



MIND PAD

NOTES D'IDÉES

CANADA'S STUDENT PSYCHOLOGY PUBLICATION
PUBLICATION CANADIENNE SUR LA PSYCHOLOGIE ÉTUDIANTE

Mind Pad has two mandated goals:

1. It aims to provide a professional newsletter that is written and reviewed by students of psychology who are affiliates of the Canadian Psychological Association. The content of the newsletter should be of interest to all who are practicing and studying psychology, but the primary audience of the newsletter is students of psychology.
2. It aims to offer studying psychology researchers and writers an opportunity to experience a formal submission process, including submission, review, and resubmission from the points of view of both submitter and reviewer/editor.

Mind Pad is a student journal of the Canadian Psychological Association (CPA) over which the CPA holds copyright. The opinions expressed are strictly those of the authors and do not necessarily reflect the opinions of the Canadian Psychological Association, its officers, directors, or employees. Mind Pad is published annually or semi-annually, only in electronic form and made available to members of the CPA and the general public.

Le mandat de Notes d'idées a deux objectifs :

1. Fournir un bulletin professionnel rédigé et évalué par les étudiants en psychologie qui sont membres affiliés de la Société canadienne de psychologie. Le contenu devrait être d'intérêt à tous les praticiens et étudiants en psychologie, mais les étudiants en psychologie sont les lecteurs cibles.
2. Fournir aux étudiants en psychologie l'opportunité de connaître le processus formel de soumission y compris la soumission, la révision, et la resoumission du point de vue d'auteur et d'évaluateur/rédacteur.

Notes d'idées est une revue étudiante de la Société canadienne de psychologie (SCP). La SCP réserve les droits d'auteur. Les opinions exprimées sont strictement celles des auteurs et ne reflètent pas nécessairement les opinions de la SCP, ses représentants, directeurs, ou employés. Notes d'idées paraît d'une à deux fois par année et n'est publié qu'en format électronique. Le bulletin est disponible aux membres de la SCP et au public.



2025-2026 REVIEW TEAM

Editor-in-Chief

Anisa Nasser,
University of British Columbia

Associate Editors

Spencer Arshinoff,
York University

Yuzhi (Stanford) Yang,
University of New Brunswick

Ben Johnson,
Brock University

Ratanak Ly,
University of Prince
Edward Island

Isabella Bossom,
Dalhousie University

Jaron Tan,
University of Alberta

Reviewers

Audrey Reuman,
University of Regina

Jacob van Haaften,
Dalhousie University

Sammi Wong,
University of Victoria

Timothy Yu,
University of Regina

Hilary Tsui,
University of Cambridge

Anne-Marie Jean-Julien,
University of Ottawa

Cala Annala,
Vancouver Island University

Myra Jain,
University of British Columbia

Alonzo Lee-Abbey,
York University

Vashti E. Kammasah,
University of Toronto

Allison Yang,
University of Calgary

Holden Norrie,
University of Regina

Luisa Depta,
City University

Kimberly Taylor,
University of Calgary

Skade Fernando,
McMaster University

Natasha Taylor,
University of Regina

Pierre-Olivier Couture,
Dalhousie University

Matea Gerbeza,
University of Regina

Maeve Slattery,
University of Victoria

Cortney Burnham,
Wilfrid Laurier University

Emily Earle,
University of New Brunswick

Kayla Kirby,
University of Regina

Corinne Nicol,
University of Waterloo

Daniela Pasqualini,
University of British Columbia

Jordan Pumphrey,
Carleton University

Britney Hammell,
Laurentian University

Katy Tempel,
Douglas College

Aleah Ross,
University of Victoria

Veronika Fendler-Janssen,
Brock University

2024-2025 REVIEW TEAM

Editor-in-Chief

Melissa Lazzo,
University of British
Columbia

Associate Editors

Spencer Arshinoff,
York University

Emma Giberson,
University of New Brunswick

Yuzhi (Stanford) Yang,
University of New Brunswick

Ben Johnson,
Brock University

Ratanak Ly,
University of Prince Edward
Island

Reviewers

Alonzo Lee-Abbey,
York University

Vashti E. Kammasah,
University of Toronto

Allison Yang,
University of Calgary

Holden Norrie,
University of Regina

Luisa Depta,
City University

Kimberly Taylor,
University of Calgary

Skade Fernando,
McMaster University

Khushi Rana,
University of Waterloo

Natasha Taylor,
University of Regina

Malcolm Drisbowe,
University of Manitoba

Pierre-Olivier Couture,
Dalhousie University

Matea Gerbeza,
University of Regina

Maeve Slattery,
University of Victoria

Cortney Burnham,
Wilfrid Laurier University

Emily Earle,
University of
New Brunswick

Kayla Kirby,
University of Regina

Aylar Gurbanova,
McGill University

Melissa van Dijk-Allen,
University of Waterloo

Daniela Pasqualini,
University of
British Columbia

Jordan Pumphrey,
Carleton University

Britney Hammell,
Laurentian University

Katy Tempel,
Douglas College

Aleah Ross,
University of Victoria

**Veronika
Fendler-Janssen,**

Brock University

Snimer Nagi,
University of Ottawa

**Taylor Grace
Joan Anthony,**
Memorial University

Taylor Anthony,
Trent University

TABLE OF CONTENTS

5

**Rethinking Therapeutic Models:
Autism and Self-Determination**

Kelly D'Souza, K.D | BA, M.Ed, McGill University

9

**A Pilot Study on Shyness and Empathy: A
Cross-Cultural Comparison Among White,
East Asian, and South Asian Undergraduates**

Skade Arrissa Fernando S.A.F. | BSc, McMaster University

15

**A Review of Gender Differences
Influencing Disparities in ADHD Diagnoses**

Rebecca C Brown | Undergraduate Psychology Student, University of Waterloo

20

**Student Perceptions of Consent and Sexual
Assault Across Different Sexual Contexts**

Sierra Lucier-Lewis | Hon. B.A, Ontario Tech University
Sarah M. M. Kirkpatrick | MSc, Ontario Tech University

25

**From Repression to Reflection: A Neo-Freudian
Framework for Meditation and Implicit Bias**

Jacob C. Angeles | B.A. (Hons) in Psychology, Simon Fraser University

30

**The Role of Weight Bias Internalization in the Relationship
Between Social Media Use and Body Dissatisfaction**

Taylor G. J. Anthony | B.A. (Hons), Memorial University of Newfoundland
Darcie D. Valois | MA, Memorial University of Newfoundland
Jacqueline C. Carter | Ph.D. (R. Psych.), Memorial University of Newfoundland

35

References

44

Submitting to Mind Pad



Rethinking Therapeutic Models: Autism and Self-Determination

Kelly D'Souza, K.D | BA, M.Ed, McGill University

Abstract

Autism is a lifelong neurodivergence, with each autistic individual presenting with unique strengths and support needs. Through Self-Determination Theory, commonly used therapeutic models, such as Applied Behaviour Analysis and Naturalistic Developmental Behavioural Interventions, are critically examined to see how they address the core psychological needs of autonomy, competence, and relatedness. While there is a shift from medicalized models toward more developmental and social frameworks, gaps remain in the practice and implementation of therapeutic approaches. Upon reviewing literature that highlights autistic individuals' perspectives regarding the need to center self-determination, the guiding question is: do current autism therapy programs truly support autonomy, competence, and relatedness? Implications are discussed for future research and for providers who are currently

shaping therapeutic programming, with an emphasis on promoting therapeutic approaches that are co-designed and aligned with autistic individuals' voices and priorities.

Autism is a lifelong neurodevelopmental variation, understood within the framework of neurodiversity as a natural difference rather than a pathology, involving differences in sensory processing, perception, and communication (Kapp et al., 2013; PHAC, 2024; Russell et al., 2019). Autism presents uniquely across individuals, calling for strength-based approaches that foster self-determination and reflect autistic advocacy (Anderson, 2023; CAHS, 2022; PHAC, 2024; Schuck et al., 2022). Self-Determination Theory (SDT) is one framework to evaluate autism services by considering three psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 1985). Autonomy refers to the

freedom to make personal choices and control one's actions, competence refers to feeling capable and effective in handling tasks and overcoming challenges, and relatedness refers to the sense of belonging (Wehmeyer, 2007). These needs are central to motivation, stronger when driven intrinsically, but weakened by rewards, pressure, or authority (Deci, 1971).

Deficit-based therapies that seek to make autistic learners appear non-autistic reflect medicalized models that stigmatize and disregard self-determination (Anderson, 2023; Bottema-Beutel et al., 2021). In contrast, applying the SDT lens with pedagogical evaluations of therapeutic models and autistic lived experiences (Frost et al., 2020; Williams, 2018) offers a holistic perspective for assessing programs and promoting self-determination (Schuck et al., 2022). Social justice and emancipatory approaches call for redefining evidence-based practice through strength-based, self-determination–

focused frameworks. Without this lens, practices risk reinforcing marginalization rather than empowerment (Anderson, 2023; CAHS, 2022; McCormack et al., 2023; PHAC, 2024; Schuck et al., 2022).

Through the SDT-lens, learners are positioned as causal agents, independent of controlling influences (Wehmeyer, 2007). Yet, autism therapy programs and research have often failed to reflect this, historically neglecting to embrace neurodiversity, include autistic voices, or avoid marginalization (Schuck et al., 2022; Steinbrenner et al., 2022; Sutherland et al., 2024). This raises an important question: do current autism therapy programs truly support autonomy, competence, and relatedness? A critical review of the literature was conducted to examine two therapeutic models – Applied Behaviour Analysis (ABA) and Naturalistic Developmental Behavioural Interventions (NDBIs) – through a self-determination, neurodiversity-affirming, and culturally responsive lens. This review promotes the need for continued dialogue among researchers, autistic individuals, families, and service providers.

ABA: Rooted in Behaviourism

ABA became widely used after Lovaas' study (1987), which reported cognitive and behavioural gains for autistic children receiving 40 hours per week of intensive therapy. ABA encompasses practices such as discrete trial training (i.e., teaching skills in incremental steps), prompting (i.e., using cues to guide responses), reinforcement, and task analysis (i.e., breaking tasks into smaller parts) to teach skills (Cooper et al.,

2020; Trump et al., 2018). ABA, emphasizing observable behaviours and measurable outcomes (Lovaas, 1987; Trump et al., 2018), has been credited with behavioural improvements in positivist studies (Collins et al., 2025). However, qualitative research contrasts this, with many autistic adults describing it as depersonalizing and disempowering, particularly when targeting repetitive behaviours that aid in regulation and communication (Anderson, 2023; McCormack et al., 2023; Sandoval-Norton et al., 2019). Despite its widespread use for skill acquisition and behaviour reduction (Becerra et al., 2017; Reichow et al., 2016; Xu et al., 2019), concerns remain about its long-term impact on autonomy and well-being (Anderson, 2023; Jónsdóttir et al., 2018).

ABA through the Lens of SDT

Autonomy

Externally imposed goals and rewards foster an external locus of control and weaken intrinsic motivation, whereas choice and self-direction support autonomy (Deci, 1971; Wehmeyer, 2007). ABA relies on breaking skills into rigid drills and reinforcing responses with unrelated rewards like food or screen time, prioritizing compliance over intrinsic motivation (Sandoval-Norton et al., 2019; Trump et al., 2018), which can create overreliance on incentives (Deci & Ryan, 1985). Most-to-least prompting, a teaching method that initially provides full support then decreases that support over time to prevent errors, can foster dependence and reduce self-efficacy (Bryan & Gast, 2000; Libby et al., 2008). Autistic children show greater independence and peer

engagement when providers maintain physical distance (Garro & Lerman, 2007; Giangreco et al., 1997), suggesting prompts may over-control behaviour and restrict natural generalization and communication (Weyman et al., 2024). Many autistic advocates argue that ABA reduces bodily autonomy, enforces controlling rewards, and disregards communication, depersonalizing autistic expression and prioritizing compliance over agency (Anderson, 2023; Sandoval-Norton et al., 2019; Schuck et al., 2022). ABA teaches autistic children to comply with non-autistic norms, but evidence suggests that camouflaging to appear non-autistic further compromises autonomy and mental health (Bargiela et al., 2016; Cook et al., 2021). These critiques reflect a deeper axiological concern that ABA prioritizes compliance over autonomy.

Competence

ABA often defines competence through adult-selected, observable behaviour in contrived settings (Cooper et al., 2020), overlooking contextualized learning (Kedar, 2011). For autistic individuals with motor planning challenges, performance may not reflect true understanding (Kedar, 2011). For example, a non-speaking autistic author recalled that data collected in ABA misrepresented their comprehension: "My mind might be screaming, - "Touch tree! Don't touch house!" and I would watch, like a spectator, as my hand went to the card my hand, not my brain, wanted. And down in the data book, it would be marked that I had not yet mastered the concept of tree." (Kedar, 2011). Some autistic individuals described ABA as useless, noting it targeted social and intellectual challenges while their

real difficulties were neurological (Anderson, 2023). Despite its evidence-based reputation, few studies assessed ABA's long-term impact, and concerns remain over prompt dependence (Garro & Lerman, 2007; Giangreco et al., 1997).

Relatedness

Many autistic individuals describe ABA sessions as isolating, traumatic, and shame-inducing, reflecting on experiences where they lacked control in decision making and bodily autonomy (Anderson, 2023; Cumming et al., 2020). Goals frequently reflect neurotypical norms, such as maintaining eye contact (Carbone et al., 2013; Fonger & Malott, 2019) or suppressing self-regulation (Lang et al., 2014), which undermine relatedness and reinforce stigma about autistic individuals (Anderson, 2023; McCormack et al., 2023; Schuck et al., 2022). Cultural differences such as norms around eye contact or pointing are also rarely considered in ABA goal setting (Davenport et al., 2018; Kita, 2009). These practices depersonalize autistic learners, disregard neurodivergent identity and culture, and perpetuate power imbalances through therapist roles described as a watcher (Anderson, 2023). In doing so, ABA fails to value the autistic learner as a relational being and as a causal agent of their preferences for learning.

NDBIs as an Alternative

Amid growing criticism of ABA (Schuck et al., 2022), NDBIs have emerged as a contemporary approach integrating developmental and behavioural strategies through shared engagement, responsive teaching, and play-based routines

with natural consequences (Frost et al., 2020). NDBIs use operant conditioning/learning techniques like shaping (i.e., reinforcing small steps toward a skill) and reinforcement, but, unlike traditional ABA, emphasize naturalistic contexts and least-to-most prompting to support independence. They have theoretical foundations of sociocultural, constructivist, and behavioural theories, typically delivered through parent-mediated, interdisciplinary support in home and community settings (Frost et al., 2020; Schreibman et al., 2015).

Models of NDBI include Social ABCs (Brian et al., 2024), the Early Start Denver Model (ESDM; Dawson et al., 2010), JASPER (Engelstad et al., 2024), Integrated Playgroups (IPG; (Wolfberg et al., 2015)), and Project ImPACT (Stahmer et al., 2020). Core strategies include following the child's lead (i.e., responding to the child's interests), modelling (i.e., demonstrating target skills), expanding language with the one-up rule (i.e., expanding on a child's utterance), communicative temptations (i.e., creating situations that naturally encourage motivation), brief direct teaching episodes, and natural reinforcement (i.e., using meaningful outcomes tied to the child's actions; Frost et al., 2020).

While the NDBIs share core strategies, they might differ in how they are delivered, the structure of their manuals, and the intended outcomes. Project ImPACT trains parents to embed communicative temptations in everyday routines to support communication, imitation, and play (Stahmer et al., 2020). ESDM involves caregivers in goal setting and integrates behaviour strategies such as shaping and reinforcement within a developmentally informed framework for autistic

learners as young as twelve months (Dawson et al., 2010). IPG is a peer-mediated model that scaffolds symbolic play through guided participation, pairing autistic children with non-autistic peers (Wolfberg et al., 2015). JASPER combines adult- and child-led routines to promote joint attention and play (Engelstad et al., 2024). Social ABCs delivers in vivo parent coaching to target early communication and joint attention (Brian et al., 2024).

NDBI through the lens of SDT

While two systematic reviews support the efficacy of NDBIs for communication in early childhood (Sandbank et al., 2023; Song et al., 2025), it remains critical to assess whether they support self-determination (Anderson, 2023; Schuck et al., 2022). The SDT framework can be used to examine the nuance of NDBIs. Some NDBIs adapt language and manuals for cultural relevance (Sengupta et al., 2023), but meaningful adaptation must also address relational and identity-based experiences, positioning autistic individuals as cultural agents in codesigning services that directly impact them. Given the wide variation across NDBIs, it is essential to reflect on individual provider values and to align goals with autistic self-determination (Schuck et al., 2022).

Autonomy

NDBI strategies like playful obstruction and communicative temptation promote initiation and self-directed learning (Frost et al., 2020), supporting autonomy. Embedding teaching in familiar routines can support children as causal agents (Scherer et al., 2019; Schreibman et al., 2015; Wehmeyer, 2007). However, the degree of

autonomy supported within NDBIs depends on how choices and facilitator led opportunities are structured. For instance, adult pre-selection of activities, as in IPG (Wolfberg et al., 2015), may limit choice and reduce autonomy even when those activities are framed as child-directed. Offering Legos or pretend play creates an argument of choice but still narrows opportunities for autistic children to advocate for personal preferences beyond adult-selected materials (Wehmeyer, 2007). Providing flexible choices and focusing on advocacy would allow autistic children to shape play in ways that feel meaningful to them.

Similar constraints appear in the novice-expert model, which positions autistic children as learners and non-autistic peers as experts (Wolfberg et al., 2015). This structure can restrict autistic leadership and reduce opportunities for children to guide interaction. A related issue arises in ESDM. It's randomized control trial emphasized diagnostic shifts, IQ gains, and neurotypical milestones as markers of efficacy (Dawson et al., 2010), outcomes that risk undermining autonomy and disregarding neurodiversity (Chapman & Bovell, 2020). Likewise, JASPER's initial structured trials can introduce adult control before transitioning to child-led routines (Engelstad et al., 2024). Adopting a more genuinely child-led approach could ensure play is co-created around autistic children's authentic interests.

Competence

NDBIs foster competence through scaffolded learning in meaningful routines, with many models coaching parents to build from the child's baseline and gradually decrease

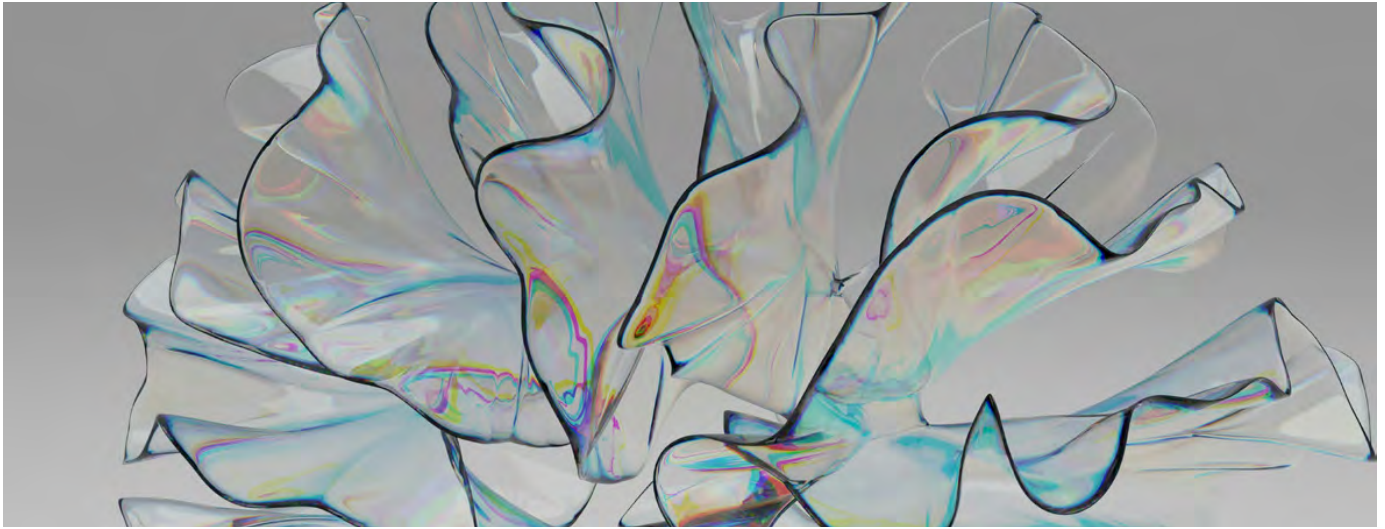
support to promote shared independence for both parent and child (Frost et al., 2020). A closer look at the intentions and structures of NDBIs suggests room for improvement. For example, published NDBI literature emphasizes outcomes such as symptom reduction or IQ gains (Dawson et al., 2010; Vivanti & Zhong, 2020), which conflicts with neurodiversity affirming values and overlooking learner-defined competence (Russell et al., 2019; Schuck et al., 2022). In IPG specifically, autistic children are framed as novices to neurotypical peers (Wolfberg et al., 2015), reinforcing a one-directional learning model that can weaken competence. A more inclusive approach would position autistic children as equal contributors in reciprocal learning, strengthening competence.

Relatedness

Although NDBIs aim for reciprocal interaction (Schreibman et al., 2015), relatedness is weakened when goals reflect neurotypical conformity and position autistic learners as passive agents (Robertson, 2009). This is reflected in the ESDM trial, which excluded children with dual diagnoses and grouped minority participants (Dawson et al., 2010), repeating patterns of marginalization and limiting relevance across diverse autistic experiences (Steinbrenner et al., 2022). On the other hand, caregiver-mediated models may leave parents disempowered after coaching (Bent et al., 2023). While, in IPG, peer and facilitator control (Wolfberg et al., 2015) risk power imbalances. These examples highlight the need for NDBIs to strengthen relatedness by fostering relational equity and valuing diverse autistic experiences.

