder et al., 2019) or personal experiences (Conley & Nadler, 2022).

In terms of limitations, the study measures—the measures of symbolic ableism, attitudes toward disabled persons, contact with disabled persons, intergroup anxiety, and behavioral intentions—used self-report questions of *explicit* bias and attitudes. Given the nature of these measures, it was made obvious to participants that their levels

of ableism would be analyzed, which could have resulted in them withholding information about their true beliefs and values to seem less prejudiced in their responses. This could have influenced participant responses and led to inaccurate results. Future researchers can limit this concern by including measures that capture these motivational tendencies (e.g., motivation to control prejudice, social desirability), as well as implicit attitude measures that may be less susceptible to these limitations, such as how participants react to a disabled person while in a “waiting room” to enter the real laboratory for the study. Because participants would think that they are not being observed, they would be more likely to act in ways that naturally align with their beliefs and biases. In future online studies, there could also be fewer explicit self-report measures. Instead, measures with formats similar to the Implicit Association Test (IAT; Greenwald et al., 1998) that are designed to measure implicit prejudices could be used. Following the procedures of Harder et al. (2019), researchers can incorporate implicit measures such as the disability IAT measured in their study. Results from studies using these procedures may confirm the original hypothesis of this study, as these would presumably be more congruent with a participant’s actions in a natural environment. In addition to only measuring explicit forms of ableism, we also did not consider differences in attitudes toward those with physical and intellectual disabilities. Results could vary based on the nature of disability. Future researchers can include measures that distinguish between intellectual and physical disabilities and include measures that record attitudes regarding each one.

A second limitation was the asynchronous (i.e., unmonitored) format of the study. Similar to the effect of explicitly telling participants what will be measured, because participants were not monitored while taking the study, it is uncertain how closely they were paying attention while completing the study measures. Future researchers can limit these concerns by requiring participants to complete the study in an in-person lab setting.

A third limitation was the superficial nature of the ableism measures used in our study. That is, the measures of intergroup contact, symbolic ableism, attitudes, behavioral intentions, and intergroup anxiety focused on surface-level attitudes, interactions, and intentions with disabled persons (e.g., donating to a cause; having brief conversations). Perhaps our findings would have been different if we included measures tapping into

deeper connections with people with disabilities. For example, some work suggests that the quality of intergroup contact, including whether relationships with outgroup members are voluntary, intimate, and pleasant, leads to lower intergroup anxiety and higher positive attitudes (Islam & Hewstone, 1993). Future research can consider measures that focus on deeper (rather than superficial) relationships.

A fourth limitation in our study is that we chose to focus on intergroup anxiety, one of the few known mediators of the relationship between intergroup contact and intergroup attitudes. For example, meta-analytic research has found that in addition to lower intergroup anxiety, higher knowledge about and higher empathy toward outgroup members are also mechanisms that improve outgroup attitudes (Pettigrew & Tropp, 2008). Relatedly, we focused on intergroup anxiety as a single factor, and perhaps certain aspects or subcomponents of intergroup anxiety are the driving factors that influence intergroup attitudes. Future research can explore the effects of knowledge, empathy, subfactors of intergroup anxiety, and other facilitating or impeding factors and mechanisms of the relationship between intergroup contact and ableist attitudes.

Future Directions

For future directions, additional researchers can consider incorporating in-person interactions and implicit measures in their research studies. Conley and Nadler (2022) agree that disability education can be more effective in informal settings; a setting in which participants are measured while waiting for a purported research study could provide an effective informal setting. Allport (1954) and Pettigrew (1998) also agree that social context can impact one’s prejudice. Therefore, an additional benefit to using a waiting room simulation is that if a person in the waiting room reacts in a non-ableist way or tries to have a conversation with the participant who educates on disability, implicit biases could potentially decrease. Expanding on Harder et al. (2019), researchers may consider measures that capture other disability categories beyond physical disabilities (given that their measure included images of mobility and visually impaired people only).

Understanding the factors that influence contact with, ableism toward, and intergroup anxiety regarding disabled individuals has

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important social and societal implications in a multitude of domains. Educational practices could be examined to determine how teachers can use practices that implement intergroup contact into learning. One example is the jigsaw classroom—where students are assigned to groups in which each student is given a piece of instruction, and students teach other group members about their specific part of a topic (Aronson, 2002). The jigsaw classroom could be implemented including students with and without disabilities, to increase contact experiences with people with disabilities. Training of medical professionals can also implement strategies to increase exposure to disabled people. For example, workshops and seminars for medical professionals can include disabled speakers as a way of increasing intergroup contact and decreasing intergroup anxiety. Mental health professionals can target intergroup anxiety toward disabled people as a way to improve attitudes. For example, therapy sessions may focus on the origin of or the continuation of intergroup anxiety, and practitioners can advise clients on strategies to reduce intergroup anxiety. Workplaces can restructure employee interactions and hiring decisions with a goal of increasing intergroup contact and reducing intergroup anxiety. For example, hiring decisions can consider disability status as a strength during the hiring process to increase workplace diversity, and workplace managers can intentionally select those with disabilities to chair committees and task forces in the workplace. Public policies could be enacted with the goal of increasing inclusion through lowering intergroup anxiety. For example, policies focused on education, physical and mental healthcare, the labor force, and other societal aspects can use legislation designed to implement some of the procedures mentioned above. The findings of our work may influence these as well as other societal structures, policies, and practices.

Conclusion

This study used multiple explicit self-report measures to determine the relationship between intergroup contact, intergroup anxiety, and ableism. Overall, when high levels of intergroup anxiety were present, ableism was found to increase and intent to interact with people with disabilities was found to decrease. However, when people had more contact with those with disabilities, the increase in ableism and decrease in intent to interact was weaker. This study suggested

that intergroup anxiety was a powerful contributing factor to ableism, and that as per the Intergroup Contact Theory (Pettigrew, 1998), the amount of contact did not always increase positive attitudes and intentions to interact with people with disabilities. Our findings shed light on the importance of considering intergroup contact, intergroup anxiety, behavioral intentions, and attitudes toward those with disabilities. If ableism continues to be viewed in the context of these variables, significant social and political changes will occur that shift societal attitudes, lessening the levels of ableism of people worldwide. Educational, healthcare, workplace, political, and other societal contexts may be improved by understanding the ways in which intergroup contact and intergroup anxiety influence ableist attitudes.

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More Than Words: Literature Review of Sexual Culture for People who are d/Deaf

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Sexual scripts provide cultural frameworks for understanding dating and sexual experiences. This review explores how d/Deaf sexual scripts differ from Traditional Sexual Scripts (TSS). A systematic search across three databases identified 621 articles, of which 13 were analyzed. Findings reveal that d/Deaf sexual scripts lack traditional gender roles and sexual themes present in TSS. These differences may stem from limited sexual education and the impact of intimate partner violence within the d/Deaf community. Additionally, resilience plays a crucial role in fostering sexual flourishing among d/Deaf individuals. The study highlights the need for further research on gender-neutral roles, comprehensive sexual education, and sexual well-being in the d/Deaf population. Understanding these aspects can help develop inclusive approaches to sexuality that address the unique needs of d/Deaf individuals.

Keywords: deaf, deafness, sexual script, life script, sexual flourishing

Les scripts sexuels fournissent des cadres culturels permettant de comprendre les expériences amoureuses et sexuelles. Cette revue explore les différences entre les scripts sexuels des personnes sourdes et malentendantes (d/Deaf) et les scripts sexuels traditionnels (SST). Une recherche systématique dans trois bases de données a identifié 621 articles, dont 13 ont été analysés. Les résultats montrent que les scripts sexuels au sein de la communauté sourde ne comportent pas les rôles de genre traditionnels et les thèmes sexuels présents dans les SST. Ces différences pourraient découler d'un accès limité à l'éducation sexuelle et de l'impact de la violence conjugale au sein de la communauté sourde. De plus, la résilience joue un rôle clé dans l'épanouissement sexuel de cette communauté. Cette étude souligne la nécessité de recherches supplémentaires sur les rôles non genrés, l'éducation sexuelle et le bien-être sexuel de la communauté sourde afin de mieux répondre à leurs besoins spécifiques.

Mots-clés : sourd, surdité, script sexuel, récit de vie, épanouissement sexuel

People who are d/Deaf have long been neglected in research and policy (Meehan, 2019). Because language is a key factor determining culture (Kramsch, 2014), the culture in the Deaf community is considered unique from the hearing population (Ladd, 2003). The depth of cultural and social norms within the Deaf community—including those surrounding sexual activity and dating expectations (Kanter, 2010)—remains largely unknown to much of the hearing community (Ladd, 2003; Meehan, 2019). Studies suggest that the Deaf community has unique

romantic expectations and norms in regard to dating and relationships (Joharchi & Clark, 2014), such as unique gendered roles in dating, romantic relationships, and sex (Gilbert et al., 2012; Joharchi & Clark, 2014). The particularities of dating and sexual expectations in the Deaf community create different relationship dynamics compared to “traditional” relationship expectations (EARS, n.d.; Gilbert et al., 2012; Katz & Kattari, 2023; Pollard et al., 2013). The current research aims to understand the potential unique risks and healthy dynamics inherent in dating and sexual experiences for people who are d/Deaf.

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Theoretical Framework

To understand the topic at hand, defining d/Deaf terminology is essential. The language used by people who are d/Deaf to define themselves is very specific. According to the suggestion of

person-based terminology from the National Deaf Center, there are two types of d/Deafness: 1) the state of being Hard of Hearing or unable to hear, referred to as “deaf” with a lowercase d; 2) Deaf culture, including American Sign Language (ASL), humor, traditions, literature, etc., represented as “Deaf” with a capitalized D (National Deaf Center, n.d.). Often, d/Deaf is used to refer to both people who are deaf as well as to identify the Deaf community itself.

Life Scripts

Deaf culture includes unique life expectations and cultural developmental milestones defined in social science as life scripts. Life scripts are defined as a culturally expected timeline of a person’s life. Life scripts are not necessarily realistic, but instead represent a typical standard that is culturally set (Clark & Daggett, 2015). Referred to as a *roadmap* or a *fairytale* timeline, studies have examined life scripts in the general population (Wolsey et al., 2017) and in people who are d/Deaf (Clark & Daggett, 2015).

Sexual Scripts

A similar script framework can be applied to sexuality. Studies have identified the expectations of sexual development in life and relationships as sexual scripts. Sexual scripts are culturally determined outlines for how to act in a sexual relationship: what dating looks like, expectations for sexual intimacy, timeline for marriage and children, etc. Sexual scripts influence what individuals see as culturally acceptable in sexual relationships (Gagnon, 1990). The traditional sexual script (TSS) is the sexual expectations for the American hearing culture, this includes dating expectations, gendered roles, sexual intimacy expectations, etc. (Bartoli & Clark, 2006). Certain gender roles outlined in the TSS include men being the sexual pursuers, making sexual advances, or picking up their partner for the first date. Women’s roles are outlined as setting and enforcing sexual boundaries, being passive about sex, or maintaining the emotional nature of the relationship (Bartoli & Clark, 2006). Both male and female college students are cognizant of the roles and that they are mutually accepted (Bartoli & Clark, 2006). However, it has been shown that people who are d/Deaf do not follow the TSS completely (Joharchi & Clark, 2014). For example, gender roles are less clearly defined in the Deaf community. Additionally, by nature of being the ‘traditional’ sexual script, gender roles are not

inclusive of minority groups who may operate with a unique culture or other sexual norms.

Furthermore, sexual scripts provide an important context for the definition of sexual culture as defined in the current paper. Sexual culture refers to framing sexual attitudes and preferences within the culture an individual is from and recognizing cultural expectations and their role in influencing personal decisions (Fourcroy, 2006). Although sexual culture does not define every decision that a person makes, it may influence them toward what they know and are familiar with; which is inherently unique for people who are deaf compared to the general hearing population. Considering that d/Deaf sexual scripts differ from hearing sexual scripts, the following question arises: what does sexual flourishing look like for the d/Deaf population?

Sexual Flourishing

A theme that will be explored in the current research is sexual flourishing among people who are deaf. Flourishing is a common term used in positive psychology to describe high levels of well-being, happiness, and achievement in life or relationships, often promoting community engagement (Lorimer et al., 2022; Meehan, 2019). Flourishing is a broad-scope way of defining life prosperity through psychosocial realms. Thus, flourishing is considered a more holistic perspective on life satisfaction than other views that could limit how satisfaction is expressed (Kilbert et al., 2022).

