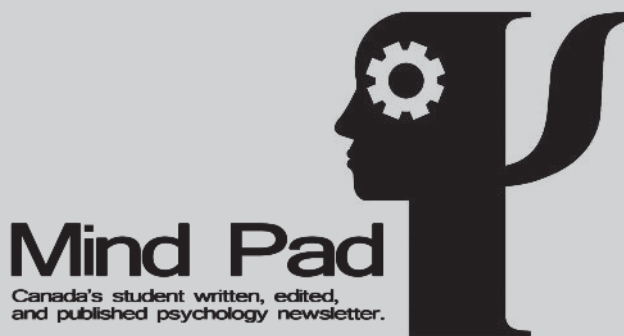# Mind Pad

Canada's student written, edited, and published psychology newsletter.

Notes d'idées

Le bulletin rédigé, édité et publié par les étudiants de la Société canadienne de la psychologie.

FALL 2019 – AUTOMNE 2019

Mind Pad

Canada's student written, edited, and published psychology newsletter.

Notes d'idées

Le bulletin rédigé, édité et publié par les étudiants de la Société canadienne de la psychologie.

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 connaitre 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.

Table of contents

CANADIAN PSYCHOLOGICAL ASSOCIATION

SOCIÉTÉ CANADIENNE DE PSYCHOLOGIE

Developing a student-run psychology service for at-risk youth: Framework and application

Andrew E. Brankley, Ryerson University, Ph.D.
Danielle M. Loney, Ryerson University, M.A.
Jessica E. Sutherland, Ryerson University, Ph.D.
Deanna F. Klymkiw, Ryerson University, M.A.
Adisa A. A. Azubuike, The Coach House, Ph.D.
Rosemary McCusker, St. Stephen's Community House

Abstract

The Youth Psychology Service (YPS) in Toronto, Canada is a student-led organization that uses a street medicine model to deliver clinical services (e.g., psychotherapy, crisis intervention) to at-risk youth and professional services (e.g., consultation, training) to support staff and volunteers. YPS program goals include: (1) Increase access to psychological services in marginalized populations; (2) Develop community capacity to support mental health care; and (3) Expand training for students. YPS students, from Ryerson University, partnered with staff at St. Stephen's Community House, a not-for profit community service agency who serve approximately 650 individual youth in at-risk neighbourhoods. This descriptive report details the development of YPS and services delivered over the first year.

Résumé

L'organisation YPS de Toronto, au Canada, dont la gestion est assurée par des étudiants, offre des services de psychologie destinés aux jeunes. L'organisation repose sur un modèle de médecine de rue pour offrir des services cliniques aux jeunes à risque (par ex. psychothérapies et interventions en situation de crise) et des services professionnels au personnel de soutien et aux bénévoles (par ex. consultations et formations). Les objectifs du programme YPS comprennent : (1) accroître l'accès des populations marginalisées à des services psychologiques; (2) développer la capacité de la communauté à soutenir les soins de santé mentale; (3) favoriser la formation des étudiants. Les étudiants de l'organisation YPS, lesquels proviennent de l'Université Ryerson, ont formé un partenariat avec le personnel de l'organisme de services communautaires sans but lucratif St. Stephen's Community House, lequel œuvre auprès de plus ou moins 650 jeunes habitant dans des quartiers à risque. Ce rapport descriptif décrit l'évolution de l'YPS et des services que l'organisation a fournis au cours de sa première année.

Introduction

One in five youth in Canada experience mental illness (Canadian Mental Health Association [CMHA], 2016). Despite the prevalence of mental illness, youth's needs are egregiously underserved (Rickwood, Deane, Wilson, & Ciarrochi, 2005). In the United States, 80% of American youth who need mental health services do not receive them (National Survey of America's Families, as cited in Kataoka, Zhang, & Wells, 2002). Approximately one-quarter of youth in Ontario do not know who to talk to about their mental health (Boak, Hamilton, Adlaf, Henderson, & Mann, 2016). Left untreated, mental illness in youth can have significant economic cost (Public Health Agency of Canada, 2015) and deleterious effects on academic functioning (e.g., Suldo, Thalji, & Ferron, 2011), physical health (Brown, Lubman, & Paxton, 2011), and increased severity of mental health concerns in adulthood (Kuehn, 2005). A meta-analysis has found that a variety of evidence-based mental health approaches (e.g., cognitive behavioural therapy) can help reduce distress and impairment in youth (Weisz, Sandler, Durlak, & Anton, 2005). Several barriers hinder access to these services, including cost, location, and beliefs about mental health (Gulliver, Griffiths, & Christensen, 2010). This means that youth who are socially or economically marginalized are at the greatest risk for mental illness (Kataoka et al., 2002). Thus, the important public health questions for youth mental health are not only "What treatment works?" or "For whom does treatment work?" but "What treatment is accessible?"

Family doctors are the default mental health providers for most Canadians because psychologists are not covered by provincial health insurance. General practitioners, however, frequently underserve low income areas and have limited capacity for long-term treatment (Leahy et al., 2015). At-risk youth are also less likely to access health services through conventional medical settings. This can be explained by higher rates of perceived stigmatized from youth when interacting with doctors and higher levels of mistrust in providers working in institutional settings (Gulliver et al., 2010; Santiago, Kaltman, & Miranda, 2013). Outreach and drop-in settings run by community staff are more successful in connecting with at-risk youth, but staff often lack appropriate mental health training or resources to address their needs (Weissman et al., 2006).

Student-Run Clinic Model

Student-run clinics (e.g., Liberman et al., 2011) are an innovative delivery method for affordable, high-quality health care in disadvantaged populations (e.g., those with no insurance or low income). Student-run clinics use senior students of various clinical service disciplines (e.g., medicine, dentistry) as healthcare providers and often as the organizers or administrators. This model has been applied to the psychological treatment of adults, resulting in symptom reduction, improved treatment engagement, and increased client satisfaction (Lawrence, Bryant, Nobel, Dolansky, & Singh, 2015; Liberman et al., 2011). It is likely that the characteristics of this delivery model will also be effective with youth. Youth report perceiving younger clinicians as more open and understanding (French, Reardon, & Smith, 2003). As a result, youth may benefit from receiving services from student therapists who, as one would expect, are typically younger than licensed providers.

Delivering clinical services is also an important form of experiential learning in professional training (Coburn, Seryak, & Lander, 2016). Student therapists working in non-traditional health settings have greater exposure to the impacts of different social-determinants of health experienced by disadvantaged populations (Holmqvist, Courtney, Meili, & Dick, 2012). For example, a common part of clinical training is helping clients approach situations that cause them anxiety. Whether a client's avoidance is unhelpful or helpful becomes less clear when they live in a high crime neighbourhood and have ongoing experiences of victimization. Working with marginalized populations has been shown to generate greater levels of compassion, more positive attitudes, and increased social accountability in students (Holmqvist et al., 2012).

A Local Need for a Student-Run Psychology Service

Toronto, like many large Westernized cities, has a number of registered not-for-profit agencies struggling with limited resources to provide services to the youth and other marginalized populations; St. Stephen's Community House is one such agency. St. Stephen's Youth Services department engages with approximately 650 youth (aged 12 to 25 years) every year from some of the poorest neighbourhoods in Toronto. Youth Services operates September to June with one manager, seven full-time social service workers, and 21 part-time staff/volunteers. Staff run a drop-in space where approximately 70 youth come daily to receive hot meals and access programs addressing housing, unemployment, youth justice, sexual health, racism, and the integration of refugees and immigrants.

Since 2012, staff at St. Stephen's Youth Services have reported an increased number of mental health concerns from youth. Youth making reports were often female, socially isolated, and ethnically marginalized and often include descriptions of previous and ongoing trauma (e.g., physical or sexual assault). Staff have been able to offer some supportive counselling and crisis intervention, but are not trained to deliver mental health services.

Developing the Youth Psychology Service

The Youth Psychology Service (YPS) was founded by Ryerson University graduate students to address mental health service limitations. They approached a registered clinical psychologist to provide programmatic support and clinical supervision. Students attended a series of inter-organizational meetings between local agencies to develop a strategy for meeting the mental health needs of marginalized youth. Discussion highlighted the struggle to successfully make referrals to mental health services due to long waitlists, service location, and referral options not being perceived as appropriate options for youth. The consensus was to develop a means of delivering clinical services that was mobile and accessible in the youths' environment.

YPS follows a "street medicine" model of service delivery (Withers, 2011). In "street medicine," health care providers go into the community and provide services for clients who are otherwise unable or unwilling to attend routine health care settings (CMHA, 2016; Withers, 2011). YPS utilizes this approach by partnering with community organizations, and provides services in the settings where the organization connects with youth. Potential clients are therefore not required to come to a health care setting or university; student therapists go into the community centres and

shared spaces where youth frequent. Street medicine providers depend on community partnerships, such as St. Stephen's Community House, to connect with clients and build trust. The priority of this model is to be responsive to the barriers of accessing services.

The YPS program goals and strategies (see Table 1) are based on the following values: client-centered practice, evidence-based practice, diversity, inclusivity, accountability, and continuous learning. These values were selected from best clinical practice recommendations when working with youth (Garland et al., 2013) and the scientist-practitioner model of clinical training. Clinical services include consultation and psychoeducation (for youth and family members), assessment, and treatment. Students also provided professional support to staff (e.g., case consultation, training). For more information, visit http://www.ypsto.com.

Table 1. *YPS Program Goals and Strategies*

---

1. *Increase access to psychological services in marginalized populations.*
   - *Youth will never pay for services.*
   - *Clinical services are delivered in the community.*
   - *Promote awareness of mental health.*

---

2. *Develop community capacity to support mental health care.*
   - *Provide psychoeducation and training.*
   - *Consult with staff to develop case management plans.*
   - *Students support staff in developing record keeping systems.*

---

3. *Expand training for students.*
   - *One hour, weekly individual supervision.*
   - *Phone consultation available between supervision.*
   - *Sensitivity to social determinants of health.*

The First Year of Service Delivery

The Youth Psychology Service clinical records were reviewed to provide descriptive information of service delivery over the first year (October 2015 to July 2016). Clinical services were piloted by one student to explore the viability of YPS in terms of youth and staff acceptance of services and the degree of clinical supervision.

Client Characteristics

Clients ($N = 8$) were mostly male (62.5%) and ranged in age from 16 to 25 with a mean age of 19.2 years ($SD = 3.3$). All clients were from ethnic minority groups (e.g., Black, East Asian, South Asian, and Middle Eastern) and resided in marginalized areas. Half of the clients previously saw mental health providers, but had terminated services due to issues such as financial constraints and poor rapport. Clinical problems included symptoms such as low mood (87.5%), anger (37.5%), and suicidality (25.0%). Severity ranged from sub-clinical concerns to significant histories of hospitalization. Other psychosocial problems addressed in treatment included family and relationship problems (100%) and unemployment (37.5%).

Services

Table 2 summarizes service provision and student supervision. Clinical service delivery was three hours, once a week. The number of individual sessions varied from 1 to 17 (median = 2.5), depending on distress, impairment, and client motivation. As part of informed consent, clients were made aware of other local service providers and treatment options. The potential benefits and limitations of YPS and other services were discussed. For example, some of the benefits of YPS are that it is a free service and that it can be accessed in a familiar location. Alternatively, the YPS service provider is only a supervised graduate student and has less experience than a registered clinical psychologist. All clients explicitly expressed their preference to be seen by the YPS student therapist rather than be referred out to another service provider.

Table 2. *Service Provision*

Activity	Hours
Clinical Services	71.0
Outreach	31.5
Individual Therapy	23.5
Crisis Intervention	11.5
Client Consultation	4.5
Professional Services	11.5
Professional Consultation	2.5
Staff Training	3.0
Program Evaluation	6.0
Supervision	65.0
Individual Supervision	32.5
Group Supervision	3.0
Peer Supervision	2.5
Total	147.5

Cognitive (e.g., thought records) and behavioural strategies (e.g., contingency management) were used in 25% and 50% of sessions, respectively. Other strategies included psychoeducation (65% of sessions), skills training (55%), and mindfulness (35%). Examples of psychoeducation include identifying and differentiating emotions, such as fear and anger, which

arise during interpersonal conflict. Psychoeducation on emotions was sometimes paired with teaching the "time out" skill to get youth to remove themselves from a situation when they are not able to successfully manage their behaviour, reduce their distress and create a solution, and return to the situation.

Crisis intervention related to increased risk for self-harm or suicide was available both during regular service delivery hours and between sessions. The focus of these contacts was to assess risk and provide strategies to increase safety.

The final element of every consultation or therapy session was client feedback. Eliciting feedback is important not only for gauging the impact of services, but demonstrating to clients that their opinions and experiences are valued. Feedback was verbal and included closed and open-ended questions. Clients were asked at the end of each session to verbally rate the session on a scale form 1 "Much worse than expected" to 5 "Much better than expected" with 3 indicating the session met their expectations. The median score was 4 "Better than expected" with most sessions (65.2%) exceeding expectations to some degree. Only one session was rated 1 "Much worse than expected" and that involved the individual being involuntary hospitalized for imminent suicidal risk. Feedback also included qualitative questions, such as "What part of session, if anything, was helpful?" Clients identified learning about mental health, receiving individual strategies to cope with mental illness, and having someone to talk to as important benefits of their sessions.

YPS students met with St. Stephen's staff to identify staff learning goals, these included formal training on trauma-related disorders and harm-reduction approaches to substance use problems as well as setting up individual staff consultations. In separate case consultations for three youth, students and staff collaboratively created a formulation of the youth's problem and a plan for intervention. Feedback also occurred after staff interactions. A consistent theme in staff feedback was how YPS services helped them manage situations for which they felt unprepared (e.g., suicidality).

YPS students attended clinical supervision with a registered clinical psychologist working in the community. The ratio of service-to-supervision hours was almost 1:1—high compared to the minimum required, 20:1, in psychology internships (Association of Psychology Postdoctoral and Internships Centers, 2016). The high level of supervision supported student therapists in addressing challenging topics, such as reflecting upon how sociocultural identities influence relationships with staff and youth.

Discussion

The student-run clinic model is an emerging health care strategy to overcome barriers systematically excluding vulnerable segments of the population. Student-run clinics have been applied to the treatment of mental illness for adults but the authors of this paper were not able to identify any similar examples for youth. The Youth Psychology Service (YPS) was created to provide mental health services to at-risk youth and their families, as well as support community staff members. The Youth Psychology Service is not only student-run, but also student-led; students are responsible for delivering services and for the leadership and management of the organization. As a result, YPS has the potential to reduce systematic barriers to mental health care and empower the next generation of psychologists.

Data collected over the first year provided a snap shot of how mental health care could be delivered by graduate students and who it would reach. A supervised graduate student therapist partnered with a local not-for profit organization and was invited to deliver services within the organization's outreach settings. Clients referred for services experienced a wide range of psychological and social problems that created moderate to severe levels of distress and dysfunction in their lives. Systemic social barriers explained why many clients had failed to access services elsewhere; barriers, such as financial cost, location, and awareness, reduced clients' motivation to seek services elsewhere. Throughout their engagement with YPS, clients and staff reported that services exceeded their expectations and were interested in further involvement in the future. These findings support the continued development of YPS.

YPS will continue and expand services over the 2016-2017 year. Based on feedback from staff, YPS will expand programing to reach youth who are at different stages of readiness to discuss their mental health. Three different modalities will be used: outreach (in person and through social media), psychoeducation-based groups and workshops, and individual and group treatment. These clinical services, as well as the professional services offered to staff, will undergo program evaluation to examine what works, for whom it works, and who can access services. These results can be used to make decisions about the future development of YPS to further reduce barriers to mental health care and empower students to serve their community.

References

Association of Psychology Postdoctoral and Internship Centers. (2016). *APPIC membership criteria: Doctoral psychology internship programs.* Retrieved from https://www.appic.org/Joining-APPIC/Members/Internship-Membership-Criteria

Boak, A., Hamilton, H., Adlaf, E., Henderson, J. & Mann, R. (2016). *The mental health and well-being of ontario students, 1991-2015: Detailed OSDUHS findings* (CAMH Research Document Series No. 43).

Brown, A., Lubman, D.I., & Paxton, S.J. (2011). Reducing sexually-transmitted infection risk in young people with first-episode psychosis. *International Journal of Mental Health Nursing, 20*, 12-20. doi:10.1111/j.1447-0349.2010.00700.x.