Conclusion

Reimagining therapeutic programming requires moving beyond deficit traditions. In alignment with recent literature, NDBIs represent progress beyond ABA but still need reform to fully support self-determination and embrace neurodiversity (Cumming et al., 2020; Schuck et al., 2022). Therapeutic programs can support autonomy through autistic-led goals and self-paced learning; foster competence with strength-based supports in natural environments; and nurture relatedness by adapting to sensory needs, fostering belonging, and building genuine partnerships that affirm neurodiversity (Lai et al., 2019; Leadbitter et al., 2021; Robertson, 2009; Schuck et al., 2022). Autonomy, competence, and relatedness should be starting points for therapeutic supports, rather than afterthoughts in evaluation. These needs must guide program design with attention to relational dynamics (Gillespie-Lynch et al., 2017; Schuck et al., 2022). Such designs can create spaces for autistic individuals to engage, express agency, and build relationships through co-designed, power hierarchies (Chen et al., 2023; Kwak et al., 2024; Pearson & Meadan, 2021; Rudrabhatla et al., 2024). Future research can use participatory action research that co-design programs with autistic children and adults, emphasizing self-determination and ensuring autistic leadership shapes and evaluates programs. Such inquiry can challenge deficit traditions, redistribute power to autistic stakeholders, and advance inclusion.



A Pilot Study on Shyness and Empathy: A Cross-Cultural Comparison Among White, East Asian, and South Asian Undergraduates

Skade Arrissa Fernando S.A.F. | BSc, McMaster University

Abstract

Shy individuals avoid social scenarios, reducing their opportunities to be empathic. Research indicates a cultural effect among East Asians, whereby greater shyness is associated with lower empathy; however, few have explored whether this varies across ethnicities. This study aims to explore the ambiguity through a cross-sectional survey about shyness and empathy. The participants were undergraduates from White ($M_{\text{age}} = 19.5$ years, $n = 70$, 15.7% males), East Asian ($M_{\text{age}} = 19.0$ years, $n = 64$, 10.9% males), South Asian ($M_{\text{age}} = 19.4$ years, $n = 48$, 14.6% males), and other ethnicities

($M_{\text{age}} = 19.1$ years, $n = 53$, 17.0% males). The results demonstrated statistically insignificant negative correlation between shyness and empathy among White and East Asian undergraduates, and an insignificant positive correlation between shyness and empathy among South Asian and other groups. Although there were no significant relations, further studies are needed to explore these cross-cultural variations.

The definition of shyness varies across cultures. In Western cultures, shyness is straightforward and typically associated with social

reservations; however, in Eastern cultures, shyness is complex with various categories (e.g., regulated shyness, anxious shyness, and shyness towards strangers; Pilkonis, 1977; Rubin et al., 2009; Xu et al., 2009). Due to social withdrawal, shy individuals may have fewer opportunities to develop empathic skills, hindering their ability to recognize and respond to others' emotions (Findlay et al., 2006). Shyness has been found to be negatively associated with empathy cross-culturally (Dillon-Owens et al., 2022; Guo et al., 2018; Johnson et al., 1983; Zava et al., 2021); however, in collectivist cultures research has shown

positive associations with empathy (Chopik et al., 2017; Yoon, 2014), despite East Asian samples reporting higher levels of shyness than White samples (e.g., Afshan et al., 2015; Aizawa & Whatley, 2006; Rapee et al., 2011). The differences in shyness across social settings are well-documented cross-culturally, and yet, there is limited research on differences among Asian populations, specifically East Asians and South Asians (Afshan et al., 2015; Aizawa & Whatley, 2006; Kong et al., 2024). Considering the inconclusive results regarding the association between shyness and empathy across different cultures, further research is needed to understand the impact of cultural context.

Shyness Across Cultures

Culture plays an instrumental role in an individual's shyness and social avoidance (Chen, 2019; Chen et al., 2014; Jackson et al., 2000). Disinterest in socializing is typically attributed to preference in Western cultures; and yet, is frowned upon due to its association with exclusion and psychopathological symptoms, such as depression (Chen, 2019; Rapee et al., 2011; Xiao et al., 2023). In contrast to Eastern cultures, where shyness is less stigmatized and associated with social harmony and self-controlled social restraint (i.e., regulated shyness; Kong et al., 2024). Specifically, in Chinese populations, shyness is attributed more broadly as regulated shyness is perceived positively in alignment with collectivist cultural values; whereas in Canadian and Indian populations, shyness is attributed to the individual and associated with social anxiety and loneliness (Bowker & Raja, 2011; Kong et al., 2024; Xu et al., 2009, 2014). Afshan et al. (2015) compared shyness and personality traits in a cross-cultur-

al sample of college students and found that shyness is a collectivist product, emphasizing group over individuals. However, South Asians had significantly higher shyness scores compared to East and West Asian and African populations, despite all groups belonging to collectivist cultures. Hence, the extent to which culture influences shyness remains unclear.

Empathy Across Cultures

Culture also shapes the display and understanding of empathy. Cassels et al. (2010) investigated cross-cultural differences in empathy and empathic behaviours. The Western sample reported higher empathic concern, demonstrating sympathy and concern for another person, compared to the East Asian sample. The authors discussed empathic concern as a desirable trait in the West due to an implied increase in prosocial behaviour, relationships with peers, and emotion regulation. Additionally, bicultural Chinese Canadians scored between both cultures but still leaned towards Eastern scores. To compare Western and South Asian cultures, Cohen et al. (2020) found that both affective empathy (to feel and respond to another's emotions), measured through empathic concern; and cognitive empathy (to understand another's emotions), measured through perspective taking (ability to understand others' point of view) were positively correlated with shyness in an American sample. In contrast, among Indian participants, shyness was negatively correlated with affective empathy, and positively correlated with cognitive empathy. A possible explanation was that South Asians focused on group identity over self-identity, leading to increased understanding of others' emotions

but not necessarily a desire to relate to them. These distinct differences in empathy demonstrate how empathy is shaped by culture.

The Present Study

Despite extensive literature demonstrating that culture affects both shyness and empathy, there are inconsistent results regarding these traits and their relation to each other, and the cultural impact remains an unexplored avenue of research. Given the evident cultural differences in both shyness and empathy across these groups, our understanding of how culture influences them remains limited. The present study aimed to address this by examining whether ethnicity moderates the relation between shyness and empathy in Western, East Asian, and South Asian populations. Additionally, despite South Asians having significant cultural differences from East Asians, they are often grouped with East Asians in studies comparing Eastern and Western populations. In this study, ethnicity was used as a proxy for culture as the sample was drawn from a larger study conducted at McMaster University, which had a different scope than this project. As such, it influenced the availability of cultural background data for the participants and was not collected. Undergraduates' shyness and empathy (i.e., perspective taking and empathic concern) were measured. We hypothesized that culture would moderate the relation between shyness and empathy; specifically, that East and South Asian undergraduate students would have a similar stronger negative correlation between shyness and empathy compared to White undergraduate students.

Method

Participants

Participants were undergraduate students aged 17 to 28 years old ($N = 235$, 14.5% men, $M_{age} = 19.26$ years, $SD = 0.51$) and recruited from McMaster University using the Department of Psychology, Neuroscience and Behaviour’s SONA system. The participants’ racial demographics were 29.8% White, 27.2% East Asian, 20.4% South Asian, and 22.6% participants of another ethnic group, including those of mixed-ethnic backgrounds. For brevity, these participants will be listed as “other” in the analysis and results section. Gender and ethnic demographics are also presented in Table 1. Only participants who attended McMaster University were included in this study of cross-sectional design and no participants were excluded unless they were below the age of 17. The study used an online survey for data collection, obtained consent through online forms, and was approved by the McMaster Research Ethics Board. Informed consent was obtained from each participant.

Table 1

Demographic Characteristics of Participants

	N	%
Gender		
Male	34	14.5
Female	197	83.8
Prefer not to say / other	4	1.7

Ethnicity		
White	70	29.8
East Asian	64	27.2
South Asian	48	20.4
Other	53	22.6

Note. Total N was 235.

Survey Measures

Shyness

We used the Cheek and Buss Shyness Scale (CBSS; Cheek, 1983; Cheek & Buss, 1981), to assess shyness. The CBSS consists of 13 items (e.g., “I feel nervous when speaking to someone in authority”). Participants rated themselves on a 5-point Likert Scale (1 = *strongly disagree* to 5 = *strongly agree*), with higher averaged scores indicating increased shyness. Cronbach’s α is 0.87, demonstrating strong reliability, deeming the CBSS acceptable for the study.

Empathy

Empathy was assessed through two subscales, Perspective Taking (PT) and Emotional Concern (EC), derived from the Interpersonal Reactivity Index (IRI; Davis, 1980). Each subscale had 7 items with a 5-point Likert Scale (1 = *does not describe me at all* to 5 = *describes me very well*). The PT subscale measures an individual’s ability to recognize others’ viewpoints (e.g., “I try to look at everybody’s side of a disagreement before I make a decision”), and the EC subscale measures sympathetic feelings toward others (e.g., “I am often quite touched by things that I see happen”). Higher average scores suggest greater empathy

relative to lower average scores. Cronbach’s α for IRI is also good, with a score of 0.79. It is important to note that, while the study measures cognitive empathy and affective empathy through PT and EC, respectively, we did not separate the two subtypes in the analysis due to the limited sample size.

Data Analysis

All analyses were performed using SPSS Version 29 (IBM Corp., 2021). The relation between empathy and shyness was assessed using Pearson’s correlation, followed by a regression analysis in which ethnicity was treated as a moderating variable, and age and gender were covariates.

Results

Assumption checks indicated that the scores were relatively normally distributed within each cultural group (Table 2).

A Pearson’s r correlation revealed that shyness was not significantly correlated with empathy for any of the ethnic groups. While not significant, shyness was negatively correlated with empathy among participants who identified as White or East Asian, but positively correlated with empathy among South Asians and others (see Table 3 for all correlations). Linear regression analysis using PROCESS v4 indicated that ethnicity did not moderate the relation between shyness and empathy ($\Delta R^2 = .01$, $F(1, 229) = 1.47$, $p = .23$; see Table 4 for full regression models).

Table 2*Descriptive Statistics for the CBSS and IRI Scales by Ethnicity*

	N	Min	Max.	Mean	SD	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
White									
CBSS	70	-1.26	1.43	0.07	0.63	.15	.29	-.57	.57
IRI	70	-1.42	1.16	0.03	0.53	-.12	.29	.33	.57
East Asian									
CBSS	64	-1.19	1.35	0.03	0.51	.28	.30	.10	.59
IRI	64	-1.13	0.94	-0.13	0.49	.28	.30	-.15	.59
South Asia									
CBSS	48	-1.19	1.20	0.04	0.57	-.01	.34	-.11	.67
IRI	48	-0.92	1.08	0.04	0.45	.16	.34	-.38	.67
Other									
CBSS	53	-1.72	1.81	-0.17	0.65	.26	.33	1.00	.64
IRI	53	-1.49	0.94	0.07	0.53	-.71	.33	.54	.64

Table 3*Correlations between Shyness, Empathy, Age, and Gender by Ethnicity*

	1	2	3	4
White				
1. Shyness	–	-.03	-.05	.23
2. Empathy		–	.03	.13
3. Age			–	-.04
4. Gender				–
East Asian				
1. Shyness	–	-.01	.04	.01
2. Empathy		–	.10	.07
3. Age			–	-.21
4. Gender				–
South Asian				
1. Shyness	–	.21	-.00	.02
2. Empathy		–	-.01	.10
3. Age			–	-.01
4. Gender				–
Other				
1. Shyness	–	.18	.19	.16
2. Empathy		–	.16	.12
3. Age			–	.19
4. Gender				–

Note. No correlations were statistically significant. For gender, male was coded as 1.

Table 4*Summary of Regression Models for Shyness and Ethnicity in Predicting Empathy*

Predictors	B	SE	β	F	p	R ²	ΔR^2
Step 1	3.15	.39		1.74		.02	.01
Age	.02	.02	.07		.29		
Gender	.14	.09	.10		.12		
Step 2	2.93	.43		1.26		.02	.00
Age	.02	.02	.07		.28		
Gender	.13	.09	.10		.14		
Shyness	.05	.06	.06		.41		
Ethnicity	.03	.03	.07		.30		
Step 3	3.37	.56		1.31		.03	.01
Age	.02	.02	.07		.31		
Gender	.13	.09	.10		.13		
Shyness	-.09	.12	-.10		.48		
Ethnicity	-.14	.14	-.31		.33		
Shyness x Ethnicity	.06	.05	.40		.23		

Discussion

The findings did not support our hypothesis, as ethnicity did not significantly moderate the relation between shyness and empathy. Although shyness did not significantly correlate with empathy across ethnicities, which is inconsistent with previous findings, a negative trend between shyness and empathy emerged for some ethnic groups, indicating an underlying cultural influence. The results of this study demonstrate that shy and non-shy individuals share similar levels of empathy regardless of cultural background.

A possible factor in the minimal cultural influence is the lack of data on immigrant demographics. The study did not distinguish between participants based on non-immigrant, first- or second-generation

immigrant status, nor length of residence in Canada. Many participants may have grown up in Canada, potentially reducing the cultural influence from their ethnicity, as they are likely to be more culturally Canadian. Xu & Krieg (2014) compared Asian children born to American-born parents and those born to a foreign-born parent, revealing that the former showed lower regulated shyness and the latter showed greater cultural alignment.

The correlations may not have been significant, despite prior literature showing cultural influence on empathy, because we did not account for differentiation within the empathy subtypes: cognitive and affective empathy (Atkins et al., 2016; Kong et al., 2024). It may have been informative to analyze cross-cultural differences,

as populations with collectivist beliefs have been found to exhibit higher cognitive empathy than those with individualistic beliefs (Yaghoubi Jami et al., 2019). Given the cultural contrast between empathy types, synthesizing them into a single measure may have removed cross-cultural variance.

Additionally, this study's results might not have supported our hypothesis because we did not account for regulated shyness. The CBSS questionnaire reflected a Western perspective on shyness as it focused on worry about socializing and concern about others' perceptions (Bruch et al., 1995). Meanwhile, other shyness scales include additional items that address documented cultural differences, such as regulated shyness in Chinese samples (Xu et al., 2007).

Strengths, Limitations, and Future Directions

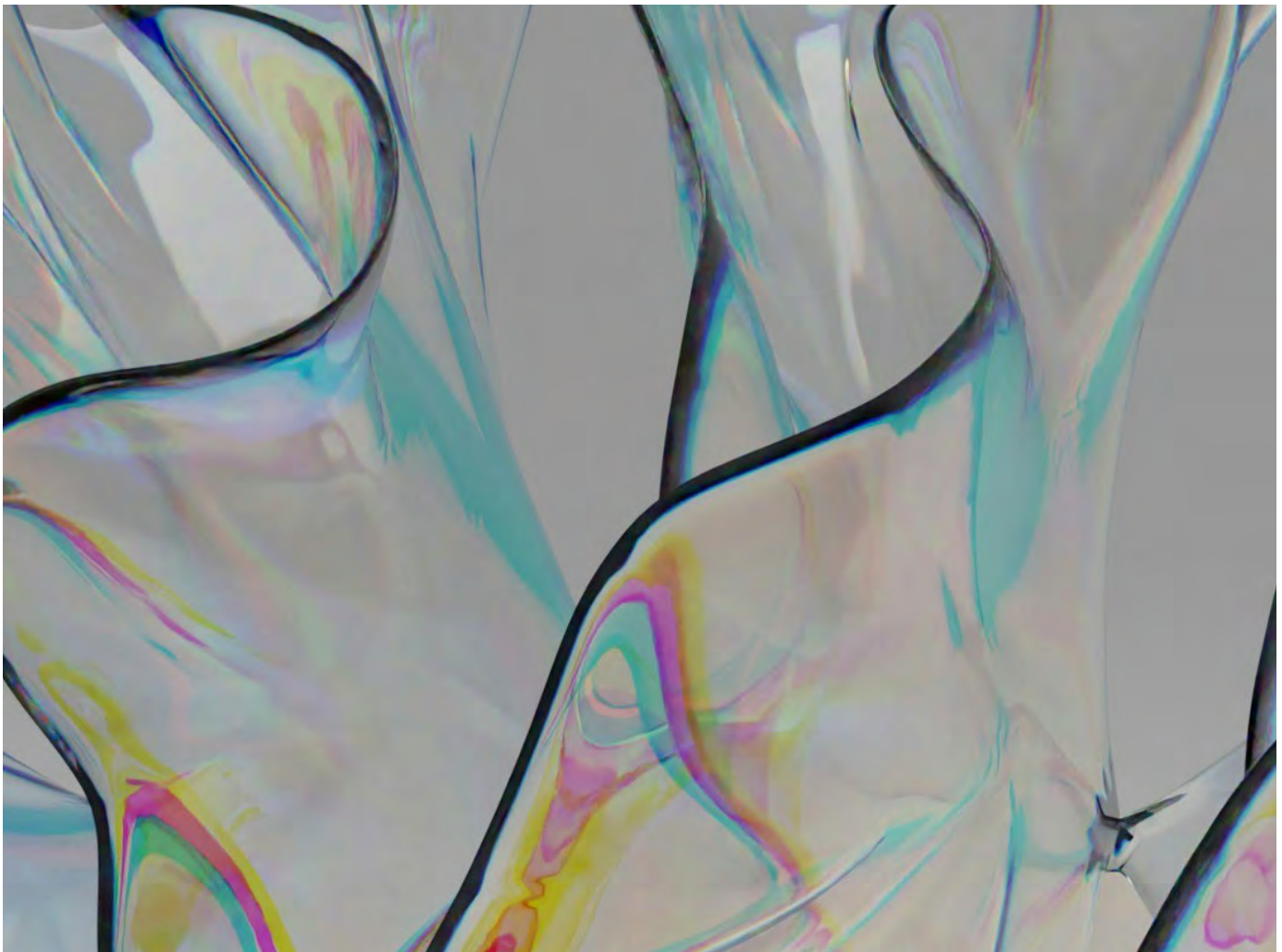
This study is rooted in its cross-cultural population, as one of the few that compared two specific ethnic groups within the broader Asian population to depict the nuances between the cultures. The study aimed to gain insight into the cultural influence on the relation between shyness and empathy; however, by using ethnicity to represent culture and not reporting immigration status, I may be misrepresenting culture. Future studies could use the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA), which measures Asians' acculturation to Western societies and assesses how much a participant resonates with their ethnicity

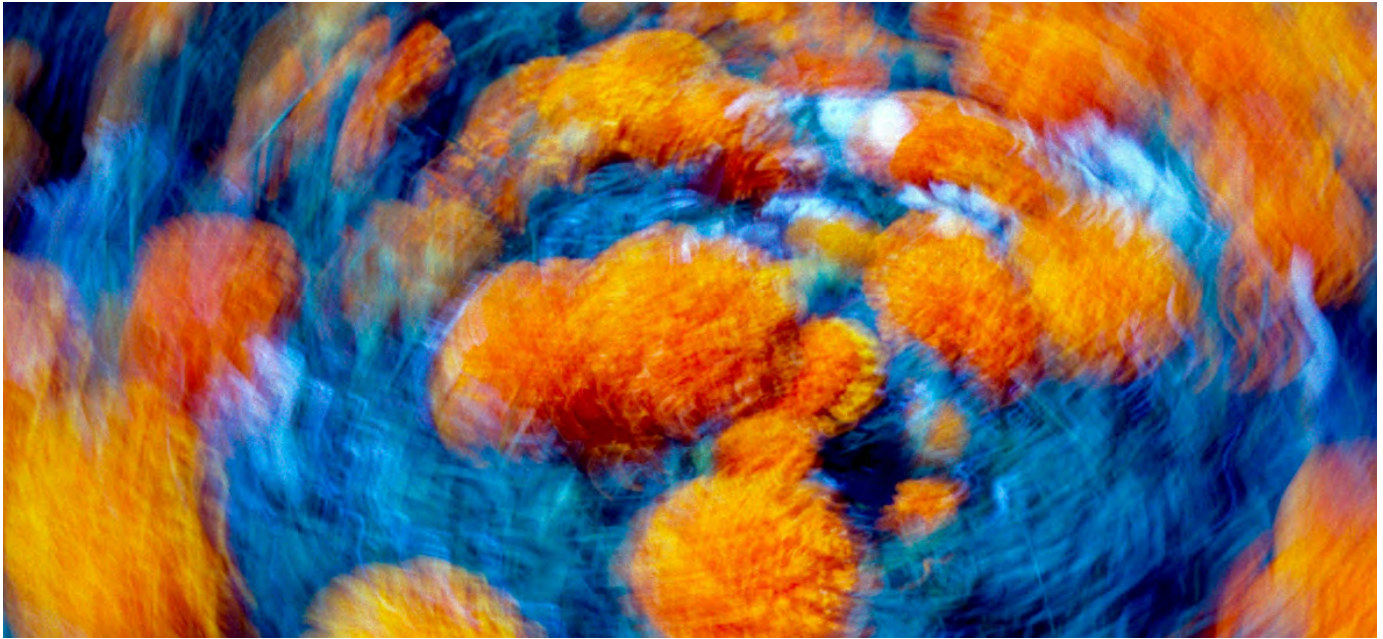
(Dao et al., 2011), or could further investigate culture as a mechanism, such as for regulated shyness.

Conclusion and Implications

This study attempted to replicate previous reports on the relation between shyness and empathy. It expanded this work by investigating the cultural impact on White, East Asian, and South Asian populations. While we found evidence that culture does not significantly affect the groups, there is still a need to explore cross-cultural samples. Our study calls for additional research on the factors that influence shyness and empathy, specifically the types of shyness and empathy, as well as cultural upbringing or time spent living in Canada. The unexam-

ined factors draw attention to the importance of recording a person's country of upbringing and time spent in the country when conducting cultural studies within a heterogeneous population such as a Canadian university. The influence of culture on experiences and social relationships demonstrates the challenges for immigrants and bicultural individuals dealing with conflicting cultural norms. Replicating this study while accounting for immigration status may better measure the cultural impact on the relation between shyness and empathy. Overall, this study opens many avenues for future research on cultural influence, as there remains a gap in analyzing diverse populations.