Relationship flourishing, similar to life flourishing, understands relationship well-being as beyond pleasure or satisfaction alone. Relationship flourishing centers on meaning, personal growth, and giving (Fowers et al., 2016). Sexual flourishing similarly aims to understand what well-being looks like for the sexual aspect of relationships, considering a holistic model of sexuality which includes belonging, engagement, meaning, and becoming (Oleksuik, 2022). A sexually flourishing couple engages in activities in their sexual relationship that are deeply meaningful to them as a couple. The couple is fully immersed in their sexual activity and have genuine care and acceptance in their sexual relationship (Oleksuik, 2022).

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Sexual Experiences

The current article explores the sexual experiences of people who are deaf to understand the ways they view their own sexuality and what intimacy with others looks like. The term sexual experiences, for the purposes of the article, refers to an individual's interactions with their sexuality. This includes attraction in dating, physical intimacy, as well as negative sexual encounters such as gender harassment, sexual coercion, or physical-contact sexual harassment (Gutek et al., 2004).

Intimate partner violence (IPV) is more proportionally prevalent in the sexual culture of the d/Deaf community. IPV includes violence (psychological, physical, or sexual) against a romantic or sexual partner (Pollard et al., 2013), such as physical assault, injury, psychological aggression, or sexual coercion. It is important to note that IPV among people who are deaf is typically not more prevalent depending on the hearing status of their partner (Pollard et al., 2013). If a person who is deaf has a typically hearing partner, IPV has the same chance of occurring as if they were with someone who is deaf or hard of hearing (HoH). However, one aspect of IPV, sexual coercion, is more likely to occur in deaf-deaf or deaf-HoH relationships than a deaf-hearing one (Pollard et al., 2013).

IPV rates are higher among disabled communities. Some researchers propose that the higher IPV rates in d/Deaf people may explain why there are differences in sexual scripts in the d/Deaf community (Gilbert et al., 2012). Others suggest that high IPV is a byproduct of insufficient sexual education for deaf people (Weitzman, 2018). Both hypotheses will be further explored in the current paper.

Literature Gap

Little research has explored the experiences of people who are d/Deaf, especially in the case of their sexual experiences. Most of the literature focusing on this community in the social sciences tends to group them with the larger "disabled" community. On some occasions, creating such groups may be appropriate. However, when trying to understand the culture of a given community, it is important to consider each population independently, particularly given that the Deaf community is unique from other disabled populations (Peters, 2000). Research on this topic

spans no more than two decades. To address the paper's research questions, this review focuses on the seminal studies that laid the foundation for this field. The following sections will explore the initial attempts to investigate these questions.

Thus far, literature has examined only part of the picture of what sexual culture looks like for people who are d/Deaf, such as understanding sexual scripts, sexual education, or resilience. Studies have yet to consider sexual culture as a whole, including its many dimensions of sexual satisfaction, flourishing, and negative sexual attitudes. Doing so can help bring together all that is currently known about the sexuality of d/Deaf people. For this reason, this current paper aims to contextualize what is known and to identify new avenues for future research on sexuality in people who are d/Deaf.

Additionally, there are many important aspects of the following research that are relevant for future research, such as taking a strength-based perspective to examine sexual flourishing, not only sexual problems. Deaf study participants have reported noting this trend and wish that researchers would ask more questions about their sexual flourishing than their sexual problems (Joharchi & Clark, 2014; Meehan, 2019). There is also a lack of LGBTQ+ inclusion in research on people who are deaf. Finally, there is a need to advocate for people who are deaf (Meehan, 2019), without which they may suffer deleterious consequences in their sexual experiences (Anderson & Pezzarossi, 2013).

Study Objective

The objective of this study is to understand how d/Deaf sexual culture differs from hearing sexual culture, particularly in terms of sexual education, intimate partner violence, and sexual flourishing. This will be accomplished through examining the impact of d/Deaf culture on romantic relationships, specifically: d/Deaf cultural and sexual dating scripts, aspects of d/Deaf experience influencing sexual scripts, and sexual flourishing in people who are deaf. This broad understanding allows readers and researchers to identify the most pressing issues and ideas to advocate for future studies and policies: the neutral gendered role in sexual scripts, the need for better sexual education and its impact on IPV, and how sexual flourishing can be further understood if promoted by researchers for people who are deaf.

Methods

This literary review synthesizes the recent literature in the field of d/Deaf sexuality, specifically focusing on what sexual scripts look like in d/Deaf culture and its impacts on sexual satisfaction for couples with one or more partner(s) who are deaf. Finding empirical articles that fit this specific holistic topic was done by searching across databases, including APA PsycInfo (EBSCO), MEDLINE (PUBMED), and Google Scholar. With the goal of focusing on the current state of knowledge, the search was restricted to articles published between 2012 and 2024. However, three older articles (1990, 2006, and 2007) were included for the following reasons: to include the original theoretical articles cited by eligible studies and to include an additional study noting deaf sexual resilience and flourishing, as there is very little literature on this particular subject. Keywords used to search were determined via APA Thesaurus of Psychological Index Terms to ensure maximum effectiveness: “Psychosexual Development” OR “Sex” OR “Sexology” OR “Sexual Satisfaction” AND “Deafness.” Initial results yielded 11 articles from EBSCO, zero from MEDLINE, and 605 from Google Scholar. Additionally, the reference list of eligible articles, as well as articles citing eligible articles, were screened for potential inclusion, yielding five articles. To be included in the current review, studies needed to meet the following criteria: 1) focus on deaf individuals rather than the broad spectrum of “people with a disability” to keep the focus on Deaf culture, eliminating five articles; 2) have an English translation for non-English articles, eliminating two articles; 3) focus on Deaf culture and social experience, excluding articles with other focuses (e.g., genetic links between sexual dysfunction and the presence of deafness, gender’s effects on deafness, etc.), eliminating 505 articles; 4) not focus on sexual education for children who are deaf, eliminating 96 articles. These criteria were applied to articles’ titles and abstracts to narrow 621 articles down to 13 that were used as sources for the Results of this review.

Literature Review

d/Deaf Cultural and Sexual Dating Scripts

Deaf Culture and Life Scripts

Research has identified unique features of life scripts in Deaf culture. Clark and Daggett (2015) conducted a study specifically focusing their

efforts on understanding what life scripts looked like for people who are d/Deaf and whether they differed from life scripts in the non-d/Deaf community. They studied families who had used sign language generationally as the primary language in their home (e.g., a mother who uses sign language with her kids and signed growing up with her family), this criterion aimed to obtain results that were far removed from hearing life scripts. The study identified many similarities between the deaf and overall life scripts: attending school (overall reported as a part of life script: 85%, deaf reported as a part of life script: 74%), getting married (overall: 44%, deaf: 42%), and having kids (overall: 44%, deaf: 50%), but these events were framed through a d/Deaf perspective: attending deaf school and university, getting married to a deaf person, and having deaf kids are all significant themes of the d/Deaf script. They also found a strong community theme in these scripts (overall: 48%, deaf: 85%), the d/Deaf community is an important aspect of the life of a deaf person. Working together as a community is also important, shown by the strong *Giving Back* theme of d/Deaf life script (overall: 22%, deaf: 83%) (Clark & Daggett, 2015).

The only other study of this nature was conducted by Wolsey et al. (2017), which focused on defining life scripts for people who are d/Deaf through a qualitative study of the deaf or Hard of Hearing population who were raised in hearing families. The study compared its findings to those found by Clark and Daggett (2015) and found that people raised in hearing and speaking families had life scripts that were more similar to non-d/Deaf scripts than d/Deaf life scripts. They also found that people who are deaf can fall anywhere on the spectrum, from fully incorporated d/Deaf life script to fully incorporated non-d/Deaf life script (Wolsey et al., 2017). This is likely because these life expectations are culturally transmitted. Similarly, Clark and Daggett’s (2015) study focused on people raised in Deaf culture exclusively, while this study had better ecological validity by focusing on deaf people who are a part of Deaf and/or hearing culture.

A final significant finding regarding Deaf life scripts was discrimination, which was reported by all deaf study participants (Clark & Daggett, 2015). Comparatively, only 37% of non-Deaf life scripts included discrimination. From audism to ableism, discrimination was a strong theme of the Deaf life script; however, these reports rarely associated those experiences with a negative

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connotation. The reports show that, as a community, discriminatory actions are perceived as a ‘them’ problem rather than an ‘us’ problem (Clark & Daggett, 2015). Because the Deaf community is slightly removed from the hearing community, it may be easier not to take those offenses personally. These studies conclude that people who are deaf have their unique life scripts because they have their own unique culture and shared experiences; although, depending on how they are raised, their life scripts may vary between d/Deaf and hearing expectations.

It is important to note the strengths and weaknesses of the studies conducted by Clark and Daggett (2015) as well as Wolsey et al. (2017). Both had small sample sizes largely due to the specificity of their population ($N = 27$ and $N = 20$). Additionally, Clark and Daggett’s findings account for a very limited sample of the overall deaf population since 90% of deaf children are born to hearing parents (Katz & Kattari, 2023). Therefore, most people who are deaf are not raised in families who use ASL or are a part of d/Deaf culture. Despite these limitations, their findings accomplish the study’s purpose, which was to identify the presence of d/Deaf life scripts and what they would look like among people who are most immersed in Deaf culture. As for Wolsey et al. (2017), their study took the approach of thoroughly educating their participants on the nature of life scripts before having them answer a series of survey questions. In addition, they allowed the participants to answer the questions in whichever language would be most comfortable to obtain the most accurate response. This way of conducting research with participants who are Deaf is very effective (Pollard et al., 2013). Additionally, because of the nature of this qualitative study, it offers good external validity and generalizability for an inclusive range of people who are deaf and people who are Deaf. Because the findings of the two studies are consistent, we can infer that there are unique d/Deaf life scripts, although their saturation varies from person to person. These findings open possibilities for understanding the depth of Deaf culture.

d/Deaf Sexual Dating Scripts

Scripts also exist in more specific domains than just a broad life sense, including sexual scripts. Gendered roles for people who are d/Deaf surprisingly do not adhere to TSS gender roles. In Gilbert et al. (2012), 41 heterosexual deaf participants in college were asked to describe as

many situations as they could think of in response to survey questions regarding three different dating scenes: initiation/meeting, date activities, and outcome/conclusion. Based on these answers, the researchers identified the most common themes. Their findings were compared to the TSS—themes for dates specifically—and found there were many similarities between the TSS and d/Deaf dating scripts, especially for dating themes that are overrepresented in visual media, such as going to dinner and a movie as a date activity. However, disparities were also identified, including the fact that people who are deaf do not fall into typical gendered roles found in the TSS. Specifically, men did not significantly show the theme of being the sexual pursuer in the relationship. Women did not bear the sole responsibility of putting boundaries on the sexual relationship or significantly following any of the specified gender roles in the TSS (Gilbert et al., 2012).

Similar findings were reported by Joharchi and Clark (2014) in a qualitative study about sexual scripts. They used a mixed method approach to survey five female deaf participants with the *Sexual Satisfaction Scale for Women* (SSSW), while omitting questions focused on negative sexual experiences to keep the study focused on sexual satisfaction. They also conducted a semi-structured interview with each participant. They concluded that women in their study did not identify their sexuality by their gender but rather by their deafness. When speaking about sexual relationships, there was not a strong “Woman theme” of seeing things through the perspective of a woman. Women rather rooted their experiences in their deaf perspective (Joharchi & Clark, 2014). This study suggested that gendered roles are not an aspect of deaf sexual scripts as it has been studied for a first date or in sex. As of now, there have not been identified roles that would fill this place, nor are there any conclusive findings about the reasons for this difference.