Canadian Mental Health Association (2016). *Fast facts about mental illness*. Retrieved from http://www.cmha.ca/media/fast-facts-about-mental-illness/#.V2iiJFenOll

Coburn, B., Seryak, K., & Lander, J. (2016). Student-run clinics adapt to emerging changes in healthcare and education. *Journal of Student-Run Clinics, 2*(1). Retrieved from http://journalsrc.org/index.php/jsrc/article/view/8

Ellett, J. D., Campbell, J. A., & Gonsalves, W. C. (2010). Patient satisfaction in a student-run free medical clinic. *Family Medicine, 42*(1), 16.

French, R., Reardon, M., & Smith, P. (2003). Engaging with a mental health service: Perspectives of at-risk youth. *Child and Adolescent Social Work Journal, 20*, 529-548. doi:10.1023/B:CASW.0000003142.13457.0a

Garland, A. F., Haine-Schlagel, R., Brookman-Frazee, L., Baker-Ericzen, M., Trask, E., & Fawley-King, K. (2013). Improving community-based mental health care for children: Translating knowledge into action. *Administration and Policy in Mental Health and Mental Health Services Research, 40*, 6-22. doi:10.1007/s10488-012-0450-8

Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: A systematic review. *BioMed Central Psychiatry, 10*, 113-113. doi:10.1186/1471-244X-10-113

Holmqvist, M., Courtney, C., Meili, R., & Dick, A. (2012). Student-run clinics: Opportunities for interprofessional education and increasing social accountability. *Journal of Research in Interprofessional Practice and Education, 2*(3), 264-277.

Kataoka, S. H., Zhang, L., & Wells, K. B. (2002). Unmet need for mental health care among U.S. children: Variation by ethnicity and insurance status. *American Journal of Psychiatry, 159*, 1548-1555. doi:10.1176/appi.ajp.159.9.1548

Kuehn, B. M. (2005). Mental illness takes heavy toll on youth. *Journal of the American Medical Association, 294*, 293-295. doi:10.1001/jama.294.3.293

Lawrence, D., Bryant, T. K., Nobel, T. B., Dolansky, M. A., & Singh, M. K. (2015). A comparative evaluation of patient satisfaction outcomes in an interprofessional student-run free clinic. *Journal of Interprofessional Care, 29*, 445-6. doi:10.3109/13561820.2015.1010718

Leahy, D., Schaffalitzky, E., Saunders, J., Armstrong, C., Meagher, D., Ryan, P. ... & Cullen, W. (2015). Role of the general practitioner in providing early intervention for youth mental health: A mixed methods investigation. *Early Interventions in Psychiatry,* advance online publication. doi:10.1111/eip.12303

Liberman, K. M., Meah, Y. S., Chow, A., Tornheim, J., Rolon, O., & Thomas, D. C. (2011). Quality of mental health care at a student-run clinic: Care for the uninsured exceeds that of publicly and privately insured populations. *Journal of Community Health, 36*, 733-740. doi:10.1007/s10900-011-9367-5

Public Health Agency of Canada. (2015). *Economic burden of illness in Canada*. Government of Canada, Ottawa, ON.

Rickwood, D., Deane, F. P., Wilson, C. J., & Ciarrochi, J. (2005). Young people's help-seeking for mental health problems. *Australian e-Journal for the Advancement of Mental Health, 4*, 218-251. doi:10.5172/jamh.4.3.218

Santiago, C. D., Kaltman, S., & Miranda, J. (2013). Poverty and mental health: How do low-income adults and children fare in psychotherapy? *Journal of Clinical Psychology, 69*, 115-126. doi:10.1002/jclp.21951

Service Canada. (2016). *Skill type: Occupations in social science, education, government service and religion*. Retrieved from http://www.servicecanada.gc.ca/eng/qc/job_futures/statistics/4151.shtml

Suldo, S., Thalji, A., & Ferron, J. (2011). Longitudinal academic outcomes predicted by early adolescents' subjective well-being, psychopathology, and mental health status yielded from a dual factor model. *Journal of Positive Psychology, 6*, 17-30. doi:10.1080/17439760.2010.536774

Weissman, M. M., Verdeli, H., Gameroff, M. J., Bledsoe, S. E., Betts, K., Mufson, L., . . . Wickramaratne, P. (2006). National survey of psychotherapy training in psychiatry, psychology, and social work. *Archives of General Psychiatry, 63*, 925-934. doi:10.1001/archpsyc.63.8.925

Weisz, J. R., Sandler, I. N., Durlak, J. A., & Anton, B. S. (2005). Promoting and protecting youth mental health through evidence-based prevention and treatment. *American Psychologist, 60*, 628-648. doi:10.1037/0003-066X.60.6.628

Withers, J. (2011). Street medicine: An example of reality-based health care. *Journal of Health Care for the Poor and Underserved, 22*(1), 1-4.

The interaction between child and parent characteristics on child outcomes

Samantha Daskaluk, University of Windsor, M.A.

Abstract

This review article examines the interactive effects of child and parent characteristics on child development. Specifically, it examines child temperament, personality, and behaviours that interact with parenting variables (e.g., warmth, control, discipline) to predict the development of later psychological (e.g., internalizing and externalizing behaviours) and adjustment (e.g., academic competence and peer relations) difficulties. In addition, this article takes a developmental psychopathology perspective; findings are compared to competing developmental hypotheses, the diathesis-stress hypothesis, and the differential susceptibility hypothesis. Findings demonstrate that although both the diathesis-stress and differential susceptibility hypotheses are informative, neither is all encompassing. In addition, children with problematic temperaments, personalities, and behaviours are more affected by negative parenting compared to children with non-problematic temperaments, personalities, and behaviours. Moreover, children with problematic temperaments, personalities, and behaviours have better developmental outcomes when provided with higher levels of positive parenting—although the comparison to children with less problematic characteristics is inconclusive.

Résumé

Cet article de synthèse examine les effets interactifs des caractéristiques d'un enfant avec celles de ses parents sur le développement de ce premier. L'article traite notamment du tempérament, de la personnalité et des comportements de l'enfant et la façon dont ces éléments interagissent avec les variables parentales (p. ex. le réconfort parental, le contrôle, la discipline) afin de prédire le développement ultérieur de difficultés psychologiques (par ex. troubles externalisés ou internalisés du comportement) et d'adaptation (par ex. compétences scolaires et relations avec les pairs). De plus, cet article s'inscrit dans une perspective de psychopathologie développementale; les résultats sont comparés à des hypothèses de développement concurrentes, à l'hypothèse de la diathèse-stress et à l'hypothèse de la susceptibilité différentielle. Les résultats montrent que même si les hypothèses de la diathèse-stress et celle de la susceptibilité différentielle s'avèrent informatives, ni l'une ni l'autre n'est exhaustive. De plus, les enfants dont le tempérament, la personnalité et le comportement posent problème sont davantage affectés par une mauvaise parentalité comparativement aux enfants dont le tempérament, la personnalité et le comportement s'avèrent non problématiques. Aussi, les enfants dont le tempérament, la personnalité et le comportement posent problème présentent de meilleurs résultats sur le plan du développement lorsqu'ils sont en présence de niveaux supérieurs de parentalité positive – bien que la comparaison avec des enfants présentant des caractéristiques moins problématiques se révèle non concluante.

Although researchers have examined the individual effects of child and parent characteristics on child development (i.e., psychopathology and overall adjustment), only recently have researchers begun to consider and examine the interactive effects of child and parent characteristics combined. Developmental psychopathology postulates that development is affected by numerous variables and the interactions among them. Consequently, understanding the interactive effects of child and parent characteristics on child development is vital given that children do not develop in a vacuum. Similar to any relationship, parents and children are not only affected by their own characteristics (e.g., temperament and personality) and their environment (e.g., type of parenting), but also by the bidirectional effect between the two variables (e.g., the effect the child's temperament has on parenting behaviours, and in turn the child's development). Despite the relatively new exploration of this

topic, this paper will examine and review the current research on the interaction between child and parent characteristics on the child's development and adjustment using a developmental psychopathology perspective.

Diathesis-Stress *versus* Susceptibility Hypotheses

In the area of developmental psychopathology, there are two competeting hypotheses: the diathesis-stress hypothesis and the susceptibility hypothesis. First, the diathesis-stress hypothesis purports that individuals develop psychopathology due to a combination of diathesis and stress (Belsky & Pluess, 2009). Diathesis refers to the vulnerability (temperamental, behavioural, physiological, or genetic) an individual has that increases the likelihood they will develop a psychological disorder. Stress generally refers to environmental components (e.g., maltreatment, poor parenting, trauma; Belsky & Pluess, 2009). An individual who has a high level of vulnerability may only require a small stressor to develop a psychological disorder, whereas individuals with low vulnerability would require large or multiple stressors to develop a psychological disorder.

The differential susceptibility hypothesis is a relatively recent hypothesis that has emerged in the literature (Belsky & Pluess, 2009). Unlike the diathesis-stress hypothesis, which solely focuses on the negative effects the environment has on development, the differential susceptibility hypothesis focuses on the negative and positive effects of the environment (Belsky & Pluess, 2009). Therefore, the differential susceptibility hypothesis purports that individuals with high levels of vulnerability who are most negatively affected by environmental stressors (e.g., punitive parenting) may also be the individuals who benefit the most from environmental support (e.g., parent acceptance and empathy).

INTERACTIVE EFFECTS OF CHILD AND PARENT CHARACTERISTICS

Child Characteristics

There are several child characteristics, such as child temperament, personality, and coping behaviours, that can influence child outcomes. Temperament can be described as the predisposition of certain behavioural reactions (e.g., approach or withdraw) and feelings (e.g., positive or negative affect) of infants (Beauchaine & Hinshaw, 2017). Although there are many different types of temperament, the main forms discussed in research are 1) easy (i.e., positive mood and easy to soothe), 2) difficult (i.e., high rates of moodiness and irritability), 3) inadaptable (i.e., difficulty adapting to new situations), and 4) fearful (i.e., shy and inhibited). Previous research has demonstrated that children with difficult or inflexible temperaments had higher rates of internalizing and externalizing behaviours several years later (Gallito, 2015; Rabinowitz, Drabick, Reynolds, Clark, & Olino, 2016), as well as lower academic competence (Stright, Gallagher, & Kelley, 2008). Thus, difficult and inadaptable temperaments are risk factors for future psychological and adjustment issues.

As children develop and have additional experiences, their temperaments evolve into personality. Research suggests that personality includes five characteristics: extraversion is characterised by low shyness as well as high optimism, expressiveness, and energy; agreeableness (or benevolence) is characterised by low irritability and dominance as well as high compliance and altruism; conscientiousness is characterised by high achievement motivation, concentration, perseverance, and orderliness; neuroticism (or emotional stability in child literature) is based on high anxiety and low self-confidence; and openness (or imagination in child literature) is characterised by high creativity, curiosity, and intellect (Van Leeuwen, Mervielde, Braet, & Bosmans, 2004). Similar to temperament, child personality affects developmental outcomes. For example, low agreeableness, conscientiousness, emotional stability, and openness was associated with higher levels of externalizing and internalizing behaviours (Van Leeuwen, Mervielde, De Clercq, & De Fruyt, 2007). In addition, children with low extraversion had higher levels of internalizing behaviours than children high in extraversion (Van Leeuwen et al., 2007).

In addition to child temperament and personality, various child characteristics can also influence child developmental outcomes. For example, children at high risk (i.e., higher levels of externalizing behaviours and maladaptive emotion regulation strategies, and lower levels of adaptive emotion regulation strategies) had higher levels of negativity and problem behaviour at two years old, and lower levels of emotional regulation, social skills, and peer likeability at five years old (Blandon, Calkins, & Keane, 2010).

Parent-Child Interactions

Although child temperament, personality, and risk level are predictive of later psychological and adjustment issues, not all children with problematic child characteristics develop these difficulties. Whether children develop maladaptive behaviours is also strongly affected by the type of parenting they receive, such as warmth, acceptance, control, and/or discipline. Given that both child and parent characteristics influence

child development, understanding how the interaction between these two variables predicts child outcomes will enhance knowledge in this research area.

Diathesis-stress hypothesis. Accoridng to Gallito (2015), children with difficult or inadaptable temperaments and low levels of positive parenting at two to three years old had more externalizing or internalizing behaviours (respectively) four years later, compared to children without difficult or inadaptable temperaments. However, children (regardless of temperament) who experienced more positive parenting had similar levels of internalizing and externalizing behaviours. Thus, children with difficult and inadaptable temperaments were more affected by a lack of positive parenting practices than children without difficult and inadaptable temperaments. Although hostile parenting was directly related to internalizing and externalizing behaviours, it did not interact with child temperament to predict child outcomes.

Similar results have been found for children at high risk according to Blandon and colleagues (2010). First, in the context of high maternal control (e.g., strictness/punitiveness), children at high risk experienced more negativity and had worse emotion regulation three years later compared to children at low risk. Regardless of maternal positive parenting or negative control, children with high risk had similar levels of negativity. Likewise, children at high risk had worse emotion regulation than children at low risk regardless of maternal control; however, this was not the case for maternal positive parenting. Third, regardless of level of risk, children had similar levels of negativity when they experienced low levels of maternal positive parenting and negative control. In the context of low maternal control, children had similar levels of emotion regulation regardless of risk level; however, this was not the case for maternal positive parenting. Another interesting finding was that neither the interaction of risk and maternal control or positive parenting predicted future social skills or behaviour problems. The authors suggested that this may be due to confounding variables that were not accounted for in this study. Overall, these studies (i.e., Blandon et al., 2010; Gallito, 2015) support the diathesis-stress hypothesis because children with problematic temperaments or maladaptive coping were more vulnerable to a lack of positive parenting, but did not fare better than children with easy temperaments or adaptive coping when they received positive parenting.

Differential susceptibility hypothesis. Regarding adjustment (e.g., academic competence, social skills, teacher/child relationship, and peer status), re-

searchers found that children with difficult temperaments at six months old had poorer outcomes when they received poorer parenting, compared to children with easy temperaments (Stright et al., 2008). However, children with difficult temperaments had better outcomes than children with easy temperaments when they received more positive parenting (Stright et al., 2008). Similarly, a study that examined the interaction between temperament and attachment on fear reactivity found that children with fearful temperaments and insecure attachments experienced higher fear reactivity (in response to a fear-inducing video clip) than children without fearful temperaments (Gilissen, Bakermans-Kranenburg, van IJzendoorn, & van der Veer, 2008). However, children with fearful temperaments who had secure attachments had a lower fear reaction to the clip, than children without fearful temperaments (Gilissen et al., 2008). Therefore, these studies provide support for the differential susceptibility hypothesis as children with difficult or fearful (*versus* easy) temperaments who received positive and secure parenting had better outcomes. Overall, these studies demonstrate that, for children with difficult or fearful temperaments, negative parenting is a risk factor and positive parenting is a protective factor for outcomes such as academic competence and fear reactivity.

Additionally, previous research has shown that children with low agreeableness, conscientiousness, openness, and/or emotional stability had higher levels of internalizing and/or externalizing behaviours when they experienced more negative control from parents (i.e., discipline, being punitive, and ignoring problem behaviour) or less positive parenting (Van Leeuwen et al., 2007). Van Leeuwen and colleagues (2007) suggested that their findings support the differential susceptibility hypothesis because children with certain personality characteristics developed less psychological issues with positive parenting and more psychological difficulties with negative parenting. However, this conclusion may be premature. Despite the finding that children with vulnerabilities (e.g., low agreeableness) had less psychological issues in the presence of positive parenting, there was no significant differences between children with and without these vulnerabilities when they both received positive parenting. That is, children with low agreeableness and positive parenting did not fare better than children with high agreeableness and positive parenting, which is suggested by the differential susceptibility hypothesis. Therefore, this relationship needs to be examined further. Overall, this study suggests that negative parenting, in combination with low agreeableness, conscientiousness, openness, and emotional stability, is

a greater risk factor for later outcomes (e.g., externalizing and internalizing behaviours) than these individual factors.

Parent gender. Notably, despite the majority of research focusing on the mother-child relationship, some research has found different results based on whether the mother or father's parenting style was examined. For example, Rabinowitz and colleagues (2016) demonstrated that children with inflexible temperaments and low levels of positive parenting from their fathers at 10-12 years old had higher levels of internalizing and externalizing behaviours two years later compared to youth high in flexibility. Yet, children (regardless of temperament) had similar levels of internalizing and externalizing behaviours when they received positive parenting from their fathers. Moreover, regardless of positive paternal parenting level, children with flexible temperaments had similar levels of internalizing and externalizing behaviours. Notably, these findings did not occur when maternal parenting was examined.