A Review of Gender Differences Influencing Disparities in ADHD Diagnoses

Rebecca C Brown | Undergraduate Psychology Student, University of Waterloo

Abstract

Attention-Deficit/Hyperactivity Disorder (ADHD) affects a person's ability to pay attention and control impulsive behaviour and can therefore be responsible for numerous difficulties in all domains of a child's life. Despite this disorder being one of the most prevalent and well-known neurodevelopmental disorders in children, a significant gap exists between genders in the rate of diagnosis. Girls suffer from a lack of identification and treatment which appears to be primarily attributable to their differing symptom presentation, issues with diagnostic criteria, and biased perceptions in knowledgeable informants, including parents and teachers. This paper provides a comprehensive overview

of the aforementioned factors influencing the differing rate of ADHD diagnosis in girls and reveals the importance of further research addressing these gender differences to reduce the negative outcomes associated with a lack of diagnosis and access to treatment.

Attention-Deficit/Hyperactivity Disorder (ADHD), a prevalent neurodevelopmental disorder affecting 3.4% of children and adolescents worldwide, is characterized by symptoms of inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2022; Polanczyk et al., 2015). Many children with ADHD show deficits in executive functioning, cognitive processes

involved in planning, problem solving, and working memory (Craig et al., 2016; Silverstein et al., 2020). Notably, there is a significant gender difference in ADHD diagnosis rates. In the general population, boys are two to three times more likely to have an ADHD diagnosis and two to nine times more likely in mental health settings (Nussbaum, 2012; Skogli et al., 2013). Despite this gap, girls are equally likely to experience ADHD-related impairments such as peer rejection and educational underachievement, which may be exacerbated by a lack of diagnosis and treatment (Daley & Birchwood, 2010; Stallner & Faraone, 2006; Wehmeier et al., 2010). A literature search on ADHD gender differences in

symptoms, diagnostic criteria, and informant perceptions was conducted through PsycInfo and Google Scholar and yielded 36 articles. This paper aims to examine the ADHD gender disparity in terms of differing symptom presentation, issues with the diagnostic criteria, and perceptions of knowledgeable informants (Hinshaw et al., 2022; Quinn & Madhoo, 2014).

As this paper is primarily concerned with how social and societal expectations and perceptions contribute to diagnostic disparities, the terms boys and girls will be used to reflect differences between groups. However, when describing studies that utilize sex-related criteria to differentiate between groups, the terminology males and females will be employed for accuracy. While sex and gender are distinct, many studies do not clearly differentiate between them. Thus, the findings of studies referring to sex will be interpreted as corresponding to gendered differences described in the majority of the reviewed studies.

Symptom Presentation

There are three symptom presentation subtypes of ADHD: the inattentive subtype, the hyperactive-impulsive subtype, and the combined subtype, which is a combination of inattentive and hyperactive-impulsive symptoms (American Psychiatric Association, 2022). The inattentive subtype reflects difficulties with sustained attention, organization, and task completion, whereas the hyperactive-impulsive subtype involves excessive motor activity and impulsivity (American Psychiatric Association, 2022). Behaviourally, female youths' ADHD symptoms typically present more subtly compared to symptom patterns exhibited by

males (Mowlem et al., 2019). Girls' presentations more frequently fall within the inattentive subtype (Weiss et al., 2003) whereas boys' presentations typically fall within the hyperactive-impulsive subtype (Mowlem et al., 2019). Beyond inattention, girls display fewer externalizing symptoms, such as delinquency and overt aggression, compared to boys, making their symptoms less visible to observers (Gaub & Carlson, 1997; Lau et al., 2021; Mowlem et al., 2019). Furthermore, Monuteaux et al. (2004) found that covert aggression, such as lying or stealing, was more common in girls with ADHD, compared to overt aggression, such as physical fighting often seen in boys. Similarly, girls display increased relational aggression through covert bullying, which negatively impacts relationships (Zalecki & Hinshaw, 2004). Each of these behavioural differences suggests a more indirect but equally harmful manifestation of ADHD-related behaviours.

Compared to boys, girls with ADHD are prone to less observable symptom patterns relating to emotional and social difficulties (De Ronda et al., 2024; Kok et al., 2016; Mowlem et al., 2019). Nussbaum's (2012) literature review illustrates that girls with ADHD display more internalizing problems than boys, and Mowlem et al. (2019) further note that emotional symptoms play a significant role in girls' ADHD presentations. Several studies indicate that females with ADHD report more anxiety, depression, and irritability than males (De Ronda et al., 2024; Skogli et al., 2013). Although ADHD severity is affected by emotional dysregulation in both sexes, in adolescence these symptoms often improve for

males, whereas females continue to demonstrate high levels (De Ronda et al., 2024). As such, girls with ADHD are three times more likely than boys to have taken antidepressants before receiving an ADHD diagnosis (Quinn & Wigal, 2004). In addition to emotional impairment, children with ADHD experience significant social deficits due to problems sharing and cooperating (Kok et al., 2016; Wehmeier et al., 2010). Compared to boys, girls with ADHD are more likely to experience these social skills deficits, including reporting low self-esteem, relationship difficulties, extreme talkativeness, and feeling excluded (Kok et al., 2016; Quinn & Wigal, 2004). While these emotional and social symptoms may be less visible, they have the capacity to be equally as impairing as overt difficulties experienced by boys with ADHD (Quinn & Wigal, 2004).

As ADHD symptoms that are characteristic of girls' presentations (inattention, covert aggression, emotional impairment, and social skills deficits) tend to be less disruptive and visible, this can lead to delays in recognition and subsequent treatment (Mowlem et al., 2019; Staller & Faraone, 2006). Covert externalizing behaviours in girls with ADHD may be unrecognized by informants compared to the observable overt externalizing behaviours commonly seen in boys in settings such as school or child care (Lau et al., 2021). Moreover, the comorbidities and internalizing symptoms prominent in girls' ADHD presentations may overshadow ADHD-related symptoms, delaying correct diagnosis and access to appropriate treatment methods (Quinn & Wigal, 2004). The social difficulties prominent in girls' presentations may similarly mask core ADHD symptoms, as these challenges may be seen as

emotional or relational rather than indicative of ADHD (Quinn & Wigal, 2004). In addition, prosocial behaviour is highly encouraged in female youth, and this behaviour can easily mask social and emotional impairments associated with ADHD (Mowlem et al., 2019). Ultimately, because of less observable symptoms, girls tend to be underdiagnosed with ADHD compared to boys who tend to display overt and visible symptoms (Hinshaw et al., 2022; Quinn & Madhoo, 2014).

Diagnostic Criteria

Historically, ADHD diagnosis predominantly focused on hyperactive behaviours typically associated with school-aged boys (London & Landes, 2021). After many revisions, the current Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR), identifies and equally values two symptom domains: inattention and hyperactivity-impulsivity (American Psychiatric Association, 2022). Despite this shift, the historical focus on hyperactivity has led to biases in diagnosis for presentations seen as less impairing than the well-studied hyperactive-impulsive subtype (London & Landes, 2021).

Concerns also exist regarding the diagnostic criteria's gender representation, given that studies reviewing these criteria utilize boy-dominant samples (Ohan & Johnston, 2005; Rucklidge, 2010). Using the DSM-5-TR criteria, parents tended to underrate girls' and overrate boys' hyperactive-impulsive symptoms compared to a more objective reporting system, the Parental Account of Childhood Symptoms (Mowlem et al., 2019). This suggests that even when

symptoms are comparable, criteria are more readily associated with boys' impairment. Further, in their study of mothers of children with and without ADHD, Ohan and Johnston (2005) highlight that the mothers perceived the DSM-IV-TR ADHD criteria to be more characteristic of boys than girls. It was found that interpersonal items, such as giggling excessively or changing friends impulsively, may be seen as more representative of girls with ADHD than DSM-IV-TR criteria (Ohan & Johnston, 2005). Informants evidently perceive DSM-IV-TR criteria as unrepresentative, further restricting girls' likelihood of being referred for evaluation.

In a literature review on the impact of ADHD on functioning across genders, Rucklidge (2010) noted that alternative methods of assessment encapsulating differences displayed by girls could be beneficial, including modified or lower threshold diagnostic criteria. Similarly, Hinshaw et al. (2022) recommend research on comparing girls with ADHD to girl normed groups to ensure that impairments are not overlooked due to bias in criteria construction.

Even if ADHD criteria are gender representative, diagnostic criteria may not be applied to boys and girls equally. Literature supports that clinicians are vulnerable to gender-based biases that influence diagnosis (Garb, 2021). Bruchmüller et al. (2012) conducted a study where social workers, psychiatrists, and child psychologists in Germany were tasked with assessing case descriptions, and found that if the client in the description was a boy, clinicians were two times more likely to misdiagnose ADHD, compared to identical descriptions depicting girls (Bruchmüller et al., 2012). In vignettes where two criteria

were missing, more than 20% of therapists still diagnosed ADHD, and did so more often for boys, illustrating that boys more easily receive ADHD diagnoses than girls, particularly when symptoms are below or approaching significance (Bruchmüller et al., 2012). This bias disproportionately affects girls, as they tend to display less severe symptoms, and therefore may be increasingly overlooked during the diagnostic process, indicating the need for methods of reducing clinician gender bias.

Perceptions of Informants

Youth referrals for mental health support rely heavily on reports from knowledgeable informants, such as parents and teachers; however, informants tend to be vulnerable to gender biases when interpreting ADHD symptoms (Isaksson et al., 2020). Among child and adolescent psychiatric outpatients in Sweden, girls were more likely to be older at both their first visit to the clinic and their ADHD diagnosis, indicating that informants often miss girls' impairments (Klefsjö et al., 2021). Prior to receiving an ADHD diagnosis, girls typically visited the clinic more frequently than boys and received more unrelated counselling, suggesting that even when problems in girls are recognized, they are often misidentified by informants as internalizing disorders, delaying ADHD diagnosis (Klefsjö et al., 2021). Additionally, increases in self-referral for attention problems in women narrows the diagnosis gap in adulthood, suggesting that childhood informants are unable to identify signs of impairment in girls with ADHD (Nussbaum, 2012). In two outpatient programs, referral reasons varied systematically across genders, with girls more frequently referred for emotional or internal-

izing problems and boys for behavioural problems or neurodevelopmental disorders (Klefsjö et al., 2021; Skogli et al., 2013). A study by Skogli et al. (2013) found that parent ratings are more sensitive to behavioural and externalizing problems and are less adequate at detecting the internalizing symptoms seen frequently in girls with ADHD. In the classroom, teachers may overlook girls with ADHD because they display minimal overt disruption, compared to boys' highly disruptive and hyperactive symptom patterns (Coles et al., 2012; Quinn & Wigal, 2004). This discrepancy suggests that informants are unable to identify and acknowledge the covert and internalizing symptoms associated with ADHD in girls.

Informants also have systematic biases in how symptom severity and inattentive versus hyperactive-impulsive symptoms are perceived. In a survey of 212 teachers evaluating ADHD vignettes, the inattentive subtype was identified significantly less accurately than the combined subtype (Groenewald et al., 2009). Similarly, Coles et al. (2012) found that teachers rated the inattentive subtype as significantly less impaired than other subtypes. Accordingly, in a sample of 137 youth with ADHD, teacher ratings of ADHD symptoms in girls were significantly lower than ratings for boys (Isaksson et al., 2020). Meyer et al. (2020) found that in females, parents and teachers generally underrate and are less sensitive to severe symptoms of inattentive ADHD. Evidently, informants perceive hyperactivity as more impairing as it is highly disruptive, whereas the inattentiveness predominant in girls is overlooked and minimized (Coles et al., 2012; Rucklidge, 2010). These findings support the hypothesis that informants may be less likely to refer

girls for ADHD assessment, furthering the gap in diagnosis, and highlighting the need for education on the ADHD presentations of girls.

Evidence Against Gender Differences in ADHD

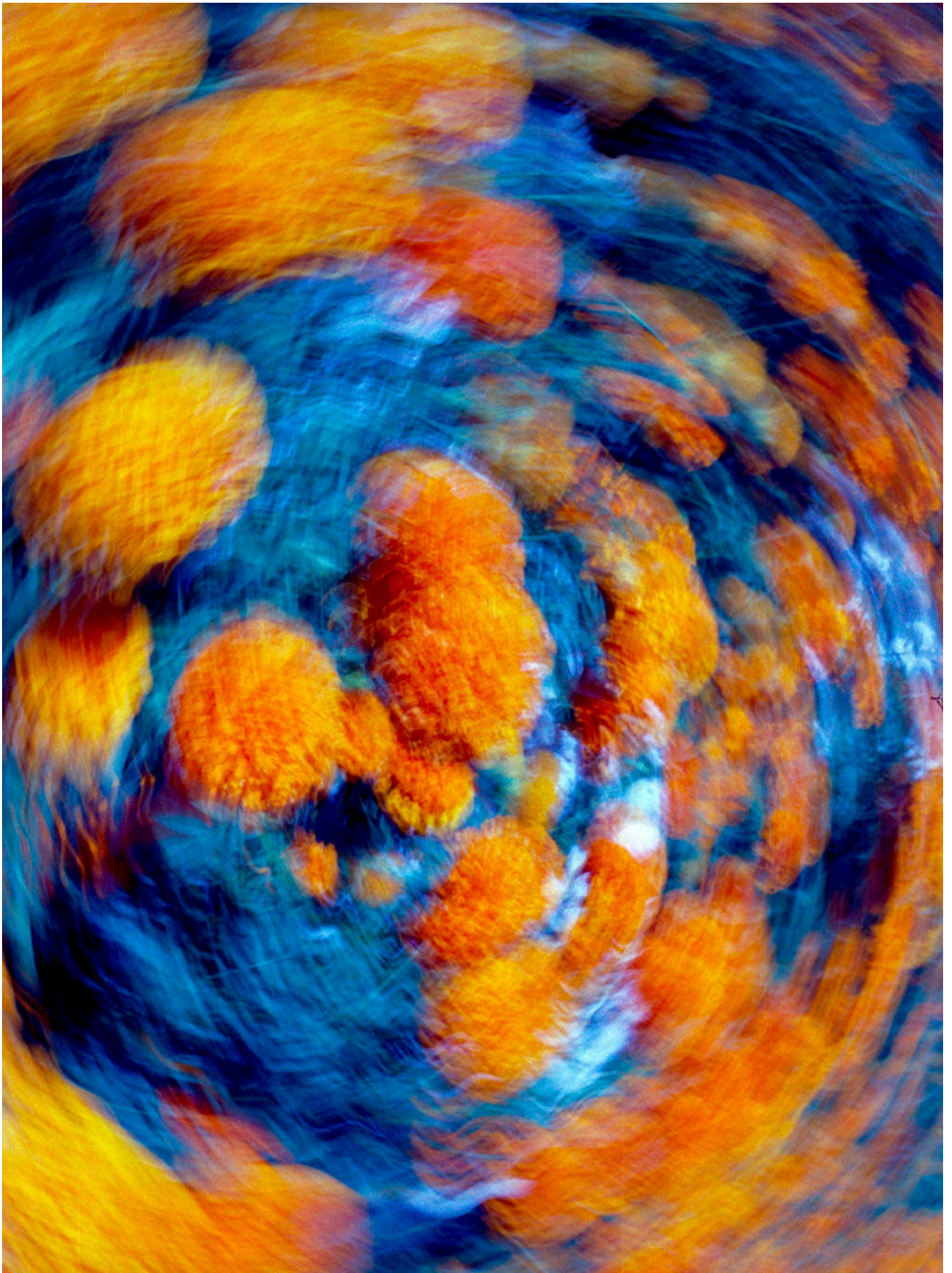
The above evidence must be understood in the context of observations against gender differences in ADHD, alongside concerns that broadening diagnostic criteria may lead to overdiagnosis (Nussbaum, 2012). A literature review by Rucklidge (2008) generally found that while some ADHD gender differences may exist, no significant differences emerged within the domains of social and cognitive functioning and comorbid disorders. An alternative explanation for the gender difference is that onset varies between genders, with girls showing an increase in symptoms in early adolescence and boys displaying consistently high symptoms from childhood (Murray et al., 2019). Subsequently, girls' childhood symptoms may be unrecognized, even if impairment emerges later. Because DSM criteria require ADHD symptoms to be present before age 12, the later onset for girls may drive the discrepancy in diagnosis in childhood, instead of gendered symptom patterns or biases in informants and criteria (American Psychiatric Association, 2022; Murray et al., 2019). Overall, these studies provide some, albeit limited, evidence of alternative explanations for the differences among gender in ADHD diagnoses.

Conclusion

Despite some contradictory evidence, there is a significantly substantiated difference in ADHD

diagnosis between genders in youth, which appear to be associated with three factors: symptom presentation differences, diagnostic criteria issues, and informant biases. Delay in symptom recognition leaves girls with preventable impairments, including comorbid disorders and emotional, social, behavioural, and academic problems (Quinn & Madhoo, 2014; Rucklidge, 2010). ADHD treatments have demonstrated effectiveness in both genders; therefore, diagnosis barriers must be addressed through research and education so girls can reap the long-term benefits of treatment and early intervention (Shaw et al., 2012).

Future research must examine feasible methods of capturing girls' unique presentations, including adding, broadening, or amending diagnostic criteria, comparing girls with ADHD to girl normed groups, educating parents and teachers on ADHD presentations, and reducing clinician bias (Garb, 2021; Hinshaw et al., 2022; Rucklidge, 2010). Furthermore, these disparities necessitate research surrounding ADHD in transgender, non-binary, and gender-fluid youth, whose symptom profiles and experiences with diagnosis may also differ from cis-gender males (Ignatova et al., 2025; Song et al., 2025). This paper is limited by a focus on mostly Western samples and by not analyzing the literature through a meta-analytic, scoping, or systematic lens, and therefore cannot synthesize all the current literature surrounding the topic. However, it remains imperative that future research promotes early and reliable access to diagnosis for girls with ADHD due to the several benefits that come with it.





Student Perceptions of Consent and Sexual Assault Across Different Sexual Contexts

Sierra Lucier-Lewis | Hon. B.A, Ontario Tech University

Sarah M. M. Kirkpatrick | MSc, Ontario Tech University

Abstract

Understanding how students perceive sexual consent is important for both informing them about how to recognize, prevent, and report sexual violations, and promoting safe and respectful campus environments. This study explored how gender, rape myth acceptance, and sexual orientation influence perceptions of consent and sexual assault in a student sample. A total of 347 undergraduate students viewed nine vignettes portraying consensual, ambiguous non-consensual, and obviously non-consensual encounters. The results showed that gender and rape myth acceptance influenced perceptions, with men and those who strongly endorsed rape myths being more

likely to misread consent cues. The sexual orientation of the individuals involved, however, had a negligible impact. Although participants could generally identify consent and assault, ambiguous cues distorted their perceptions. Findings could potentially be used to inform the development of targeted consent education programming that challenges gender-based stereotypes and aims to decrease rape myth acceptance.

Consent is a vital component of safe and healthy sexual encounters. While consent is often assumed to be universal, it can be shaped by biases, communication, and social

context. A critical aspect of consent is how each person perceives and responds to the other's cues. Within the context of this study, sexual consent is conceptualized as "a process of accumulating cues that build toward and continue throughout a consensual sexual encounter" (Willis & Jozkowski, 2021, p. 797).

Perceptions of Consent

Previous research suggests that many individuals, particularly young adults, have an incomplete understanding of consent and how it is used in real-world sexual encounters (Franiuk, 2007). Without a clear understanding of what constitutes consent, external factors

(e.g., biases) can distort perceptions of consent and ultimately result in the perpetration of sexual violence (Kirkpatrick et al., 2025). Because definitions of consent vary, often in ways incongruent with relevant definitions, and because consent is often conveyed using indirect behavioural cues rather than explicit verbal agreement (Hickman & Muehlenhard, 1999; Jozkowski et al., 2014; Jozkowski & Peterson, 2013), some individuals may struggle to identify when a sexual assault has happened to themselves and others (Campbell & Johnson, 1997).

Research has found gender differences in perceptions of consent across multiple populations, including student samples (e.g., Jozkowski et al., 2024). While male and female students share similar definitions of consent, they communicate it differently: male students tend to rely more on nonverbal cues, whereas female students tend to rely more on verbal cues (Hickman & Muehlenhard, 1999; Jozkowski et al., 2014). These differences in consent communication can lead to misperceptions of the same cues and failure to seek clarification, which may result in harmful sexual behaviours. Without a universal definition of consent, people often rely on incorrect assumptions about what constitutes consent, leading to dangerous outcomes.

Sexual Assault

Sexual assault occurs in the absence of consent (Jozkowski & Peterson, 2013). Given that consent does not have to be explicitly stated, there is always a potential for ambiguity, thus increasing the risk of sexual harm (Kirkpatrick et al., 2025). Walsh et al. (2021) found that 9% of their post-secondary student sample reported

engaging in sexual experiences in which consent was ambiguous (i.e., they were unsure of whether their partner actually consented). This aligns with broader evidence that college students' consent norms vary across contexts. For example, the perceived need to obtain consent decreases as relationship length increases (Humphreys & Herold, 2003), and less intimate sexual activities (e.g., kissing) are less likely to involve explicit consent (Humphreys, 2007). Consequently, students may be less likely to label encounters as sexual assault, particularly within ongoing relationships or when behaviours are perceived as less serious (Campbell & Johnson, 1997).

Rape Myth Acceptance

Rape myths are “prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists” (Burt, 1980, p. 217). While many factors can influence perceptions of consent and sexual assault, prior research highlights that rape myths can distort individuals' understanding of sexual assault (Venema, 2016). Specifically, rape myths can shape perceptions of victims and perpetrators in ways that conflict with established definitions of sexual assault (Diamond-Welch et al., 2021a; Kirkpatrick et al., 2025), such that endorsing beliefs like “revealing clothes invite sex” may lead people to attribute blame to the victim. Research shows that men consistently have higher rape myth acceptance (RMA) than women, reinforcing these gendered stereotypes (e.g., Burt, 1980; Grella et al., 2025; Schulze & Koon-Magnin, 2017).