Adding evidence for the absence of gender roles, findings from the studies on d/Deaf sexual scripts for first dates established that TSS “sexual theme” is also not significantly present. Indeed, d/Deaf sexual scripts for first dates seem to lack sexual themes. Gilbert et al. (2012) were the first to note this trend. Sexual themes in TSS include kissing at the end of a first date as well as a sexual pursuit from men and sexual boundaries expected to come from women, which were not present for the d/Deaf sexual scripts. Other sexual aspects of TSS’s first dates were also absent. Instead, Deaf

sexual scripts presented different themes, such as group dates and the date concluding with a hug, which are not observed in the TSS. d/Deaf sexual scripts included more platonic first dates than found in the TSS (Gilbert et al., 2012). Joharchi and Clark (2014) found similar results, adding that the women they studied were comfortable with their sexuality even if the sexual theme was not present on their first date. Some of Joharchi and Clark's (2014) findings on comfort with sexuality suggest that the women they studied probably lie on the more open and sexually educated end of the spectrum of sexual education/comfortability. Because of that, the findings may not be completely generalizable, especially given their small sample size. However, when considered with the findings from Gilbert's et al. (2012), these studies clearly indicate that sexual themes are not a part of first dates in the Deaf culture, although it is not fully clear why yet.

Aspects of d/Deaf Experience Influencing Sexual Scripts

Sexual Education

Given the differences in sexual scripts between people who are d/Deaf and those who are hearing, it is important to consider potential explanations for these differences. This section will discuss two potential hypotheses. The first most supported hypothesis is a discrepancy in sexual education and language barriers in sexual education (Ears, n. d.; Katz & Kattari, 2023). In Katz and Kattari's (2023) review of the literature on sexuality and disability from 1977 through 2023, deaf people learn most of their sexual education from peers. In EARS's (n.d.) case study, surveys of the general deaf population in the United Kingdom, 35% of deaf people reported no sexual education, while 65% reported inaccessible education (Katz & Kattari, 2023). Other studies from EARS (n.d.) include anecdotes of sexual education horror stories found by individual case studies done in the UK. The study's participants were raised with hearing families and were either not taught about sex or had some attempted education, but the information was lost in translation. Participants reported no knowledge of how to have a baby or what a period means, as well as miscommunicated knowledge about contraceptives (e.g., thinking a sock is equivalent to a condom).

Joharchi and Clark's (2014) in-depth interviews with deaf women considered "sex talk" in d/Deaf sexual culture. In the interviews, the

interviewees showed high sexual education and comfort with their sexuality. This finding contradicts the information from EARS (n.d.) and Katz and Kattari (2023); however, the discrepancy could be caused by a low sample size for Joharchi and Clark's (2014) study or the higher age of their participants. Although the interviewees were confident in their sexual education, they mentioned other deaf people in their lives being sexually naive, with a lack of basic sexual health understandings, including lack of knowledge on sexually transmitted infections (STIs) and the human papillomavirus (HPV). It is possible that some Deaf people particularly feel the effects of low sexual education, especially because sexual education does not seem to be equal across the board (Katz & Kattari, 2023).

Meehan (2019) expanded on this idea in a qualitative study with 29 women communicating with Irish Sign Language (ISL) in Ireland. All participating women reported comfort with their sexual education even though said sexual education largely relied on information from peers. Meehan (2019) suggests that this pattern is not that dissimilar from most of the general population's sexual education experience. This finding contrasts with studies reporting a lack of sexual education. It is important to note that Meehan's study, though very thorough, could be biased because the type of people who would volunteer to be in a sex interview study might not represent the entire deaf population. Similarly, anecdotes from single case studies done by the EARS (n.d.) organization are not representative of the entire deaf population either. Further research is required to obtain a representative understanding of sexual education for people who are deaf and their perspectives about this education.

A lack of basic sexual education could explain the lack of sexual themes in deaf sexual scripts, because without sexual understanding, one may not know how to act sexually, an idea also suggested by Katz and Kattari (2023). However, the questions of "how" and "if" sexual education is related to TSS-gendered roles do not have a clear answer yet. Future research is needed to answer these questions.

Intimate Partner Violence Exposing a 'Disabled' Disadvantage

Beyond education, being a part of a 'disabled' community could influence d/Deaf sexual scripts. IPV, which is higher among disabled communities

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(Pollard et al., 2013), is a possible contributor to deaf sexual scripts. Scripts themselves may even be a contributor to the high IPV rates in disabled communities (Gilbert et al., 2012). Studies are starting to look into IPV among people who are deaf specifically.

Pollard et al. (2013) conducted 3 surveys in different locations to examine IPV among the d/Deaf and non-d/Deaf population. The study made a concerted effort to limit any communication barrier for the deaf survey participants by offering written English, ASL, and oral English in their survey questions and responses to cater to different language preferences. The study found higher rates of sexual violence in relationships with one or more partner(s) who are deaf compared to the general population. Men reported 26 times more physical abuse than nationally reported, with 24.45% reporting experiencing emotional abuse, while 29.7% of women reported forced sex in one of the survey locations. This latter number is all the more concerning when compared to the national average at the time of 23.16%, some racial groups as low as 14.6% (Black et al., 2011). It is unclear whether the higher rates of violence are a cause of apprehension for sexuality, or whether aspects of deaf scripts, unknown to current research, are influencing these high IPV rates (Gilbert et al., 2012). In a survey of 97 deaf college-aged women, Anderson and Pezzarossi (2013) found that participants did not understand IPV, potentially leading to underreporting. It seems that sexual education is intricately connected to IPV, or that, at the very least, a lack of IPV education could lead to higher IPV rates. These patterns could become a part of sexual scripts for people who are deaf, thereby further promoting sexual apprehension. This study exposes the intricacies of how IPV, sexual education, and sexual scripts could all be connected and mutually reinforcing entities. However, more research is needed to understand this phenomenon.

Unique Sexual Flourishing for People Who Are Deaf

This section examines inspiring trends of Deaf sexual culture. Despite high rates of IPV, potential lack of sexual education, and being a silenced population, people who are deaf show consistent resilience (Gilbert et al., 2012; Joharchi & Clark, 2014; Meehan, 2019). Only limited research has examined flourishing and resilience among people who are deaf, these themes are especially present as researchers have hypothesized and searched for

them. Meehan (2019) and Joharchi and Clark (2014) are two examples of such researchers who looked for themes of resilience and flourishing in their studies. Meehan (2019) identifies the pinnacle nature of language in shaping how constructs are viewed, even how individuals view themselves and the lack of studies focusing on positive language to find the good in sexuality for people who are deaf. As a Deaf woman, Meehan (2019) included flourishing as a theme in her interviews to identify strengths in the deaf sexual experience. Joharchi and Clark (2014) similarly chose to alter the SSSW survey to omit questions about negative sexual experiences, because studies on sexuality for people who are deaf are notoriously deficit-based. These studies did find that people who are deaf can flourish in sexual relationships. They are a “scrappy” people (Katz & Kattari, 2023, p. 4), meaning they find resilience and a way to grow in their situation against odds, which is a common pattern in many other oppressed groups (Meehan, 2019). This study provides anecdotes of deaf interviewees wishing more studies would ask about the positive nature of their sexual experience rather than the ‘issues’ deafness raises for sex (Joharchi & Clark, 2014; Meehan, 2019).

Yorganson et al. (2007) also took a strength-based perspective to study couples who are developing hearing loss. Although these people were not necessarily d/Deaf, their findings relate to the experience of many deaf and HoH individuals who choose to be a part of the hearing community through oralism, lip reading, hearing aids, or cochlear implants. They found that resilience grows amid opposition. Couples used their dynamics or humor to combat the stressors of a changing relationship landscape. They found relationships particularly flourishing when both partners were hard of hearing and could share their new experiences. Deafness was a unique opportunity to experience partner resilience and growth, leading to relational happiness (Yorganson et al., 2007). In the context of such resilience, it is worth wondering why it is common for deaf-deaf or deaf-hearing couples to report lower marital satisfaction (Abedi et al., 2018).

In another study, Gilbert et al. (2012) studied d/Deaf sexual scripts for first dates and found an unexpected theme of positivity during end-of-date disappointment. These participants reported consistent positive reactions to a hypothetical negative end for a date. The survey responders who were deaf reported that if a date ended badly, their reaction would be “*It did not work out this time,*

that's okay,” or a similar leveled but hopeful comment. These reactions differ from the TSS’ typical reactions to a date ending negatively. In the TSS, the expected reaction is charged and passionate, often angry and including swear words or slurs. This difference offers an additional example of a resilient response shown by people who are deaf.

In a last example of strength-based research, Joharchi and Clark (2014) examined themes of generativity, that is the willingness to selflessly participate in things that will benefit the oncoming generations. This study concluded that people who are d/Deaf held constant themes of generativity as they talked about their sexuality (Joharchi & Clark, 2014). This highlights the potential for future growth in all aspects of sexuality and sexual education for the upcoming generation, because the seasoned generation wants to improve the sexual experiences of deaf people. This desire for generativity can be qualified as flourishing as it is tied to relational achievement, community engagement, and wellbeing (Joharchi & Clark, 2014). Although there are unhappy couples who are deaf, these studies are a surprisingly hopeful theme of life flourishing and sexual flourishing.

As mentioned previously, some studies cited (Gilbert et al., 2012; Joharchi & Clark, 2014) offer smaller sample sizes to be aware of while evaluating findings. It is additionally important to note that no attempt to connect studies regarding sexual resilience and flourishing has been made in past literature reviews, and few studies have attempted to specifically understand sexual flourishing. The literature reviewed suggests some level of resilience and flourishing amidst sexual setbacks, but it is unknown how to promote sexual flourishing in struggling d/Deaf couples.

Discussion

This literature review explored sexual culture for people who are d/Deaf, focusing on d/Deaf culture and life scripts, and how they differ from life scripts in non-d/Deaf people. With a special focus on first dates, the literature review showed that d/Deaf scripts overlap with the TSS on certain aspects of dating that are overrepresented in visual media but differ in how gendered roles are perceived and acted out. This was the case for sex as well as first dates (Gilbert et al., 2012; Joharchi & Clark, 2014). Another difference was the absence of any sexual theme on a first date, with

more platonic themes being present in d/Deaf sexual scripts (Gilbert et al., 2012).

In light of this literature, hypotheses were explored to explain the discrepancy in scripts between deaf and non-deaf communities. Differences in sexual education and IPV rates associated with being a part of a ‘disabled’ community are two hypotheses that were found and explored in this literature review. However, due to a lack of research focused on this question, there is no definite conclusion as to why. Further, the current paper took a strength-based approach to examine flourishing in deaf sexuality. This approach is especially important when compared to the lower relationship satisfaction, high IPV rates, and lack of sexual education in the d/Deaf population. There is much potential for strength-based applications that could be beneficial for overall sexual culture from d/Deaf sexual culture flourishing research. Studies focusing on finding the positive aspects of deaf sexuality have found consistent themes of resilience.

A strength of the current paper is that it offers a global perspective based on all studies examining sexual culture in the Deaf community. When seeing the outcomes side by side, the most important hypothesis for future research stands out more clearly. This includes the fact that there is a lack of gendered roles in dating or a gender theme in sex. This is a novel idea, especially considering the state of current gender perspectives across America (Eisend, 2019). The TSS could benefit from a shift towards neutral gendered expectations, as seen in Deaf sexual scripts. However, the potential benefits or downsides of the lack of gendered roles in d/Deaf relationships is unknown.

Another important issue raised in the current paper is the state of sexual education for people who are d/Deaf. Some studies noted that their participants were comfortable with their sexuality and education (Joharchi & Clark 2014; Meehan, 2019), while others found that there was a severe lack of education causing impairment in functioning in sexual aspects of d/Deaf people’s lives (EARS, n.d.; Katz & Kattari, 2023). All studies nonetheless agree that sexual education primarily comes from peers in this population. For some, peer education is more all-encompassing than for others, but studies agree that education is severely lacking at school and in the home. This is problematic given the high rates of IPV among deaf-deaf or deaf-HoH relationships (Pollard et al., 2013). Some deaf people may not have learned

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appropriate boundaries or the language to communicate about sex (Makleff et al., 2020). These synthesized perspectives are one of the clear strengths of this literature review, providing insight for future studies about sexuality in people who are d/Deaf.

A final research question that arises from the current research is what sexual flourishing looks like for people who are d/Deaf. There is currently no clear answer, with little research examining this question. Most studies are focused on the deficits in people who are d/Deaf without considering their potential strengths. It is clear that because of facing deafness, resilience has grown, which may in turn contribute to flourishing. Understanding the relational or personal underpinnings of flourishing could have clinical applications to help d/Deaf people thrive.