According to Zarra-Nezhad and colleagues (2014), in the context of low maternal affection, children with high social withdrawal had more externalizing behaviours than children with low withdrawal. The authors also found that regardless of the children's level of withdrawal, they had similar levels of externalizing behaviour when they received high maternal affection. In addition, children with high withdrawal and maternal psychological control had more internalizing behaviours, but less externalizing behaviours and more prosocial behaviours (compared to children with high withdrawal and low maternal psychological control). The authors stated that this finding may suggest that children with high withdrawal are more affected by maternal signals; thus, they develop prosocial skills in response to their mothers' psychological control, but at the cost of their own autonomy (i.e., more internalizing difficulties). Therefore, maternal psychological control could be a factor of a developmental cascade. Similarly, children with high withdrawal and paternal psychological control had more internalizing behaviours; however, children with high withdrawal and low paternal psychological control had less internalizing behaviours than children with low withdrawal. Moreover, children with high and low withdrawal had similar levels of internalizing behaviour when they had high paternal behaviour control; however, children with high withdrawal and low paternal behavioural control had higher levels of internalizing behaviours. This finding suggests that children with high withdrawal may benefit from paternal behavioural control to provide structure in social situations. Thus, this study suggests that

mother and child interactions support the diathesis-stress hypothesis; however, some father and child interactions support the differential susceptibility hypothesis. Overall, these studies have important implications given that examining the effects of mothers and fathers separately led to different conclusions.

SUMMARY
Overall, research suggests there are significant interactive effects between child and parent characteristics and behaviours that predict child development. Specifically, for children with difficult characteristics and behaviours (e.g., neuroticism, inflexible temperament, and externalizing behaviours) negative parenting is a risk factor and positive parenting is a protective factor. In addition, the combination of negative child and parent characteristics is a greater risk factor for later outcomes than these risk factors individually.

Although the majority of studies reviewed demonstrated support for the diathesis-stress hypothesis given that children with difficult characteristics and temperaments developed greater issues compared to children without these difficulties, a few studies supported the differential susceptibility hypothesis. In the context of positive parenting, some research indicates that children with difficult characteristics and behaviours had better outcomes than children without difficult characteristics and behaviours (e.g., Gilissen et al., 2008; Stright et al., 2008).

Strengths, Limitations, and Future Directions
Although literature on the interaction between child and parent characteristics predicting child development is relatively new, it has greatly added to the understanding of developmental psychopathology. Given that not all children with difficult temperaments or personality characteristics develop issues later in development, it is important to understand which factors interact with child characteristics to place them on a maladaptive developmental pathway. In addition, most studies in this area also connect their findings back to the current theories of the field, namely the diathesis-stress and differential susceptibility hypotheses. Other strengths include the researchers using longitudinal designs to understand children's development, studying children with and without diagnosable psychological difficulties, and incorporating additional informants (e.g., teacher ratings of child difficulties). The strengths of this literature area have important clinical implications for children and their parents. For example, clinicians and parents will be able to understand the most beneficial parenting styles and behaviours for their child given their child's

temperament and personality characteristics. This will likely have high relevance for parent skills training as well as clinicians conducting family therapy.

Despite these strengths, there are some areas in which this literature area can improve. First, the authors used different measures to examine child and parent characteristics. For example, some studies used questionnaires to assess parent behaviours (e.g., Gallito, 2015; Rabinowitz et al., 2016; Van Lewan et al., 2007; Zarra-Nezhad et al., 2014) while others used observations (e.g., Blandon et al., 2010; Gilissen et al., 2008; Stright et al., 2008). This can lead to different findings in the literature, as research has found that observation of parent behaviours leads to larger effect sizes compared to questionnaires. In addition, previous studies have used various measures of temperament, which likely led to different findings because these measures tap into distinctive aspects of temperament. Similarly, many studies only focused on one type of temperament (e.g., focus on fearful and neglect difficult and inadaptable temperaments). Moreover, many studies only used mother informants; this is an issue because when both parents were included results differed based on whether the mother or father was rating the child outcomes. These differences could lead to variation in findings and make it more difficult to draw conclusions across studies. Another limitation in this area of the literature is that many studies primarily include Caucasian participants. Given that culture likely affects the interaction between parent and child characteristics (Fung & Lau, 2009), it is important for future studies to assess the role of culture and its interaction with parenting styles and child temperament. Indubitably, this can be difficult to accomplish when researchers are also attempting to collect data from a large sample, with both parents, and have a longitudinal design. Yet, it remains a crucial undertaking. In addition, it would be useful for more studies to assess the interaction between child and parent characteristics over multiple time points to determine whether these interactions are consistent over developmental periods.

Overall, the limited research in this area has provided valuable information to the field of developmental psychopathology. Depsite this, it is vital for additional research to be conducted to replicate the previous findings and expand our knowledge regarding parent-child interactions on child outcomes.

References

Beauchaine, T.P., & Hinshaw, S.P. (Eds.) (2017). *Child and adolescent psychopathology* (3rd Edition). Hoboken, NJ: Wiley & Sons.

Belsky, J., & Pluess, M. (2009). Beyond diathesis stress: Differential susceptibility to environmental influences. *Psychological Bulletin, 135*, 885-908. doi: 10.1037/a0017376.

Blandon, A. Y., Calkins, S. D., & Keane, S. P. (2010). Predicting emotional and social competence during early childhood from toddler risk and maternal behavior. *Development and Psychopathology, 22*, 119-132. doi: 10.1017/S0954579409990307.

Fung, J. J., & Lau, A. S. (2009). Punitive discipline and child behavior problems in Chinese-American immigrant families: The moderating effects of indigenous child-rearing ideologies. *International Journal of Behavioral Development, 33*, 520-530. doi: 10.1177/0165025409343749.

Gallito, E. (2015). Temperament as a moderator of the effects of parenting on children's behavior. *Development and Psychopathology, 27*, 757-773. doi: 10.1017/S0954579414000753.

Gilissen, R., Bakermans-Kranenburg, M. J, van IJzendoorn, M., H., & van der Veer, R. (2008). Parent-child relationship, temperament, and physiological reactions to fear-inducing film clips: Further evidence for differential susceptibility. *Journal of Experimental Child Psychopathology, 99*, 182-195. doi: 10.1016/j.jecp.2007.06.004.

Rabinowitz, J. A., Drabick, D. A. G., Reynolds, M. D., Clark, D. B., & Olino, T. M. (2016). Child temperamental flexibility moderates the relation between positive parenting and adolescent adjustment. *Journal of Applied Developmental Psychology, 43*, 43-53. doi: 10.1016/j.appdev.2015.12.006.

Stright, A. D., Gallagher, K. C., & Kelley, K. (2008). Infant temperament moderates relations between maternal parenting in early childhood and children's adjustment in first grade. *Child Development, 79*, 186-200. doi: 0009-3920/2008/7901-0013.

Van Leeuwen, K. G., Mervielde, I., Braet, C., & Bosmans, G. (2004). Child personality and parental behavior as moderators of problem behavior: Variable- and person-centered approaches. *Developmental Psychopathology, 40*, 1028-1046. doi: 10.1037/0012-1649.40.6.1028.

Van Leeuwen, K. G., Mervielde, I., De Clercq, B. J., & De Fruyt, F. (2007). Extending the spectrum idea: Child personality, parenting and psychopathology. *European Journal of Personality, 21*, 63-89. doi: 10.1002/per.598.

Zarra-Nezhad, M., Kiuru, N., Aunola, K., Zarra-Nexhad, M., Ahonen, T., Pokkeus, A.-M., ... & Nurmi, J.-E. (2014). Social withdrawal in children moderates the association between parenting styles and the children's own socioemotional development. *Journal of Child psychology and Psychiatry, 55*, 1260-1269. doi: 10.1111/jcpp.12251.

The invisible disability: Involvement of the family unit in treatment of mild acquired brain injuries

Alyssa J. Smith, Laurentian University, B.A.

Abstract

Acquired brain injuries (ABIs) are a major cause of disability and death in North America resulting from physical trauma to the head or nontraumatic injuries including brain tumors, epilepsy, hypoxia, or infection. Over the past 25 years, the dominant discourse has focused grossly on the diagnosis and consequences of the damage caused by an ABI rather than treatment. Typically, research has explored individual and carer treatments separately, but the current review proposes a theoretical perspective that involves a collaborative process of the family unit as a whole for treatment of mild ABIs. The current literature review highlights the difficulties with diagnosing mild ABIs and the direct impact on the treatment process, including individual and family adjustment difficulties post-injury. An integrated treatment plan is suggested for future research to reduce psychological distress and increase perceived quality of life by providing social, emotional, and practical support through the inclusion of family members.

Résumé

Les lésions cérébrales acquises sont une des principales causes d'invalidité et de mortalité en Amérique du Nord. Celles-ci peuvent survenir à la suite d'un traumatisme physique à la tête ou de blessures non traumatiques, dont des tumeurs au cerveau, l'épilepsie, une hypoxie ou une infection. Au cours des 25 dernières années, le discours prédominant s'est concentré sommairement sur le diagnostic de lésions cérébrales acquises et les conséquences des dommages qu'elles causent au lieu des plans de traitement. Généralement, la recherche a exploré séparément les traitements individuels et les traitements des soignants, mais l'étude actuelle présente une perspective théorique qui implique un processus de collaboration de l'unité familiale dans son ensemble pour le traitement des lésions cérébrales légères acquises. L'analyse de la littérature actuelle met en lumière les difficultés de diagnostiquer les lésions cérébrales légères et les incidences directes sur le processus de traitement, y compris les difficultés individuelles et familiales d'adaptation après l'apparition des lésions. Un plan de traitement intégré est suggéré pour la poursuite des recherches afin de réduire la détresse psychologique et d'améliorer la perception de la qualité de vie des personnes atteintes en offrant un soutien social, affectif et pratique grâce à l'inclusion des membres de la famille.

Acquired brain injuries (ABIs) are a major cause of disability and death in North America and continue to be the leading cause of death in young adults (Maas, Stocchetti, & Bullock, 2008; Roozenbeek, Maas, & Menon, 2013). ABI is used to describe both traumatic and nontraumatic brain injuries occurring after birth that are not a result of congenital illness or degenerative disease; ABIs can include physical trauma to the head or brain tumors, epilepsy, hypoxia, or infection, resulting in mild to severe impairments (Bigler & Brooks, 2009; Marshall, 2000). Depending on the extent of brain damage, there can be varying effects in psychological and physical functioning such as: deficits in motor skills; increased risk of headaches; lack of motivation; poor concentration, planning and problem-solving ability; changes in personality; and possible physical handicap (Hyatt, 2014; Norup & Mortensen, 2015). Additionally, the age of onset, severity of the damage, and brain region affected influence the severity of the impairments and rate of recovery (Anderson, Simpson, & Morey, 2013; Bigler & Brooks, 2009; Ruff, 2005).

In the past, researchers have focused grossly on the diagnosis of the damage caused by an ABI rather than developing effective treatment protocols (Marshall, 2000; Ruff, 2005). Often, cases are more complex than just a single brain region affected given that similar patterns of injury may result in substantially different outcomes, leading to unsuitable treatment recommendations (Hyatt, 2014; Sherer et al., 2017). Consistently, treatment depends on the type and

severity of the ABI, as increased severity is typically related to poorer functioning and therefore intensive rehabilitation plans are suggested, whereas mild injuries are not typically subject to such rigorous rehabilitation (Jones et al., 2011). Therefore, individuals with severe injuries have more resources available to them as their impairments are more apparent compared to those who have more mild cases (Jones, Jetten, Haslam, & Williams, 2012). Understanding the relationship between mild ABIs and individual functioning is important for implementing appropriate treatment methods and support systems for the individuals and their families.

Typically, research has only explored individual and carer (e.g., spouse, siblings, offspring) treatments separately (Renaud et al., 2018), but the current review proposes a theoretical perspective that involves a collaborative process of the family unit as a whole for treatment of mild ABIs to compensate for the lack of treatments available for both patients and their families collectively. The current literature review will highlight the difficulties with defining and diagnosing mild ABIs and the direct impact on the treatment process, including individual and familial adjustment difficulties post-injury. An integrated treatment plan is suggested for future research using clinical trials.

Diagnosing Mild ABIs

The primary method for diagnosis of an ABI is based on the etiology of the disease or injury. For example, the severity of a traumatic brain injury (TBI) is typically measured by monitoring level of consciousness, using the Glasgow Coma Scale (GCS) which evaluates verbal and nonverbal responses to sensory stimulation ranging from mild (13-15) to severe (< 9; Teasdale & Jennett, 1974). Although other methods of defining brain injury are available, outcomes of ABIs are heterogeneous, therefore making it difficult to have a valid method to classify the injury (Hyatt, 2014). Technologies such as Computerised Axial Tomography (CT) and Magnetic Resonance Imaging (MRI) may not accurately capture the extent of the brain injury as the imaging presents more obvious physical injuries, such as bleeding or lesions, while detecting small changes in neuropathology, such as disconnections between neurons, is more difficult (Eierud et al., 2014).

Given the difficulties with detecting and defining ABIs, individuals with mild ABIs are less likely to receive a definitive diagnosis, most often when the physical impairments are absent (Bigler & Brooks, 2009; Eierud et al., 2014; Hyatt, 2014). Paradoxically, individuals who have increasingly severe ABIs tend to report greater life satisfaction, more perceived social

support, and increased positive self-identity, often labelling themselves as survivors rather than victims, compared to those with less severe ABIs (Jones et al., 2011). Consequently, individuals who do not receive a definitive diagnosis often have increased self-doubt and question the validity of their symptoms leading to increased psychological distress and lack of self-confidence (Killington et al., 2015).

Others tend to misattribute the cause of inappropriate behaviours and cognitive deficits to the individual rather than a consequence of their disability in those without visible impairments (McClure, 2011). Consequently, there is a failure to recognize the needs of those with an invisible disability preventing adequate treatment and understanding of their impairments. Understanding the underlying factors associated with one's ABI can help the individual develop improved coping mechanisms for integration back into the home and community setting (Bryson-Campbell, Shaw, O'Brien, & Holmes, 2016; Gelech & Desjardins, 2011).

The Role of the Family

Generally, ABIs negatively affect an individual's quality of life, as the individuals show elevated levels of psychological distress and experience mild to severe changes in their emotional, physical, and cognitive functioning (Gan, Campbell, Gemeinhardt, & McFadden, 2006; Hyatt, 2014). Unexpected changes in mental health can cause severe impairments in social relationships and produce barriers in daily functioning (Bryson-Campbell et al., 2016) leading to adjustment difficulties for the individual and close family members (Anderson et al., 2013; Ponsford, Olver, Ponsford, & Nelms, 2003; Ponsford, & Schonberger, 2010).

Indeed, family carers, such as parents or spouses, play a large role in the recovery of individuals with an ABI by providing social, emotional, and practical support (Smeets, van Heugten, Geboers, Visser-Meily, & Schepers, 2012; Vogler, Klein, & Bender, 2014). As a result of this role, carers often have elevated psychological distress and lower perceived quality of life (Ponsford et al., 2003; Ponsford & Schonberger, 2010). Spouses and parents of individuals with ABIs often report higher levels of frustration due to an increased burden and a loss of intimacy with the individual who has an ABI (Kratz, Sander, Brickell, Lange, & Carlozzi, 2017).

Inadvertently, individuals with an ABI and their family, as a unit, experience greater psychological distress compared to the average family, with higher caregiver strain being a significant predictor of decreased family functioning (Gan et al., 2006). However, level of

neuropsychological impairment has not been related to family functioning (Gan et al., 2006), suggesting that mild and severe injuries similarly impair family system functioning. Qualitative studies on the impact of brain injuries on the family and individual have found that family involvement is a significant predictor for better outcomes for the family unit as a whole (Riley, Hough, Meader, & Brennan, 2015). Specifically, understanding the individual's disability plays a large role in caregiver support (Takada, Sashika, Wakabayashi, & Hirayasu, 2016). Providing information of the diagnosis and definition of the brain injury to the individuals and their carers has been shown to minimize stress in the family unit (Ponsford & Schonberger, 2010). It is more important for individuals and families to be aware that changes in personality, emotion regulation, and behaviours are associated with the brain injury, rather than knowing the exact functions of associated brain regions that have been damaged (Gan et al., 2006). Therefore, it may not be the case of labelling the specific type of brain injury, but rather validating the individual's uncertainties about their symptoms and impairments that can lead to increased self-confidence and closure.