Consent in the Homosexual Context

Most research on rape myths has been conducted in heterosexual contexts, but more recent studies indicate that these traditional myths also exist in sexual minority populations (Diamond-Welch et al., 2021a, 2021b; Schulze & Koon-Magnin, 2017; St. George et al., 2026). For example, it has been found that overall RMA levels are low across some sexual minority individuals and heterosexual allies (Schulze & Koon-Magnin, 2017; Wilson & Newins, 2019; Worthen, 2021), but higher amongst both hetero- and homosexual men (Diamond-Welch et al., 2021a, 2021b; Schulze & Koon-Magnin, 2017; Worthen, 2021), cisgender bisexual men and transgender men (Diamond-Welch et al., 2021b), and transgender women (St. George et al., 2026).

Most research examining RMA uses male-perpetrator female-victim scenarios, yet sexual assault occurs across diverse gender configurations. Kirkpatrick et al. (2025) conducted a study examining community members' perceptions of consent and sexual assault in opposite- and same-sex sexual encounters to determine whether they differed based on the consent type portrayed, the sexual orientation of the individuals in the encounter, participant gender, and RMA score. It was found that cisgender men held higher RMA and perceived both obvious and ambiguous non-consensual scenarios as more consensual and less representative of sexual assault. There was little evidence to suggest that the same-sex encounters were perceived differently from the opposite-sex encounters, but the

ambiguous non-consensual scenarios were consistently rated as more consensual and less representative of sexual assault than the obvious non-consensual scenarios. These findings highlight that people's ability to accurately interpret consent and sexual assault diminishes when ambiguous cues are introduced, supporting the idea that reliance on inaccurate assumptions or failure to seek necessary clarification increases the risk for sexual harm.

Current Study

Previous research suggests that many factors, including gender, RMA, consent type, and the sexual orientation of those in a given sexual encounter, influence perceptions of consent and sexual assault. Findings from Kirkpatrick and colleagues (2025) suggest that even those familiar with the concept of consent (e.g., students) may struggle to recognize and apply it in real-world situations, especially when cues are ambiguous. Given that university campuses are high-risk areas for sexual violence (Fedina et al., 2018), understanding students' perceptions of consent is essential. The current study, therefore, examined whether similar patterns to those reported by Kirkpatrick and colleagues (2025) would emerge in a university student sample.

Method

The sample consisted of 347 undergraduate students with an average age of 20.54 years ($SD = 4.78$). Most participants identified as female ($n = 271$, 69.8%) or male ($n = 112$, 28.9%), with the remaining identifying as non-binary ($n = 1$, 0.3%), transgender male ($n = 1$, 0.3%), or other ($n = 1$, 0.3%). Two participants (0.5%) chose not to report. For statistical analyses, only male and

female participants were included due to the low sample sizes for other gender identities. The majority of participants identified as heterosexual ($n = 292$, 84.1%), with the remaining participants identifying as a sexual minority ($n = 55$, 15.9%; e.g., homosexual, bisexual).

Design

Each participant read nine vignettes and rated each for perceived level of consent and sexual assault. A $2 \times 2 \times 3 \times 3$ mixed design was employed, with consent type (consensual, obvious non-consensual, or ambiguous non-consensual) as the within-subjects factor, and participant gender (male or female), RMA score (high or low), and condition (heterosexual, gay, or lesbian) as the between-subjects factors. The study utilized the same materials as Kirkpatrick and colleagues (2025).

Procedure

This study was administered online using Qualtrics. There were three main survey components administered: (1) a demographic questionnaire, (2) the Illinois Rape Myth Acceptance Scale (IRMA; Payne et al., 1999), and (3) the vignettes and accompanying questions. After reading each vignette, participants provided ratings of perceived consent and sexual assault.

Materials

The demographic questionnaire collected information about participants' personal characteristics (e.g., gender, sexual orientation). The IRMA is a 45-item scale, with seven subscales, used to measure RMA (see Payne et al., 1999, for a complete list of items and subscales). Although

the original study used a 7-point Likert scale, this study used a 5-point Likert scale to limit the number of response options that convey uncertainty. For example, participants were asked to rate their level of agreement with the statement "Women tend to exaggerate how much rape affects them" on a scale of 1 (strongly disagree) to 5 (strongly agree).

Participants were presented with nine fictional sexual scenarios, each depicting a sexual encounter between two individuals. Three of the vignettes portrayed consensual encounters, three depicted obvious non-consensual encounters, and three depicted ambiguous non-consensual encounters. The vignettes served as the experimental manipulation in this study, with the names of the two individuals involved altered to reflect one of three conditions: two female names (lesbian), two male names (gay), and one male and one female name (heterosexual). After reading each vignette, participants were asked to rate the extent to which they believed each encounter was consensual/non-consensual and representative/unrepresentative of a sexual assault on a scale of 1 (definitely not consensual/definitely not sexual assault) to 7 (definitely consensual/definitely sexual assault).

Results

Two four-way mixed analyses of variance (i.e., ANOVAs) were conducted to assess the influence of consent type, gender, RMA level, and vignette condition on participants' ratings of consent and sexual assault. A Bonferroni correction was applied, resulting in a more stringent p -value of 0.025. Due to limited variability in RMA scores, a median split was used to create a dichotomous RMA variable (i.e., high

or low). Additionally, the sexual assault ratings were reverse-coded so higher scores indicate lower perceived sexual assault (1 = definitely sexual assault, 7 = definitely not sexual assault).

There was a significant within-subjects effect of consent type for consent ($F(2, 625) = 3053.403$, $p < 0.001$, $\eta^2 = 0.901$) and sexual assault ratings ($F(1.778, 142.212) = 451.294$, $p < 0.001$, $\eta^2 = 0.849$), with the consensual scenarios being rated as the most consensual and least representative of a sexual assault, and the obvious non-consensual scenarios being rated as the most non-consensual and representative of a sexual assault. Simple effects analyses revealed that high-RMA participants and men rated all scenarios as more consensual and less representative of a sexual assault than low-RMA participants and women, regardless of vignette condition. No other significant main or interaction effects were found ($ps > 0.025$).

Discussion

Consistent with previous findings (Kirkpatrick et al., 2025), participants were generally able to accurately identify whether consent was given and whether a sexual assault occurred across the different consent types. Additionally, participants were weakest at accurately interpreting the ambiguous non-consensual encounters; this was especially true for men and those with high RMA, indicating that ambiguity remains an important factor in perceptions of consent. These findings align with prior research suggesting that men, particularly those with higher endorsement of rape myths, are more likely to misinterpret ambiguous cues as signaling consent (e.g., Kirkpatrick et al., 2025;

Schulze & Koon-Magnin, 2017). While the original study found effects in the gay condition (Kirkpatrick et al., 2025), the current study found no significant differences across conditions. All sexual encounters (e.g., gay, lesbian) were perceived similarly by our student sample. This discrepancy may reflect age-related cohort differences, as the original community sample was older ($M_{age} = 36.53$ years old) than the current student sample ($M_{age} = 20.54$ years old). Older adults may hold more traditional or less inclusive views due to differing educational and social contexts, including less exposure to environments emphasizing sexual consent, which may have influenced their ratings (Grella et al., 2025).

Implications

Given that universities are high-risk environments (Fedina et al., 2018) and that university life is largely characterized by social exploration and learning (Cantor et al., 2015; Willis & Jozkowski, 2018), post-secondary institutions represent an ideal setting for education-based sexual violence prevention initiatives. Consent education workshops can provide students with the knowledge and skills to navigate sexual interactions and challenge harmful misconceptions related to consent.

As previous studies (e.g., Jozkowski et al., 2014; Kirkpatrick et al., 2025) and the current study have demonstrated, men and individuals with higher RMA are more likely to misinterpret ambiguous cues. Consent education programs targeting RMA can help teach students how to identify rape myths in real-world scenarios and modify maladaptive thinking

patterns. Additionally, incorporating program elements that address gender-based stereotypes and patriarchal norms influencing sexual encounters (e.g., beliefs that persistence is acceptable following rejection) may be beneficial, especially for students who identify as male (including cisgender and transgender individuals). Without such guidance, students may rely solely on internal biases that perpetuate misconceptions about consent (Cary et al., 2022) and can lead to sexual violence.

Limitations and Future Research Directions

This study is not without limitations. First, despite its frequent use in research, the IRMA is heteronormative and heavily influenced by gender norms (Canan et al., 2022; Schulze & Koon-Magnin, 2017). Consequently, this scale may have failed to capture the full spectrum of gender constructs and experiences beyond those based on heteronormativity. Second, the current sample consisted only of participants who identified as male or female and was predominantly heterosexual (84.1%). This may ultimately limit the generalizability of the findings, potentially reducing applicability to gender and sexual minority populations. Finally, the use of fictional vignettes may have failed to capture the true complexity of real-world consent negotiations, potentially oversimplifying this nuanced process.

Future research should examine if and how universities currently implement sexual consent education, including the content and target populations, in order to

identify gaps in coverage and areas for improvement. Collecting more diverse samples would also allow researchers to explore whether perceptions of consent differ across sexual orientations and gender identities. Lastly, investigating factors that shape the development of consent knowledge and behaviours could offer insight into differences between student and non-student populations.

Conclusion

This study partially replicated and expanded upon the findings of Kirkpatrick et al. (2025) using

an undergraduate student sample. Results confirmed that students are generally able to identify consent and sexual assault. Similar to older community members, ambiguity, high RMA, and being male may lead to distorted perceptions of consent and sexual assault in university students. Unlike the original study, there was no evidence to suggest that same and opposite-sex encounters are perceived differently. This study's focus on post-secondary students provided valuable insight into perceptions of consent and sexual assault in a context where consent

education continues to evolve, and social norms are shifting. Future research should examine if and how current consent education is delivered in post-secondary institutions, perceptions of these concepts across sexual orientations and gender identities, and factors that shape students' knowledge of consent.





From Repression to Reflection: A Neo-Freudian Framework for Meditation and Implicit Bias

Jacob C. Angeles | B.A. (Hons) in Psychology, Simon Fraser University

Implicit racial bias refers to automatic associations, evaluations, or response tendencies linked to racial categories that can shape judgement and behaviour without full conscious awareness (Payne & Hannay, 2021). This definition is intentionally broad because the nature of implicit bias remains debated. Some accounts describe implicit bias as a set of associations (Byrd, 2021; Payne & Hannay, 2021), others as attitudes (Greenwald & Banaji, 1995), and others as dispositions that are expressed across contexts (Machery, 2016). For the purposes

of this article, the central point is that implicit racial bias can influence behaviour even when a person consciously endorses egalitarian values (i.e., all individuals are equal and deserve equal respect). This makes it difficult to confront, because the person may sincerely reject racism while still responding in ways shaped by internalized stereotypes. For example, an individual may consciously hold egalitarian values but still feel less trusting or more suspicious of a racialized person and treat them differently due to stereotypes they have absorbed from their culture (i.e., implicit bias).

The importance of this issue is practical as well as theoretical. Implicit racial bias has been linked to disparities in policing (Hehman et al., 2018), medicine (Green et al., 2007; Sabin & Greenwald, 2012), and legal decision-making (Metcalf & Chiricos, 2018). These settings require interventions that can reduce the hidden processes through which bias is maintained. The question, then, is not simply whether bias exists, but how it can be reduced in a meaningful and lasting way.

One promising line of research suggests that meditation may reduce implicit racial bias. Mindfulness meditation typically involves sustained, non-judgmental attention to present-moment experience, including thoughts, emotions, and bodily sensations (Lueke & Gibson, 2015). On the other hand, loving-kindness meditation more explicitly cultivates warmth and goodwill toward the self and others, including strangers or disliked groups (Kang et al., 2014). Studies of mindfulness and loving-kindness meditation have found reductions in implicit intergroup bias after relatively brief exercises or training periods (Hunsinger et al., 2014; Kang et al., 2014; Lueke & Gibson, 2015; Stell & Farsides, 2016). However, this literature has not offered a single clear explanation for why meditation seems to help. Instead, researchers have tended to emphasize different, previously considered disparate, mechanisms. Some researchers emphasize decreased anxiety and emotional reactivity (Hoge et al., 2013; Tacón et al., 2003), others emphasize increased empathy and compassion (Hunsinger et al., 2014; Kang et al., 2014; Stell & Farsides, 2016), and others emphasize deautomatization (Lueke & Gibson, 2015; Wenk-Sormaz, 2005; Zhou et al., 2023), or the weakening of automatic patterns of responding. These explanations are valuable, but they remain fragmented when presented separately.

In this article, I argue that a neo-Freudian perspective (i.e., modern Freudian theories) can help connect these findings. More specifically, repression may provide a useful framework for understanding how meditation could influence implicit racial bias. Rather than treating anxiety reduction, deau-

tomatization, and empathy as competing explanations, a neo-Freudian account suggests that they may be sequential parts of the same process. Meditation may first reduce the anxiety attached to biased thoughts, then allow those thoughts to become more available to reflective awareness and finally create conditions in which empathy can help revise them. This interpretation does not prove that meditation removes bias, but it offers a coherent framework for why and how meditation has shown promise in this area.

Why Existing Explanations Are Incomplete

Meditation is commonly understood as a practice of regulating attention toward the present moment with openness (Bishop et al., 2004). In this way, meditation can alter how people relate to thoughts and emotions by encouraging individuals to observe mental events without reacting to them or becoming emotionally entangled in them (Droit-Volet & Heros, 2017; Shapiro et al., 2006). This has made meditation a theoretically relevant tool for reducing anxiety and improving emotional regulation (Chen et al., 2012; Peixoto & Gondim, 2020; Tacón et al., 2003). Previous research on implicit bias found that loving-kindness meditation reduced implicit bias toward stigmatized groups, specifically homeless people. This effect was partly explained by reduced psychological stress, which suggests that meditation may reduce bias in part by lowering emotional reactivity attached to some outgroups (Kang et al., 2014). Other researchers have emphasized the role of deautomatization, arguing that mindfulness

disrupts habitual and automatic patterns of responding, thereby making biased reactions less immediate and less powerful (Lueke & Gibson, 2015; Zhou et al., 2023). Still others have highlighted empathy, including affective concern and cognitive perspective-taking, suggesting that meditation promotes warmth, compassion, and positive other-regarding emotions that can reduce prejudice toward outgroups (Hunsinger et al., 2014; Stell & Farsides, 2016).

Each explanation captures something valuable, but none fully clarifies how the elements fit together. If empathy increases, why would that matter for a bias that operates largely outside awareness? If meditation reduces automatic responding, what exactly is becoming less automatic? If anxiety is involved, what is the source of that anxiety? These questions become especially important because many short-term implicit bias interventions show effects that are brief, context-dependent, or difficult to interpret (Byrd, 2021; Lai et al., 2016). A stronger framework should therefore explain not only whether meditation can change implicit bias, but how it might address the emotional, cognitive, and interpersonal layers that keep bias in place.

A Neo-Freudian Interpretation

Neo-Freudianism is a framework that may be able to unify the multiple disconnected academic explanations for meditation mechanisms. This framework refers to a contemporary extension of Freudian theory using Freudian concepts (e.g., repression, defense mechanisms, unconscious conflicts) to explain psychological phenomena without adopting all of Freud's original claims (Krickel, 2018). Specifically,

Krickel (2018) argues that implicit racial bias can be understood through repression. Repression refers to a defensive process in which threatening or anxiety-provoking material is kept outside conscious awareness while continuing to influence emotion and behaviour indirectly (Vaillant, 1992). In this view, biased thoughts may originate consciously through exposure to racist social messages, stereotypes, or norms. Over time, however, these thoughts may become unacceptable to a person's self-image or moral standards. This creates inner conflict and anxiety. Repression then functions as a defense mechanism as it pushes the threatening or anxiety-provoking content out of conscious awareness while still allowing it to influence emotion and behaviour indirectly. This distinction matters because repression is not the same as suppression. Suppression usually refers to a healthy, intentional effort to push a thought away to be faced later, whereas repression is more defensive and less available to conscious control (Bailey & Pico, 2023).

This framework gives anxiety a clear role within neo-Freudian concepts. Specifically, the affective discomfort created by a conflict between an egalitarian self-image and biased association may also involve shame or self-disgust. In neo-Freudian terms, the biased association may become ego-dystonic or inconsistent with how the person consciously understands or wishes to understand themselves, and therefore it becomes negatively evaluated as unacceptable or self-alien (Sandia & Baptista, 2022). Anxiety is useful in this account because it can be understood as a signal that threatening material is approaching awareness and may need to be defended against (Shill, 2004).

Here, repression protects the person from this discomfort by keeping the conflict outside awareness, but it does not erase the bias (Vaillant, 1992). Meditation may reduce this defensive need by strengthening the observing ego, or the capacity to notice one's own thoughts and feelings without immediately identifying with them or defending against them (Sterba, 1934).

Meditation, Deautomatization, and Reflective Access

Meditation may support this process by changing the emotional conditions that sustain repression. Specifically, meditation trains people to observe thoughts with less judgement and less reactivity (Droit-Volet & Heros, 2017). The key change is not that the biased thought itself becomes harmless. Rather, the meditator may become less defensive toward and more able to objectively observe the thought, also known as a strengthening observing ego. If a biased thought can be noticed without immediately threatening the self, the need to defensively keep it outside awareness may weaken. This corresponds to the first three parts of Figure 1, where meditation reduces defensive anxiety or shame and weakens repression before reflective access becomes possible.

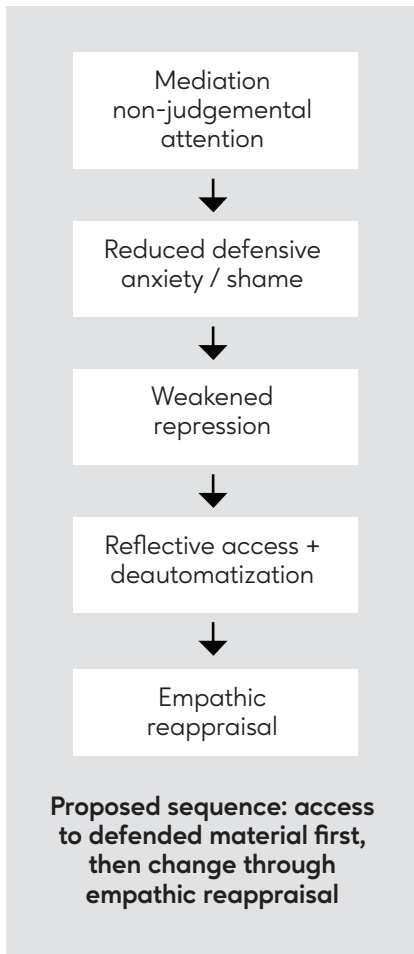
This is where deautomatization becomes more specific. Deautomatization should not be treated as a vague undoing of automaticity. Deautomatization refers to the weakening of habitual or automatic patterns of responding, a process that has been linked to meditation practice (Wenk-Sormaz, 2005). In this framework, it refers to the

movement from rapid, habitual reaction toward reflective access and regulatory control (Lueke & Gibson, 2015; Wenk-Sormaz, 2005). Dual-process theories distinguish relatively fast, automatic forms of thinking from slower, more reflective forms of appraisal (Evans, 2011). Anxiety can make reflective processing harder by narrowing attention and increasing reliance on threat-related interpretations (Butler & Mathews, 1983). Meditation may therefore support deautomatization by creating enough emotional distance for reflective processes to engage. Rather than simply reacting from the bias, a person can notice it, name it, and evaluate whether it aligns with their values.

This placement of deautomatization is important. One could argue that deautomatization comes after empathy, as the outcome of new learning. However, I place it between anxiety reduction and empathic revision because empathy cannot easily revise content that remains inaccessible or defended against (see Figure 1). Inhibitory learning offers a helpful comparison: Old associations are not necessarily erased, but new learning can compete with and weaken their expression (Craske et al., 2014). Similarly, meditation may first create access to biased material, allowing new empathic meanings to compete with older automatic associations. Deautomatization is therefore both a bridge and a partial outcome as it begins when bias becomes reflectively accessible and may be strengthened as new learning is consolidated.

Figure 1

*Proposed Neo-Freudian Sequence
Linking Meditation to Implicit
Bias Reduction*



Note. The sequence is theoretical. Deautomatization is treated as both a bridge into reflective access and a process that may be strengthened by later empathic reappraisal.

Why Empathy May Matter After Awareness

A neo-Freudian account also clarifies the role of empathy. Empathy has repeatedly been linked to lower prejudice, especially when individuals are encouraged to take the perspective of an outgroup member (Dovidio et al., 2004; Shih et al., 2009). Meditation has also been associated with increases in

empathy and compassion (Beddoe & Murphy, 2004; Hunsinger et al., 2014; Shapiro et al., 1998). However, empathy alone may not be enough to reduce implicit racial bias if the relevant biased associations remain outside reflective awareness.

Research on racialized empathic responding suggests why this matters. Empathic reactions themselves can be shaped by implicit bias. Studies have found that empathic responses to others' pain can differ depending on the race of the person in pain, with some evidence that implicit racial bias is associated with reduced empathic resonance toward racial outgroup members (Avenanti et al., 2010; Forgiarini et al., 2011). Mathur et al. (2014) further suggest that this pattern may depend on whether racial information is processed automatically or more deliberately, as racial bias in pain-related responses was weaker when race was made more explicit. This aligns with research showing that conscious awareness and regulatory processing can reduce some automatic affective responses (Cunningham et al., 2004; Lapate et al., 2016). This suggests that empathy may need reflective access to become effective.

In this framework, empathy does two kinds of work. First, as an affective and interpersonal orientation, it can soften defensive self-protection by redirecting attention toward the humanity and perspective of the other person. Second, as empathic reappraisal, it can help reinterpret the meaning of biased associations once those associations are available to awareness. The person is not merely feeling warmer. Instead, they are using that warmer orientation to reconsider automatic assumptions. Put differently, empathy may

be most effective after some degree of awareness has been restored. This is visualized in Figure 1, where empathic reappraisal occurs after reflective access. Overall, meditation first reduces reactivity, then loosens repression, then allows explicit reflection and empathic reappraisal. In sum, the models become sequential rather than competing.