A strength of the current review is the integration of questions and answers across papers and different issues that have not been previously examined together. However, this study is not without limitations. One limitation is researcher bias, which is an inherent risk in a work done by a single person. Although this paper strived for even and fair reporting, the author cares about the well-being of the Deaf community, which may have influenced the review. Additionally, there is a potential selection bias during the selection of research because only certain databases or keywords were used, which could have excluded studies that may have been relevant. Additionally, not all studies used the same measures, even when looking at the same topic, which may introduce inconsistencies when comparing them.

In terms of the reviewed articles, the limitations in each article varied. Specific limitations are explored with each article's findings; however, one consistent limitation, especially in older studies, is naivety to language barriers. When researchers only offer the surveys in English, misunderstandings could taint research findings depending on the primary native language of the participant (Anderson & Pezzarossi, 2013). Additionally, studies relied on surveys or interviews. Understandably, this is a culture study, but there are no other attempts for different types of operationalization (Katz & Kattari, 2023; Pollard et al., 2013). There has yet to be an attempt to look at physical responses or sexual hormones specifically for people who are d/Deaf to potentially answer questions. This limitation goes beyond even the d/Deaf community exclusively,

with most studies on sexuality lacking hormonal understanding. Another limitation in the sexual script studies is the lack of longitudinal studies that would allow us to understand scripts for relationship growth. There is also no literature yet attempting to understand what influences the creation of d/Deaf sexual scripts, nor are there any studies exploring any type of relationship other than heterosexual for people who are d/Deaf. There is a lack of studies focusing on people who are d/Deaf specifically rather than grouping them with the 'disabled' category. Although they do overlap with others who have disabilities, people who are d/Deaf are unique because of cultural differences, which have been largely ignored in the methods of most studies. This severely hinders the generalization of those studies' findings to people who are d/Deaf specifically.

There are many possibilities for future research. Beyond the three key research questions arising from this study mentioned above, other potential research questions include: what are deaf sexual scripts, and what is their origin? How do deaf sexual scripts vary from the TSS for long-term relationships? Does positive sexual language influence the presence of sexual resilience or flourishing in people who are d/Deaf? Do aspects of the d/Deaf sexual scripts influence IPV? How do sexual scripts evolve over a relationship? How is IPV taught to people who are deaf? Research on these topics could help change the way we see the d/Deaf community and understand their culture.

Policy applications are still being developed. Meehan (2019) noted that as a silent culture with silent problems, policy focused on people who are d/Deaf was, and still is, a novice field. However, this review could motivate policy focused on equal and complete sexual education for people who are d/Deaf—education that would include IPV and modes of protection against it—wherever they attend school, especially if their parents do not know ASL.

Conclusion

In this world of growing understanding and acceptance of sexuality, it is important to understand the unique functioning and issues of minority groups. To fill the gap in the literature, we examined the culture, education, and intimate partner violence that define sexual scripts, as well as what is known about sexual flourishing and resilience. By examining this literature, we can draw a better picture of what sexual culture looks

like. The lack of sexual education and its potential risks become clear. The uniqueness of sexual scripts and sexual flourishing teaches this population cannot be approached clinically the same way as other groups. By doing so, we met the study's objective of understanding how d/Deaf sexual culture differs from hearing sexual culture. More research is needed to explain what sexual culture looks like in the d/Deaf community and how it is influencing the larger culture with more uniform measures. In doing so, it can help clinicians understand how to work with this population, as well as appropriate goals for sexual growth and their sexual expectations. The hearing community in America can learn from the sexual culture of d/Deaf individuals, such as exploring dating without traditional gendered roles and how adversity fosters flourishing. Education on issues like inadequate sexual education—especially the challenges faced by d/Deaf children in non-ASL families—can raise awareness and address these concerns.

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The Effect of Imagined Contact on Attitudes Towards Individuals with Mental Illness

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Research has shown that interventions in which participants imagine a positive experience with an outgroup member can improve attitudes towards outgroup members. The current study examined whether a short-term imagined contact intervention with a peer displaying behaviors consistent with depression could affect individuals' attitudes towards individuals who suffer from mental illness. Black and White college students ($N = 124$) imagined an interaction with a Black or White college student who either displayed or did not display behavior consistent with depression. Results indicated that although the race of the imagined partner did not affect attitudes, participants who imagined a positive interaction with a person with depressive symptoms had more positive attitudes towards individuals with mental illness than those who imagined an interaction with someone without depressive symptoms. This study suggests that a short exercise may improve positive attitudes towards individuals with mental illness.

Keywords: mental health, stigma, explicit attitudes, imagined contact, intergroup contact

Les recherches ont montré que les interventions dans lesquelles les participants imaginent une expérience positive avec un membre d'un groupe extérieur peuvent améliorer les attitudes à l'égard des membres de ce groupe. La présente étude a examiné si une intervention de contact imaginé à court terme avec un pair affichant des comportements compatibles avec la dépression pouvait affecter les attitudes des individus à l'égard des personnes souffrant de maladie mentale. Des étudiants noirs et blancs ($N = 124$) ont imaginé une interaction avec un étudiant noir ou blanc qui présentait ou non un comportement compatible avec la dépression. Les participants ayant imaginé une interaction positive avec une personne présentant des symptômes dépressifs avaient des attitudes plus positives à l'égard des personnes atteintes de maladie mentale. Un court exercice pourrait améliorer les attitudes positives envers les personnes avec une maladie mentale.

Mots-clés : santé mentale, stigmatisation, attitudes explicites, contact imaginé, contact intergroupe

According to the National Institutes of Mental Health (2023), mental illness can be categorized as a colloquial term encompassing all mental disorders. Mental disorders are health conditions that alter one's thinking, mood, behavior, or a combination of the three, and is often associated with distress and/or impaired functioning (Preboth, 2000). Individuals with mental illness may face negative attitudes and discrimination from others (Illic et al., 2013; Rusch et al., 2005), with reported levels higher than people with physical illness (Ormel et al., 2008). The onset of common mental diseases (CMDs), such as depression and anxiety,

often start to manifest when individuals reach typical university age. Indeed, studies suggest that anywhere from 10-30% of US college students suffer from a form of depression or anxiety (McNealy & Lombardero, 2020). Some studies suggest that childhood maltreatment may be related, and that the effects of physical or psychological traumatic experiences may manifest through disorders, such as depression, when individuals reach early adulthood (Myers et al., 2021). Studies in recent years have emphasized the importance of mental health literacy and mental health interventions in college students to increase the likelihood of help-seeking behaviors (Clough et al., 2020).

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Mental Illness & Mental Health Stigma

University students can have negative attitudes towards those who suffer from depression and other psychological ailments, believing that they are "dangerous" and more likely to have other

negative traits (Pompeo-Fargnoli, 2022). Negative attitudes are unfavorable evaluative reactions toward a group of people and may be comprised of stigmas that individuals have towards those who have psychological ailments (McNealy & Lombardero, 2020; Petty et al., 1997). Those who suffer from psychological disorders are often rejected by their peers and can elicit fear and anger from others (Boysen, 2020; Corrigan et al., 2003). Individuals with depression are stereotyped as being unpredictable, incompetent, dangerous, and less than fully human (Boysen et al., 2020; Crisp et al., 2005; Pescosolido et al., 2010). Being stigmatized by others can lead to internalization of these negative attitudes, which negatively affects self-esteem, self-efficacy and quality of life, as well as treatment-seeking and treatment adherence (Dubreucq et al., 2021; Ritsher et al., 2003). Experiencing stigma from peers can lead university students who suffer from psychological disorders to have negative beliefs towards treatment effectiveness and believe that they do not need treatment, which may create attitudinal barriers for treatment-seeking (McNealy & Lombardero, 2022; Myers et al., 2021). Thus, finding ways to improve university students' attitudes towards people with mental illnesses such as depression is imperative.

Negative attitudes towards those with psychological ailments can be attributed to a lack of mental health literacy and limited experience with people with mental illness, as well as stereotypes and prejudices towards them. These negative attitudes can lead to discrimination against people they believe, or know, suffer from mental illness (Thornicroft et al., 2007). Mental health literacy has often been associated with attitudes towards individuals with mental illness. Previous literature has shown overwhelming support that personal knowledge and experience with a mental illness can significantly affect stigma towards those with CMDs (Henderson & Robinson, 2020; Thornicroft et al., 2007). This stigma impacts different behaviors, such as whether an individual will date, hire, or leave their children in the care of a person with mental illness (Freidl et al., 2008). People with depression also face housing and employment discrimination (Link & Phelan, 2001).

Imagined Contact Theory

Prior research on Contact Theory suggests that positive experiences with people with mental illness can improve attitudes towards them

(Couture & Penn, 2003). Contact Theory suggests that intergroup contact can lessen hostility towards those with marginalized identities and lead to more positive intergroup attitudes (Allport, 1954; West et al., 2008). However, it is not always possible to have direct contact with someone from an outgroup. Therefore, researchers have examined whether imagining a positive interaction with an outgroup member can improve attitudes. Imagined contact is a mental simulation of a positive encounter with a person from an outgroup group (Crisp & Turner, 2009; Stathi et al., 2012). Experiments on imagined contact typically offer participants the context in which an encounter with an outgroup takes place, describing aspects that could reveal the outgroup nature of the person, and allowing participants' imagination to determine the course and success of such a conversation.

Imagined contact has been shown to activate the same brain regions as a face-to-face interaction (Ganis et al., 2004). Studies involving imagined contact have shown that this form of contact is as successful as face-to-face interactions in improving attitudes towards outgroup members, including successfully reducing personal and public stigma towards mental health related issues (Crisp et al., 2010; Crisp & Turner, 2012). Imagined contact is an accessible way for individuals to interact with populations with whom they would not otherwise engage (Kim & Harwood, 2019). Further, this exercise precludes the risk of mental distress or harm towards people with a stigmatized identity. In their studies, Allen et al. (2024) and Dickter and Burk (2021) tested whether imagined contact could improve attitudes towards people with developmental disabilities. College students who imagined an interaction with an autistic person displaying behaviors associated with autism showed more positive attitudes toward autistic people. Imagined contact may also encourage future interactions with outgroup members, which can lead to more positive interactions with those who face discrimination and stigma for their mental illness. Indeed, previous work has shown that university students who imagined a positive interaction with a schizophrenic person had reduced stereotypes and stronger intentions to engage in future interactions with people with schizophrenia (Stathi et al., 2012).

Gaps in Previous Literature

This work is limited, however, since the researchers did not measure participants' explicit

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attitudes towards the group. Further, participants were explicitly told they were interacting with a person with schizophrenia, which may have limited ecological validity. In fact, in real life, people are unlikely to know with certainty that the person with whom they are interacting is suffering from mental illness. In the current study, we chose to focus on imagined contact with individuals suffering from depression, as that is one of the two most common mental disorders university students suffer from (Myers et al., 2021).

Another important limitation in previous literature is that few studies have examined attitudes towards intersectional groups such as people of color who have psychological disorders. Previous research suggests that racial stereotypes may play a role in how individuals with mental illness are perceived and treated, with studies demonstrating additive effects of discrimination towards people of color with mental illness. For example, Glover et al. (2010) recruited people with diagnosed CMDs through a community health clinic and found that their experiences with discrimination differed based on intersectional categories, including race. Further, Jennings (1996) found that Black people who sought out mental health services reported being discriminated against and mistreated by mental health professionals. Importantly, experiences of discrimination discouraged them from seeking future services, which can amplify the mental health crisis within the Black community.

The Current Study

Therefore, in the current study, the race of the imagined person was manipulated by using a stereotypically White (i.e., Chad) or Black (i.e., Tyrone) name in the imaginary interaction. This is based on previous research showing that certain pre-tested names would increase the likelihood to infer a specific race without making race salient (Crabtree et al., 2023). We did not add any other indicators of race to reduce the chances for demand characteristics or race priming effects. Additionally, knowledge about mental illness and self-reported mental health symptoms were explored as potential moderators of the relationship between imagined contact and attitudes towards individuals with mental illness.

Objectives/Research Aims

The goal of the current study was to extend previous research demonstrating that positive

imagined contact improves university students' attitudes towards people with general mental illness symptoms. An additional goal of the current work was to examine whether the race of the imagined target moderated the effectiveness of imagined contact on improving attitudes towards individuals with mental illness. We also explored whether participants' own self-reported mental health symptoms would be associated with attitudes towards individuals with psychological disorders.