Indeed, it has been found that strong social relationships are related to positive adjustment after injury, therefore the support and participation of the family in the individual's rehabilitation process can lead to reduced psychological distress (Gan et al., 2006). Involvement in social activities post-injury has been linked to increased understanding and support from family (Takada et al., 2016). Negative support, such as reinforcing the negative stereotypes or misconceptions from family, friends, and service providers may be a primary contributor to the lost sense of self of those with an ABI, creating a self-fulfilling prophecy or learned helplessness regarding their disability (Gelech & Desjardins, 2011). Paradoxically, optimistic support has been linked to a decline in well-being and increased disappointment in caregivers when expectations about treatment and recovery have not been met (Riley et al., 2015). Therefore, caregivers should learn to accept that once attainable goals may no longer be plausible for the individual with an ABI, as acceptance and positive thinking is linked to decreased depressive symptomology and grief (Las Hayas, Lopez de Arroyabe, & Calvete, 2015). Research suggests that targeting interventions for carers by providing more realistic expectations reduces psychological distress using mindfulness-based therapies and stress-management training (Kratz et al., 2017).

Current and Future Interventions for Mild ABIs

Although various treatment methods, such as cognitive behavioural therapy, and acceptance and commitment therapy, have some efficacy in treating individuals with ABIs (Whiting, Simpson, McLeod, Deane, & Ciarrochi, 2012), psychoeducation is most effective in preventing functional problems and post-concussive symptoms in children and adults with mild TBIs (Renaud et al., 2018), especially if the information is delivered at the earliest possible stage for adults (Paniak, Toller-Lobe, Reynolds, Melnyk, & Nagy, 2000). Similarly, caregiver interventions including education on ABIs found increased satisfaction among family members, increased understanding of the ABI, and improvements in target behaviours (Fisher, Lennon, Bellon, & Lawn, 2015).

Integrated family therapy has been explored with children with TBIs and their parents (Braga, Da Paz Junior, & Ylvisaker, 2005). Superior cognitive and physical functioning outcomes were noted compared to individual, clinician-delivered therapy suggesting the inclusion of parents was more beneficial to the child's improvement than individual therapies alone. Although it has been recognized that family-centered interventions are critical for children with disabilities, this idea should be extended to adolescents and adults with mild ABIs living with parents, spouses, offspring, or other caregivers given the pertinent role of family support in the individual's recovery process (Riley et al., 2015).

Educating the family can aid in the individual's adjustment to the community and provide them with more social support to alleviate their psychological distress (Foster et al., 2012). Future programs should be developed to (a) validate the individual's feelings and concerns; (b) provide information about realistic recovery milestones and impairments associated with their diagnosis; and (c) express perceived versus realistic expectations for recovery and minimize the gap with both the family and the individual with an ABI (Las Hayas et al., 2015).

In the initial sessions, defining the diagnosis (or absence of diagnosis) and describing the likelihood of potential outcomes with a realistic timeline for recovery should be discussed (Paniak et al., 2000). Furthermore, concerns regarding potential changes in the individual's functioning, as well as activities in the community or in the home that the family as a unit can participate in, should also be explored (Takada et al., 2016). The family unit should aim to discuss current goals and expectations of all members and the likelihood of attaining these goals, primarily focusing on the individual's personal needs to ensure they are being met, such as offering positive encouragement

without using overly optimistic statements (Riley et al., 2015). A randomized controlled trial of the proposed treatment protocol should be conducted to validate its effectiveness in terms of positive adjustment for the individuals and their families compared to standalone methods.

Conclusion

This review highlighted the challenges associated with the diagnosis of mild ABIs and the direct impact on the treatment process. Moreover, the role of the family in the recovery process is undeniable as they provide social, emotional, and practical support, with increased support predictive of positive adjustment post-injury (Smeets et al., 2012). Nonetheless, the family often experiences reduced quality of life and increased psychological distress as a result of this new role (Ponsford et al., 2003; Ponsford & Schonberger, 2010). Previous research has explored treatments for the individual and the caregivers separately in attempt to address the concern of maladjustment in both parties following the injury. However, future interventions should use an integrated family approach, inclusive of the individual and their family, to promote adaptive functioning within the family unit holistically post-injury. Interventions should be centered around the individual's needs, incorporating validation and psychoeducation, with collaborative discussion of expectations of the recovery process. Without incorporating both perspectives, development of intervention programs is futile.

References

Anderson, M. I., Simpson, G. K., & Morey, P. J. (2013). The impact of neurobehavioral impairment on family functioning and the psychological well-being of male versus female caregivers of relatives with severe traumatic brain injury: Multigroup analysis. *Journal of Head Trauma Rehabilitation*, *28*, 453-463. doi:10.1097/HTR.0b013e31825d6087

Bigler, E. D., & Brooks, M. (2009). Traumatic brain injury and forensic neuropsychology. *Journal of Head Trauma Rehabilitation*, *24*, 76-87. doi:10.1097/HTR.0b013e31819c2190

Braga, L. W., Da Paz Junior, A. C., & Ylvisaker, M. (2005). Direct clinician-delivered versus indirect family-supported rehabilitation of children with traumatic brain injury: A randomized controlled trial. *Brain Injury*, *19*, 819-831. doi:10.1080/02699050500110165

Bryson-Campbell, M., Shaw, L., O'Brien, J., & Holmes, J. (2016). Exploring the transformation in occupational identity: Perspectives from brain injury survivors. *Journal of Occupational Science*, *23*, 208-216. doi:10.1080/14427591.2015.1131188

Eierud, C., Craddock, R. C., Fletcher, S., Aulakh, M., King-Casas, B., Kuehl, D., & LaConte, S. M. (2014). Neuroimaging after mild traumatic brain injury: Review and meta-analysis. *NeuroImage: Clinical*, *4*, 283-294. doi:10.1016/j.nicl.2013.12.009

Fisher, A., Lennon, S., Bellon, M., & Lawn, S. (2015). Family involvement in behaviour management following acquired brain injury (ABI) in community settings: A systematic review. *Brain Injury*, *29*, 661-675. doi:10.3109/02699052.2015.1004751

Foster, A. M., Armstrong, J., Buckley, A., Sherry, J., Young, T., Foliaki, S., & ... Mcpherson, K. M. (2012). Encouraging family engagement in the rehabilitation process: A rehabilitation provider's development of support strategies for family members of people with traumatic brain injury. *Disability and Rehabilitation*, *34*, 1855-1862. doi:10.3109/09638288.2012.670028

Gan, C., Campbell, K. A., Gemeinhardt, M., & McFadden, G. T. (2006). Predictors of family system functioning after brain injury. *Brain Injury*, *20*, 587-600. doi:10.1080/02699050600743725

Gelech, J. M., & Desjardins, M. (2011). I am many: The reconstruction of self following acquired brain injury. *Qualitative Health Research*, *21*, 62-74. doi:10.1177/1049732310377454

Hyatt, K. S. (2014). Mild traumatic brain injury. *American Journal of Nursing*, *114*, 36-44. doi:10.1097/01.NAJ.0000456426.79527.9b

Jones, J. M., Haslam, S. A., Jetten, J., Williams, W. H., Morris, R., & Saroyan, S. (2011). That which doesn't kill us can make us stronger (and more satisfied with life): The contribution of personal and social changes to well-being after acquired brain injury. *Psychology and Health*, *26*, 353-369. doi:10.1080/08870440903440699

Jones, J. M., Jetten, J., Haslam, S. A., & Williams, W. H. (2012). Deciding to disclose: The importance of maintaining social relationships for well-being after acquired brain injury. In J. Jetten, C. Haslam, & S. A. Haslam (Eds.), *The social cure: Identity, health and well-being* (pp. 255-272). London: Psychology Press.

Killington, M. J., Speck, K., Kahlbaum, J., Fabian, J., Edwards, D., & Stobie, J. (2015). Quality-of-life for individuals with a vestibular impairment following an acquired brain injury (ABI): The clients' perspective. *Brain Injury*, *29*, 490-500. doi:10.3109/02699052.2014.995226

Kratz, A. L., Sander, A. M., Brickell, T. A., Lange, R. T., & Carlozzi, N. E. (2017). Traumatic brain injury caregivers: A qualitative analysis of spouse and parent perspectives on quality of life. *Neuropsychological Rehabilitation*, *27*, 16-37. doi:10.1080/09602011.2015.1051056

Las Hayas, C. L., Lopez de Arroyabe, E., & Calvete, E. (2015). Resilience in family caregivers of persons with acquired brain injury. *Rehabilitation Psychology*, *60*, 295-302. doi:10.1037/rep0000040

Maas, A. I., Stocchetti, N. & Bullock, R. (2008). Moderate severe traumatic brain injury in adults. *Lancet Neurology*, *7*, 728–741. doi:10.1016/S1474-4422(08)70164-9

Marshall, L. F. (2000). Head injury: Recent past, present, and future. *Neurosurgery*, *47*, 546–561. doi:10.1097/00006123-200009000-00002

McClure, J. (2011). The role of causal attributions in public misconceptions about brain injury. *Rehabilitation Psychology*, *56*, 85-93. doi:10.1037/a0023354

Norup, A., & Mortensen, E. L. (2015). Prevalence and predictors of personality change after severe brain injury. *Archives of Physical Medicine and Rehabilitation*, *96*, 56-62. doi:10.1016/j.apmr.2014.08.009

Paniak, C., Toller-Lobe, G., Reynolds, S., Melnyk, A., & Nagy, J. (2000). A randomized trial of two treatments for mild traumatic brain injury: 1 year follow-up. *Brain Injury*, *14*, 219-226. doi:10.1080/026990500120691

Ponsford, J., Olver, J., Ponsford, M., & Nelms, R. (2003). Long-term adjustment of families following traumatic brain injury where comprehensive rehabilitation has been provided. *Brain Injury*, *17*, 453–468. doi:10.1080/0269905031000070143

Ponsford, J., & Schonberger, M. (2010). Family functioning and emotional state two and ve years after traumatic brain injury. *Journal of the International Neuropsychological Society*, *16*, 306–317. doi:10.1017/S1355617709991342

Renaud, M. I., van de Port, I. G., Catsman-Berrevoets, C. E., Bovens, N., Lambregts, S. A., & van Heugten, C. M. (2018). The Brains Ahead! intervention for children and adolescents with mild traumatic brain injury and their caregivers: Rationale and description of the treatment protocol. *Clinical Rehabilitation*, *0*, 1-9. doi: 10.1177/0269215518785418

Riley, G. A., Hough, A., Meader, L. M., & Brennan, A. J. (2015). The course and impact of family optimism in the post-acute period after acquired brain injury. *Brain Injury*, *29*, 804-812. doi:10.3109/02699052.2015.1004754

Roozenbeek, B., Maas, A. I., & Menon, D. K. (2013). Changing patterns in the epidemiology of traumatic brain injury. *Nature Reviews Neurology*, *9*, 231-236. doi:10.1038/nrneurol.2013.22

Ruff, R. (2005). Two decades of advances in understanding of mild traumatic brain injury. *The Journal of Head Trauma Rehabilitation*, *20*, 5-18. doi:10.1097/00001199-200501000-00003

Sherer, M., Nick, T. G., Sander, A. M., Melguizo, M., Hanks, R., Novack, T. A., & ... Tang, X. (2017). Groupings of persons with traumatic brain injury: A new approach to classifying traumatic brain injury in the post-acute period. *Journal of Head Trauma Rehabilitation*, *32*, 125-133. doi:10.1097/HTR.0000000000000207

Smeets, S. M., van Heugten, C. M., Geboers, J. F., Visser-Meily, J. M., & Schepers, V. P. (2012). Respite care after acquired brain injury: The wellbeing of caregivers and patients. *Archives of Physical Medicine and Rehabilitation*, *93*, 834–841. doi:10.1016/j.apmr.2011.10.029

Takada, K., Sashika, H., Wakabayashi, H., & Hirayasu, Y. (2016). Social participation and quality-of-life of patients with traumatic brain injury living in the community: A mixed methods study. *Brain Injury, 30*, 1590-1598. doi:10.1080/02699052.2016.1199901

Teasdale, G., & Jennett, B. (1974). Assessment of coma and impaired consciousness: A practical scale. *Lancet*, *2*, 81–84. doi:10.1016/S0140-6736(74)91639-0

Vogler, J., Klein, A., & Bender, A. (2014). Long-term health-related quality-of-life in patients with acquired brain injury and their caregivers. *Brain Injury*, *28*, 1381-1388. doi:10.3109/02699052.2014.919536

Whiting, D. L., Simpson, G. K., McLeod, H. J., Deane, F. P., & Ciarrochi, J. (2012). Acceptance and commitment therapy (ACT) for psychological adjustment after traumatic brain injury: Reporting the protocol for a randomised controlled trial. *Brain Impairment*, *13*, 360-376. doi:10.1017/BrImp.2012.28

Academic performance, family income, and peer preference in rural-migrant and urban youth

Xiaoxue Kong, McGill University, B.A.
Erin G. Wilkie, McGill University, B.A.
Chiaki Konishi, McGill University, Ph.D.
Dan Li, Shanghai Normal University, Ph.D.
Junsheng Liu, East China Normal University, Ph.D.

Abstract

China has seen an increase in rural-migrants moving to urban settings. These changes may have an impact on children's school adjustment and social adaptation. Current literature has been inconsistent when examining the academic outcomes of rural-migrant children and requires specific consideration. Data was collected from a Chinese school where migrant status, demographic variables, and academic performance were measured. The sample was evenly distributed between rural-migrant and urban youth. The results showed the overall regression model was significant in explaining the variation in academic performance, controlling for family income and peer preference. Migrant status also predicted variance in academic performance, however peer preference predicted the largest amount of variance. Findings suggest that rural-migrant children tend to have greater academic achievement than their urban peers and this relationship may be explained by peer preference. For children adjusting to different environments, peer preference may be a protective factor.

Résumé

La Chine a vu croître le nombre de migrants ruraux qui s'installent en milieux urbains. Ces changements peuvent avoir un impact sur l'adaptation scolaire et sociale des enfants. La documentation actuelle s'avère incohérente lorsqu'il s'agit d'examiner les résultats scolaires des enfants de migrants vivant en milieu rural et doit faire l'objet d'une attention particulière. Les chercheurs ont recueilli des données d'une école en Chine où le statut de migrant, les variables démographiques et les résultats scolaires ont fait l'objet de mesures. L'échantillon était également réparti entre les jeunes migrants ruraux et les jeunes de milieux urbains. Les résultats ont montré que le modèle de régression global s'avérait important pour expliquer la variation du rendement scolaire, en tenant compte du revenu familial et de la préférence pour les pairs. Le statut de migrant prédisait également une variance dans les résultats scolaires, mais c'est la préférence pour les pairs qui prédisait la variance la plus importante. Les résultats suggèrent que les enfants de migrants ruraux ont tendance à obtenir de meilleurs résultats scolaires que leurs pairs de milieux urbains; la préférence pour les pairs pourrait expliquer cette relation. Pour les enfants qui s'adaptent à de différents environnements, la préférence pour les pairs peut être un facteur de protection.

In recent years, China has seen an increase in rural migration to urban settings (Garriga, Hedlund, Tang, & Wang, 2017). The urban life has the appeal of ample opportunity and better jobs for families (Xu & Xie, 2013). Most families believe that their child will fare better in an urban school (Zhao, Li, & Xue, 2017). Quality of education in rural communities since the 1950s has been significantly lower in comparison to their urban counterparts (Zhao, Li, & Xue, 2017). Rural to urban migration is a movement that is seen as a positive trend towards economic growth in China (Xu & Xie, 2013). Despite all of these seemingly positive facts about rural migration there is also a negative side too.

Recent studies have shown that although these families move to an urban area for equal opportunity, they still have barriers due to their citizenship status of *hukou* (Zhang, 2017). The *hukou* system in China is a specific household registration system and it is used for managing the rural-urban migration (Chan & Zhang, 1999). In previous decades, the *hukou* system required

people to live and work only where they had official permission, which was based on where they were born. The phenomenon of rural-to-urban migration was influenced by the reform, an opening-up policy and acceleration of social mobility (Liang, 2015). Recent studies have shown that *hukou* status has a strong urban bias and, as a result, *hukou* status has led to a scenario in China where there are a number of citizens whose needs are not met (Zhu & Österle, 2017). Primarily, rural-migrant families are faced with discrimination that is associated with poorer living conditions (Zhu & Österle, 2017). Therefore, rural-migrant families, although seeking better opportunity, face challenges due to *hukou* status.