Why Meditation Still Stands Out

This interpretation also suggests an explanation for why meditation may be more promising than some other short-term bias interventions. Researchers have tested multiple approaches to reducing implicit bias, including strategy training (Mendoza et al., 2010; Stewart & Payne, 2008), exposure to counter-stereotypic examples (Dasgupta & Greenwald, 2001; Joy-Gaba & Nosek, 2010), pharmacological approaches (Terbeck et al., 2012), and brain stimulation (Marini et al., 2018), but any effects achieved appear to be brief or context-dependent (Byrd, 2021; Lai et al., 2016). Meditation may be distinctive because it does not target only one surface feature of bias and instead it may act on emotional reactivity, attentional awareness, and interpersonal orientation all at once.

This has practical implications. In fields such as medicine, policing, education, and law, bias interventions often focus on knowledge or decision rules. Those approaches are important, but they may miss the defensive and emotional dimensions of bias. A neo-Freudian account suggests that interventions need to help people tolerate the discomfort of recognizing biased associations without becoming overwhelmed, ashamed, or defen-

sive. Meditation is useful in this framework not because it eliminates bias, but because it helps people stay present enough to examine the very material they would otherwise avoid.

That does not mean meditation should be implemented uncritically in professional settings. The current evidence base is still limited, and many studies involve brief interventions, small samples, or short follow-up periods (Hunsinger et al., 2014; Kang et al., 2014; Stell & Farsides, 2016). Meditation should also not be used to shift responsibility away from structural forms of racism. Individual reflection is not a substitute for institutional change. Still, meditation remains theoretically interesting because it may influence several layers of the bias-maintenance process rather than only the final behavioural output.

Limitations and Future Directions

This argument should be treated as a theoretical interpretation rather than a definitive conclusion. A neo-Freudian account organizes existing findings into a coherent framework, but it does not directly prove that repression is the mechanism at work. Future research should test the sequence proposed in Figure 1 more explicitly. For example, researchers could examine whether meditation reduces implicit racial bias most strongly when reductions

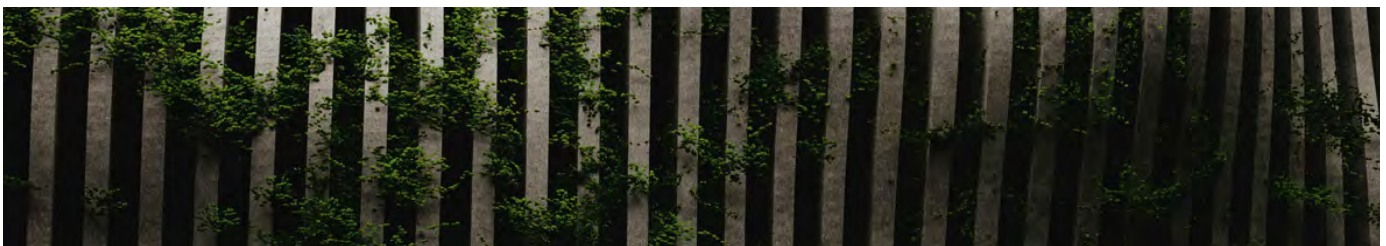
in anxiety, shame, or self-disgust are accompanied by increases in reflective awareness and empathy. Researchers could also compare mindfulness and loving-kindness meditation to determine whether different practices act on different parts of the proposed sequence.

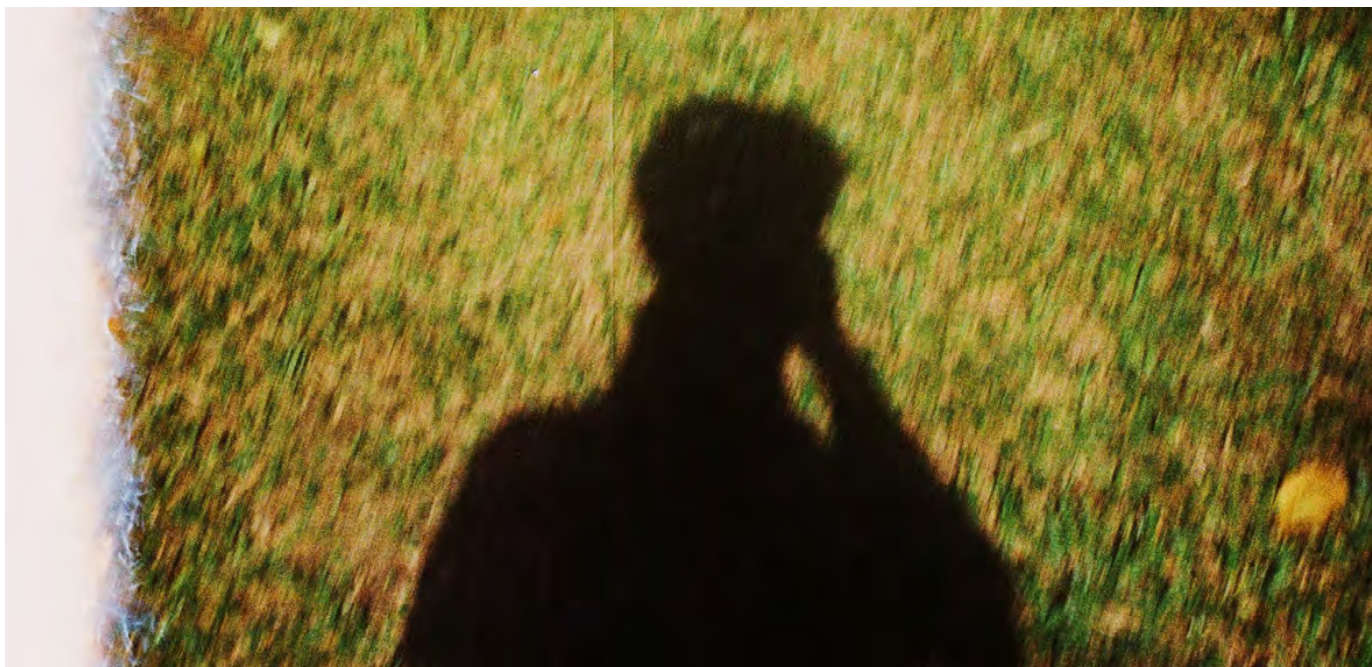
Future studies could also examine whether deautomatization functions as a mediator, outcome, or both. If deautomatization begins with reflective access but is strengthened by empathic reappraisal, then longitudinal designs would be especially useful. Researchers could measure changes in emotional reactivity, awareness of biased associations, empathic concern, and implicit-bias outcomes across multiple time points. This would allow the proposed sequence to be tested rather than merely assumed.

Finally, this framework should be placed in conversation with cognitive and social-cognitive theories rather than treated as a replacement for them. Dual-process theories help explain how anxiety can limit reflective control (Evans, 2011; Eysenck et al., 2007), while inhibitory learning models help explain how new associations may compete with old ones (Craske et al., 2014). The neo-Freudian contribution is to emphasize why some biased material may be defended against in the first place. It adds an account of emotional threat, self-image, and avoidance to existing cognitive models.

Conclusion

Meditation research has opened an intriguing possibility in the study of prejudice: Implicit racial bias may be more modifiable than it once seemed. Existing explanations have emphasized anxiety reduction, deautomatization, and empathy, but these accounts are strongest when understood together rather than apart. A neo-Freudian framework offers one way of connecting them. By reducing the defensive anxiety or shame attached to biased thoughts, meditation may weaken repression, make those thoughts more available to reflective awareness, and create conditions in which empathy can reshape them. In this sequence, meditation does not directly erase implicit bias. Instead, it may reduce its expression by strengthening the observing ego enough for ego-dystonic biased associations to be tolerated, brought into reflective awareness, and gradually revised through empathic reappraisal. This is more than an abstract theory. It is a reminder that bias is not only a cognitive habit but also an emotional and defensive process. If that is true, interventions like meditation matter not because they erase prejudice, but because they may help bring hidden processes into view, where meaningful change can begin.





The Role of Weight Bias Internalization in the Relationship Between Social Media Use and Body Dissatisfaction

Taylor G. J. Anthony | B.A. (Hons), Memorial University of Newfoundland

Darcie D. Valois | MA, Memorial University of Newfoundland

Jacqueline C. Carter | PhD (R. Psych.), Memorial University of Newfoundland

Abstract

Previous research depicts a positive relationship between social media use (SMU) and body dissatisfaction (BD); however, research on the potential mechanisms is limited. The current study aimed to examine the role of weight bias internalization (WBI) as a possible mediator of the relationship between SMU and BD. Undergraduate students ($M_{\text{age}} = 20.40$ years, $N = 224$, 81% females) completed a cross-sectional survey about SMU, BD, and WBI. Selfie-taking and

photo editing were significantly positively correlated with BD. Photo editing was significantly positively correlated with WBI. WBI significantly mediated the relationship between photo editing and BD. These findings suggest that specific aspects of social media use, such as selfie-taking and photo editing, may be harmful to body image. Potential implications from these findings include furthering education on potential negative effects of selfie-taking and photo editing in young adults, and

developing prevention efforts and interventions regarding mental health and body image.

Weight bias internalization (WBI) occurs when individuals attribute negative weight-related stereotypes to themselves (Romano et al., 2023). This may include beliefs that they are lazy or lack self-control due to their weight and can lead to avoiding situations that draw attention to their weight (Pearl et al., 2023). Young adults are particularly susceptible to adopting WBI. This developmental stage is typically ac-

accompanied by a heightened awareness of one's appearance and the consolidation and internalization of societal attitudes, including beauty ideals, weight, and shape (Zancu & Diaconu-Gherasim, 2024).

WBI is strongly associated with body dissatisfaction (BD), which is a heightened negative evaluation of one's weight or shape (Romano et al., 2021). Young adulthood is also a critical period in body image development and is typically when the onset of disordered eating occurs (Breton et al., 2022). As BD is an established risk factor for disordered eating, research on factors that contribute to BD among youth is important, one factor being social media use (SMU).

SMU is prevalent among youth with nine out of 10 Canadians aged 15 to 34 using social media regularly (Breton et al., 2022; Schimmele et al., 2021). SMU may affect body image as individuals can evaluate themselves through social media posts (Cohen et al., 2018). Various social media platforms enable users to enhance and manipulate photos, which can contribute to dissatisfaction with their actual appearance (Wick & Keel, 2020).

Several studies depict a positive association between general SMU (the amount of time spent on social media) and BD (Rodgers et al., 2020; Saunders & Eaton, 2018). However, others conclude that general SMU is not harmful, but rather that specific aspects of SMU, such as photo editing, are positively associated with BD (Cohen et al., 2018; McLean et al., 2015). This lack of consensus highlights the need for additional research to identify the problematic aspects of SMU.

Research on mechanisms in the relationship between SMU and

BD is limited. WBI should be considered because unrealistic beauty standards are frequently presented and perpetuated on social media. Consuming this type of content and presenting oneself on social media while subscribing to these ideals may lead to WBI (Moufawad et al., 2024), followed by BD as content on social media (e.g., edited selfies) may not accurately portray an individual's appearance.

The current study aimed to address part of the evidence gap involving the mechanism between the relationship of SMU and BD by examining WBI as a potential mediator. The goals of the study were to: 1) examine the associations between SMU, BD, and WBI; and 2) examine whether WBI mediates the relationship between SMU and BD. We hypothesized that: 1) certain facets of SMU (i.e., photo editing, selfie-taking, and selfie-posting) would be positively associated with BD; and 2) WBI would positively mediate the relationship between SMU and BD.

Method

The sample consisted of 224 undergraduate students aged 18 to 26 ($M = 20.40$, $SD = 1.70$) from Memorial University of Newfoundland. Participants were recruited through the university's Psychology Research Experience Pool, where students could participate in psychological research and receive course credit for participating. Most participants identified as female ($N = 180$, 81%) and White ($N = 169$, 76%; Table 1).

Ethics approval was granted by the Interdisciplinary Committee on Ethics in Human Research (approval number 20221928-SC). This study was of cross-sectional

design and participants completed online self-report WBI, BD, and SMU questionnaires. Participants gave informed consent and were debriefed upon study completion.

Measures

Demographics

Participants reported age, gender, ethnicity, and height and weight, which were used to calculate BMI.

Weight Bias Internalization

The 11-item Modified Weight Bias Internalization Scale (WBIS-M; Pearl & Puhl, 2014) assessed WBI and was scored on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*) with higher scores signifying greater WBI. The WBIS-M demonstrated excellent reliability (Cronbach's $\alpha = .93$).

Body Dissatisfaction

Twelve items from the Shape and Weight Concern subscales in the Eating Disorder Examination Questionnaire measured BD (Fairburn & Beglin, 2008). This was scored on a 7-point Likert scale (0 = *no days* to 6 = *everyday*) with higher scores indicating greater BD. These subscales demonstrated excellent reliability (Cronbach's $\alpha = .95$).

Social Media Usage

Based on the 'SNS Use' measure (Cohen et al. 2018), participants rated their time on social media per day on an 11-point Likert scale (1 = *0-30 minutes* to 11 = *10 or more hours*). Cohen et al. (2018) also addressed the frequency participants post selfies to social media which was scored on a 5-point Likert scale (1 = *never* to 5 = *very often*).

The two-item Photo Manipulation Scale (Cohen et al., 2018) assessed photo editing (i.e., adding filters, making themselves appear thinner) and was scored on a 5-point Likert scale (1 = *never* to 5 = *very often*). This measure demonstrated acceptable reliability (Cronbach's $\alpha = .70$).

The two-item Photo Activities measure (McLean et al., 2015) assessed how frequently participants take selfies alone and with others. This was measured on an 8-point Likert scale (1 = *less than once a month* to 8 = *more than twice a day*) and demonstrated acceptable reliability (Cronbach's $\alpha = .66$).

Statistical Analyses

The data were analyzed using jamovi (The jamovi project, 2022). Preliminary analysis checked for outliers, skewness, and kurtosis. No issues were found; therefore, outliers were left unadjusted. A series of zero-order Pearson's correlations were run to assess associations between study variables. BMI was entered as a covariate in all mediation analyses, and 95% confidence intervals were calculated using 1,000 bootstrapped samples.

A power analysis was calculated using the Fritz & MacKinnon (2007) table of *Empirical Estimates of Sample Sizes Needed for .8 Power*. A partial mediation with a medium *a* path effect size (.39) and a large *b* path effect size (.59) required a minimum sample size of 88 participants.

Results

Descriptive Statistics

Many participants ($n = 59$, 27%) reported 3-4 hours of SMU per day, infrequent photo editing ($M = 2.10$, $SD = 1.01$), and moderate levels of BD ($M = 3.86$, $SD = 1.81$), and WBI ($M = 3.54$, $SD = 1.55$; Table 1).

Table 1

Descriptive statistics for participants.

Variable		N(%)
Gender		
	Male	41(18)
	Female	180(81)
	Non-Binary	<5%
Ethnicities		
	Asian or Asian Canadian	21(9)
	Black or African Canadian	11(5)
	Hispanic or Latino	<5%
	White, Caucasian, Anglo, European Canadian	169(76)
	Indigenous Canadian	<5%
	Mixed; Parents from different groups	<5%
	Other	<5%
Time on social media		
	0-30 minutes	16(7)
	1-2 hours	35(16)
	2-3 hours	38(17)
	3-4 hours	59(27)
	4-5 hours	29(13)
	5-6 hours	27(12)
	6-7 hours	<5%
	7-8 hours	<5%
	8-9 hours	<5%
	9-10 hours	<5%
	10+ hours	<5%
		<i>M(SD)</i>
Age		20.40(1.70)
BMI		25.02(6.54)
Selfie-posting		2.00(1.14)
Selfie-taking		3.30(1.82)
Photo editing		2.10(1.01)
WBI		3.54(1.55)
BD		3.86(1.81)

Note. Values of less than 5% were not explicitly reported to protect the anonymity of participants.

Correlation Analyses

Pearson's correlations revealed that selfie-taking was significantly positively correlated with WBI ($r(101) = .21, p = .031$), but not with BD ($r(215) = .12, p = .086$). Selfie-posting was significantly positively correlated with BD ($r(214) = .25, p < .001$). Photo editing was significantly positively correlated with BD ($r(215) = .34, p < .001$) and WBI ($r(101) = .31, p = .002$; Table 2).

Table 2

Zero-order correlations between SMU, BD, WBI, and BMI.

	1.	2.	3.	4.	5.	6.	7.
1. BMI	—						
2. Time on social media	-0.02	—					
3. Selfie-taking	-0.04	0.20**	—				
4. Selfie-posting	0.02	0.19**	0.62***	—			
5. Photo Editing	-0.02	0.22***	0.29***	0.22**	—		
6. BD	0.27***	0.13	0.12	0.25***	0.34***	—	
7. WBI	0.46***	0.15	0.21*	0.04	0.31**	0.83***	—

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Mediation Analyses

Four mediation models were tested to determine whether WBI mediated the relationship between SMU and BD. Time on social media, selfie-taking, selfie-posting, and photo editing were entered as independent variables (in separate models), WBI as the mediator, and BD as the dependent variable.

The first model examined time on social media. There was no significant direct effect of time on social media on BD ($B = -.04, SE = .07, p = .623$) nor on WBI ($B = .10, SE = .07, p = .176$). There was a significant positive relationship between WBI and BD ($B = .96, SE = .06, p < .001$). The indirect effect of time on social media on BD through WBI was not significant, suggesting no significant mediation effect occurred ($B = .09, SE = .07, p = .175, 95\% \text{ CI } [-.04, .22]$).

The second model examined selfie-taking. There was no significant direct effect of selfie-taking on BD

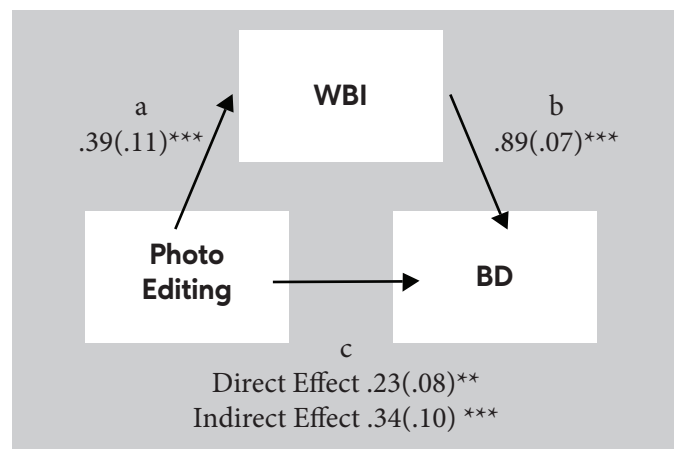
($B = .09, SE = .05, p = .102$) nor on WBI ($B = .03, SE = .08, p = .751$); however, there was a significant positive relationship between WBI and BD ($B = .95, SE = .07, p < .001$). As the indirect effect was not significant, no significant mediation effect occurred ($B = .02, SE = .08, p = .751, 95\% \text{ CI } [-.12, .17]$).

The third model examined selfie-posting. There was no significant direct effect of selfie-posting on BD ($B = -.10, SE = .09, p = .321$) nor on WBI ($B = .13, SE = .13, p = .319$). There was a significant positive relationship between WBI and BD ($B = .96, SE = .07, p < .001$). The indirect effect was not significant, suggesting no significant mediation effect occurred ($B = .13, SE = .13, p = .321, 95\% \text{ CI } [-.12, .37]$).

The final model examined photo editing, which revealed that the indirect effect of photo editing on BD through WBI was significant (Figure 1; $B = .34, SE = .10, p < .001, 95\% \text{ CI } [.15, .54]$). When considering WBI as a mediator in the model, the direct effect between photo editing and BD was reduced compared to the total effect ($B = .51, SE = .09, p < .001$) but remained significant ($B = .23, SE = .08, p = .005$). Thus, WBI partially mediated the relationship between photo editing and BD.

Figure 1

The relationship between photo editing and BD as mediated by WBI.



Note. ** $p < 0.01$, *** $p < 0.001$.

Discussion

The first hypothesis was partially supported; selfie-posting and photo editing were significantly correlated with BD suggesting that certain types of SMU may be related to increased body dissatisfaction. This is in line with previous research which found strong correlations be-

tween these variables (Cohen et al., 2018; McLean et al., 2015). Social media users may become overly critical of their selfies and edit photos to remove perceived flaws, leading to BD.

The second hypothesis was partially supported. WBI significantly mediated the relationship between photo editing and BD, indicating that WBI may be an explanatory mechanism. Photo editing may contribute to BD through WBI as editing perceived flaws may increase awareness of those flaws. This may reinforce internalization of beauty ideals as individuals edit photos to make themselves more conventionally attractive, increasing dissatisfaction with their actual appearance since the edited photo would be regarded as the ideal (Wick & Keel, 2020).

Strengths, Limitations, and Future Directions

To our knowledge, this is the first study to support the role of WBI in the relationship between photo editing and BD. By measuring different facets of SMU, we were able to examine general (time spent on social media) and specific (photo editing, selfie-taking, and selfie-posting) activities. The study

specifically used a sample of young adults because WBI and BD are risk factors for disordered eating, and studying these variables in youth can provide insight into the development of disordered eating.

However, this study was non-experimental and cross-sectional. Hence, the results should be interpreted with caution as causal conclusions and time precedence cannot be established. In addition, a limited number of items measured SMU, potentially impacting the results' validity. Future research should explore alternative measures to ensure SMU is accurately captured and recruit diverse samples to increase the generalizability of results. In addition, future research should employ qualitative interviewing to examine participant's experiences with SMU in depth.