In short, in this study, we aimed to explore three questions. First, could imagined contact improve attitudes towards people with depression? Second, do attitudes towards the imagined person differ as a function of their racial identity? Third, does previous experience with mental illness or mental health literacy relate to negative attitudes towards individuals suffering from mental illness? To explore these questions, an experimental task based on previous studies was employed.

Firstly, we hypothesized that, consistent with previous research, participants who imagined an interaction with a person displaying symptoms related to depression would show more positive attitudes towards people with mental illness. Secondly, we expected that participants who imagined an interaction with a White person depicting mental illness symptoms would have more positive attitudes towards people with mental illness than participants who imagined the same interaction with a Black person. Thirdly, it was also predicted that attitudes towards people with mental illness would be related to knowledge about mental disorders. Finally, consistent with Stathi et al.'s (2012) work on attitudes towards people with schizophrenia, it was expected that imagined contact would improve participants' desire for future contact with those with mental illness.

Method

Participants

US college students from a predominantly White medium-sized liberal arts university in the state of Virginia ($N = 124$) completed the study for partial credit for a course or for monetary compensation. Students were recruited through flyers placed around public common areas (such as dining halls, libraries, dorm halls, etc.), as well as advertisements through their introductory psychology courses. The inclusion criteria were

being a student enrolled at the university where the research was conducted and identifying as monoracial White or monoracial Black. The mean age was 18.87 ($SD = 0.83$). For gender identity, 34.51% of the sample identified as men, 61.94% identified as women, and 3.53% identified as non-binary. Twenty-eight participants reported having a mental health condition (i.e., attention deficit hyperactivity disorder, anxiety, autism spectrum disorder, bipolar disorder, depression, obsessive compulsive disorder). Participants identified as Black ($n = 28$) or White ($n = 96$).

Measures

Feelings Thermometer

The *Feelings Thermometer* (Haddock et al., 1993) is a one item scale that was adapted for participants to express their evaluation of people with mental illness. Participants used a slider to rate how favorable they were towards people with mental illness, ranging from 0 (*Extremely unfavorable*) to 100 (*Extremely favorable*).

Participant Mental Health Symptoms

The *Patient Health Questionnaire* (Brown et al., 2013) contained 9 items with prompts describing common symptoms of depression and how participants related to the prompts. The symptoms mentioned include difficulty falling or staying asleep at night, loss or increase in appetite, increase of negative feelings towards oneself, and difficulty thinking clearly, concentrating or learning new things. The questionnaire utilized a 4-point Likert scale (1 = *none*, 4 = *all of the time*), with higher scores indicating increased likelihood of experiencing mental illness symptoms. An example item for this measure is: *Have you been feeling slack, not wanting to do anything?* The reliability in this sample was acceptable ($\alpha = .86$).

Desire for Intergroup Contact

The *Desire for Intergroup Contact Measure* (Shelton & Richeson, 2005) was adapted to assess attitudes towards intergroup contact with people with mental health issues at the university in which this research was conducted. This measure consisted of four items concerning the participants' likelihood to have more friends with mental illness and to what extent they feel that their peers would want to have more friends with mental illness. The items were measured utilizing a 7-point Likert Scale (1 = *not at all*, 7 = *very much*). An example

item for this measure is: *To what extent would you like to have more friends with mental illness at the College?* The reliability in this sample was acceptable ($\alpha = .91$).

Knowledge about Mental Illness

The *Mental Health Literacy Scale* (O'Connor & Casey, 2015) contained 35 items concerning the participants' knowledge about various aspects of mental health such as recognizing mental illnesses, gender and mental health, behaviors that may improve mental health, mental health confidentiality, seeking mental health services, perceptions of individuals with mental illness, and willingness to be in proximity to someone with mental illness. The scale utilized a 4-point Likert scale (1 = *very unlikely/unhelpful*, 4 = *very likely/helpful*) and a 5-point Likert scale (1 = *strongly disagree/definitely unwilling*, 5 = *strongly agree/definitely willing*). An example item for this measure is, *To what extent do you think it is likely that Personality Disorders are a category of mental illness?* The reliability in this sample was low ($\alpha = .38$).

Liking for Imagined Individual

One item from the *Likeability Scale* (Na & Chasteen, 2016) was used to assess how much the participant liked the target individual. A 7-point Likert scale (1 = *not at all*, 7 = *very much*) was used. The question was: *How much do you like the individual you conversed with?*

Procedure

Participants completed the study in a research lab on a computer via Qualtrics. Participants first completed the informed consent form followed by demographic questions. Participants then were randomly assigned to read one of the imagined contact scenarios and write about this encounter for 4-5 minutes.

Specifically, participants were asked to imagine that they were attending a club meeting at their university. Participants were randomly assigned to a condition describing behavior typical of a person with mental illness (depression) or a control group. For the control group, they were given the following prompt:

Everyone seems to be communicating with each other and contributing to the conversation

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except for one student named Chad/Tyrone. Chad/Tyrone often misses meetings set up between you and your group mates and when he does show up, he doesn't contribute during the club discussions. After one of the club meetings, you bump into Chad/Tyrone and end up engaging him in conversation.

In the mental illness (depression) condition, they were given the following prompt, using symptoms of depression in college-aged students identified in previous studies (Bento et al., 2021):

Everyone seems to be communicating with each other and contributing to the conversation except for one student named Chad/Tyrone. Chad/Tyrone used to be very active in the club until as of recent. Now, Chad/Tyrone often misses the weekly meetings, and when he does show up, he is often moody, getting angry and frustrated more easily than the other club members. At the meetings he is often seemingly distracted, paying attention to the discussion initially, though he rarely contributes, but ultimately retreating within himself and seemingly zoning off by the end of the meeting. At almost all the meetings Chad/Tyrone seems visibly tired during your discussions, despite his lack of contribution to the topics as of recent. After one of the club meetings, you bump into Chad/Tyrone and end up engaging him in conversation.

Participants were then asked to take 4-5 minutes to list positive outcomes from the conversation with this person if they were to run into them after one of the club meetings.

Next, participants completed the questionnaires concerning their liking for the person with whom they imagined contact, the Feelings Thermometer, their understanding of mental illness, their self-reported mental health symptoms, and their desire for interracial interactions on campus. After participants completed the survey, they were offered a handout containing information on available mental health resources on campus, were debriefed, and dismissed.

Results

To examine whether participants' Feelings Thermometer scores varied as a function of imagined contact mental health condition and imagined contact race condition, a 2 X 2 analysis of variance (ANOVA) was conducted. Results indicated a main effect of mental health condition,

$F(1,119) = 4.72, p = .032, \eta_p^2 = .038$, such that there were higher scores for participants in the mental health symptom condition ($M = 71.55, SE = 2.53$) compared to the control condition ($M = 63.62, SE = 2.63$). There was no effect of race condition nor was there an interaction.

To test whether participants' desire for future contact with individuals with mental illness varied as a function of imagined contact mental health condition and imagined contact race condition, a 2 X 2 ANOVA was conducted. No significant main effects or interactions were found, with all p -values were greater than .44.

We conducted correlational analyses to examine factors associated with attitudes toward people with mental illness. We specifically examined whether participants' self-reported mental health symptoms, knowledge about mental illness, and desire for contact were associated with their attitudes towards people with mental disorders. There was a negative significant correlation between participants' self-reported mental health and Feelings Thermometer, such that participants who reported more negative mental health symptoms held more negative attitudes toward mental illness, $r = -.22, p = .015$. There was no relation between mental health literacy and attitudes towards mental illness, $r = .03, p = .738$. There was a significant positive correlation between the desire for intergroup contact and attitudes towards individuals with mental illness, $r = .19, p = .039$. Participants who liked the imagined person also reported higher scores on the Feelings Thermometer, $r = .30, p < .001$.

To examine whether the relationship between the condition and the Feelings Thermometer would be moderated by the self-reported variables mentioned above, we conducted moderation analyses using Model 1 of PROCESS for SPSS. Analyses indicated that desire for future intergroup contact was a marginally significant moderator, $t = -1.76, p = .081$, with a significant positive relationship for participants at the mean or one standard deviation above the mean for the desire for contact ($p < .022$), but not for participants one standard deviation below the mean. Neither desire for intergroup contact nor liking of the imagined individual were significant moderators.

Discussion

The purpose of this study was to examine if attitudes towards people with mental illness were

influenced by imagining a positive interaction with someone displaying depressive behaviors. Further, we examined if this effect differed as a function of the race of the imagined person. Contrary to our second and third hypotheses, there was no significant interaction found between race and mental health status, nor knowledge of mental illness and attitudes towards the imagined individual. However, in support of our first and fourth hypotheses, more positive attitudes towards people with mental illness were found for participants who imagined a positive interaction with someone displaying depressive symptoms than those who imagined an interaction with someone without these symptoms. We found that engaging in a short exercise can improve attitudes towards individuals with mental illness regardless of the race of the imagined person. These results extend previous research, which found that imagining a positive interaction with a schizophrenic person weakened stereotypes (Stathi et al., 2012). Finally, our hypothesis that knowledge about mental illness would significantly affect attitudes towards people with depression was infirmed in this study.

Although previous research suggests that imagined contact with a person with schizophrenia improved participants' desire for future contact with people with schizophrenia (Stathi et al., 2012), the current research did not replicate this result with mental illness symptoms. However, desire for future intergroup contact marginally moderated the relationship between contact condition and attitudes towards people with mental illness such that only participants moderate or high in the desire for contact showed a significant effect of the imagined contact condition. It is important to further explore whether the imagined contact paradigm as a short-term intervention could be as effective for individuals who already do not have a desire to interact with those with mental illness symptoms. Further, these results and implications should be interpreted with caution, as these results did not reach statistical significance.

Participants with more self-reported mental health issues had negative attitudes towards those with mental illness. This may be due to internalized or self-stigma, in which stigmatized groups endorse the stereotypes that others hold about their group (people with mental illness in our case; Corrigan et al., 2006; Gerlinger et al., 2013). Thus, participants with greater symptomology in our study may have endorsed negative stereotypes about mental illness more so than those with fewer

symptoms, leading to more negative attitudes. Some possible interventions to counteract this could include mental health stigma education assigned to college students. The intervention could include student videos with student actors that could provide them with a model on approaching potentially tough conversations rather than avoiding them entirely, like interventions that have been done at similar predominantly White universities regarding reducing racial bias (Robey & Dickter, 2022). These video interventions could also provide visualizations of what students with mental illness may present themselves, sound, or act like, how to contact the right resources to help a fellow student in need, and encourage students to seek out their own university's mental health resources. To avoid stereotyping, confederates of different races and sexes could be utilized for these interventions. As self-stigma can lead to feelings of shame and lower self-esteem and self-efficacy (Corrigan & Watson, 2002), it is important to examine interventions to reduce self-stigma (Mills et al., 2020).

While previous research found that knowledge of mental illness was associated with attitudes towards mental illness (Henderson & Robinson, 2020), these variables were unrelated in our study. This may have been at least partially due to a high amount of mental illness literacy in our current sample, in which most participants were enrolled in an Introductory Psychology course where they learned about a variety of mental health issues. This also could be in part due to the reliability of this scale, which was below threshold in our current participants. On the other hand, it may not be the case that knowledge of specific mental health conditions, as assessed by the mental health literacy inventory, predicts general attitudes towards people with mental illness broadly defined. Secondly, we hypothesized that there would be a correlation between race and attitudes towards the person with mental illness, but we did not find a significant interaction between them. A study looking at how race could potentially affect other types of bias would be appropriate at a university with a more mixed population, unlike the predominantly white institution where this study took place. There was trouble recruiting a reasonable number of participants who identified as monoracially Black. Further, participants who liked the imagined individual more had more positive attitudes towards individuals with mental illness. This finding underscores the importance of imagining a positive interaction in an imagined contact scenario, a key component of imagined

contact interactions (Crisp & Turner, 2012; Crisp et al., 2010).