The movement of rural families to urban environments has several negative consequences for children and their adjustment to school settings (Xu & Xie, 2013). Previous research shows that rural-migrant youth may be faring better in school than the youth that stayed in the rural areas, but the migrant youth appear to be doing worse than their urbans peers (Fang, Sun, & Yuen, 2016). In general, studies find that rural-migrant students perform at lower academic standards than their urban peers (Zhang, 2017). Other findings illustrated that even temporary migrant students fared more poorly when compared to their permanent migrant peers; Zhang (2017) reasoned that these differences may be due to the disadvantaged background of rural-migrant children.

Ladd, Kochenderfer, and Coleman (1997) defined academic achievement as both scholastic performance and positive peer relations. Chinese youth that have prosocial peer groups tend to be increasingly susceptible to socially competent behaviours, have more socially desirable behaviours, and tend to have greater school achievement (Chen, Chang, He, & Liu, 2005). In general, sociability has been found to be associated with long term effects such as greater perceived social competence and academic achievement (Chen et al. 2000). When comparing the sociability of rural and urban youth, there are once again some differences observed in the current literature. Rural-migrant children tend to be more sensitive in school settings to shyness and overall psychological adjustment (Chen, Wang, & Wang, 2009). This was found to be associated with overall lower academic performance and less approval from peers (Chen, Wang, & Wang, 2009).

Hukou status and academic achievement with a specific focus on social exclusion of rural-migrant families have been rarely explored in the literature (Liu & Rose, 2017). Thus, the aim of this research was to analyze the differences of academic achievement between rural-migrant youth and their urban peers, while controlling for family income and peer preference. The present study adds to the gap in the field about the challenges of rural-migrant citizens, particularly their children in schools. *Hukou* status may only be specific to China, but the experience of migration can be seen in other countries. The impact of peer relations applies to other immigrant youth adjusting to school settings. To implement better resources for school children, we must first understand the challenges they face. One might expect that rural-migrant children may struggle with social aspect due to their shyness and the difficulties of adjustment (Chen, Wang, & Wang, 2009), and therefore may not be liked by their peers. In addition, family income has been seen as another barrier to children's academic success (Zhang, 2017). We hypothesized that children from rural backgrounds would struggle in school over and above family income and peer preference. In this way, we aimed to ask whether rural-migrant children benefit from the new urban environment.

METHOD

Participants

Participants in this study included 830 children in Grades 3–6 in Shanghai, China (N = 830; 456 boys, 374 girls). The children from multiple schools were randomly selected through the school board without any criteria for exclusion. All students came from the residential areas near the schools. The mean age of the children was 10.60 (SD = 1.36) years. In the sample, 437 students were originally from an urban area and 393 were originally from a rural area or rural-migrant families. The mean migrant periods (the number of years the child had been living in an urban area) of the children was 7.31 (SD = 3.96) years.

Measures

Demographics. Children and their parents were asked to complete demographic forms, and the participants needed to answer what type of *hukou* status they had. If the participants had migrated from rural to urban, they would answer how long they have lived in an urban area. In addition, the parents of participants were also asked to answer the questions about their family's annual income per person.

Academic achievement. The academic achievement was collected via students' school records. Grades in three subject areas (Chinese, English, and mathematics) were reported in the form of a percentage. These measures have been found to be valid of school academic achievement in Chinese children (e.g., Chen et al., 1995). These three tests were highly intercorrelated (r's = .68-.71; all p's < .001).

Peer preference. Participants were asked to nominate up to three classmates whom he or she most liked and up to three classmates whom he or she least liked (positive and negative nominations). As Coie, Terry, Lenox, Lochman, and Hyman (1995) suggest, peer preference was examined by subtracting negative nomination scores from positive nomination scores. The results indicate likability of the child in the class. The nominations were received from all classmates and then standardized within each class in order to compare appropriately. The measure has been used and determined to be valid with Chinese children (Chen et al., 2005).

RESULTS
Rural/Urban to Academic Achievement

The dependent variable (academic achievement) of the first t-test was measured on a continuous scale and the independent variable (type of *hukou* status) consisted of two categorical (rural and urban) independent groups. The homogeneity of variances assumption was not met, $F = 6.02$, $p = .01$. The results showed that urban students had significantly lower academic achievement ($M = -.09$, $SD = 1.05$) than rural-migrant students ($M = .10$, $SD = .91$), $t(819) = -2.82$, $p = .005$.

To test the predictability of family income, *hukou* status, and peer preference on academic success, a hierarchical multiple regression analysis was performed. Family annual income per person was the first variable entered, followed by peer preference and finally *hukou* status, according to our hypothesis. The overall model was significant and explained 18.10% of academic achievement, $F (3, 727) = 53.45$, $p < .001$, $R^2 = .18$. The results suggested that both demographic and the social variable were significant predictors of students' academic performance. Interestingly, peer preference explained 16.80% of the variance of academic achievement with a significant change, $F (1, 728) = 147. 78$, $p < .001$. The overall model with family income and peer preference predicting academic achievement was significant, $F (2, 728) = 76.48$, $p < .001$. Finally, *hukou* type was added, and it accounted for an additional .70% of variance in academic achievement and the F change was significant, $F (1, 727) = 6.28$, $p = .01$. The final overall model was significant, $F (3, 727) = 53.45$, $p < .001$. Findings indicated that students with rural *hukou* status tend to have better academic achievement than the children with urban *hukou* status. Beta coefficients for the three predictors were as follows; family annual income per person, = .03, $p = .02$; peer preference, = .41, $p < .001$; and type of *hukou*, = .17, $p = .01$. Peer preference was the strongest predictor of academic achievement.

Rural/Urban to Peer Preference

We conducted another independent samples t-test to see if there were peer preference differences between urban students and rural-migrant students. The Levene's test for equality of variances was significant, $F = 6.31$, $p = .01$. The results showed that rural-migrant students had significantly higher peer preference ($M = .16$, $SD = .90$) than urban students ($M = -.14$, $SD = 1.12$), $t(817) = 4.31$, $p < .001$.

DISCUSSION

The hypothesis regarding rural-migrant students' lower academic achievement was not supported by the results. Previous literature guided the hypothesis of the current paper towards an expectation of poor academic achievement in youth with the rural-migrant *hukou* status. However, our results showed that rural-migrant children outperformed their urban peers in school, over and above family income but not peer preference. With a hierarchical multiple regression model, we determined that this difference may be better explained by peer preference rather than family income and *hukou* status. The regression model showed that students who are more popular among their peers are predicted to have more academic success. Since rural-migrant students appear to be more popular among their urban peers, their academic success may be affected as a result of their popularity among peers, and not entirely because of *hukou* status. This result was supported by previous findings that children who are accepted by their peers tend to be high achievers at schools (Wentzel, 1991). These findings have implications for educational settings where any youth may be adjusting to a new culture.

Peer preference was the strongest predictor over *hukou* status. Students with strong connections to their peer may have the confidence to overcome the challenges of school. This result can also be generated and applied to other regions. For instance, in order to help immigrant students better adapt to new environments, teachers and educators should encourage other peers to help immigrant students more, such as completing group tasks together and organizing more group activities at school. The aim for both group work or extracurricular activities is to enhance socialization between all children which may decline stereotypes and discrimination, and improve peer relationship.

Limitations

There are some limitations to consider for this study. Primarily, *hukou* status, as it was included in this analysis did not indicate how long the participants had been living in the city. The *hukou* system labels its citizens for their whole life, so it is possible that some of the

participants included in the study have lived in the city for most of their lives but still retain the original *hukou* status. The more time spent in an urban environment and the more time for adaption may predict a well-adjusted rural-migrant child (Berry, 1997). Future research may be needed to control for length of stay in the urban environment to see if there is a difference between recent migrants and long-term migrants.

CONCLUSION

Despite finding contrary results than hypothesized, based on the literature, these findings have positive implications. Rural-migrant children have a number of disadvantages when compared to their urban peers (Li & Rose, 2017; Zhu & Österle, 2017), and yet they are outperforming the urban youth. This may be due to the peer preference rating of rural-migrant children. Further investigation will be needed to explain why rural-migrant students are preferred by their peers and how it all relates to academic achievement. Although the current study is specific to Chinese children, understanding the impact of adapting to a new environment for children and their academic achievement is a concept applicable universally.

References

Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review, 46*(1), 5-68. doi:10.1111/j.1464-0597.1997.tb01087.x

Chan, K. W., & Zhang, L. (1999). The hukou system and rural-urban migration in China: Processes and changes. *The China Quarterly, 160*(160), 818-855. doi:10.1017/S0305741000001351

Chen, X., Chang, L., He, Y., & Liu, H. (2005). The peer group as a context: Moderating effects on relations between maternal parenting and social and school adjustment in Chinese children. *Child Development, 76*(2), 417-434. doi: 10.1111/j.1467-8624.2005.00854.x

Chen, X., Cen, G., Li, D., & He, Y. (2005). Social functioning and adjustment in Chinese children: The imprint of historical time. *Child Development*, *76*(1), 182–195. doi:10.1111/j.1467-8624.2005.00838.x

Chen, X., Liu, M., & Li, D. (2000). Parental warmth, control, and indulgence and their relations to adjustment in Chinese children: A longitudinal study. *Journal of Family Psychology, 14*(3), 401-419. doi:10.1037/0893-3200.14.3.401

Chen, X., Rubin, K. H., & Li, B. (1995). Social and school adjustment of shy and aggressive children in China. *Development and Psychopathology, 7*(1), 337-349. doi:10.1017/S0954579400006544

Chen, X., Wang, L., & Wang, Z. (2009). Shyness-sensitivity and social, school, and psychological adjustment in rural migrant and urban children in China. *Child Development*, *80*(5), 1499–1513. doi:10.1111/j.1467-8624.2009.01347.x

Davis-Kean, P. E., (2005). Child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology, 19*(2), 294-304. doi:10.1037/0893-3200.19.2.294

Fang, L., Sun, R. C. F., & Yuen, M. (2017). Development and preliminary validation of an acculturation scale for China's rural to urban migrant children. *International Journal of Intercultural Relations*, *58*(1), 1-11. doi:10.1016/j.ijintrel.2017.02.001

Garriga, C., Hedlund, A., Tang, Y., & Wang, P. (2017). Rural-urban migration, structural transformation, and housing markets in China. *National Bureau of Economic Research, 19*(1), 1-43. doi:10.20955/wp.2014.028

Jordan, L. P., Ren, Q., & Falkingham, J. (2014). Youth education and learning in twenty-first century China. *Chinese Sociological Review, 47*(1), 57-83. doi:10.2753/CSA2162-0555470103.2014.11082910

Ladd, G. W., Kochenderfer, B. J., & Coleman, C. C. (1997). Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment? *Child Development, 68*(6), 1181-1197. doi:10.2307/1132300

Li, J. & Rose, N. (2017). Urban social exclusion and mental health of China's rural-urban migrants: A review and call for research. *Health & Place, 48*(1), 20-30. doi:10.1016/j.healthplace.2017.08.009

Liang, Y. (2015). Correlations between health-related quality of life and interpersonal trust: Comparisons between two generations of Chinese rural-to-urban migrants. *Social Indicators Research, 123*(3), 677-700. doi:10.1007/s11205-014-0755-y

Liu, J., Chen, X., Coplan, R. J., Ding, X., Zarbatany, L., & Ellis, W. (2014). Shyness and unsociability and their relations with adjustment in Chinese and Canadian children. *Journal of Cross-Cultural Psychology*, *46*(3), 371–386. doi:10.1177/0022022114567537

Rao, J., & Ye, J. (2016). From a virtuous cycle of rural-urban education to urban-oriented rural basic education in China: An explanation of the failure of China Rural School Mapping Adjustment policy. *Journal of Rural Studies*, *47*(B), 601–611. doi:10.1016/j.jrurstud.2016.07.005

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*(3), 417-453. doi:10.3102/00346543075003417

Wang, D., Wang, J., Li, H., & Li, L. (2017). School context and instructional capacity: A comparative study of professional learning communities in rural and urban schools in China. *International Journal of Educational Development*, *52*(1), 1–9. doi:10.1016/j.ijedudev.2016.10.009

Wentzel, K. (1991). Relations between social competence and academic achievement in early adolescence. *Child Development, 62*(5), 1066-1078. doi:10.1111/j.1467-8624.1991.tb01589.x

Xiang, Y., Hao, L., Qiu, L., Zhao, Y., & Gu, D. (2018). Greater financial resources are associated with lower self-perceived uselessness among older adults in China_ The urban and rural difference. *Archives of Gerontology and*

Geriatrics, *75*(1), 171–180. doi:10.1016/j.archger.2018.01.001

Xu, H., & Xie, Y. (2013). The causal Effects of rural-to-urban migration on children's well-being in China. *European Sociological Review*, *31*(4), 502–519. doi:10.1093/esr/jcv009

Zhang, H. (2017). Opportunity or new poverty trap: Rural-urban education disparity and internal migration in China. *China Economic Review*, *44*(C), 112–124. doi:10.1016/j.chieco.2017.03.011

Zhang, L., & Eggum-Wilkens, N. D. (2018). Correlates of shyness and unsociability during early adolescence in urban and rural China. *The Journal of Early Adolescence*, *38*(3), 408–421. doi:10.1177/0272431616670993

Zhao, G., Ye, J., Li, Z., & Xue, Sen. (2017). How and why do Chinese urban students outperform their rural counterparts? *China Economic Review*, *45*(1), 103–123. doi:10.1016/j.chieco.2017.06.006

Zhu, Y., & Österle, A. (2017). Rural-urban disparities in unmet long-term care needs in China: The role of the hukou status. *Social Science & Medicine*, *191*(1), 30–37. doi:10.1016/j.socscimed.2017.08.025

School success and well-being for lesbian, gay, and bisexual adolescents: An exploratory study

Enoch Leung, McGill University, M.Ed.
Tara D. Flanagan, McGill University, Ph.D.

Abstract

Students who identify as lesbian, gay, or bisexual (LGB) face challenges in school because of social discrimination and victimization. This paper explores contributing factors that affect LGB students' school success and psychological well-being. The purpose of this study is to explore whether peer victimization and school climate relate to school success and well-being for students ($N = 42$; $M_{age} = 15.86$) and whether there are differences between LGB and non-LGB students. This study analyzed data from online social media using correlational analyses and an independent samples t-test. Results showed a relationship between peer victimization, school climate, and four of the psychological well-being constructs (i.e., environmental mastery, positive relations in others, purpose in life, and self-acceptance). There were no significant group differences between LGB and non-LGB students, with the exception of age; $t(22.87) = -2.36$, $p = 0.027$. The results have implications for schools to adopt a schoolwide approach for administrative staff, parents, and teachers to raise awareness of the issues of peer victimization.

Résumé

À l'école, les adolescents et les adolescentes qui s'identifient comme étant gais ou lesbiennes ou bisexuels font face à des défis en raison de discrimination sociale et de victimisation. Cet article explore les facteurs qui contribuent à la réussite scolaire et au bien-être psychologique de ces élèves. Le but de cette recherche est de voir si la victimisation par les pairs et le climat à l'école ont un lien avec la réussite scolaire et le bien-être des adolescents et des adolescentes ($N = 42$; $M_{âge} = 15,86$) et s'il existe des différences entre les élèves gais, lesbiennes et bisexuels et ceux qui s'identifient comme étant non gais, lesbiennes et bisexuels. Cette étude a analysé les données des médias sociaux en ligne à l'aide d'analyses corrélationnelles et d'un test t d'échantillons indépendants. Les résultats ont montré une relation entre la victimisation par les pairs, le climat scolaire et quatre des concepts du bien-être psychologique (c.-à-d. la maîtrise de l'environnement, les relations positives chez les autres, le but dans la vie et l'acceptation de soi). Il n'y avait pas de différences significatives entre les groupes d'élèves gais, lesbiens et bisexuels et ceux qui s'identifiaient comme étant hétérosexuels mis à part l'âge : $t(22,87) = -2,36$, $p = 0,027$. Les résultats ont des répercussions sur les écoles qui doivent adopter une approche globale en milieu scolaire pour le personnel administratif, les parents et les enseignants afin de les sensibiliser aux problèmes de victimisation par les pairs.