Implications and Conclusions

This study could further public awareness and education efforts surrounding SMU, which may be helpful in the prevention and treatment of eating disorders in youth. This may involve informing youth on which forms of SMU may be related to WBI and BD, and which are risk factors for eating disorders,

allowing people to make informed decisions about SMU (Romano et al., 2023). For treatment implications, clinicians can work with clients experiencing WBI and BD to make their SMU consistent with treatment goals. This could include no longer editing photos or following accounts which promote positive body image (i.e., accounts that encourage diverse body types and appearances; Cohen et al., 2021). Exposure to unedited photos, as well as motivational captions and comments, may help individuals to adopt a more positive body image and reject societal stereotypes about body weight and size.

The results from this study suggest that certain aspects of SMU may be harmful to body image. This is supported by positive correlations between selfie-taking, photo editing, and BD, as well as photo editing with WBI, and a mediation model where WBI was found to partially mediate the relationship between photo editing and BD. Education on the potential negative effects of photo editing in young adults may be helpful in prevention and treatment efforts surrounding body image, emphasising the importance of researching the underlying mechanisms of BD.



References

Rethinking Therapeutic Models: Autism and Self-Determination

Kelly D'Souza, K.D | BA, M.Ed
candidate, McGill University

- Anderson, L. K. (2023). Autistic experiences of applied behavior analysis. *Autism*, 27(3), 737-750. <https://doi.org/10.1177/13623613221118216>
- Bargiela, S., Steward, R., & Mandy, W. (2016). The experiences of late-diagnosed women with autism spectrum conditions: An investigation of the female autism phenotype. *Journal of Autism and Developmental Disorders*, 46(10), 3281-3294. <https://doi.org/10.1007/s10803-016-2872-8>
- Becerra, T. A., Massolo, M. L., Yau, V. M., Owen-Smith, A. A., Lynch, F. L., Crawford, P. M., Pearson, K. A., Pomichowski, M. E., Quinn, V. P., Yoshida, C. K., & Croen, L. A. (2017). A survey of parents with children on the autism spectrum: Experience with services and treatments. *The Permanente Journal*, 21(2), Article 16-009. <https://doi.org/doi:10.7812/TPP/16-009>
- Bent, C. A., Pellicano, E., Iacono, T., & Hudry, K. (2023). Perspectives from parents of autistic children on participating in early intervention and associated research. *Autism*, 27(5), 1295-1306. <https://doi.org/10.1177/13623613221141540>
- Bottema-Beutel, K., Kapp, S. K., Lester, J. N., Sasson, N. J., & Hand, B. N. (2021). Avoiding ableist language: Suggestions for autism researchers. *Autism in Adulthood*, 3(1), 18-29. <https://doi.org/10.1089/aut.2020.0014>
- Brian, J. A., Dowds, E. M., Bernardi, K., Velho, A., Kantawalla, M., & de Souza, N. (2024). Transporting and implementing a caregiver-mediated intervention for toddlers with autism in Goa, India: Evidence from the social ABCs. *Frontiers in Rehabilitation Sciences*, 5, Article 1214009. <https://doi.org/10.3389/fresc.2024.1214009>
- Bryan, L. C., & Gast, D. L. (2000). Teaching on-task and on-schedule behaviors to high-functioning children with autism via picture activity schedules. *Journal of Autism and Developmental Disorders*, 30(6), 553-567. <https://doi.org/10.1023/A:1005687310346>
- CAHS. (2022). *Autism in Canada: Considerations for future public policy development - Weaving together evidence and lived experience*. The Oversight Panel on the Assessment on Autism. <https://cahs-acss.ca/wp-content/uploads/2022/04/CAHS-Autism-in-Canada-Considerations-for-future-public-policy-development.pdf>
- Carbone, V. J., O'Brien, L., Sweeney-Kerwin, E. J., & Albert, K. M. (2013). Teaching eye contact to children with autism: A conceptual analysis and single case study. *Education and Treatment of Children*, 36(2), 139-159.
- Chapman, R., & Bovell, V. (2020). *Neurodiversity, advocacy, anti-therapy*.
- Chen, A., Blatman, Z., Chan, A., Hossain, A., Niles, C., Atkinson, A., & Narang, I. (2023). Providing culturally responsive care in a pediatric setting: Are our trainees ready? *BMC Medical Education*, 23(1), Article 681. <https://doi.org/10.1186/s12909-023-04651-0>
- Collins, I. M., Halter, F., Schächinger Tenés, L. T., Lieb, R., & Meyer, A. H. (2025). A meta-analysis of applied behavior analysis-based interventions to improve communication, adaptive, and cognitive skills in children on the autism spectrum. *Review Journal of Autism and Developmental Disorders*. <https://doi.org/10.1007/s40489-025-00506-0>
- Cook, J., Hull, L., Crane, L., & Mandy, W. (2021). Camouflaging in autism: A systematic review. *Clinical Psychology Review*, 89, Article 102080. <https://doi.org/https://doi.org/10.1016/j.cpr.2021.102080>
- Cooper, J. O., Heron, T. E., & Heward, W. L. (2020). *Applied behavior analysis* (3rd ed). Pearson Education Limited.
- Cumming, T., Strnadová, I., Danker, J., & Basckin, C. (2020). "I was taught that my being was inherently wrong": is applied behavioural analysis a socially valid practice? *International Journal of Arts Humanities and Social Sciences Studies* 5(12). https://www.researchgate.net/publication/346682821_I_Was-Taught-That-My-Being-Was-Inherently-Wrong-Is-Applied-Behavioural-Analysis-A-Socially-Valid-Practice
- Davenport, M., Mazurek, M., Brown, A., & McCollom, E. (2018). A systematic review of cultural considerations and adaptation of social skills interventions for individuals with autism spectrum disorder. *Research in Autism Spectrum Disorders*, 52, 23-33. <https://doi.org/10.1016/j.rasd.2018.05.003>
- Dawson, G., Rogers, S., Munson, J., Smith, M., Winter, J., Greenson, J., Donaldson, A., & Varley, J. (2010). Randomized, controlled trial of an intervention for toddlers with autism: *The Early Start Denver Model*. *Pediatrics*, 125(1), e17-e23. <https://doi.org/10.1542/peds.2009-0958>
- Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 18(1), 105-115. <https://doi.org/10.1037/h0030644>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum.
- Engelstad, A.-M., Joffe-Nelson, L., Hurewitz, S. R., Pawlowski, K. G., & Baumer, N. T. (2024). The JASPER (joint attention, symbolic play, engagement and regulation) intervention in Down syndrome: A pilot study. *Research in Developmental Disabilities*, 152, Article 104796. <https://doi.org/10.1016/j.ridd.2024.104796>
- Fonger, A. M., & Malott, R. W. (2019). using shaping to teach eye contact to children with autism spectrum disorder. *Behaviour Analysis in Practice*, 12(1), 216-221. <https://doi.org/10.1007/s40617-018-0245-9>
- Frost, K. M., Brian, J., Gengoux, G. W., Hardan, A., Rieth, S. R., Stahmer, A., & Ingersoll, B. (2020). Identifying and measuring the common elements of naturalistic developmental behavioral interventions for autism spectrum disorder: *Development of the NDBI-Fi*. *Autism*, 24(8), 2285-2297. <https://doi.org/10.1177/1362361320944011>
- Garro, J., & Lerman, D. (2007). *Effects of Adult Proximity on the Social Interaction of Children With and Without Disabilities*. [Unpublished thesis]. University of Houston-Clear Lake. https://www.researchgate.net/publication/304676502_Effects_of_Adult_Proximity_on_the_Social_Interaction_of_Children_With_and_Without_Disabilities
- Giangreco, M. F., Edelman, S. W., Luiselli, T. E., & Macfarland, S. Z. C. (1997). Helping or hovering? effects of instructional assistant proximity on students with disabilities. *Exceptional Children*, 64(1), 7-18. <https://doi.org/10.1177/001440299706400101>

References

- Gillespie-Lynch, K., Kapp, S. K., Brooks, P. J., Pickens, J., & Schwartzman, B. (2017). Whose expertise is it? evidence for autistic adults as critical autism experts [Original Research]. *Frontiers in psychology*, 8, Article 438. <https://doi.org/10.3389/fpsyg.2017.00438>
- Jónsdóttir, S. L., Brynjarsdóttir, B., Sæmundsen, E., & Sigurdsson, J. F. (2018). Long-term outcome of children with autism who received different forms of early intervention during their pre-school years: A pilot study of 15 young adults. *Scandinavian Journal of Child and Adolescent Psychiatry and Psychology*, 6(1), 28-39. <https://doi.org/10.21307/sjcapp-2018-006>
- Kapp, S. K., Gillespie-Lynch, K., Sherman, L. E., & Hutman, T. (2013). Deficit, difference, or both? autism and neurodiversity. *Developmental Psychology*, 49(1), 59-71. <https://doi.org/10.1037/a0028353>
- Kedar, I. (2011). Motor difficulties in severe autism. *Ido in Autismland*. Retrieved March 30, 2025, from <http://idoinautismland.com/?p=376>
- Kita, S. (2009). Cross-cultural variation of speech-accompanying gesture: A review. *Language and Cognitive Processes*, 24(2), 145-167. <https://doi.org/10.1080/01690960802586188>
- Kwak, D., Bell, M. C., Blair, K.-S. C., & Bloom, S. E. (2024). Cultural responsiveness in assessment, implementer training, and intervention in school, home, and community settings: a systematic review. *Journal of Behavioral Education*, 34(3), 526-573. <https://doi.org/10.1007/s10864-024-09547-7>
- Lai, J., Klag, M., & Shikako-Thomas, K. (2019). Designing a program evaluation for a medical-dental service for adults with autism and intellectual disabilities using the RE-AIM framework. *Learning Health Systems*, 3(3), Article 10192. <https://doi.org/https://doi.org/10.1002/lrh2.10192>
- Lang, R., Machalicek, W., Rispoli, M., O'Reilly, M., Sigafoos, J., Lancioni, G., Peters-Scheffer, N., & Didden, R. (2014). Play skills taught via behavioral intervention generalize, maintain, and persist in the absence of socially mediated reinforcement in children with autism. *Research in Autism Spectrum Disorders*, 8(7), 860-872. <https://doi.org/10.1016/j.rasd.2014.04.007>
- Leadbitter, K., Buckle, K. L., Ellis, C., & Dekker, M. (2021). Autistic self-advocacy and the neurodiversity movement: implications for autism early intervention research and practice. *Frontiers in Psychology*, 12, Article 635690. <https://doi.org/10.3389/fpsyg.2021.635690>
- Libby, M. E., Weiss, J. S., Bancroft, S., & Ahearn, W. H. (2008). A comparison of most-to-least and least-to-most prompting on the acquisition of solitary play skills. *Behaviour Analysis in Practice*, 1(1), 37-43. <https://doi.org/10.1007/bf03391719>
- Lovaas, O. I. (1987). Behavioral treatment and normal educational and intellectual functioning in young autistic children. *Journal of consulting and clinical psychology*, 55(1), 3-9.
- McCormack, L., Wong, S. W., & Campbell, L. E. (2023). 'If I don't do It, I'm out of rhythm and I can't focus as well': Positive and negative adult interpretations of therapies aimed at 'fixing' their restricted and repetitive behaviours in childhood. *Journal of Autism and Developmental Disorders*, 53(9), 3435-3448. <https://doi.org/10.1007/s10803-022-05644-6>
- Pearson, J. N., & Meadan, H. (2021). FACES: An advocacy intervention for African American parents of children with autism. *Intellectual Developmental Disabilities*, 59(2), 155-171. <https://doi.org/10.1352/1934-9556-59.2.155>
- PHAC. (2024, September 26). *Framework for Autism in Canada*. Government of Canada. <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/framework-autism-canada.html>
- Reichow, B., Boyd, B. A., Barton, E. E., & Odom, S. L. (2016). *Handbook of early childhood special education*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-28492-7>
- Robertson, S. M. (2009). Neurodiversity, quality of life, and autistic adults: Shifting research and professional focuses onto real-life challenges. *Disability Studies Quarterly*, 30(1). <https://doi.org/10.18061/dsq.v30i1.1069>
- Rudrabhatla, A., Hendrix, N., Gillespie, S., Ulven, K., Jergel, A., Greenfield, E., Guerra, K., & Pickard, K. (2024). A mixed-methods examination of culturally responsive adaptation to an evidence-based parent-mediated intervention implemented for autistic children. *Administration and Policy in Mental Health*, 51(3), 406-424. <https://doi.org/10.1007/s10488-024-01343-9>
- Russell, G., Kapp, S. K., Elliott, D., Elphick, C., Gwernan-Jones, R., & Owens, C. (2019). Mapping the autistic advantage from the accounts of adults diagnosed with autism: A qualitative study. *Autism in Adulthood*, 1(2), 124-133. <https://doi.org/10.1089/aut.2018.0035>
- Sandbank, M., Bottema-Beutel, K., Crowley LaPoint, S., Feldman, J. I., Barrett, D. J., Caldwell, N., Dunham, K., Crank, J., Albarran, S., & Woynaroski, T. (2023). Autism intervention meta-analysis of early childhood studies (Project AIM): Updated systematic review and secondary analysis. *BMJ*, 383, Article 076733. <https://doi.org/10.1136/bmj-2023-076733>
- Sandoval-Norton, A. H., Gary, S., & Shkedy, D. (2019). How much compliance is too much compliance: Is long-term ABA therapy abuse? *Cogent Psychology*, 6(1), Article 1641258. <https://doi.org/10.1080/23311908.2019.1641258>
- Scherer, N., Verhey, I., & Kuper, H. (2019). Depression and anxiety in parents of children with intellectual and developmental disabilities: A systematic review and meta-analysis. *PLOS ONE*, 14(7), Article 0219888. <https://doi.org/10.1371/journal.pone.0219888>
- Schreibman, L., Dawson, G., Stahmer, A. C., Landa, R., Rogers, S. J., McGee, G. G., Kasari, C., Ingersoll, B., Kaiser, A. P., Bruinsma, Y., McNerney, E., Wetherby, A., & Halladay, A. (2015). Naturalistic developmental behavioral interventions: Empirically validated treatments for autism spectrum disorder. *Journal of Autism Developmental Disorders*, 45(8), 2411-2428. <https://doi.org/10.1007/s10803-015-2407-8>
- Schuck, R. K., Tagavi, D. M., Baiden, K. M. P., Dwyer, P., Williams, Z. J., Osuna, A., Ferguson, E. F., Jimenez Munoz, M., Poyser, S. K., Johnson, J. F., & Vernon, T. W. (2022). Neurodiversity and autism intervention: Reconciling perspectives through a naturalistic developmental behavioural intervention framework. *Journal of Autism and Developmental Disorders*, 52(10), 4625-4645. <https://doi.org/10.1007/s10803-021-05316-x>

References

- Sengupta, K., Shah, H., Ghosh, S., Sanghvi, D., Mahadik, S., Dani, A., Deshmukh, O., Pacione, L., Dixon, P., Salomone, E., & Servili, C. (2023). World Health Organisation-caregiver skills training (WHO-CST) program: Feasibility of delivery by non-specialist providers in real-world urban settings in India. *Journal of Autism and Developmental Disorders*, 53(4), 1444-1461. <https://doi.org/10.1007/s10803-021-05367-0>
- Song, Y., Kong, X., Fu, W., & Song, F. (2025). Parent-mediated interventions based on the NDBI for children with ASD: A systematic review of randomized controlled trials. *Journal of Autism and Developmental Disorders*, 1-17. <https://doi.org/10.1007/s10803-025-06791-2>
- Stahmer, A. C., Rieth, S. R., Dickson, K. S., Feder, J., Burgeson, M., Searcy, K., & Brookman-Frazee, L. (2020). Project IMPACT for toddlers: Pilot outcomes of a community adaptation of an intervention for autism risk. *Autism*, 24(3), 617-632. <https://doi.org/10.1177/1362361319878080>
- Steinbrenner, J. R., McIntyre, N., Rent-schler, L. F., Pearson, J. N., Luelmo, P., Jaramillo, M. E., Boyd, B. A., Wong, C., Nowell, S. W., Odom, S. L., & Hume, K. A. (2022). Patterns in reporting and participant inclusion related to race and ethnicity in autism intervention literature: Data from a large-scale systematic review of evidence-based practices. *Autism*, 26(8), 2026-2040. <https://doi.org/10.1177/13623613211072593>
- Sutherland, D., Griffin, J., Flynn, S., Thompson, P. A., & Hastings, R. P. (2024). Positive family connections for families of children with a developmental disability: Cluster randomized controlled trial. *Journal of Family Psychology*, 38(4), 559-570. <https://doi.org/10.1037/fam0001211>
- Trump, C. E., Pennington, R. C., Travers, J. C., Ringdahl, J. E., Whiteside, E. E., & Ayres, K. M. (2018). Applied behavior analysis in special education: Misconceptions and guidelines for use. *TEACHING Exceptional Children*, 50(6), 381-393. <https://doi.org/10.1177/0040059918775020>
- Vivanti, G., & Zhong, H. N. (2020). Naturalistic developmental behavioral interventions for children with autism. In G. Vivanti, K. Bottema-Beutel, & L. Turner-Brown (Eds.), *Clinical Guide to Early Interventions for Children with Autism* (pp. 93-130). Springer International Publishing. https://doi.org/10.1007/978-3-030-41160-2_6
- Wehmeyer, M. L. (2007). *Promoting self-determination in students with developmental disabilities*. Guilford Press. <http://site.ebrary.com/id/10201015>
- Weyman, J. R., Imler, M., & Kelly, D. A. (2024). Addressing prompt dependency in the treatment of challenging behavior maintained by access to tangible items. *Behavioural Science (Basel)*, 14(9). <https://doi.org/10.3390/bs14090828>
- Williams, R. (2018). Autonomously autistic: Exposing the locus of autistic pathology. *Canadian Journal of Disability Studies*, 7, 60-82. <https://doi.org/10.15353/cjds.v7i2.423>
- Wolfberg, P., DeWitt, M., Young, G. S., & Nguyen, T. (2015). Integrated play groups: Promoting symbolic play and social engagement with typical peers in children with ASD across settings. *Journal of Autism Developmental Disorders*, 45(3), 830-845. <https://doi.org/10.1007/s10803-014-2245-0>
- Xu, G., Strathearn, L., Liu, B., O'Brien, M., Kopelman, T. G., Zhu, J., Snetselaar, L. G., & Bao, W. (2019). Prevalence and treatment patterns of autism spectrum disorder in the United States, 2016. *JAMA Pediatrics*, 173(2), 153-159. <https://doi.org/10.1001/jamapediatrics.2018.4208>
- A Pilot Study on Shyness and Empathy: A Cross-Cultural Comparison Among White, East Asian, and South Asian Undergraduates**
- Skade Arrissa Fernando S.A.F. | BSc, McMaster University**
- Afshan, A., Askari, I., & Manickam, L. S. S. (2015). Shyness, self-construal, extraversion-introversion, neuroticism, and psychoticism: A cross-cultural comparison among college students. *SAGE Open*, 5(2), 2158244015587559. <https://doi.org/10.1177/2158244015587559>
- Aizawa, Y., & Whatley, M. A. (2006). Gender, shyness, and individualism-collectivism: A cross-cultural study. *Race, Gender & Class*, 13(1/2), 7-25. <http://www.jstor.org/stable/41675217>
- Atkins, D., Uskul, A. K., & Cooper, N. R. (2016). Culture shapes empathic responses to physical and social pain. *Emotion*, 16(5), 587-601. <https://doi.org/10.1037/emo0000162>
- Bowker, J. C., & Raja, R. (2011). Social withdrawal subtypes during early adolescence in India. *Journal of Abnormal Child Psychology*, 39(2), 201-212. <https://doi.org/10.1007/s10802-010-9461-7>
- Bruch, M. A., Hamer, R. J., & Heimberg, R. G. (1995). Shyness and public self-consciousness: Additive or interactive relation with social interaction? *Journal of Personality*, 63(1), 47-63. <https://doi.org/10.1111/j.1467-6494.1995.tb00801.x>
- Cassels, T. G., Chan, S., & Chung, W. (2010). The role of culture in affective empathy: Cultural and bicultural differences. *Journal of Cognition and Culture*, 10(3-4), 309-326. <https://doi.org/10.1163/156853710X531203>
- Cheek, J. M. (1983). *Revised Cheek and Buss Shyness Scale*. <https://doi.org/10.1037/t05422-000>
- Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology*, 41(2), 330-339. <https://doi.org/10.1037/0022-3514.41.2.330>
- Chen, X. (2019). Culture and shyness in childhood and adolescence. *New Ideas in Psychology*, 53, 58-66. <https://doi.org/10.1016/j.newideapsych.2018.04.007>
- Chen, X., Zhao, S., & Yang, F. (2014). Cultural perspectives on shyness-inhibition. In J. A. Burack, & L. A. Schmidt (Eds.), *Cultural and contextual perspectives on developmental risk and well-being* (pp. 39-56). Cambridge University Press. <https://doi.org/10.1017/CBO9780511920165.005>
- Chopik, W. J., O'Brien, E., & Konrath, S. H. (2017). Differences in empathic concern and perspective taking across 63 countries. *Journal of Cross-Cultural Psychology*, 48(1), 23-38. <https://doi.org/10.1177/0022022116673910>
- Cohen, D., Bhushan, B., Hanks, R., Yoon, D. P., Johnstone, B., & Hunt, I. (2020). The right parietal lobe, sense of self, and empathy: Cross-cultural, ethnic, and religious considerations. *Mental Health, Religion & Culture*, 23(5), 375-397. <https://doi.org/10.1080/13674676.2020.1725454>
- Dao, T. K., Teten, A. L., & Nguyen, Q. (2011). Linear and orthogonal models of acculturation and its relations to cultural variables: An examination of the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA). *International Journal of Intercultural Relations*,