Limitations and Future Directions

The study had several limitations that can inform future research. First, although this study aimed to examine attitudes of university students towards mental illness and race, the university where this research was conducted is a predominantly white institution. As our sample was not racially diverse, we were unable to analyze if there were differences between majority race and minority race student participants. We attempted to fill a gap in the literature that does not address how people who already suffer from mental illness could suffer further due to racial biases (Jennings, 1996). We encourage researchers to look further and address the intersectionality between racial prejudice and prejudice against mental health. Future research could also expand upon the findings of this study by examining mental health stigma in a different context, such as those trying to enter the workforce. In the current study, the imagined contact scenario was limited to describing the symptoms and behavior of a person suffering from general mental health concerns. These symptoms were comprised to describe the most typical mental illness an average college student would experience: depression (National Institute of Mental Health, n.d.). However, early adulthood is when individuals typically experience onset for a variety of CMD's, not just depression (McNealy & Lombardero, 2020). Future research may examine whether manipulating symptoms and behaviors of specific mental illnesses common in a college aged population would affect the efficacy of the imagined contact situation. Further expansion of the range of mental illness conditions could inform whether this imagined contact task would improve sentiments towards those with other mental illnesses or disorders (Crisp et al., 2010; Dickter & Burk, 2021). Finally, it is unclear whether the attitude improvement we observed is short-term or long-term. However, this could be explored in future longitudinal studies. Future research should follow up with participants to examine whether long-term change occurred.

Conclusion

The current research suggests that imagining positive interactions with a person displaying behaviors associated with depression can increase positive attitudes towards people with mental illness. Our work adds to previous literature

demonstrating the potential impact imagined contact has in positively affecting attitudes towards outgroup members (Holmes & Matthews, 2010). Future research would benefit from exploring the potential long-term effects to determine whether imagined contact is a suitable and reliable method in decreasing bias and improving attitudes towards people with mental illness.

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Practice What you Preach: The Association Between Child-Rearing Values, Tolerance of Outgroups, and Moral Identity

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Using Canadian ($n = 4,018$) and American ($n = 2,596$) Wave-7 data from the World Values Survey (WVS; 2017–2022), we investigated the association between child-rearing values and tolerance of neighbouring minorities. Respondents appraised the value of tolerance for others in the context of raising children, then completed a tolerance checklist regarding nine undesirable neighbours (e.g., heavy drinkers). Results supported our hypothesis that adults more tolerant of neighbours also considered the interpersonal value of tolerance and respect to be important when raising children. Women and childless respondents were more tolerant, as were those with more education. Respondent age group (18–34, 35–53, 54–93 years) moderated this association, wherein young childless adults exhibited the greatest tolerance. Conversely, intolerance was greatest towards heavy drinkers and drug addicts, whereas tolerance was greatest towards individuals of a different language, race, as well as unmarried couples cohabitating. Directions for future research are discussed.

Keywords: tolerance, child-rearing value, marginalized group, World Values Survey, morality

En utilisant des données canadiennes ($n = 4\ 081$) et américaines ($n = 2\ 596$) du World Values Survey (WVS; 2017–2022), nous avons étudié la relation entre les valeurs d'éducation prônées et la tolérance envers les minorités du voisinage. Les répondants ont évalué l'importance de la tolérance envers autrui dans le contexte de l'éducation des enfants, puis ont complété une échelle de tolérance concernant neuf types de voisins indésirables (p.ex., les consommateurs problématiques d'alcool). Les résultats ont révélé que les adultes plus tolérants envers leurs voisins considéraient la valeur interpersonnelle de tolérance comme étant plus importante lorsqu'on élève des enfants. Les femmes et les personnes sans enfant étaient plus tolérantes, tout comme celles ayant un plus haut niveau d'éducation. L'âge des répondants (18–34, 35–53, 54–93 ans) modèrerait cette relation, de sorte que les jeunes adultes sans enfants faisaient preuve du plus haut degré de tolérance. L'intolérance était la plus grande envers les consommateurs problématiques d'alcool et de drogue, alors que la tolérance était plus grande envers les individus d'une langue ou d'une race différente, tout comme envers les couples non-mariés qui cohabitaient. De futures avenues de recherche sont discutées.

Mots-clés : tolérance, valeur éducative, groupe marginalisé, World Values Survey, moralité

Prejudice is the general negative belief or feeling towards a particular individual or group of people (Verkuyten et al., 2019). In his influential book *The Nature of Prejudice*, Allport (1954) made clear that prejudice was not innate in children, but

learned. Children first learn discriminatory attitudes from their immediate orbit, including parents, and later learn from external influences, such as peers and the media (Allport, 1954). Meeusen and Dhont (2015) investigated intergenerational similarity in generalized prejudicial tendencies and found considerable similarities between parents' and children' tendencies to dislike particular outgroups. Additionally, O'Bryan et al. (2004) found that parental figures can shape their child's intolerance towards minority groups. Moreover, Sinclair et al. (2005) assessed racial attitudes among children and their parents, as well as the children's parental identification. They found that a child's implicit and explicit prejudicial attitudes were influenced by how much they identified with their parents. The more they identified with their parent, the more

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likely that the child's prejudicial attitudes corresponded with their parents' attitudes. Furthermore, greater perceived parental support may lead to a greater similarity between children's and parents' prejudicial attitudes (Miklikowska, 2016).

According to Festinger (1957), cognitive dissonance denotes one's awareness of one's inconsistency between beliefs and behavior, rendering a form of psychological discomfort, and reducing motivation. Heitland and Bohner (2010) investigated whether prejudice could be reduced via cognitive dissonance. Consonance, defined as cognitions that are logically consistent, was attributed to a desire to be, as well as appear, consistent with both cognitions and behavioural responses. They found that participants with a high preference for consistency who were assigned to argue for a counter-attitudinal position ultimately changed their prejudiced attitude to correspond with their advocated argument. That is, consonance was restored when participants chose to reduce their stereotypical beliefs towards outgroups upon arguing in their favor.

An Overview of Tolerance

Tolerance is linked with an openness towards outgroups and represents an individual's manifestation of their sociopsychological sensitivity towards "otherness" (Kushaev, 2016). It involves both a situation of difference, and a purpose for accepting this situation (Knauth, 2011), like being tolerant of another's opposing political views. There is an enduring aspect in which the individual recognizes another's differential opinions or practices they do not necessarily support. This places tolerance within moral and prosocial domains as one demonstrates respect, reason, and equality towards outgroups. Though it is easy to characterize oneself as tolerant, one's level of acceptance is better assessed when directly faced with situations of diversity (Witenberg, 2019). However, the individual must consider such differences to be important in order to demonstrate tolerance; therefore, tolerance has conditional characteristics (Van Doorn, 2014). One may demonstrate tolerance towards their differences with another group with respect to personal preferences, religious views, and general lifestyles. Our society often admires the practice and promotion of such harmonious values as they can contribute to the function and peace of society (Van Doorn, 2014). The relational stability among people in society relies on their social cohesion,

solidarity, and cooperation—all strengthened through tolerance. One's culture of tolerance may thus foster peaceful coexistence among diverse individuals (Kushaev, 2016).

Crowley and Walsh (2018) conducted a study in which they assessed wellbeing through self-reported surveys. They found that tolerance levels are positively correlated with wellbeing, wherein those more tolerant towards diverse individuals were more likely to have higher life satisfaction and positive social ties. Conversely, mistrust and intolerance were associated with negative wellbeing and decreased life satisfaction. As a form of social intelligence, tolerance embodies fairness, empathy, and logic. These various forms of justification are often used in validating one's tolerance levels. Individuals using reason, such as avoiding conflict, when justifying high tolerance believe that foolish and inconsiderate ideas lead to intolerance. In contrast, egalitarian beliefs, perspective taking, and moral maturity promote tolerance (Witenberg, 2019).

A society capable of both tolerance and respect for others allows growth and healthy interactions, while at the same time reducing conflict between outgroups (Hollingsworth et al., 2003). In turn, this reduction in conflict may facilitate sharing and cooperation among communities (Crowley & Walsh, 2018). Some researchers argue that individualism, a characteristic more common in Western nations, encourages tolerance as the culture values self-expression, has less restriction on sexual behavior, and is more open to individual choices (Twenge et al., 2015). Twenge et al. (2015) further noted that the expanding diversity within American society has positively increased civilians' tolerance towards outsider groups.

Factors Influencing Tolerance

The Contact Hypothesis

The contact hypothesis states that frequent intergroup contact may reduce prejudice (Wölfer et al., 2016). Guimond et al. (2013) found that implementing national policies that promote cultural diversity improved intergroup relations and, therefore, positively influenced personal attitudes towards multiculturalism. In their longitudinal study of contact effects on prejudice reduction among majority and minority groups, Binder et al. (2009) found that both the quantity and quality of intergroup contact were linked to a decreased level of prejudice. While studies

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investigating the contact hypothesis have focused on a limited age range, findings nevertheless support the long-held understanding of the benefits of intergroup contact.

Education and Tolerance

High educational attainment appears to play a significant role in one's tolerance, respect, and prejudice levels among social groups (Van Doorn, 2014). Education may shape one's personality and cognitive development, increase intergroup contact, and provide civic, moral, and multicultural direction (Van Doorn, 2014). Additionally, studies suggest that individuals with higher education often display higher levels of interpersonal trust and lower levels of discriminatory and negative attitudes when encountering different groups (Borgonovi, 2012; Semyonov et al., 2006). However, these results are solely based on individuals' attitudes towards immigrants and foreigners. Individuals with lower education levels may see immigrants as posing a threat to their jobs, possibly increasing competition and weakening their social status (Borgonovi, 2012). Educational institutions provide an opportunity for youth to be introduced to different ways of living and various family backgrounds through their peers (Borgonovi, 2012). As youth enjoy more time with peers, they may become accustomed to diversity. Curriculums teaching cultural and religious diversity may help students further learn about one another, potentially enhancing their ability to live with one another in a pluralistic society as they learn to respect "otherness" (Knauth, 2011). Education is critical in teaching tolerance, respect, and openness to learning from differences as diverse individuals must adapt to living together as a community, potentially promoting cohesion (Gesthuizen et al., 2008; Knauth, 2011).

Age and Tolerance

Many studies have examined potential differences in tolerance based on the participants' age. Twenge et al. (2015) investigated generational differences in tolerance. When controlling for time period and age, Baby Boomers (born 1945–1965) indicated more tolerance than other generations. However, when controlling for time period and generation, the analysis suggested that tolerance decreases with age. Although this study presented compelling findings, it is limited to narrow lifespan data as many of their respondents have not reached older ages. Janmaat and Keating (2019) found that individuals from younger age groups

exhibited greater tolerance towards racial and gender minorities. Similarly, Burkoski et al. (2021) conducted a study in which they tracked changes in intolerance in the U.S. throughout the span of twenty years. Their findings suggest that older respondents hold more discriminatory beliefs towards different groups in comparison to younger respondents. However, this study also focused on a narrow age group. More comprehensive lifespan data would allow us to draw stronger conclusions. Based on the results of the aforementioned studies, tolerance appears to decrease with age as younger cohorts demonstrate greater tolerance and less prejudicial attitudes towards minorities.

Gender and Tolerance

With respect to gender differences in tolerance, research indicated that, in general, women are more tolerant than men, particularly towards racial and gender minorities (Qualls et al., 1992; Witenberg, 2019). Van Vugt et al. (2007) suggested that in comparison to women, men have a stronger response to perceived intergroup threats. Termed the male-warrior hypothesis, Van Vugt (2009) claimed that men hold greater discriminatory and prejudicial attitudes towards outgroups due to their evolutionary inclination to detect threats and compete over resources. As a result, men tend to have higher levels of intolerance as they attempt to protect their peace. While these findings are compelling, they are limited to a small sample size with a mean age of 20 years old. Additionally, gender was unevenly split, with fewer men being included in the sample.

Child-Rearing Values

As one's earliest socialization context, family plays a highly influential role in developing a child's values, whether it is through direct teaching or indirect modelling. Döring et al. (2017) investigated whether parents' educational goals predicted parent-child value similarity and found that when parents endorsed values of self-transcendence (consisting of benevolence, egalitarianism, and caring for others), parent-child value similarity increased. Specifically, children were more likely to adopt these prosocial rather than self-enhancing values. In another study, Wang and Tamis-LeMonda (2003) explored whether child-rearing values reflected cultural values of individualism and collectivism. Mothers from both types of cultures were interviewed, and the child-rearing values they mentioned were classified into one of five categories: connectedness,

individuality, decency, proper demeanor, and achievement. Results showed that mothers from both individualist and collectivist cultures valued teaching proper demeanor to children, characterized as respect and tolerance towards others, good manners, and friendliness (Wang & Tamis-Lemonda, 2003). Based on the results of the aforementioned literature, parents demonstrate emphasis in teaching their children prosocial values, including tolerance for others, and their children are more likely to adopt these values regardless of potential cultural differences.