Well-being is a broad term that relates to productivity and psychological health (Ryff, 2014). The concept of well-being is particularly important for adolescents who are in the process of securing their personal and relational identities. Youths who identify as lesbian, gay, or bisexual (LGB) face unique challenges as they may develop their identity with little support (Higa et al., 2014). Considering that the high school classroom is described as the most homophobic of all social institutions (Aragon, Poteat, Espelage, & Koenig, 2014), and that adolescence is a sensitive period of identity exploration and formation (Klimstra, Hale III, Raaijmakers, Branje, & Meeus, 2010), it is pertinent to address the topic surrounding school climate and peer victimization on adolescents' psychological well-being.

Minority stress is the disproportionally high stress levels that individuals from stigmatized minority groups face (Frost, Lehavot, & Meyer, 2015). It is not group membership that leads to poor health for individuals of minority groups, but rather the prolonged periods of stress related to such membership (Meyer, 2003; Toomey, Ryan, Diaz, & Russell, 2018). Minority Stress Theory highlights that LGB youth are more likely than non-LGB youths to be exposed to the stress associated with prolonged victimization and discrimination (Newcomb & Mustanski, 2010).

Almost 90% of LGB youths report being the target of demeaning remarks and nearly 40% experience physical harassment because of their sexual orientation (Kosciw, Palmer, & Kull, 2015). LGB youths often experience isolation, anxiety, and fear (Hafeez, Zeshan, Tahir, Jahan, & Naveed, 2017), report difficulty concentrating on academic tasks (Toomey et al., 2018), and are more likely than their peers to skip school due to safety concerns such as being physically or verbally victimized (Toomey et al., 2018). A school climate that is perceived by youths, particularly LGB youths, as negative or toxic can negatively impact student engagement and academic achievement (Kosciw, Greytak, Zongrone, Clark, & Truong, 2018). However, the emergence of school-based supports for LGB students (e.g., LGBT-related clubs, anti-victimization and harassment policies) may improve how they perceive their school climate (Dunn, Clark, & Pearlman, 2015) and may buffer the negative impacts of prolonged stress related to victimization and discrimination (Kosciw et al., 2018).

This study aimed to explore whether victimization and school climate are related to school success and psychological well-being among LGB and non-LGB students. Note that the study uses the acronym LGB because the sample did not include adolescents who identify as transgender or queer. Survey questions were phrased in a way to only account for sexual orientation.

METHOD
Participants and Procedure
Forty-two participants aged 13 to 17 years old (M = 15.86, SD = 1.52) responded to an online questionnaire sent to specific online social media groups on social media websites including Facebook and Reddit related to the LGB or youth community. Twenty-six participants identified as LGB and 16 identified as non-LGB. Due to the sensitive nature of the questions, the respondents were anonymous and all questions included the option 'choose not to answer'.

Measures
Multidimensional Peer-Victimization Scale (Mynard & Joseph, 2000). This 16-item self-report measure is subdivided into four subscales that assess physical victimization (α = .89), verbal victimization (α = .77), social manipulation (α = .75) and property attacks (α = .65).

Georgia Brief School Climate Inventory (GaBSCI; White, Salle, Ashby, & Meyers, 2014). This nine-item self-report measure provides an overall understanding of how students perceive school climate along three dimensions: teaching and learning, relationships, and safety (α = .72).

Ryff Well-Being Scale. This self-report measure (Ryff & Keyes, 1995) of student well-being consists of six 14-item subscales: self-acceptance (α = .90), positive relations with others (α = .81), autonomy (α = .60), environmental mastery (α = .35), purpose in life (α = .88), and personal growth (α = .79). An overall well-being score is calculated by averaging the subscales.

Group Variables. Two questions were asked to determine the grouping of 1) sexual orientation and 2) school success (grades). The first asked "Which one of the following best describes your feelings?", with responses ranging from '100% heterosexual' to '100% gay/lesbian', with the option of 'not sure' (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009). The second asked "Please indicate your current grade average": (1) 50 and below; (2) 51-60; (3) 61-70; (4) 71-80; (5) 81-90; (6) 91-100; (7) choose not to answer.

RESULTS
There was a significant negative correlation between peer victimization and self-acceptance (p = .01). In addition, there were several significant correlations among the subscales for peer victimization. Physical victimization (p = .02) and verbal victimization (p = .05) were both negatively correlated with self-acceptance. Attacks on property was positively correlated with grades (p = .04).

Table 1
Correlations among peer victimization, school climate, psychological well-being, and grades

	Total Peer Victimization	Physical Victimization	Verbal Victimization
Total Well-Being	-.251	**-.326***	-.185
Environmental Mastery	-.269	-.240	-.227
Positive Relations	-.160	-.200	-.214
Purpose in Life	-.118	-.267	-.034
Self-Acceptance	**-.392***	**-.374***	**-.309***
Grades	.221	.169	.165
	Social Manipulation	Property Attacks	School Climate
Total Well-Being	-.110	.086	**.374***
Environmental Mastery	-.041	**-.032***	**.459****
Positive Relations	-.135	.101	**.315***
Purpose in Life	-.058	.104	**.306***
Self-Acceptance	-.208	.095	**.388***
Grades	.228	**.321***	.278

*p<.05; **p<.001; two-tailed test of significance*

School climate had a significant positive correlation with total score (p = .02) on the Ryff Well-Being Scale and four of its subscales. School climate had a significant positive correlation with four subscales: environmental mastery (p = .002), positive relations with others (p = .04), purpose in life (p = .05), and self-acceptance (p = .01). An independent samples t-test was conducted between group membership (LGB or non-LGB) and the measures yielded no significant differences, with the exception of age; $t(22.87)$= -2.36, p = .03.

DISCUSSION

Results from this study explore the relationship of victimization, school climate, school success, and well-being among LGB and non-LGB adolescents. A significant negative correlation was discovered between peer victimization, particularly physical and verbal victimization, and self-acceptance. Students with low self-acceptance are more likely to perceive themselves as experiencing restricted freedom and being unable to express themselves (Xu, Rodriguez, Zhang, & Liu, 2015). Therefore, results from this study are consistent with previous research, highlighting that as self-acceptance decreases, students' future opportunities for identity formation also tends to decrease. This can increase the likelihood of depression, suicidality, and low self-esteem (Xu et al., 2015). Therefore, in a school wherein LGB students face increasing peer victimization, both self-acceptance and identity exploration could be hindered, contributing to increased psychological distress, low self-esteem, high anxiety, and increased school dropouts.

School Climate and Environmental Mastery

First, this research demonstrated a significant positive correlation between school climate and environmental mastery. As students' school climate becomes increasingly positive and warm, their perceptions of environmental mastery tend to improve. By having a more positive school climate, students will more likely be in an environment where they can perceive positivity and control, minimizing negative feelings such as hopelessness. This can positively impact other developmental areas such as academic achievement and social development as well as an increase in self- and other-emotional development (Patrick, Kaplan, & Ryan, 2011).

School Climate and Positive Relations with Others

Second, this research has demonstrated a significant positive correlation between school climate and positive relations with others. As school climate becomes more positive, students will more likely experience and foster positive relationships with their peers and teachers. Past research has demonstrated that peers provide a pillar of social and emotional support and may provide protection from stressors such as victimization and the negative outcomes of victimization such as depression (Suldo, Gelley, Roth, & Bateman, 2015). Therefore, students in a positive climate have a higher probability of fostering positive relationships benefiting their social development and engagement in learning.

School Climate and Purpose in Life

Third, this research found a significant positive correlation between school climate and purpose in life. Research has indicated that individuals with a greater sense of purpose in life display limited depressive symptomatology (Robak & Griffin, 2000). Particularly among adolescents, meaning in life has been demonstrated to be a strong and consistent predictor of psychological well-being (Robak & Griffin, 2000). This reinforces the need to foster a positive school climate for students, which can have benefits for students to find their own purpose in life, a critical developmental area for adolescents.

School Climate and Self-Acceptance

Lastly, this study found a significant positive correlation between school climate and self-acceptance. As school climate becomes more positive, students' level of self-acceptance tends to increase. This is pivotal because low levels of self-acceptance have been associated with both depression and anxiety, as well as diminished self-esteem, happiness, and life satisfaction (Xu et al., 2015). Low self-acceptance can negatively impact students' well-being; therefore, maintaining or increasing the positivity of the school climate may be a crucial facet to increasing the probability to maximize self-acceptance.

Finally, exploring the relationships between victimization and school climate among LGB and non-LGB students found no correlation with school success or psychological well-being, indicating other protective factors that may be contributing to similar school success between the two groups. Student resilience is one factor that may account for this lack of relationship. Resilience is defined as the ability to recover quickly from challenges, such as being victimized (Meyer, 2015). In one of the most homophobic environments, students can foster the necessary coping skills and grit from the many encounters of victimization and the negative school climate. Therefore, re-

siliency is a protective factor that may prevent both LGB and non-LGB students from experiencing depressive symptoms and other detrimental psychological effects that result from a negative school climate (Russell, 2005).

Age and Group Membership

There was a significant difference in the mean age for participants who identified as LGB (M = 16.31, SD = 1.16) and non-LGB (M = 15.13, SD = 1.78); t(22.87) = -2.36, p = 0.03. These results suggest that as participants become older, they are more likely to identify as part of the LGB community. This is interesting as self-identification and sexual exploration may not come that early (although decreasing trends in age of coming out have been evidenced; see XYZ). Another interesting point is the effect anonymity has for the adolescents coming out. It is interesting to see if an anonymous online survey creates an online environment where the adolescents are more comfortable to explore their sexual orientation. Younger students may still get the sense that they are not like the others around them through their own observations, but they may not understand what the label is that they are identified as. More research is needed regarding whether age is an important component in the self-identification and labelling.

For outcome variables involving peer victimization, school success, psychological well-being, and school climate, applying Meyer's minority stress theory as a framework may help to explain the non-significant differences between the two groups. Participants in the current sample may be in an environment in which they do not perceive many proximal stressors or they may receive more support overall. Hence, the circumstances of these adolescents may have been less difficult, which may minimize or negate typical minority stress factors relative to previous studies

Limitations

This study was conducted online and presumed that the entire population of LGB and non-LGB students who are under the age of 17 have access to the internet and would respond to all online questionnaires. Similarly, there is no confirmation on whether the students were in a formal (i.e., high school) or informal (e.g., home school, general education development) school setting. The educational setting participants are situated in can be a confounding variable that would need to be accounted for in future studies investigating educational environmental effects for LGBTQ+ students.

Cooperation problems occurred when asking permission to post the recruitment advertisement. Due to the methodology of the study and the challenge of recruiting a marginalized population, the sample size was relatively small for quantitative analyses. G*Power post-hoc analyses were conducted to determine 88 participants (44 LGB participants and 44 non-LGB participants) to be the minimum number of participants needed for an effect size of .78 with the given means and standard deviation in this sample. Thus, the study's effectiveness may be limited. Nonsignificant values may have been produced due to the increased likelihood of a Type II error. This may explain the misalignment between the results from this study with other previous studies, in relation to differences between the two groups of adolescents. Future directions of this research should incorporate two actions: 1) conducting in-depth qualitative, contextualized interviews to overcome the limitations of a small sample size caused by a difficult-to-reach, stigmatized minority group, and 2) conducting exploratory research that includes teachers and educational administrators to triangulate the barriers LGB youths are facing in schools, and the specific strategies teachers are utilizing to foster an increasingly positive school climate.

CONCLUSIONS AND IMPLICATIONS

Peer victimization and school climate were observed in relation to students' grades and psychological well-being. Results suggest that schools must adopt a schoolwide approach to increase awareness and promote a more positive school climate and prevent peer victimization. Because school administrators and teachers can exert control over their environment by proactively creating and supporting the school situation, adolescents may experience diminished minority stress factors, which has been proven to mitigate the likelihood of developing numerous physical and mental health issues. Because high schools are one of the most homophobic social spaces (Aragon et al., 2014), researchers and educational stakeholders must collaborate with LGB students. As Cook-Sather (2002, p.3) argues, "there is something fundamentally amiss about building and rebuilding an entire system without consulting at any point those it is ostensibly designed to serve". Collaboration between researchers, teachers, and students to improve school experience can be the key to fostering a positive school climate, minimizing the negative outcomes of victimization.

References

Almeida, J., Johnson, R. M., Corliss, H. L., Molnar, B. E., & Azrael, D. (2009). Emotional distress among LGBT youth: The influence of perceived discrimination based on sexual orientation. *Journal of Youth and Adolescence, 38*(7), 1001-1014.

Aragon, S. R., Poteat, V. P., Espelage, D. L., & Koenig, B. W. (2014). The influence of peer victimization on educational outcomes for LGBTQ and non-LGBTQ high school students. *Journal of LGBT Youth, 11*(1), 1-19.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates

Dunn, H. K., Clark, M. A., & Pearlman, D. N. (2015). The relationship between sexual history, bullying victimization, and poor mental health outcomes among heterosexual and sexual minority high school students: A feminist perspective. *Journal of Interpersonal Violence, 32*(22), 3497-3519.

Espelage, D. L., Aragon, S. R., Birkett, M., & Koenig, B. W. (2008). Homophobic teasing, psychological outcomes, and sexual orientation among high school students: What influence do parents and schools have? *School Psychology Review, 37*(2), 202-216.

Fisher, E. S., Komosa-Hawkins, K., Saldaña, E., Thomas, G. M., Hsiao, C., Rauld, M., & Miller D. (2008). Promoting school success for lesbian, gay, bisexual, transgendered, and questioning students: Primary, secondary, and tertiary prevention and intervention strategies. *The California School Psychologist, 13*(1), 79-91.

Frost, D. M., Lehavot, K., & Meyer, I. H. (2015). Minority stress and physical health among sexual minority individuals. *Journal of Behavioral Medicine, 38*(1), 1-8.

Hafeez, H., Zeshan, M., Tahir, M. A., Jahan, N., & Naveed, S. (2017). Health care disparities among lesbian, gay, bisexual, and transgender youth: A literature review. *Cureus, 9*(4), 1-12.

Higa, D., Hoppe, M. J., Lindhorst, T., Mincer, S., Beadnell, B., Morrison, D. M., … Mountz, S. (2014). Negative and positive factors associated with the well-being of lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ) youth. *Youth & Society, 46*(5), 663-687.

Klimstra, T. A., Hale III, W. W., Raaijmakers, Q. A. W., Branje, S. J. T., & Meeus, W. H. J. (2010). Identity formation in adolescence: Change or stability? *Journal of Youth Adolescence, 39*(2), 150-162.

Kosciw, J. G., Greytak, E. A., Zongrone, A. D., Clark, C. M., & Truong, N. L. (2018). *The 2017 National School Climate Survey: The experiences of lesbian, gay, bisexual, transgender, and queer youth in our nation's schools.* New York: GLSEN.

Kosciw, J. G., Palmer, N. A., & Kull, R. M. (2015). Reflecting resiliency: Openness about sexual orientation and/or gender identity and its relationship to well-being and educational outcomes for LGBT students. *American Journal of Community Psychology, 55*(1-2), 167-178.

Kosciw, J. G., Palmer, N. A., Kull, R. M., & Greytak, E. A. (2012). The effect of negative school climate on academic outcomes for LGBT youth and the role of in-

school supports. *Journal of School Violence, 12*(1), 45-63.

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*(5), 674-697.

Meyer, I. H. (2015). Resilience in the study of minority stress and health of sexual and gender minorities. *Psychology of Sexual Orientation and Gender Diversity, 2*(3), 209-213.

Muñoz-Plaza, C., Quinn, S. C., & Rounds, K. A. (2002). Lesbian, gay, bisexual and transgender students: Perceived social support in the high school environment. *The High School Journal, 85*(4), 52-63

Mynard, H., & Joseph, S. (2000). Development of the multidimensional peer-victimization scale. *Aggressive Behaviour, 26*(2), 169-178.

Newcomb, M. E., & Mustanski, B. (2010). Internalized homophobia and internalizing mental health problems: A meta-analytic review. *Clinical Psychology Review, 30*(8), 1019-1029.

Patrick, H., Kaplan, A., & Ryan, A. M. (2011). Positive classroom motivational environments: Convergence between mastery goal structure and classroom social climate. *Journal of Educational Psychology, 103*(2), 367-382.