References

- 35(1), 61–68. <https://doi.org/10.1016/j.ijintrel.2010.10.001>
- Davis, M. H. (1980). *Interpersonal Reactivity Index*. <https://doi.org/10.1037/t01093-000>
- Dillon-Owens, C., Findley-Van Nostrand, D., Ojanen, T., Buchholz, C., & Valdes, O. (2022). Early adolescent cognitive and affective empathy: Associations with social-emotional adjustment. *Social Psychology*, 53(5), 292–302. <https://doi.org/10.1027/1864-9335/a000499>
- Findlay, L. C., Girardi, A., & Coplan, R. J. (2006). Links between empathy, social behavior, and social understanding in early childhood. *Early Childhood Research Quarterly*, 21(3), 347–359. <https://doi.org/10.1016/j.ecresq.2006.07.009>
- Guo, Q., Sun, P., & Li, L. (2018). Shyness and online prosocial behavior: A study on multiple mediation mechanisms. *Computers in Human Behavior*, 86, 1–8. <https://doi.org/10.1016/j.chb.2018.04.032>
- IBM Corp. (2021). IBM SPSS Statistics for Mac (Version 29.0) [Computer software]. IBM Corp.
- Jackson, T., Flaherty, S. R., & Kosuth, R. (2000). Culture and self-presentation as predictors of shyness among Japanese and American female college students. *Perceptual and Motor Skills*, 90(2), 475–482. <https://doi.org/10.2466/PMS.90.2.475-482>
- Johnson, J., Cheek, J., & Smither, R. (1983). The structure of empathy. *Journal of Personality and Social Psychology*, 45, 1299–1312. <https://doi.org/10.1037/0022-3514.45.6.1299>
- Kong, X., Brook, C. A., Li, J., Li, Y., & Schmidt, L. A. (2024). Shyness subtypes and associations with social anxiety: A comparison study of Canadian and Chinese children. *Developmental Science*, 27(5), e13369. <https://doi.org/10.1111/desc.13369>
- Pilkonis, P. A. (1977). The behavioral consequences of shyness. *Journal of Personality*, 45(4), 596–611. <https://doi.org/10.1111/j.1467-6494.1977.tb00174.x>
- Rapee, R. M., Kim, J., Wang, J., Liu, X., Hofmann, S. G., Chen, J., Oh, K. Y., Bögels, S. M., Arman, S., Heinrichs, N., & Alden, L. E. (2011). Perceived impact of socially anxious behaviors on individuals' lives in Western and East Asian countries. *Behavior Therapy*, 42(3), 485–492. <https://doi.org/10.1016/j.beth.2010.11.004>
- Rubin, K. H., Coplan, R. J., & Bowker, J. C. (2009). Social withdrawal in childhood. *Annual Review of Psychology*, 60(1), 141–171. <https://doi.org/10.1146/annurev.psych.60.110707.163642>
- Xiao, B., Bullock, A., & Coplan, R. J. (2023). Shyness, extracurricular activity engagement, and internalizing problems among emerging adults in university. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*. <https://doi.org/10.1037/cbs0000389>
- Xu, Y., Farver, J. A. M., Chang, L., Zhang, Z., & Yu, L. (2007). Moving away or fitting in? Understanding shyness in Chinese children. *Merrill-Palmer Quarterly*, 53(4), 527–556. <https://doi.org/10.1353/mpq.2008.0005>
- Xu, Y., Farver, J. A. M., & Shin, Y. (2014). Shyness and psychosocial functioning in South Korean children. *European Journal of Personality*, 28(2), 147–155. <https://doi.org/10.1002/per.1938>
- Xu, Y., Farver, J. A. M., Yu, L., & Zhang, Z. (2009). Three types of shyness in Chinese children and the relation to effortful control. *Journal of Personality and Social Psychology*, 97(6), 1061–1073. <https://doi.org/10.1037/a0016576>
- Xu, Y., & Krieg, A. (2014). Shyness in Asian American children and the relation to temperament, parents' acculturation, and psychosocial functioning. *Infant and Child Development*, 23(3), 333–342. <https://doi.org/10.1002/icd.1860>
- Yaghoubi Jami, P., Mansouri, B., Thoma, S. J., & Han, H. (2019). An investigation of the divergences and convergences of trait empathy across two cultures. *Journal of Moral Education*, 48(2), 214–229. <https://doi.org/10.1080/03057240.2018.1482531>
- Yoon, H. (2014). *Cultural influence on empathy: Cross-cultural comparison between Korean and Korean American adolescents* (Doctoral Dissertation).
- Zava, F., Sette, S., Baumgartner, E., & Coplan, R. J. (2021). Shyness and empathy in early childhood: Examining links between feelings of empathy and empathetic behaviours. *British Journal of Developmental Psychology*, 39(1), 54–77. <https://doi.org/10.1111/bjdp.12347>
- A Review of Gender Differences Influencing Disparities in ADHD Diagnoses**
- Rebecca C Brown |**
Undergraduate Psychology Student, University of Waterloo
- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). <https://doi.org/10.1176/appi.books.9780890425787>
- Bruchmüller, K., Margraf, J., & Schneider, S. (2012). Is ADHD diagnosed in accord with diagnostic criteria? Overdiagnosis and influence of client gender on diagnosis. *Journal of Consulting and Clinical Psychology*, 80(1), 128–138. <https://doi.org/10.1037/a0026582>
- Coles, E. K., Slavec, J., Bernstein, M., & Baroni, E. (2012). Exploring the gender gap in referrals for children with ADHD and other disruptive behavior disorders. *Journal of Attention Disorders*, 16(2), 101–108. <https://doi.org/10.1177/1087054710381481>
- Craig, F., Margari, F., Legrottaglie, A. R., Palumbi, R., de Giambattista, C., & Margari, L. (2016). A review of executive function deficits in autism spectrum disorder and attention-deficit/hyperactivity disorder. *Neuropsychiatric Disease and Treatment*, 12, 1191–1202. <https://doi.org/10.2147/NDT.S104620>
- Daley, D., & Birchwood, J. (2010). ADHD and academic performance: Why does ADHD impact on academic performance and what can be done to support ADHD children in the classroom? *Child: Care, Health and Development*, 36(4), 455–464. <https://doi.org/10.1111/j.1365-2214.2009.01046.x>
- De Ronda, A. C., Rice, L., Zhao, Y., Rosch, K. S., Mostofsky, S. H., & Seymour, K. E. (2024). ADHD-related sex differences in emotional symptoms across development.
- European Child & Adolescent Psychiatry*, 33(5), 1419–1432. <https://doi.org/10.1007/s00787-023-02251-3>
- Garb, H. N. (2021). Race bias and gender bias in the diagnosis of psychological disorders. *Clinical Psychology Review*, 90, 102087. <https://doi.org/10.1016/j.cpr.2021.102087>

References

- Gaub, M., & Carlson, C. L. (1997). Gender differences in ADHD: A meta-analysis and critical review. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(8), 1036–1045. <https://doi.org/10.1097/00004583-199708000-00011>
- Groenewald, C., Emond, A., & Sayal, K. (2009). Recognition and referral of girls with attention deficit hyperactivity disorder: Case vignette study. *Child: Care, Health and Development*, 35(6), 767–772. <https://doi.org/10.1111/j.1365-2214.2009.00984.x>
- Hinshaw, S. P., Nguyen, P. T., O'Grady, S. M., & Rosenthal, E. A. (2022). Annual research review: Attention-deficit/hyperactivity disorder in girls and women: underrepresentation, longitudinal processes, and key directions. *Journal of Child Psychology and Psychiatry*, 63(4), 484–496. <https://doi.org/10.1111/jcpp.13480>
- Ignatova, E., Balasubramanian, P., Raney, J. H., Ganson, K. T., Testa, A., He, J., Baker, F. C., & Nagata, J. M. (2025). Transgender identity and attention deficit hyperactivity disorder symptoms: Findings from the adolescent brain cognitive development study. *Journal of Adolescent Health*, 76(3), 396–400. <https://doi.org/10.1016/j.jadohealth.2024.10.015>
- Isaksson, J., Ruchkin, V., & Lindblad, F. (2020). Unseen and stressed? Gender differences in parent and teacher ratings of ADHD symptoms and associations with perceived stress in children with ADHD. *Journal of Attention Disorders*, 24(11), 1565–1569. <https://doi.org/10.1177/1087054716658381>
- Klefsjö, U., Kantzer, Anne K., Gillberg, C., & Billstedt, E. (2021). The road to diagnosis and treatment in girls and boys with ADHD – gender differences in the diagnostic process. *Nordic Journal of Psychiatry*, 75(4), 301–305. <https://doi.org/10.1080/08039488.2020.1850859>
- Kok, F. M., Groen, Y., Fuermaier, A. B. M., & Tucha, O. (2016). Problematic peer functioning in girls with ADHD: A systematic literature review. *PLOS ONE*, 11(11), e0165119. <https://doi.org/10.1371/journal.pone.0165119>
- Lau, T. W. I., Lim, C. G., Acharrya, S., Lim-Ashworth, N., Tan, Y. R., & Fung, S. S. D. (2021). Gender differences in externalizing and internalizing problems in Singaporean children and adolescents with attention-deficit/hyperactivity disorder. *Child and Adolescent Psychiatry and Mental Health*, 15(1), 3. <https://doi.org/10.1186/s13034-021-00356-8>
- London, A. S., & Landes, S. D. (2021). Cohort change in the prevalence of ADHD among U.S. adults: Evidence of a gender-specific historical period effect. *Journal of Attention Disorders*, 25(6), 771–782. <https://doi.org/10.1177/1087054719855689>
- Meyer, B. J., Stevenson, J., & Sonuga-Barke, E. J. S. (2020). Sex differences in the meaning of parent and teacher ratings of ADHD behaviors: An observational study. *Journal of Attention Disorders*, 24(13), 1847–1856. <https://doi.org/10.1177/1087054717723988>
- Monuteaux, M. C., Fitzmaurice, G., Blacker, D., Buka, S. L., & Biederman, J. (2004). Specificity in the familial aggregation of overt and covert conduct disorder symptoms in a referred attention-deficit hyperactivity disorder sample. *Psychological Medicine*, 34(6), 1113–1127. <https://doi.org/10.1017/S0033291703001788>
- Mowlem, F., Agnew-Blais, J., Taylor, E., & Asherson, P. (2019). Do different factors influence whether girls versus boys meet ADHD diagnostic criteria? Sex differences among children with high ADHD symptoms. *Psychiatry Research*, 272, 765–773. <https://doi.org/10.1016/j.psychres.2018.12.128>
- Mowlem, F., Rosenqvist, M. A., Martin, J., Lichtenstein, P., Asherson, P., & Larsson, H. (2019). Sex differences in predicting ADHD clinical diagnosis and pharmacological treatment. *European Child & Adolescent Psychiatry*, 28(4), 481–489. <https://doi.org/10.1007/s00787-018-1211-3>
- Murray, A. L., Booth, T., Eisner, M., Auyeung, B., Murray, G., & Ribeaud, D. (2019). Sex differences in ADHD trajectories across childhood and adolescence. *Developmental Science*, 22(1), e12721. <https://doi.org/10.1111/desc.12721>
- Nussbaum, N. L. (2012). ADHD and female specific concerns: A review of the literature and clinical implications. *Journal of Attention Disorders*, 16(2), 87–100. <https://doi.org/10.1177/1087054711416909>
- Ohan, J. L., & Johnston, C. (2005). Gender appropriateness of symptom criteria for attention-deficit/hyperactivity disorder, oppositional-defiant disorder, and conduct disorder. *Child Psychiatry and Human Development*, 35(4), 359–381. <https://doi.org/10.1007/s10578-005-2694-y>
- Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*, 56(3), 345–365. <https://doi.org/10.1111/jcpp.12381>
- Quinn, P. O., & Madhoo, M. (2014). A review of attention-deficit/hyperactivity disorder in women and girls: Uncovering this hidden diagnosis. *The Primary Care Companion for CNS Disorders*, 16(3), PCC.13r01596. <https://doi.org/10.4088/PCC.13r01596>
- Quinn, P., & Wigal, S. (2004). Perceptions of girls and ADHD: Results from a national survey. *Medscape General Medicine*, 6(2), 2.
- Rucklidge, J. J. (2008). Gender differences in ADHD: Implications for psychosocial treatments. *Expert Review of Neurotherapeutics*, 8(4), 643–655. <https://doi.org/10.1586/14737175.8.4.643>
- Rucklidge, J. J. (2010). Gender differences in attention-deficit/hyperactivity disorder. *Psychiatric Clinics of North America, Women's Mental Health*, 33(2), 357–373. <https://doi.org/10.1016/j.psc.2010.01.006>
- Shaw, M., Hodgkins, P., Caci, H., Young, S., Kahle, J., Woods, A. G., & Arnold, L. E. (2012). A systematic review and analysis of long-term outcomes in attention deficit hyperactivity disorder: Effects of treatment and non-treatment. *BMC Medicine*, 10, 99. <https://doi.org/10.1186/1741-7015-10-99>
- Silverstein, M. J., Faraone, S. V., Leon, T. L., Biederman, J., Spencer, T. J., & Adler, L. A. (2020). The relationship between executive function deficits and DSM-5-defined ADHD symptoms. *Journal of Attention Disorders*, 24(1), 41–51. <https://doi.org/10.1177/1087054718804347>
- Skogli, E. W., Teicher, M. H., Andersen, P. N., Hovik, K. T., & Øie, M. (2013). ADHD in girls and boys – gender differences in co-existing symptoms and executive function measures. *BMC Psychiatry*, 13, 298. <https://doi.org/10.1186/1471-244X-13-298>
- Song, H.-L., Kong, J.-D., Wang, Q.-L., & Zhou, C.-X. (2025). Gender identity and its impact on attention deficit hyperactivity disorder manifestations:

References

- Challenges in diagnosis and assessment. *World Journal of Psychiatry*, 15(4), 101952. <https://doi.org/10.5498/wjp.v15.i4.101952>
- Staller, J., & Faraone, S. V. (2006). Attention-deficit hyperactivity disorder in girls: Epidemiology and management. *CNS Drugs*, 20(2), 107–123. <https://doi.org/10.2165/00023210-200620020-00003>
- Wehmeier, P. M., Schacht, A., & Barkley, R. A. (2010). Social and emotional impairment in children and adolescents with ADHD and the impact on quality of life. *Journal of Adolescent Health*, 46(3), 209–217. <https://doi.org/10.1016/j.jadohealth.2009.09.009>
- Weiss, M., Worling, D., & Wasdell, M. (2003). A chart review study of the inattentive and combined types of ADHD. *Journal of Attention Disorders*, 7(1), 1–9. <https://doi.org/10.1177/108705470300700101>
- Zalecki, C. A., & Hinshaw, S. P. (2004). Overt and relational aggression in girls with attention deficit hyperactivity disorder. *Journal of Clinical Child & Adolescent Psychology*, 33(1), 125–137. https://doi.org/10.1207/S15374424JCCP3301_12
- Student Perceptions on Consent and Sexual Assault Across Different Sexual Contexts**
- Sierra Lucier-Lewis | Hon. B.A., Ontario Tech University**
Sarah M. M. Kirkpatrick | MSc, Ontario Tech University
- Burt, M. R. (1980). Cultural myths and supports for rape. *Journal of Personality and Social Psychology*, 38(2), 217–230. <https://doi.org/10.1037/0022-3514.38.2.217>
- Campbell, R., & Johnson, C. R. (1997). Police officers' perceptions of rape: Is there consistency between state law and individual beliefs? *Journal of Interpersonal Violence*, 12(2), 255–274. <https://doi.org/10.1177/088626097012002007>
- Canan, S. N., Cozzolino, L., Myers, J. L., & Jozkowski, K. N. (2022). Does gender inclusive language affect psychometric properties of the Illinois Rape Myth Acceptance Scale-Short Form? A two-sample validation study. *Journal of Interpersonal Violence*, 38(3–4), 3373–3394. <https://doi.org/10.1177/08862605221106144>
- Cantor, D., Fisher, D., Chibnall, S., Townsend, R., Lee, H., Bruce, C., & Thomas, G. (2015). *Report on the AAU Campus Climate Survey on Sexual Assault and Sexual Misconduct*. The Association of American Universities. https://www.aau.edu/sites/default/files/%40%20Files/Climate%20Survey/AAU_Campus_Climate_Survey_12_14_15.pdf
- Cary, K. M., Reid, T. A., Pettyjohn, M. E., Maas, M. K., & McCauley, H. L. (2022). “They are assuming that we are going to accuse them of rape, and we are assuming that they are going to rape us”: A developmental perspective on emerging adults’ consent conversations post #MeToo. *Journal of Interpersonal Violence*, 37(23–24), NP22759–NP22783. <https://doi.org/10.1177/08862605211072181>
- Diamond-Welch, B. K., Mann, O., Bass, M. L., & Tollini, C. (2021a). The interaction between observer sex and sexual identity on attributions of blame with a heterosexual female victim. *Journal of Interpersonal Violence*, 36(1–2), NP527–NP554. <https://doi.org/10.1177/0886260517733281>
- Diamond-Welch, B., Marin Hellwege, J., & Mann, O. (2021b). Blame avoidance and transgender individuals’ attributions about rape: Unpacking gendered assumptions in defensive attribution research. *Journal of Interpersonal Violence*, 36(9–10), 4690–4716. <https://doi.org/10.1177/0886260518792241>
- Fedina, L., Holmes, J. L., & Backes, B. L. (2018). Campus sexual assault: A systematic review of prevalence research from 2000 to 2015. *Trauma, Violence & Abuse*, 19(1), 76–93. <https://doi.org/10.1177/1524838016631129>
- Franiuk, R. (2007). Discussing and defining sexual assault. *College Teaching*, 55(3), 104–108. <https://doi.org/10.3200/CTCH.55.3.104-108>
- Grella, O. N., Anzovino, A., Aliev, J. M., Burd, K. A. (2025). Modern rape myths? An examination of rape myth acceptance and legal implications across time. In M. K. Miller, B. H. Bornstein, D. DeMatteo (Eds.), *Advances in psychology and law* (pp. 279–312). Springer. https://doi.org/10.1007/978-3-031-82806-5_10
- Hickman, S. E., & Muehlenhard, C. L. (1999). “By the semi-mystical appearance of a condom”: How young women and men communicate consent in heterosexual situations. *Journal of Sex Research*, 36(3), 258–272. <https://doi.org/10.1080/00224499909551996>
- Humphreys, T., & Herold, E. (2003). Should universities and colleges mandate sexual behavior?: Student perceptions of Antioch College’s consent policy. *Journal of Psychology and Human Sexuality*, 15(1), 35–51. https://doi.org/10.1300/J056v15n01_04
- Humphreys, T. (2007). Perceptions of sexual consent: The impact of relationship history and gender. *The Journal of Sex Research*, 44(4), 307–315. <https://doi.org/10.1080/00224490701586706>
- Jozkowski, K. N., & Peterson, Z. D. (2013). College students and sexual consent: Unique insights. *Journal of Sex Research*, 50(6), 517–523. <https://doi.org/10.1080/00224499.2012.700739>
- Jozkowski, K. N., Peterson, Z. D., Sanders, S. A., Dennis, B., & Reece, M. (2014). Gender differences in heterosexual college students’ conceptualizations and indicators of sexual consent: Implications for contemporary sexual assault prevention education. *Journal of Sex Research*, 51(8), 904–916. <https://doi.org/10.1080/00224499.2013.792326>
- Kirkpatrick, S. M. M., Emeno, K., & Vettor, S. (2025). Consent and sexual assault in heterosexual versus same-sex sexual encounters. *Sexuality & Culture*, 29(4), 1690–1712. <https://doi.org/10.1007/s12119-025-10341-4>
- Payne, D. L., Lonsway, K. A., & Fitzgerald, L. F. (1999). Rape myth acceptance: Exploration of its structure and its measurement using the Illinois Rape Myth Acceptance Scale. *Journal of Research in Personality*, 33(1), 27–68. <https://doi.org/10.1006/jrpe.1998.2238>
- Schulze, C., & Koon-Magnin, S. (2017). Gender, sexual orientation, and rape myth acceptance: Preliminary findings from a sample of primarily LGBQ-identified survey respondents. *Violence and Victims*, 32(1), 159–180. <https://doi.org/10.1891/0886-6708.VV-D-15-00017>
- Sternin, S., McKie, R. M., Winberg, C., Travers, R. N., Humphreys, T. P., & Reissing, E. D. (2022). Sexual consent: Exploring the perceptions of heterosexual