Parent-Child Value Congruence

Generally, parents desire to instill values in their children that are similar to their own (Knafo & Shwartz, 2001). For this to occur, however, the child must perceive those endorsed values and internalize them (Grusec & Goodnow, 1994). According to Whitbeck and Gecas (1988), congruence in parent-child values is greater when children perceive that their parents hold the same values as the ones they promote (e.g., if they tell their children to be open to others, congruence would be greater if parents were themselves open to others). This study found that parents modify their socialization values based on what they desire for their children. Indeed, parents' personal values and the values they wished to socialize in their children were highly correlated (Whitbeck & Gecas, 1988). Additionally, Knafo and Shwartz (2001) found that both immigrant and non-immigrant families were fairly consistent in their personal and child socialization values. They suggest that parental value-deed inconsistency, described as inconsistency between the values one teaches their children and their demonstrated values through their behaviour, creates a source of confusion and therefore reduces the likelihood of children accepting such values.

Influence of Social Learning Theory

Parents who value teaching tolerance and respect early in a child's life may model such attitudes as children closely watch and mirror them. Based on the social learning theory, a child's intergroup attitudes may be the result of the parent's social transmission, and so they may internalize their parents' tolerant or prejudiced beliefs (Miklikowska, 2016). Unfortunately, intolerance is a more stubborn and strongly held attitude, as individuals are more likely to lose tolerance than gain it (Van Doorn, 2014). Evidence from longitudinal studies indicates that parents

who demonstrate prosocial behavior and empathy-related responses towards their preschool children foster the child's prosocial moral judgment and empathic concern during adulthood (Eisenberg et al., 1983; Eisenberg et al., 2002; Koestner et al., 1990). A lack of early tolerance education, according to Hollingsworth et al. (2003), is correlated to hateful and violent acts within society, wherein individuals lack acceptance of people from different groups. These authors believe that parents who educate their children on individual differences, promote diversity acceptance, and instill egalitarianism encourage the development of tolerance in their children. Through this, children can learn empathy and respect towards "otherness." Long-term effects of such education allow individuals to potentially create positive social change, become good civilians, and have the morals to treat others with respect (Hollingsworth et al., 2003).

Present Study and Hypotheses

Although the factors promoting tolerance have been explored, research has yet to investigate the association between individual values of tolerance and respect in childrearing and their own tolerance towards others. Additionally, previous studies are limited in the age of participants, as they do not incorporate most developmental stages of life. Moreover, small sample sizes with an uneven sex ratio can limit the accuracy of the results. Furthermore, research investigating education and tolerance solely focuses on individuals' attitudes towards immigrants rather than a various range of outgroups. The present study seeks to evaluate one's personal tolerance towards hypothetical neighbors from various marginalized groups and how they predict child-rearing values. To do so, this study relies on a dataset including a wide age range spanning from 18–93, an evenly split sex ratio, and a large sample size. To investigate the relation between these child-rearing values and current outgroup attitudes, data from the World Values Survey was used to determine whether people live by the same values they extol.

Based on the work of Whitbeck and Gecas (1988), who found that socialization values for children are highly correlated with one's personal values, we hypothesized (H1) that individuals who consider tolerance and respect as important child qualities would hold greater tolerance towards their hypothetical neighbors. Our second hypothesis (H2) is being drawn from these three separate theoretical models. Festinger (1957) proposes that

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individuals are motivated to maintain consistency between their beliefs and behavior, and Bandura (1977) theorizes that parents are powerful role models to their children. Therefore, we hypothesized that overall tolerance will be higher among parents (H2a). Based on the work of Van Vugt (2007; Van Vugt et al., 2009), who suggests that men are evolutionarily predisposed to detect outgroups as threats to their resources, we hypothesized that tolerance would be higher among women (H2b). Finally, Twenge et al. (2015) found that tolerance decreases with age; therefore, we hypothesized that overall tolerance would be higher among those in the younger age group (H2c). Finally, based on the work of Borgonovi (2012), who suggests that schools foster tolerance and acceptance towards diversity, we hypothesized (H3) that respondents with higher educational attainment would hold greater tolerance towards their hypothetical neighbors.

Method

Participants

We analyzed data from wave-7 of the WVS (Haerpfer et al., 2020), drawing on an adult sample of 4,018 Canadians and 2,596 Americans, collected between 2017 and 2022. The sample was selected to accurately represent private household residents within both countries, regardless of language, nationality, or citizenship. The sample was balanced in terms of genders (48% women). Participants were aged between 18 and 93 years, with 33% between 18–34, 34% between 35–53, and 33% between 54–93. Table 1 outlines descriptive statistics of the sociodemographic variables.

Measures

The WVS includes fourteen subsections, which seek to assess changes in beliefs, values, and motivations of people throughout the world. Only the first subsection, evaluating social values, attitudes, and stereotypes, was used in this study (Haerpfer et al., 2020).

Tolerance

Tolerance was assessed using the following item: *On this list are various groups of people. Could you please mention any that you would not like to have as neighbors.* The nine hypothetical neighbors included: drug addicts, people of a different race, people with AIDS, immigrants/

Table 1

Sociodemographic Characteristics of Participants

Characteristics	Full sample	
	<i>N</i>	%
Gender		
Men	3,449	52.1
Women	3,165	47.9
Age group		
18–34	2,151	32.5
35–53	2,255	34.1
54–93	2,208	33.4
Marital status		
Cohabiting	865	13.1
Divorced/widowed	721	10.9
Married	3,089	46.7
Single/separated	1,939	29.4
Children ^a	3,781	57.5
Highest educational level		
No formal education	24	0.4
Completed primary school	76	1.2
Some high school	160	2.4
High school/some college	3,367	51.4
University or postgraduate degree	2,932	44.7
Employment		
Employed	3,693	56.0
Homemaker	326	4.9
Retired	1,281	19.4
Self-employed	360	5.5
Student	349	5.3
Unemployed	423	6.4
Other	161	2.4

Ethnicity		
Asian	500	7.7
Black	291	4.4
Hispanic/Latine	507	7.7
Indigenous/First Nations	44	0.7
White	4,920	75.0
Other	304	4.7
Scale of Income		
Lower step	276	4.2
Second step	262	4.0
Third step	573	8.7
Fourth step	785	12.0
Fifth step	1,318	20.0
Sixth step	1,359	20.7
Seventh step	1,290	19.7
Eighth step	516	7.9
Ninth step	116	1.8
Tenth step	61	0.9

^a Reflects the number and percentage of respondents answering “yes” to this question.

foreign workers, people from the LGBTQ+ community, people of a different religion, heavy drinkers, unmarried couples living together, and people who speak a different language. The tolerance score was based on the total number of hypothetical neighbors that respondents selected as unwanted (each based on a dichotomous scale, where 0 = *selected as an unwanted neighbor*, and 1 = *not selected*).

Child-Rearing Value

The child-rearing value of respect and tolerance towards others was assessed using the following question: *Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important.* The list of qualities included: good manners, independence, hard work, feeling of responsibility, imagination, respect and tolerance, thrift/saving money, determination/perseverance, religious faith, not being selfish, and obedience. Respondents selected up to five qualities and their

responses were coded using a dichotomous scale, where 0 = *believed this value was not important*, and 1 = *believed this value was important*. A total score was obtained by summing the “1” responses, with higher scores indicating greater levels of child-rearing value of respect and tolerance.

Procedure

The WVS collection team acquired respondent data from 95 countries overall (Haerpfer et al., 2020), however this study drew on Canadian and American samples only. The participant selection process was conducted through probability samples in which participants representing each population were randomly selected. Participation was completely voluntary and anonymous. The predominant method of survey data collection was face-to-face interviews located at the respondents’ place of residence. The interviewer read each question aloud and recorded the respondent’s answers. The questionnaire consisted of almost 300 questions assessing familial, gender, and religious attitudes and beliefs, as well as attitudes towards and experience of poverty, education, health, and security. Social tolerance and trust (along with cultural values) were also measured. Additionally, environmental cultural comparisons and attitudes towards multilateral institutions were evaluated (Haerpfer et al., 2020).

Data Analysis

The data were analyzed using SPSS (version 28) with significance set at a more conservative $p = 0.025$ due to the large sample size that may inflate Type I error (Mayers, 2013). Respondents’ age was split evenly into three groups: Younger (18-34 years), Middle (35-53 years), and Older (54-93 years). A composite variable “tolerance” was created and derived as the average of the nine predictor variables (reported as a percentage from 0 to 100, where higher values implied greater tolerance).

Results

To test the hypothesis that individuals who socialize in children the value of respect and tolerance for others would themselves hold greater tolerance (H1), an independent samples *t-test* was conducted wherein the composite variable was entered as the dependent variable, and child-rearing value of tolerance (CRVT; whether or not it is important) as the grouping variable (see Table 2). Whereas Levene’s test for homogenous variances

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Table 2

Means, Standard Deviations, and ANOVA Summary Table for Tolerance Composite

Predictors	<i>M</i>	<i>SD</i>	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>	Partial η^2
Age Group			1.80	2	6365	.166	.001
Younger	.76	.14					
Middle	.75	.15					
Older	.74	.14					
Gender			59.94	1	6365	< .001	.009
Men	.74	.16					
Women	.76	.12					
Parental Status			24.44	1	6365	< .001	.004
Children	.74	.14					
No children	.76	.14					
Gender x Parental Status			5.69	1	6365	.017	.001
Male			14.82	1	3349	< .001	
Children	.73	.16					
No children	.75	.16					
Female			16.56	1	3065	< .001	
Children	.76	.12					
No children	.77	.12					
Age Group x Parental Status			13.30	2	6365	< .001	.004
Children			1.41	2	3707	.245	
Younger	.73	.15					
Middle	.74	.15					
Older	.74	.13					
No children			16.19	2	2705	< .001	
Younger	.77	.13					
Middle	.76	.15					
Older	.73	.15					

was significant, $F(1, 6449), p < .001$, a robust analysis showed that individuals who believed tolerance to be an important value to impart to children ($M = 76.2\%$, $SD = .13$, $n = 4,526$) were significantly more tolerant towards the marginalized neighbours ($M = 71.5\%$, $SD = .17$, $n = 1,925$); $t(6449) = 12.20, p < .001, \eta^2 = 2.2\%$.

To test the hypotheses that tolerance would be higher among parents (H2a), women (H2b), those in the younger age group (H2c) as well as individuals with higher educational attainment (H3), a univariate analysis of variance (ANOVA) was conducted with the composite variable of “tolerance” set as the dependent variable; each of gender (men, women), age group, and parental status (children, no children) as the independent factors; and education level as a covariate. Education level was significant, wherein higher educational attainment was associated with greater tolerance, $F(1, 6318) = 23.37, p < .001$. Whereas results showed no significant main effect for age group ($p > .025$), gender was significant wherein women ($M = 76\%$, $SD = .12$, $n = 3,014$) were significantly more tolerant than men ($M = 73\%$, $SD = .16$, $n = 3,318$). Additionally, there was a significant main effect for parental status, $F(1, 5886) = 29.91, p < .001$. Whereas Levene’s test for homogenous variances was significant, $F(1, 6414) = 12.32, p < .001$, a robust analysis showed that childless respondents ($M = 75.9\%$, $SD = .14$, $n = 2,708$) were more tolerant than parents ($M = 74.0\%$, $SD = .14$, $n = 3,708$). The three-way interaction between gender, age, and parental status was not significant, $p = .048$.

A marginally significant interaction was observed between gender and age group, $p = .077$, as well as gender and parental status, $p = .015$. Post-hoc simple effects tests and graphical analyses of the latter finding (comparing parental status for men and women) indicated that childless men were significantly more tolerant than fathers, as were childless women compared with mothers (see Figure 1). The interaction between age group and parental status was also significant, $p < .001$ (see Figure 2). To investigate this interaction, an independent samples *t*-test compared parental status at each age group. Among younger respondents (18–34 years), childless adults were more tolerant than parents, $t(2054) = 6.29, p < .001$, as were childless respondents in the middle-aged group (35–53 years), $t(2192) = 2.77, p = .006$. There was, however, no significant difference for parental status between older respondents (54–93 years), $p = .147$.