Renn, K. A. (2000). Including all the voices in the classroom: Teaching lesbian, gay, and bisexual students. *College Teaching, 48*(4), 129-135.

Robak, R. W. & Griffin, P. W. (2000). Purpose in life: What is its relationship to happiness, depression, and grieving? *North American Journal of Psychology, 2*(1), 113-119.

Russell, S. T. (2005). Beyond risk: Resilience in the lives of sexual minority youth. *Journal of Gay & Lesbian Issues in Education*, *2*(3), 5-18.

Ryff, C. D. (2014). Psychological well-being revisited: Advances in science and practice. *Psychotherapy and Psychosomatics, 83*(1), 10-28.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719.

Suldo, S. M., Gelley, C. D., Roth, R. A., & Bateman, L. P. (2015). Influence of peer social experiences on positive and negative indicators of mental health among high school students. *Psychology in the Schools, 52*(5), 431-446.

Toomey, R. B., Ryan, C., Diaz, R. M., & Russell, S. T. (2018). Coping with sexual orientation-related minority stress. *Journal of Homosexuality, 65*(4), 484-500.

White, N., Salle, T. L., Ashby, J. S., & Meyers, J. (2014). A brief measure of adolescent perceptions of school climate. *School Psychology Quarterly, 29*(3), 349-359.

Xu, W., Rodriguez, M. A., Zhang, Q., & Liu, X. (2015). The mediating effect of self-acceptance in the relationship between mindfulness and peace of mind. *Mindfulness, 6*(4), 797-802.

Peer-Mediated Intervention and Video-Modelling Intervention: A Review of Social Skill Interventions for Youth with Autism Spectrum Disorder

Jamie Mason, Thompson Rivers University, B.A. Student
Wanda Christensen, Athabasca University, M.Ed., M.Sc.

Abstract

Significant social impairment is a hallmark symptom of autism spectrum disorder (ASD). Since social dysfunction has a tremendous impact on the quality of life of youth with ASD, researchers have attempted to refine social skill interventions to help improve the social communication skills of youth with ASD. To determine how effectively each approach enhances social interaction skills, the following review evaluates two widely used social skill interventions; peer-mediated intervention, which allows youth with ASD to learn social skills from trained typically developing peers, and video-modelling intervention, which utilizes videos and role-playing scenarios. Using two computer searches, the first author analyzed six studies; three from each intervention category. The second author evaluated the review for accuracy. The method section details study selection criteria and the evaluation process. This review suggests that both peer-mediated intervention and video-modelling intervention is effective in different contexts. Limitations and suggestions for future research are also discussed.

Résumé

Une interaction sociale sérieusement déficiente s'avère un symptôme caractéristique des troubles du spectre de l'autisme (TSA). Puisque le dysfonctionnement social a un impact énorme sur la qualité de vie des jeunes ayant un TSA, les chercheurs ont tenté d'améliorer les interventions portant sur les habiletés sociales afin d'aider les jeunes ayant un TSA à améliorer leurs habiletés de communication sociale. Afin de déterminer l'efficacité de chaque approche en ce qui concerne l'amélioration des habiletés d'interaction sociale, l'étude suivante évalue deux stratégies d'intervention largement utilisées dans le domaine : l'intervention par les pairs, laquelle permet aux jeunes ayant un TSA de développer des habiletés sociales auprès de pairs formés qui présentent une progression typique et l'intervention par modélisation vidéo, laquelle utilise des vidéos et des mises en scène autour de jeux de rôles. Au moyen de deux recherches informatiques, le premier auteur a analysé six études; trois selon chacune des stratégies d'intervention. Le deuxième auteur a vérifié l'analyse du point de vue de son exactitude. La section portant sur la méthodologie donne des détails sur les critères de sélection et le processus d'évaluation. Cette analyse suggère que l'intervention par les pairs et l'intervention par modélisation vidéo se révèlent toutes deux efficaces dans différents contextes. L'analyse traite aussi des limites des approches et offre des pistes de recherche pour l'avenir.

INTRODUCTION

The Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-IV) states that autism spectrum disorder (ASD) is a neurodevelopmental condition characterized by restrictive or repetitive behaviours and social-communication deficits (American Psychiatric Association, 2013). One in fifty children are estimated to have ASD (Kreiser & White, 2014). Specific social deficits experienced by those with ASD include failing to understand nonverbal communication, difficulty expressing themselves, as well as issues with social reciprocity and social cognition (lacking emotional self-awareness and the ability to understand the perspectives of others; Boutot, 2017).

As a result of these social skill deficits, children with ASD frequently experience bullying, depression, and anxiety (Altomare et al., 2017). Childhood and adolescent social dysfunction is also associated with adulthood challenges, such as unemployment and underemployment, financial dependency, as well as loneliness and depression (Ke, Whalon, & Yun, 2018).

Many evidence-based social skill interventions are available today for professionals to use with youth with

ASD to help them overcome their social challenges (Odom, Collet-Klingenberg, Rogers, & Hatton, 2010). This review examines the effectiveness of peer-mediated intervention (PMI) and video-modelling intervention (VMI). Both PMI and VMI are based on principles of behaviourism and social learning theory which propose that youth learn through observation, modelling, and reinforcement (Sperry, Neitzel, & Engelhardt-Wells, 2010; Alzyoudi, Sartawi, & Almuhiri, 2015).

During a PMI, several typically developing children are trained to socially engage with their peers with ASD using specific social strategies such as getting the target child's attention, demonstrating and explaining how to play appropriately, and engaging in turn taking with the target child (Brock, Dueker, & Barczak, 2018). Common measured outcomes include the frequency and length of communications initiated by a youth with ASD, social responses, and non-verbal gestures.

While there are many different variations of VMI, this treatment usually involves the presentation of socially desirable behaviours to youth with ASD through a series of videos (Anderson, Furlonger, Moore, & Sullivan, 2018). An experimenter or clinician sits with a target child while watching the video to ensure that the child pays attention to it. Next, youth participate in social situations that mimic the recorded scenarios and the subject's social behaviours are recorded. Target outcomes include appropriate social initiations, social responses, and social reciprocity (Boutot, 2017).

PMIs and VMIs can be implemented in locations such as a school playground, an early childhood education centre, a math classroom and lunch-room, an afterschool playroom, a day treatment centre, and a high school classroom (Charlop, Dennis, Carpenter, & Greenberg, 2010; Katz & Girolametto, 2013; Mason et al., 2014; Plavnick, Sam, Hume, & Odom, 2013; Schmidt & Stichter, 2012; Tetreault & Lerman, 2010). Intervention lengths range from approximately six weeks to three months.

Other research has examined the effectiveness of social skill interventions for individuals with ASD of all ages, and the effectiveness of PMI and VMI for children with ASD (Wang, Cui, & Parrila, 2013; Wang, Parrila, & Cui, 2011). This is the first literature review to examine the effectiveness of PMI and VMI for children and adolescents with ASD exclusively.

METHOD

The first author completed two computer searches for PMI and VMI studies and reviewed three of each that were recently published between 2010 to present. This review included studies whose participants were between the ages of 4 and 17. Studies that utilized a single-subject multiple-baseline design or a reversal design were examined, as they are the two most common and effective experimental designs used in social skill intervention research to treat ASD (Wang et al., 2013). A single-subject multiple-baseline design has two phases: a baseline no-treatment condition and a treatment condition in which a participant's social behaviour is measured several times before treatment. Establishing a baseline behaviour measurement ensures that changes in behaviour can be attributed to the introduction of the intervention (Price, Jhangiani, & Chiang, 2015). The reversal design records a baseline measurement and alternates between either a treatment and no-treatment condition, or different types of treatments later in the experimental procedure.

Participants' age, intellectual ability, dependent variables, and results from each study were recorded. Generalization and maintenance were recorded if included in the study. Observations about the methodological strengths and weaknesses of each study were also recorded; salient findings are presented. The second author assessed the review for accuracy and integrity.

RESULTS
Peer-Mediated Intervention (PMI)

Mason and colleagues (2014) implemented a recess-based PMI to promote the social and communication skills of youth with ASD by engaging them in conversation with their peers, providing them with social prompts, and social reinforcement. Twelve to eighteen typically developing classmates were recruited to act as peer mentors. Researchers observed and recorded the number of communicative acts, which they defined as verbal and nonverbal communications that youth with ASD directed towards a peer.

The number of each autistic youth's communicative acts significantly increased from their baseline measurement (Mason et al., 2014). Researchers attributed positive results to interventionists being available on the playground to prompt participants with signs that had images of targeted socially desirable behaviours when participants appeared to run out of ideas or lose interest.

The study had several methodological flaws. The study's single dependent variable, the number of communicative acts that a child with ASD has with a peer, does not provide information about the quality of the social interaction, which is equally as important to measure as the quantity of social interactions (Mason et al., 2014).

In their study, Katz and Girolametto (2013) administered a play-based PMI with three autistic preschoolers and six typically developing peers. Participants

were encouraged by interventionists to interact with their peers frequently, to take turns during playtime, and to engage in many back and forth social interactions. During videotaped sessions, two researchers recorded the number of extended interactive engagements (EIEs) in which each youth with ASD participated. An EIE was defined as an interaction in which at least two initiation-response back and forth communications between a youth with ASD and peer mentor occurred. This measurement is useful because it provides detailed information about the quality and quantity of social engagement.

All participants with ASD experienced significant increases in the number and length of their EIEs (Katz & Girolametto, 2013). The authors noted that all participants in the study had normal IQ scores and that their results may not have been achieved if participants had comorbid cognitive deficits.

One methodological strength of this study is its use of video recordings (Katz & Girolametto, 2013). Recording targeted behaviours may be a more reliable method to capture social behaviour as it reduces the likelihood that behaviours will be missed or misinterpreted through live observation. Notably, post-intervention follow-up sessions were conducted to measure treatment maintenance. During these sessions, youth with ASD maintained substantially higher averages of EIEs than they had previously at the start of the intervention.

Schmidt and Stichter (2012) evaluated the impact of a two-phase PMI on the social competence of three adolescents with ASD. During the PM initiation phase, peer mentors engaged with autistic peers by sitting close to them, saying their name, and initiating conversation. During the PM proximity phase, peer mentors sat close to an autistic youth without initiating conversation. All participants engaged in both treatment phases. This study had the lowest autistic youth to peer mentor ratio with a 1:1 ratio. Researchers recorded each autistic youth's total social interaction (TSI) defined as the total number of appropriate social initiations and responses as well as the number of conversational continuations in which they engaged.

Findings suggest that PM initiation effectively developed the social competence of adolescents with ASD as each participant's TSI was much higher than their baseline TSI (Schmidt & Stichter, 2012). Further, each participant's TSI was higher during the PM initiation phase than during the PM proximity phase. Yet, findings regarding the effectiveness of PM proximity are somewhat unclear. During the PM proximity phase, one participant's TSI was below baseline, one was just above baseline, and the third participant's TSI was only slightly less than their PM initiation TSI. Researchers note that carryover effects, or positive effects that transfer from one intervention phase to the other, could explain these results.

This study also examined the treatment in two different environments: a lunch-room and a math classroom (Schmidt & Stichter, 2012). This allows for the findings to be more generalizable to different settings. The PM initiation intervention appeared more effective in a lunch-room environment and substantially less effective in a math classroom. Treatment gains may not have generalized to the math classroom because it is a more structured formal setting where students typically engage in less social interaction.

Video Modelling Intervention (VMI)

In their study, Charlop and colleagues (2010) evaluated the effects of a VMI that aimed to develop the socially expressive behaviours of three children with ASD. Two out of three participants with ASD had moderate to severe intellectual disabilities (IDs). The third participant had normal intellectual ability. Individualized videos were also created and, when possible, they were personalized by incorporating each child's preferred toy. Two researchers measured appropriate social responses, intonation, non-verbal communication, and facial expressions by watching videotaped recordings of each target child.

Results indicated that socially expressive VMI efficiently and effectively taught social skills to children with ASD (Charlop et al., 2010). All participants achieved 80% mastery criterion in four sessions. This was defined as responding appropriately in at least seven out of nine trials for two consecutive play sessions. A significant methodological strength of this study is that treatment generalization across settings, stimuli, and different individuals was measured. Each participant's ability to generalize his or her social skills in different contexts varied; however, each participant's social behaviours surpassed their baseline measurement.

A study by Tetreault and Lerman (2010) used point-of-view video modelling (POVVM) to improve the social functioning of three children with ASD. POVVM involves showing participants videos of social scenarios from the first-person perspective. This allows participants to observe social skill demonstrations from their visual perspective. After baseline sessions, each participant engaged in different reversal design POVVM experiment phases. Video recordings of intervention sessions were used to measure participants' ability to engage in eye contact with the experimenter and their capacity to recreate vocal behaviours presented in three different videos.

Results of this study were inconclusive and did not support any phase of POVVM consistently improved the social skills of children with ASD (Tetreault & Lerman, 2010). A participants' ability to perform target behaviours fluctuated. Providing detail about participants' performance in a clear and concise manner is challenging, as this is lacking in the presentation of study data. There is a need for greater clarity in the presentation of study results for adequate analysis and replication.

Researchers suggest that these inconclusive results may have occurred because of the complexity of social exchanges in their study. Specifically, participants were required to make eye contact on every exchange and to initiate the start of a new social exchange (Tetreault & Lerman, 2010). POVVM could also be less effective because it could be confusing to participants, as most videos are recorded from the third-person perspective.

Plavnick and colleagues (2013) implemented a video-based group instruction social intervention for adolescents. Researchers combined a social skills group and VMI to create a unique VMI subcategory. Participants engaged in several group social skills lessons prior to the start of the VMI, viewed videos in a group setting, and had the opportunity to watch peers model targeted social skills in a group. Of the four adolescents that participated in the study, three out of four participants had mild to moderate ID. Participants' preferred objects and topics of conversation were incorporated into group sessions and into video-clips created by the researchers. Two researchers measured social initiation, social awareness, and social reciprocity through live observation.

This experiment also included a video fading phase. Once a youth consistently mastered a targeted social behaviour over several sessions, a facilitator provided them with another opportunity to practice the behaviour; the researchers waited five seconds for the youth to engage in the behaviour. If the youth did not produce the behaviour, the youth was asked to watch a video of that behaviour. However, if the behaviour was performed correctly, the delay for video prompting was increased by five-second increments until the participant produced the behaviour without prompting. One strength of this intervention is the use of video fading as this procedure could make treatment maintenance easier after study completion.

Results suggest that group-based VMI quickly and effectively teaches adolescents complex social skills (Plavnick et al., 2013). All participants performed and maintained all three targeted social behaviours in six sessions or less. Researchers suggest that learning in a group environment could have allowed participants to observe target social behaviours many more times

and could help explain rapid social skill acquisition and positive study results.

DISCUSSION

Findings suggest that both PMI and VMI enhance the social functioning of youth with ASD, in different contexts. PMI's effectiveness appears to be influenced by the number of peer mentors assigned to youth with ASD during treatment. Most PMI studies assigned two or more typically developing peers to each youth with ASD (Katz & Girolametto, 2013; Mason et al., 2014); however, one reviewed study used a 1:1 ratio (Schmidt & Stichter, 2012). The authors indicate that the participant with ASD who had the least positive outcomes was partnered with a peer who, over time, became less interested in being a peer mentor. Thus, it appears that the ratio of typically developing peers to youth with ASD needs to be carefully considered by social intervention researchers when designing studies.

In contrast, participants' characteristics and the use of preferred stimuli seem to affect VMI's effectiveness. Specifically, VMI studies that included participants with IDs and preferred objects and topics of conversation in videos (Charlop et al., 2010; Plavnick et al., 2013) achieved more efficient and effective results than the study that did not (Tetreault & Lerman, 2010). These components appear to improve social skill acquisition. Learning through video may be easier for those with intellectual impairment and individualized treatment can increase participants' interest and social motivation. It is unclear if PMI is effective with this subgroup as the studies reviewed did not include youth with both ASD and intellectual impairments. In fact, researchers from one PMI study suggest that positive study results might not have been achieved with participants who had ASD and ID (Katz & Girolametto, 2013).

Limitations and Future Direction

Some studies in this review did not measure treatment generalization or maintenance. The lack of generalization and maintenance measures limits study validity. Future studies should include these measures and outcomes to increase their methodological strength. Future studies should also aim to include a moderate to high ratio of peer mentors to avoid creating unnecessary mental and emotional strain for a peer mentor. More research on the effectiveness of VMI for youth with both ASD and IDs is also necessary. Youth with ASD and IDs could benefit greatly from having specific interventions identified to help them overcome social issues.