References

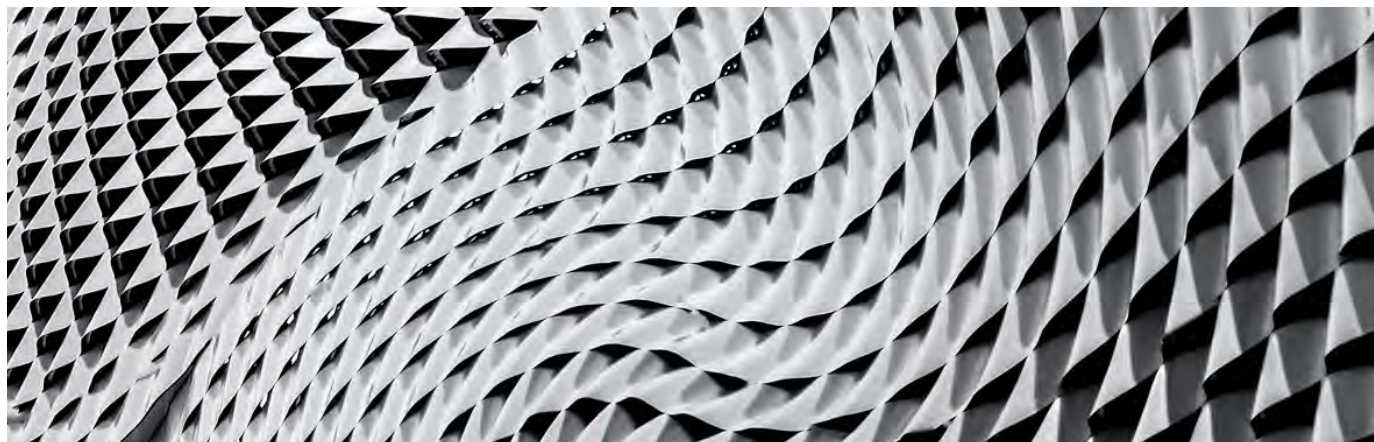
- and non-heterosexual men. *Psychology & Sexuality*, 13(3), 512–534. <https://doi.org/10.1080/19419899.2021.1879911>
- St. George, S., Amin, A., & Morgan, S. (2026). Disaggregating the monolith: Exploring differences in rape myth acceptance among people with varied LGBTQ+ identities. *Behavioral Sciences & the Law*. Advance online publication. <https://doi.org/10.1002/bsl.70038>
- Venema, R. M. (2016). Police officer schema of sexual assault reports: Real rape, ambiguous cases, and false reports. *Journal of Interpersonal Violence*, 31(5), 872–899. <https://doi.org/10.1177/0886260514556765>
- Walsh, K., Sarvet, A. L., Wall, M., Gilbert, L., Santelli, J., Khan, S., Thompson, M. P., Reardon, L., Hirsch, J. S., & Mellins, C. A. (2021). Prevalence and correlates of sexual assault perpetration and ambiguous consent in a representative sample of college students. *Journal of Interpersonal Violence*, 36(13–14), NP7005–NP7026. <https://doi.org/10.1177/0886260518823293>
- Willis, M., & Jozkowski, K. N. (2018). Ladies first? Not so fast: Linguistic sexism in peer-reviewed research. *Journal of Sex Research*, 55(2), 137–145. <https://doi.org/10.1080/00224499.2017.1346058>
- Willis, M., & Jozkowski, K. N. (2021). Sexual consent perceptions of a fictional vignette: A latent growth curve model. *Archives of Sexual Behavior*, 51(2), 797–809. <https://doi.org/10.1007/s10508-021-02048-y>
- Wilson, L. C., & Newins, A. R. (2019). Rape acknowledgment and sexual minority identity: The indirect effect of rape myth acceptance. *Psychology of Sexual Orientation and Gender Diversity*, 6(1), 113–119. <https://doi.org/10.1037/sgd0000304>
- Worthen, M. G. F. (2021). Rape myth acceptance among lesbian, gay, bisexual and mostly heterosexual college students. *Journal of Interpersonal Violence*, 36(1–2), NP232–NP262. <https://doi.org/10.1177/0886260517733282>
- From Repression to Reflection: A Neo-Freudian Framework for Meditation and Implicit Bias**
- Jacob C. Angeles | B.A. (Hons) in Psychology, Simon Fraser University**
- Avenanti, A., Sirigu, A., & Aglioti, S. M. (2010). Racial bias reduces empathic sensorimotor resonance with other-race pain. *Current Biology*, 20(11), 1018–1022. <https://doi.org/10.1016/j.cub.2010.03.071>
- Bailey, R., & Pico, J. (2023). *Defense mechanisms*. In StatPearls. StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK559106/>
- Beddoe, A. E., & Murphy, S. O. (2004). Does mindfulness decrease stress and foster empathy among nursing students? *Journal of Nursing Education*, 43(7), 305–312. <https://doi.org/10.3928/01484834-20040701-07>
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Specia, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11(3), 230–241. <https://doi.org/10.1093/clipsy.bph077>
- Butler, G., & Mathews, A. (1983). Cognitive processes in anxiety. *Advances in Behaviour Research and Therapy*, 5(1), 51–62. [https://doi.org/10.1016/0146-6402\(83\)90015-2](https://doi.org/10.1016/0146-6402(83)90015-2)
- Byrd, N. (2021). What we can (and can't) infer about implicit bias from debiasing experiments. *Synthese*, 198(2), 1427–1455. <https://doi.org/10.1007/s11229-019-02128-6>
- Chen, K. W., Berger, C. C., Manheimer, E., Forde, D., Magidson, J., Dachman, L., & Lejuez, C. W. (2012). Meditative therapies for reducing anxiety: A systematic review and meta-analysis of randomized controlled trials. *Depression and anxiety*, 29(7), 545–562. <https://doi.org/10.1002/da.21964>
- Craske, M. G., Treanor, M., Conway, C. C., Zbozinek, T., & Vervliet, B. (2014). Maximizing exposure therapy: An inhibitory learning approach. *Behaviour Research and Therapy*, 58, 10–23. <https://doi.org/10.1016/j.brat.2014.04.006>
- Cunningham, W. A., Johnson, M. K., Raye, C. L., Gatenby, J. C., Gore, J. C., & Banaji, M. R. (2004). Separable neural components in the processing of Black and White faces. *Psychological Science*, 15(12), 806–813. <https://doi.org/10.1111/j.0956-7976.2004.00760.x>
- Dasgupta, N., & Greenwald, A. G. (2001). On the malleability of automatic attitudes: Combating automatic prejudice with images of admired and disliked individuals. *Journal of Personality and Social Psychology*, 81(5), 800–814. <https://doi.org/10.1037/0022-3514.81.5.800>
- Dovidio, J. F., ten Vergert, M., Stewart, T. L., Gaertner, S. L., Johnson, J. D., & Esses, V. M. (2004). Perspective and prejudice: Antecedents and mediating mechanisms. *Personality and Social Psychology Bulletin*, 30(12), 1537–1549. <https://doi.org/10.1177/0146167204271177>
- Droit-Volet, S., & Heros, J. (2017). Time judgments as a function of mindfulness meditation, anxiety, and mindfulness awareness. *Mindfulness*, 8(2), 266–275. <https://doi.org/10.1007/s12671-016-0597-6>
- Evans, J. St. B. T. (2011). Dual-process theories of reasoning: Contemporary issues and developmental applications. *Developmental Review*, 31(2–3), 86–102. <https://doi.org/10.1016/j.dr.2011.07.007>
- Eysenck, M. W., Derakshan, N., Santos, R., & Calvo, M. G. (2007). Anxiety and cognitive performance: Attentional control theory. *Emotion*, 7(2), 336–353. <https://doi.org/10.1037/1528-3542.7.2.336>
- Forgiarini, M., Gallucci, M., & Maravita, A. (2011). Racism and the empathy for pain on our skin. *Frontiers in Psychology*, 2, Article 108. <https://doi.org/10.3389/fpsyg.2011.00108>
- Green, A. R., Carney, D. R., Pallin, D. J., Ngo, L. H., Raymond, K. L., Iezzoni, L. I., & Banaji, M. R. (2007). Implicit bias among physicians and its prediction of thrombolysis decisions for Black and White patients. *Journal of General Internal Medicine*, 22(9), 1231–1238. <https://doi.org/10.1007/s11606-007-0258-5>
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: attitudes, self-esteem, and stereotypes. *Psychological review*, 102(1), 4–27. <https://doi.org/10.1037/0033-295x.102.1.4>
- Hehman, E., Flake, J. K., & Calanchi-

References

- ni, J. (2018). Disproportionate use of lethal force in policing is associated with regional racial biases of residents. *Social Psychological and Personality Science*, 9(4), 393–401. <https://doi.org/10.1177/1948550617711229>
- Hoge, E. A., Bui, E., Marques, L., Metcalf, C. A., Morris, L. K., Robinaugh, D. J., Worthington, J. J., Pollack, M. H., & Simon, N. M. (2013). Randomized controlled trial of mindfulness meditation for generalized anxiety disorder: Effects on anxiety and stress reactivity. *Journal of Clinical Psychiatry*, 74(8), 786–792. <https://doi.org/10.4088/JCP.12m08083>
- Hunsinger, M., Livingston, R., & Isbell, L. (2014). Spirituality and intergroup harmony: Meditation and racial prejudice. *Mindfulness*, 5(2), 139–144. <https://doi.org/10.1007/s12671-012-0159-5>
- Joy-Gaba, J. A., & Nosek, B. A. (2010). The surprisingly limited malleability of implicit racial evaluations. *Social Psychology*, 41(3), 137–146. <https://doi.org/10.1027/1864-9335/a000020>
- Kang, Y., Gray, J. R., & Dovidio, J. F. (2014). The nondiscriminating heart: Loving kindness meditation training decreases implicit intergroup bias. *Journal of Experimental Psychology*, 143(3), 1306–1313. <https://doi.org/10.1037/a0034150>
- Krickel, B. (2018). Are the states underlying implicit biases unconscious? A neo-Freudian answer. *Philosophical Psychology*, 31(7), 1007–1026. <https://doi.org/10.1080/09515089.2018.1470323>
- Lai, C. K., Skinner, A. L., Cooley, E., Murrar, S., Brauer, M., Devos, T., Calanchini, J., Xiao, Y. J., Pedram, C., Marshburn, C. K., Simon, S., Blanchar, J. C., Joy-Gaba, J. A., Conway, J., Redford, L., Klein, R. A., Roussos, G., Schellhaas, F. M. H., Burns, M., & Nosek, B. A. (2016). Reducing implicit racial preferences: II. Intervention effectiveness across time. *Journal of Experimental Psychology: General*, 145(8), 1001–1016. <https://doi.org/10.1037/xge0000179>
- Lapate, R. C., Rokers, B., Tromp, D. P. M., Orfali, N. S., Oler, J. A., Doran, S. T., Adluru, N., Alexander, A. L., & Davidson, R. J. (2016). Awareness of emotional stimuli determines the behavioral consequences of amygdala activation and amygdala-prefrontal connectivity. *Scientific Reports*, 6, Article 25826. <https://doi.org/10.1038/srep25826>
- Lueke, A., & Gibson, B. (2015). Mindfulness meditation reduces implicit age and race bias: The role of reduced automaticity of responding. *Social Psychological and Personality Science*, 6(3), 284–291. <https://doi.org/10.1177/1948550614559651>
- Machery, E. (2016). De-Freuding implicit attitudes. In M. Brownstein & J. Saul (Eds.), *Implicit bias and philosophy, volume 1: Metaphysics and epistemology* (pp. 104–129). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198713241.003.0005>
- Marini, M., Banaji, M. R., & Pascual-Leone, A. (2018). Studying implicit social cognition with noninvasive brain stimulation. *Trends in Cognitive Sciences*, 22(11), 1050–1066. <https://doi.org/10.1016/j.tics.2018.07.014>
- Mathur, V. A., Richeson, J. A., Paice, J. A., Muzyka, M., & Chiao, J. Y. (2014). Racial bias in pain perception and response: Experimental examination of automatic and deliberate processes. *The Journal of Pain*, 15(5), 476–484. <https://doi.org/10.1016/j.jpain.2014.01.488>
- Mendoza, S. A., Gollwitzer, P. M., & Amodio, D. M. (2010). Reducing the expression of implicit stereotypes: Reflexive control through implementation intentions. *Personality and Social Psychology Bulletin*, 36(4), 512–523. <https://doi.org/10.1177/0146167210362789>
- Metcalf, C., & Chiricos, T. (2018). Race, plea, and charge reduction: An assessment of racial disparities in the plea process. *Justice Quarterly*, 35(2), 223–253. <https://doi.org/10.1080/07418825.2017.1304564>
- Payne, B. K., & Hannay, J. W. (2021). Implicit bias reflects systemic racism. *Trends in Cognitive Sciences*, 25(11), 927–936. <https://doi.org/10.1016/j.tics.2021.08.001>
- Peixoto, L. S. A., & Gondim, S. M. G. (2020). Mindfulness and emotional regulation: A systematic literature review. *SMAD, Revista Eletrônica Saúde Mental Álcool Drogas*, 16(3), 88–104. <https://doi.org/10.11606/issn.1806-6976.smad.2020.168328>
- Sabin, J. A., & Greenwald, A. G. (2012). The influence of implicit bias on treatment recommendations for 4 common pediatric conditions: Pain, urinary tract infection, attention deficit hyperactivity disorder, and asthma. *American Journal of Public Health*, 102(5), 988–995. <https://doi.org/10.2105/AJPH.2011.300621>
- Sandia, I., & Baptista, T. (2022). Ego-dystonia: A review in search of definitions. *Revista Colombiana de Psiquiatría (English Edition)*, 51(3), 240–244. <https://doi.org/10.1016/j.rcpeng.2022.08.006>
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62(3), 373–386. <https://doi.org/10.1002/jclp.20237>
- Shapiro, S. L., Schwartz, G. E., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and pre-medical students. *Journal of Behavioral Medicine*, 21(6), 581–599.
- Shih, M., Wang, E., Bucher, A. T., & Stotzer, R. (2009). Perspective-taking: Reducing prejudice towards general outgroups and specific individuals. *Group Processes & Intergroup Relations*, 12(5), 565–577.
- Shill, M. A. (2004). Signal anxiety, defense, and the pleasure principle. *Psychoanalytic Psychology*, 21(1), 116–133. <https://doi.org/10.1037/0736-9735.21.1.116>
- Stell, A. J., & Farsides, T. (2016). Brief loving-kindness meditation reduces racial bias, mediated by positive other-regarding emotions. *Motivation and Emotion*, 40(1), 140–147. <https://doi.org/10.1007/s11031-015-9514-x>
- Sterba, R. (1934). The fate of the ego in analytic therapy. *The International Journal of Psychoanalysis*, 15, 117–126.
- Stewart, B. D., & Payne, B. K. (2008). Bringing automatic stereotyping under control: Implementation intentions as efficient means of thought control. *Personality and Social Psychology Bulletin*, 34(10), 1332–1345. <https://doi.org/10.1177/0146167208321269>
- Tacón, A. M., McComb, J., Caldera, Y., & Randolph, P. (2003). Mindfulness meditation, anxiety reduction, and heart disease: A pilot study. *Family & Community Health*, 26(1), 25–33. <https://doi.org/10.1097/00003727-200301000-00004>
- Terbeck, S., Kahane, G., McTavish, S., Savulescu, J., Cowen, P. J., & Hewstone, M. (2012). Propranolol reduces implicit negative racial bias. *Psychopharmacology*, 222(3), 419–424. <https://doi.org/10.1007/s00213-012-2657-5>

References

- Vaillant, G. E. (1992). *Ego mechanisms of defense: A guide for clinicians and researchers*. American Psychiatric Press.
- Wenk-Sormaz, H. (2005). Meditation can reduce habitual responding. *Alternative Therapies in Health and Medicine*, 11(2), 42–58.
- Zhou, D., Kang, Y., Cosme, D., Jovanova, M., He, X., Mahadevan, A., Ahn, J., Stanoi, O., Brynildsen, J. K., Cooper, N., Cornblath, E. J., Parkes, L., Mucha, P. J., Ochsner, K. N., Lydon-Staley, D. M., Falk, E. B., & Bassett, D. S. (2023). Mindful attention promotes control of brain network dynamics for self-regulation and discontinues the past from the present. *Proceedings of the National Academy of Sciences of the United States of America*, 120(2), e2201074119. <https://doi.org/10.1073/pnas.2201074119>
- The Role of Weight Bias Internalization in the Relationship Between Social Media Use and Body Dissatisfaction**
- Taylor G. J. Anthony** | B.A. (Hons), Memorial University of Newfoundland
- Darcie D. Valois** | MA, Memorial University of Newfoundland
- Jacqueline C. Carter** | Ph.D. (R. Psych.), Memorial University of Newfoundland
- Breton, É., Dufour, R., Côté, S. M., Dubois, L., Vitaro, F., Boivin, M., Tremblay, R. E., & Boij, L. (2022). Developmental trajectories of eating disorder symptoms: A longitudinal study from early adolescence to young adulthood. *Journal of Eating Disorders*, 10(1), 1–84. <https://doi.org/10.1186/s40337-022-00603-z>
- Cohen, R., Newton-John, T., & Slater, A. (2018). ‘Selfie’-objectification: The role of selfies in self-objectification and disordered eating in young women. *Computers in Human Behavior*, 79, 68–74. <https://doi.org/10.1016/j.chb.2017.10.027>
- Cohen, R., Newton-John, T., & Slater, A. (2021). The case for body positivity on social media: Perspectives on current advances and future directions. *Journal of Health Psychology*, 26(13), 2365–2373. <https://doi.org/10.1177/1359105320912450>
- Fairburn C. G., & Beglin S. J. (2008). Eating disorder examination questionnaire (EDE-Q 6.0). In Fairburn C. G. (Ed.), *Cognitive behavior therapy and eating disorders* (pp. 309–314). Guilford Press.
- Fritz, M. S., & Mackinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, 18(3), 233–239. <https://doi.org/10.1111/j.1467-9280.2007.01882.x>
- McLean, S. A., Paxton, S. J., Wertheim, E. H., & Masters, J. (2015). Photo-shopping the selfie: Self photo editing and photo investment are associated with body dissatisfaction in adolescent girls. *International Journal of Eating Disorders*, 48(8), 1132–1140. <https://doi.org/10.1002/eat.22449>
- Moufawad, M., Hoque, A., Kells, M., Sonnevile, K. R., & Hahn, S. L. (2024). Social media use and weight bias internalization: Association moderated by age and weight perception. *Journal of Eating Disorders*, 12(1), 84. <https://doi.org/10.1186/s40337-024-01043-7>
- Pearl, R. L., & Puhl, R. M. (2014). Measuring internalized weight attitudes across body weight categories: Validation of the modified weight bias internalization scale. *Body Image*, 11(1), 89–92. <https://doi.org/10.1016/j.bodyim.2013.09.005>
- Pearl, R. L., Wadden, T. A., Groshon, L. C., Fitterman-Harris, H. F., Bach, C., & LaFata, E. M. (2023). Refining the conceptualization and assessment of internalized weight stigma: A mixed methods approach. *Body Image*, 44, 93–102. <https://doi.org/10.1016/j.bodyim.2022.12.002>
- Rodgers, R. F., Slater, A., Gordon, C. S., McLean, S. A., Jarman, H. K., & Paxton, S. J. (2020). A biopsychosocial model of social media use and body image concerns, disordered eating, and muscle-building behaviors among adolescent girls and boys. *Journal of Youth and Adolescence*, 49(2), 399–409. <https://doi.org/10.1007/s10964-019-01190-0>
- Romano, K. A., Heron, K. E., & Henson, J. M. (2021). Examining associations among weight stigma, weight bias internalization, body dissatisfaction, and eating disorder symptoms: Does weight status matter? *Body Image*, 37, 38–49. <https://doi.org/10.1016/j.bodyim.2021.01.006>
- Romano, K. A., Heron, K. E., Sandoval, C. M., MacIntyre, R. I., Howard, L. M., Scott, M., & Mason, T. B. (2023). Weight bias internalization and psychosocial, physical, and behavioral health: A meta-analysis of cross-sectional and prospective associations. *Behavior Therapy*, 54(3), 539–556. <https://doi.org/10.1016/j.beth.2022.12.003>
- Saunders, J. F. & Eaton, A. A. (2018). Snaps, selfies, and shares: How three popular social media platforms contribute to the sociocultural model of disordered eating among young women. *Cyberpsychology, Behavior and Social Networking*, 21(6), 343–354. <https://doi.org/10.1089/cyber.2017.0713>
- Schimmele, C., Fonberg, J., & Schellenberg, G. (2021). Canadians’ assessments of social media in their lives. *Economic and Social Reports*, 1(3), 36–28–0001. Statistics Canada. <https://doi.org/10.25318/36280001202100300004-eng>
- The jamovi project (2022). jamovi. (Version 2.3). [Computer Software]. <https://www.jamovi.org>.
- Wick, M. R. & Keel, P. K. (2020). Posting edited photos of the self: Increasing eating disorder risk or harmless behavior? *The International Journal of Eating Disorders*, 53(6), 864–872. <https://doi.org/10.1002/eat.23263>
- Zancu, A. S., & Diaconu-Gherasim, L. R. (2024). Weight stigma and mental health outcomes in early-adolescents. The mediating role of internalized weight bias and body esteem. *Appetite*, 196, 107276–107276. <https://doi.org/10.1016/j.appet.2024.107276>



Submitting to **Mind Pad**

Mind Pad aims to publish material that is of interest to all who are practicing and studying psychology, but with a primary emphasis on articles that are of interest to students of psychology. Content that is unique, innovative, and may catalyze discussion is encouraged among members and affiliates of CPA, as well as within the psychological community. **Mind Pad** accepts submissions in English or French on a rolling basis.

Submission Guidelines:

- All regular submissions must be between 800 and 3500 words. References are not included in the overall article submission length word count, but may be limited by the Editor-in-Chief.
- Submissions must adhere to APA publishing guidelines.
- Authors must be CPA members. Submissions by Student Affiliates will be given priority.
- Submissions should be submitted to the Editor-in-Chief by completing the Submission Form available at: <https://cpa.ca/students/MindPad/>
- Articles submitted to **Mind Pad** cannot be previously published or accepted for publication in another peer-reviewed journal or book
- Authors are encouraged to submit one to three discussion questions to accompany their manuscript to encourage dialogue and reflection among readers.
- Graphics and tables to accompany submissions will be considered on an individual basis. Those wishing to submit graphics should include the graphics with the submission, with a note describing the graphics and how they support the submission.

Join the **Mind Pad** Editorial Board

Getting involved with **Mind Pad** is an opportunity for students to experience both the writing and the formal reviewing process that every psychologist (and psychologist in training!) must go through. **Mind Pad** recruits new Associate Editors and Reviewers every year for 1-year terms.

Graduate students in psychology, either English, Francophone, or both, are eligible to apply for Associate Editor positions at **Mind Pad**. Experience in editing or peer reviewing is an asset but not required.

Reviewers can be undergraduate or graduate students in psychology.

The call for applications for both Associate Editors and Reviewers is usually in late August or early September. Make sure to join the CPA Section for Students to receive email updates on these opportunities or consult the **Mind Pad** website at <https://cpa.ca/students/MindPad/>

Open Science Badges at **Mind Pad**

As of June 2020, articles accepted to **Mind Pad** are eligible to earn badges that recognize open scientific practices. Open science badges (Open Science Framework) are incentives to recognize efforts of authors to engage in open science practices, namely providing open access to data, materials and preregistration of methods. The badges also serve to notify readers when supplementary materials are available and enhance their trust of the article presented. More information can be found in the **Mind Pad** editorial policy: <https://cpa.ca/students/mindpad/editorialpolicy>

MIND PAD

NOTES D'IDÉES

CANADA'S STUDENT PSYCHOLOGY PUBLICATION
PUBLICATION CANADIENNE SUR LA PSYCHOLOGIE ÉTUDIANTE