Figure 1

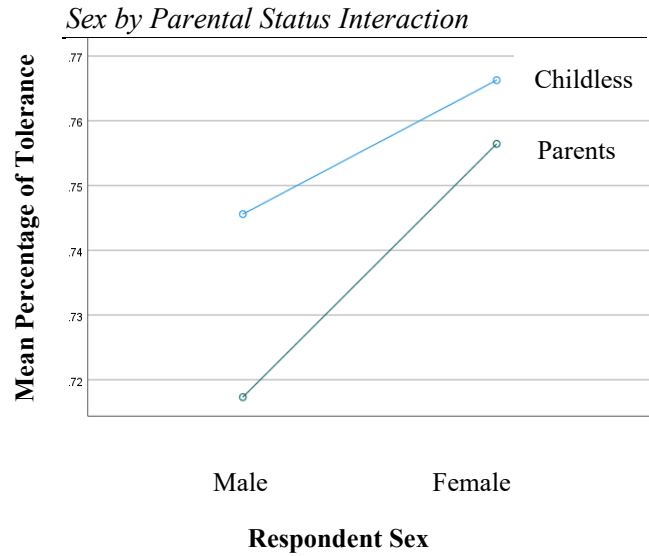
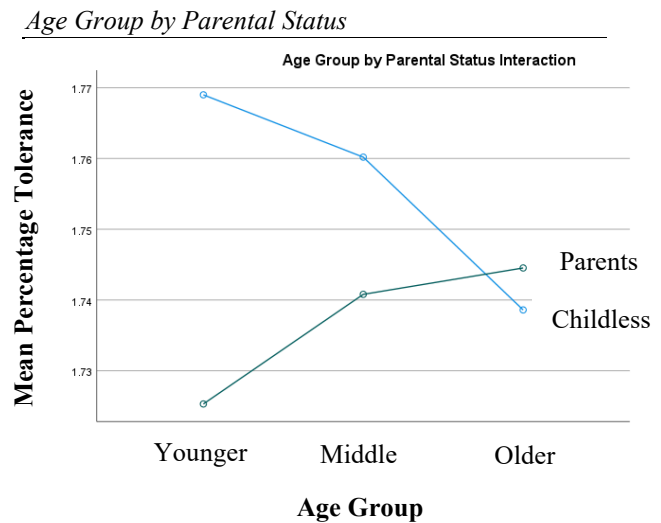


Figure 2



We conducted a binary logistic regression to examine the association between tolerance to hypothetical neighbors and CRVT as criterion. This follow-up analysis sought to identify which specific outgroups were considered the least desirable neighbours. For each individual effect, an odds ratio was utilized based on prior work by Burkoski et al. (2021, p. 145) where they explain: “the likelihood that a respondent mentions a member of a designated group as an undesired neighbour is (a) unchanged with values of 1.0, increased with values above 1.0, and decreased with values below 1.0.” Wald’s χ^2 test was used to test variable significance when entered as blocks.

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Nagelkerke's R^2 estimates the proportion of explained variance in the current model.

The overall model was statistically significant, $\chi^2(6) = 255.73, p < .001$. The first variable entered was neighbours in the LGBTQ+ community, followed by people of a different religion, immigrants and foreign workers, people who have AIDS, drug addicts, and finally, heavy drinkers. Whereas the first four predictor variables were positively correlated with CRVT, drug addicts and heavy drinkers were negatively correlated (see Table 3). Based on nonsignificant contributions to the model, the following predictors were dropped

from the final analysis: unwed couples living together, people of a different race, and people who speak a different language.

Discussion

The present study evaluated child-rearing values and how these values predict personal tolerances towards hypothetical neighbors from various marginalized groups. Whereas educational attainment was included as a covariate, age group, gender, and parental status were tested for interactions. The first hypothesis was supported wherein individuals who valued tolerance in

Table 3

Binary Logistic Regression for Child-Rearing Value of Tolerance

Variables in the Equation	<i>B</i>	<i>SE</i>	Wald χ^2 (df) <i>p</i>	Odds Ratio	R^2
Neighbors: LGBTQ+	.927	.081	131.20 (1) < .001	2.53	.028
Neighbors: People of a different religion	.943	.125	57.14 (1) < .001	2.57	.040
Neighbors: Immigrants/foreign workers	.545	.098	30.59 (1) < .001	1.72	.046
Neighbors: People who have AIDS	.324	.077	17.77 (1) < .001	1.38	.050
Neighbors: Drug addicts	-.411	.097	17.84 (1) < .001	.663	.054
Neighbors: Heavy drinkers	-.176	.069	6.47 (1) = .011	.838	.055

children were more tolerant themselves. This finding suggests that values are imparted through socialization, wherein individuals who value tolerance are more likely to favour educating younger populations on being open to differences. In accordance with the observations of Whitbeck and Gecas (1988), individuals' values are often congruent with those they wish to teach their children. This finding also supports Festinger's (1957) theory of cognitive dissonance, which suggests that individuals are motivated to maintain consistency between their beliefs and behaviour.

Interestingly, results did not support hypothesis 2a wherein parents were, in fact, less tolerant than childless respondents. Furthermore, results of the binary logistic regression analysis indicated that most predictors had a positive correlation with socializing tolerance in children, particularly towards individuals from the LGBTQ+

community, immigrants/foreign workers, individuals of a different religion, and individuals with AIDS. However, tolerance towards drug addicts and heavy drinkers was negatively correlated with the socialization of tolerance in children. Differential social prejudice was evident, wherein tolerance varied depending on the marginalized group being considered. Those who believed that tolerance was an important child-rearing value were more likely to identify that they believed certain groups to be threats to their home environment. This may tie into the parental instinct to protect their children from any harm in their environment (Hahn-Holbrook et al., 2011). Outgroups, including heavy drinkers and drug addicts, potentially pose a threat to parents and their offspring. Therefore, in an effort to protect their family, they attempt to avoid these groups as much as possible (Hahn-Holbrook et al., 2011). Moreover, an alternative explanation is that parents may fear that their children adopt bad

habits by having substance users in their neighbourhood. Dittus et al. (2023) suggest that parents monitor their children in an effort to protect them from engaging in risky activities with peers who promote such behavior.

As parents harbour more personal intolerances, their children are not likely to acquire the values their parents consider important. Bandura's (1977) social learning theory emphasizes this idea, claiming that individuals learn new behaviours through observation. According to Bandura (1977), parents play a vital role in the upbringing of their children's values based on how they demonstrate such values. It is therefore essential that parents practice what they preach as children are at an immensely crucial stage of development, absorbing most of what they learn from their parents. Instilling tolerance and respect in children advances social harmony in many ways. Teaching tolerance towards diverse individuals nourishes the early development of empathy and acceptance. This, in turn, reduces prejudice as they grow older and learn to see outgroups as individuals instead of their stereotypes. According to Kushaev (2016), when individuals see differences as something to celebrate rather than oppose, it creates opportunities for self-expression, supports positive intergroup relations, and promotes peaceful co-existence. Moreover, teaching children tolerance helps build their communication and conflict-resolution skills, as they learn to manage their differences with respect rather than aggression (Kushaev, 2016).

Analysis of the tolerance composite measure revealed women to be more tolerant towards minority-group neighbors compared to men, thus supporting hypothesis 2b. These results are in line with Van Vugt's (2009) male warrior hypothesis, claiming that men are more evolutionarily inclined to act in a biased manner towards potentially threatening outgroups in an attempt to reduce competition and protect their resources. Therefore, women may be more likely to avoid conflict and work cooperatively with outgroups. Additionally, women are often socialized into more nurturing and understanding roles, which may further contribute to greater tolerance (Skoe et al., 2002). Empathy is indicated to play a greater role in women's morality when resolving hypothetical moral dilemmas (Skoe et al., 2002). This suggests that women use care-based reasoning and perspective-taking when addressing relational dilemmas, demonstrating greater emotional awareness.

Results did not support the hypothesis that the younger age group would be the most tolerant (H2c). Contradicting the findings of previous studies (e.g., Burkoski et al., 2021), there were no age groups differences in tolerance. A potential explanation for all age groups equally demonstrating a high level of tolerance may be the greater tolerance to individualism within American culture (Twenge et al., 2015). They found that as individualistic beliefs and need for uniqueness increase, so does tolerance towards outgroups. Traditional social rules regarding race, sexual orientation, drug use, and religion become increasingly considered as self-expression (Twenge et al., 2015).

Education level, serving as our covariate, was positively associated with increased tolerance towards the marginalized neighbours, supporting the third hypothesis. This supports the finding that educational systems enhance individuals' reasoning skills so that they may dismiss irrational thinking towards marginalized groups (Nunn et al., 1978). Furthermore, Twenge et al. (2015) found that educational attainment was the strongest predictor of tolerance. Respondents whose highest educational attainment was primary school were the least tolerant towards the minority groups, whereas respondents with postsecondary education were the most tolerant. According to Vogt (1997), there are four possible explanations for how education fosters tolerance. Personality development can enhance tolerance through education as a higher education level may be correlated with greater psychological security. In turn, this may lead to greater support for democratic norms and, therefore, to more tolerance. Additionally, cognitive development through education enhances flexibility of thought and intellectual sophistication. Education plays a key role in changing one's cognitive style as students learn to recognize the importance of granting civil liberties to those they oppose. In accordance with the contact theory, increased intergroup contact within educational institutions may increase tolerance as students learn about the outgroup, share similar goals, and work cooperatively (Knauth, 2011). Finally, educators may attempt to directly teach tolerance through curricular work, such as civic, moral, and multicultural education.

Strengths, Limitations, and Future Research

The present study used a large sample size and a representative sample including a wide age range,

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an equal gender ratio, and a range of educational backgrounds. The recency of the data, as well as the relevant literature review, are also strengths of this study. Additionally, the results of this study adds to eminent theoretical models.

Archival data from the WVS was obtained through interviews and self-report surveys. Because respondents were asked to disclose any prejudicial attitudes against marginalized groups, this may have created a social desirability bias. In an attempt to appear socially acceptable, respondents may claim to respect certain outgroups and regard them as equal in order to avoid judgement from the researcher. This could potentially skew the results as participants may not have responded truthfully. As stated by Witenberg (2019), it is easy for one to label themselves as tolerant, however, their true level of tolerance is revealed only when faced with real-life situations of diversity. LaPiere's (1934) classic study was conducted at a time in which xenophobia was high in Western societies. When visiting almost 250 establishments along with a Chinese couple, they were refused service only once. However, a follow-up survey revealed that approximately 90% would say that they would refuse service to Chinese customers. Respondents may report being tolerant towards the marginalized neighbors yet still deem them as unwanted. Social pressures to appear moral often play a role in discrepancies between attitudes and behaviour.

Additionally, there are generalizability issues. Whether respondents selected to have or not to have certain groups as neighbours cannot account for their overall tolerance and respect for others. For example, if one would not like neighbours who abuse substances, it does not indicate that they lack tolerance as a whole. Often, this outgroup is stereotyped as comprising dangerous individuals, when that is not always the case (Lloyd, 2012). Immigrants are also associated with negative stereotypes, such as being linked to high crime rates (Fitzgerald et al., 2012). These stereotypes may have therefore induced bias in the study's outcomes, as it can be a variable influencing tolerance. Negative stereotypes can shape how people think about certain outgroups and therefore deter them from engaging with the group as a whole (Stewart & Raihani, 2023). This limits opportunities to create meaningful relationships with others, as individuals prejudge and potentially dehumanize outgroups, demonstrating low tolerance. It would be important for future research to further examine tolerance towards different

groups individually.

This study was limited to Canadian and American respondents, with the vast majority being Caucasian. A cross-cultural analysis comparing the intolerance of different nations accounting for ethnicity and religious affiliation is needed in future research. Additionally, current literature lacks research on how tolerance is justified, both in psychological and social domains. Research is also needed on the discrepancy between preaching and practicing valued social qualities, especially tolerance. Moreover, future studies should examine individual-level characteristics as well as the importance of context, when evaluating tolerance. Qualitative studies are therefore encouraged in order to achieve a deeper understanding of individuals' beliefs. Furthermore, longitudinal research is recommended, in which parents' values are assessed throughout their child's stages of development, along with a comparative group of childless participants.

Conclusion

Based on this large multinational community sample, this study underlines the complexity of intergroup relations wherein tolerance may be conditional as society advances towards acceptance of racial, religious, and relationship diversity while remaining wary of stigmatized behaviours. Additionally, the findings emphasize the process of socialization by reinforcing the role of family, gender, and education in influencing one's attitudes towards outgroups.

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