Additional research should be devoted to evaluating the effectiveness of social intervention subcategories

within PMI and VMI for youth with ASD. Little research has been completed to compare the efficacy of different social treatment subcategories (Keenan, Thurston, & Urbanska, 2017). The results of this research could help guide researchers and professionals toward using more effective interventions.

This review has several limitations. Participants' characteristics such as age (beyond a determination that the participants were children or adolescents) or gender, and intervention length were not evaluated. As noted in a meta-analysis by Wang and colleagues (2013), age, gender, and intervention length did not significantly impact social intervention effectiveness for those with ASD. However, the authors noted that their results regarding age contrast with recent findings indicating that young children tend to have more positive outcomes than older children and adolescents. Research that explores how age affects treatment effectiveness is necessary.

CONCLUSION

PMI and VMI are both effective in increasing the social competence of youth with ASD. Specific factors impact the effectiveness of each intervention. Researchers must continue to develop and refine scientifically validated practices to effectively increase the social aptitude of youth with ASD.

References

Altomare, A. A., McCrimmon, A. W., Cappadocia, M. C., Weiss, J. A., Beran, T. N., & Smith-Demers, A. D. (2017). When push comes to shove: How are students with autism spectrum disorder coping with bullying? *Canadian Journal of School Psychology, 32*(3), 209-227.

Alzyoudi, M., Sartawi, A., & Almuhiri, O. (2015). The impact of video modelling on improving social skills in children with autism. *British Journal of Special Education*, *42*(1), 53–68.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington: American Psychiatric Publishing.

Anderson, A., Furlonger, B., Moore, D. W., Sullivan, V. D., & White, M. P. (2018). A comparison of video modelling techniques to enhance social-communication skills of elementary school children. *International Journal of Educational Research*, *87*(1), 100-109.

Boutot, E. A. (2017). *Autism spectrum disorders: Foundations, characteristics, and effective strategies* (2nd ed.). Boston: Pearson Education.

Brock, M. E., Dueker, S. A., & Barczak, M. A. (2018). Brief report: Improving social outcomes for students with autism at recess through peer-mediated pivotal response training. *Journal of Autism and Developmental Disorders*, *48*(6), 2224-2230.

Charlop, M.H., Dennis, B., Carpenter, M.H., & Greenberg, A.L. (2010). Teaching socially expressive behaviors to children with autism through video modeling. *Education and Treatment of Children*, *33*(3), 371-393.

Katz, E., & Girolametto, L. (2013). Peer-mediated intervention for preschoolers with ASD implemented in early childhood education settings. *Topics in Early Childhood Special Education*, *33*(3), 133-143.

Ke, F., Whalon, K., & Yun, J. (2018). Social skill interventions for youth and adults with autism spectrum disorder: A systematic review. *Review of Educational Research*, *88*(1), 3-42.

Keenan, C., Thurston, A., & Urbanska, F. (2017). Video-based interventions for promoting positive social behaviour in children with autism spectrum disorders: A systematic review and meta-analysis, *The Campbell Corporation*, *4*(1), 1-20.

Kreiser, N. L., & White, S. W. (2014). ASD in females: Are we overstating the gender difference in diagnosis? *Clinical Child and Family Psychology Review*, *17*(1), 67-84.

Mason, R., Kamps, D., Turcotte, A., Cox, S., Feldmiller, S., & Miller, T. (2014). Peer mediation to increase communication and interaction at recess for students with autism spectrum disorders. *Research in Autism Spectrum Disorders*, *8*(1), 334-344.

Odom, S. L., Collet-Klingenberg, L., Rogers, S. J., & Hatton, D. D. (2010). Evidence-based practices in interventions for children and youth with autism spectrum disorders. *Preventing School Failure, 54*(4), 275-282.

Plavnick, J. B., Sam, A. M., Hume, K., & Odom, S. L. (2013). Effects of video-based group instruction for adolescents with autism spectrum disorder. *Exceptional Children*, *80*(1), 67-83.

Price, P.C., Jhangiani, R.S., & Chiang, I.A. (2015). *Research methods in psychology* (2nd Canadian ed.). BC Open Textbook Project: BCcampus.

Schmidt, C., & Stichter, J.P. (2012). The use of peer-mediated interventions to promote the generalization of social competence for adolescents with high-functioning autism and asperger's syndrome. *Exceptionality*, *20*(2), 94-113.

Tetreault, A. S., & Lerman, D. C. (2010). Teaching social skills to children with autism using point-of-view video modeling. *Education and Treatment of Children*, *33*(3), 395-419.

Wang, S. Y., Cui, Y., & Parrila, R. (2011). Examining the effectiveness of peer-mediated and video-modeling social skills interventions for children with autism spectrum disorders: A meta-analysis in single-case research using HLM. *Research in Autism Spectrum Disorders*, *5*(1), 562-569.

Wang, S. Y., Parrila, R., & Cui, Y. (2013). Meta-analysis of social skills interventions of single-case research for individuals with autism spectrum disorders: Results from three-level HLM. *Journal of Autism & Developmental Disorders*, *43*(7), 1701-1716.

Zagona, A. L., & Mastergeorge, A. M. (2016). An empirical review of peer-mediated interventions: Implications for young children with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 33*(3), 131-141.

Peers supporting peers: An evaluation of a Peer Support Centre at a Canadian University

Jérémie Richard, McGill University, MA

Lal Ruby Atesoglu, McGill University,

Claudia Leung, McGill University,

João Vitor Paes de Mello de Camargo, McGill University,

Lauren Buchardt, McGill University,

Van Vai Vivien Lee, McGill University,

Emily Crombie, McGill University, BSc

Armaghan Alam, McGill University

Abstract

Psychological and emotional problems are becoming increasingly frequent and severe among university students. Furthermore, a majority of university students experiencing mental health problems do not seek professional support. As such, feasible alternatives to professional treatment must be developed to address these issues. The purpose of the present report is to evaluate a university peer support service at a Canadian University and understand the needs of students who access this service. Questionnaire responses were collected from 120 university students who utilized an on-campus, student-led peer support service. Overall, results indicate that a broad range of students access this service and most of them are experiencing significant psychological distress. Also, quality ratings of the service were generally positive, with many students reporting that their peer support session helped them with their mental and emotional wellbeing. The evaluation of this university peer support service highlights the benefits of peer support in improving accessibility to mental health services on university campuses.

Résumé

Récemment, les problèmes psychologiques deviennent de plus en plus fréquents et graves chez les étudiants universitaires. De plus, la majorité des étudiants universitaires ayant des problèmes de santé mentale ne cherchent pas à obtenir le soutien de professionnels. Conséquemment, des alternatives plus accessibles aux services de psychologie traditionnels doivent être développées. L'objectif du présent rapport est d'évaluer un service de soutien par les pairs mis en place dans une université canadienne et de comprendre les besoins des étudiants y ayant accès. Cent-vingt étudiants ont complété un questionnaire suite à leur expérience au centre de soutien par les pairs dirigé par des étudiants. Les résultats indiquent qu'une diversité d'étudiants ont accès au service et qu'une majorité d'entre eux éprouvent une détresse psychologique importante. Aussi, une majorité des étudiants rapportent que leur séance de soutien les a aidés avec leur bien-être psychologique. L'évaluation de ce service met en évidence les avantages du soutien par les pairs pour améliorer l'accessibilité aux services de santé mentale sur les campus universitaires.

The presence of psychological and emotional problems among university students has been on the rise, in both frequency and severity (Beiter et al., 2015; Lyndon et al., 2014; Oyekcin, Sahin, & Aldemir, 2017; Prince, 2015). In fact, psychological distress has been reported as being significantly higher among university students, as compared to the general population (Adlaf Gliksman, Demers, & Newton-Taylor, 2001; Bayram & Bilgel, 2008; Cooke, Bewick, Barkham, Bradley, & Audin, 2006; Stallman, 2010). As a whole, university students face a host of academic, interpersonal, financial, and cultural challenges (Beiter et al., 2015; Pierceall & Keim, 2007; Vaez & Laflamme, 2008). At times, such challenges may go beyond a student's resources or capacity to effectively cope, leading to decreased quality of life, increased academic difficulties, and increased mental health issues (e.g., anxiety, depression, disordered eating, sleep disturbances, substance use, suicide; Auerbach et al., 2016; Hunt & Eisenberg, 2010; Kadison & DiGeron-

imo, 2004; Krumrie, Newyon, & Kim, 2010; Lee, Olson, Locke, Michelson, & Odes, 2009; Regehr, Glancy, & Pitts, 2013; Tang, Byrne, & Qui, 2018).

Recent studies indicate that 37% to 84% of university students experiencing mental health problems in Canada and the United States do not seek professional help (Eisenberg, Golberstein, & Gollust, 2007; Eisenberg, Hunt, Speer, & Zivin, 2011; Pelletier, O'-Donnell, Dykxhoorn, & McRae, 2017). Lack of support-seeking among university students may be due to fear of stigma (McKinney, 2009), lack of time and low perceived need for help (Hunt & Eisenberg, 2010; Eisenberg et al., 2011), privacy concerns (Gulliver et al., 2015; Hunt and Eisenberg, 2010), lack of knowledge of available services, and long waitlists (Eisenberg et al., 2007). Furthermore, there are discrepancies among those who do seek support, with males being less likely than females to use mental health services (Matheson et al., 2014) and more likely to perceive additional barriers to support seeking (Gulliver, Griffiths & Christensen, 2010; Lynch, Long, & Moorhead, 2018). As a result, many university students often choose informal sources of support, such as family and friends, to help them cope with their distress (Ryan, Shochet, & Stallman, 2010).

Universities are currently challenged more than ever to provide cost-effective and accessible student services (Pang, 2017). As such, feasible alternatives or complements to professional psychological services must be developed (Beiter et al., 2015). Given that many students turn to non-professional sources of support to cope with distress (Hefner & Eisenberg, 2009; Ryan et al., 2010), the development of peer support services represents one possible alternative to professional psychological services. Peer support is generally defined as social-emotional support offered by a person in a similar situation with the goal of bringing about desired social or personal change (Solomon, 2004). Although there is limited literature on this topic, peer support has been found to lead to improvements in self-esteem and self-acceptance among Turkish university students (Alada & Tezer, 2009) and improvements in mental well-being among university students in the United Kingdom (Byrom, 2018). Although peer support appears to yield positive outcomes for university students, further work is needed to investigate the outcomes of peer support services, with a specific focus on the manner in which support is provided and the context in which it is delivered. The objective of the present report was to describe the evaluation of a university peer support program implemented at a Canadian university with a focus on the specific needs of students who access this service. The goals of the current report were to determine: 1) who accesses this peer support service, 2) the mental health needs of these students, and 3) the quality of peer support as reported by students accessing this service.

METHOD

Peer Support Service

An on-campus, student-led service called the Peer Support Centre (PSC) was developed at an urban university in Montreal, Quebec. The PSC is an official part of the university's student services and collaborates closely with professional mental health services on campus to offer free, drop-in, one-on-one, confidential and non-judgmental listening and support. At the moment, the PSC is open from September to April with over 60 trained peer support volunteers (called supporters). Although supporters are not mental health professionals, they complete over 40 hours of intensive training as volunteers. This training program was developed and provided by students with previous experience and training in peer support with the assistance of certified mental health professionals. These supporters receive background training in active listening, empathic understanding, open communication, paraphrasing and summarizing session content, and managing crisis situations (i.e., individuals reporting imminent harm to themselves or others). Supporters are also trained to identify when an issue or situation is beyond their training and requires further assistance by a professional mental health professional. For instance, in cases where moderate risk for suicide is assessed, supporters are trained to create an action plan and book a safety appointment on the same day or the next morning with a psychiatrist on campus. In addition, supporters can provide individuals accessing the service (called supportees) with referrals to resources on and off campus. These resources include but are not limited to: university counselling or psychiatric services, services for students with disabilities, university clubs, and other student services specific to their concerns (e.g. support for survivors of sexual assault). Confidentiality on the part of PSC volunteers is guaranteed through the Internal Confidentiality Policy Agreement, which is signed by all volunteers prior to becoming a supporter.

Participants and Procedures

In the current program evaluation, procedures are within the mandate of the PSC and no questions or interventions were added outside of the scope of the organization. For this reason, review and ethical approval from the university's Research Ethics Board was not required (TCPS, Article 2.5). Participants were recruited directly through the PSC from September to

December 2018. The participant population includes all students at the university who accessed the service with no exclusionary criteria. Students at the university can learn about the PSC through promotional materials (e.g., stickers and posters), social media posts, referrals by university counsellors, or referrals by their colleagues on campus. After a support session, supportees were asked if they were interested in completing an anonymous online questionnaire. Supportees were informed that their participation is voluntary and confidential and that they can return to the PSC at any time whether or not they decide to complete the questionnaire. Supportees who agreed to participate were provided with a laptop and a private space to complete the questionnaire, which included an informed consent form on the first page. The consent form asked supportees to confirm their understanding of the survey content as well as the future usage of their responses.

Measures

Mental Health Status. Nine questions were used to assess supportees' experience of depressive symptoms over the last two weeks (Patient Health Questionnaire-9 [PHQ-9]; Kroenke, Spitzer, & Williams, 2001) and seven questions were used to assess their experience of anxious symptoms over the last two weeks (Generalized Anxiety Disorder-7 [GAD-7]; Löwe et al., 2008). Responses on these questions range from 0 ("Not at all") to 3 ("Nearly every day"). Responses on both questionnaires were summed to give an overall depression score ranging from none/minimal (0-5) to severe (20+) and an overall anxiety score ranging from none/minimal (0-5) to severe (15+). An additional question was used to assess how difficult these problems made it for supportees to perform academically, take care of things at home, and get along with other people. Scores on this question range from 0 ("Not difficult at all") to 3 ("Extremely Difficult"). The PHQ-9 and GAD-7 have been found to be reliable and valid tools to screen for depression and anxiety severity, respectively (Kroenke, Spitzer, Williams & Löwe, 2010). Lastly, supportees completed the Outcome Rating Scale (ORS; Bringhurst, Watson, Miller, & Duncan, 2006) to assess their personal, interpersonal, social, and general well-being. Responses on these four questions range from 0 ("low well-being") to 10 ("high well-being") for each domain. Responses on this measure were summed for a total well-being score ranging from 0 to 40, with scores under 25 indicating high levels of disrupted well-being. The ORS has been found to be a reliable and valid tool to assess for therapeutic outcomes (Bringhurst, Watson, Miller, & Duncan, 2006)

Table 1
Demographic characteristics of supportees who provided this information (n = 69)

Characteristic	% (n)
Gender	
Male	23.2 (16)
Female	73.9 (51)
Non-binary	2.9 (2)
Age	
18-20	34.8 (24)
21-23	31.9 (24)
24-26	8.7 (6)
27-35	13.0 (9)
Missing	8.7 (6)
Ethnicity	
White	44.9 (31)
South Asian	7.2 (5)
Chinese	15.9 (11)
Filipino	1.5 (1)
Latin American	5.8 (4)
Arab	7.2 (5)
Black	2.9 (2)
Mixed	11.6 (8)
Missing	2.9 (2)
Sexual Orientation	
Heterosexual	62.3 (43)
Gay/Lesbian	4.4 (3)
Bisexual	20.3 (14)
Questioning/Unsure	5.8 (4)
Other	2.9 (2)
Missing	4.3 (3)
Marital Status	
Single	63.8 (44)
Partnered/Married	29.0 (20)
Missing	7.2 (5)
School Year[a]	
U0	10.1 (7)
U1/U2	31.9 (22)
U3/U4	36.2 (25)
Master's student	11.6 (8)
Doctoral student	2.9 (2)
Missing	5.8 (4)
Faculty	
Arts	36.2 (25)
Science	26.1% (18)
Education	7.2% (5)
Management	7.2% (5)
Medicine	4.3% (3)
Law	5.8% (4)
Engineering	5.8% (4)
Missing	7.2% (5)
Student Status	
In-province (Quebec)	37.7 (26)
Out of province (Canada)	15.9 (11)
International (US)	13.0 (9)
International (Other)	21.7 (15)
Missing	11.6 (8)

Note. [a]U0 refers to freshman students in four-year degree programs; U1 refers to university year one; U2 refers to university year two; U3 refers to university year three; U4 refers to university year four.

Figure 1.
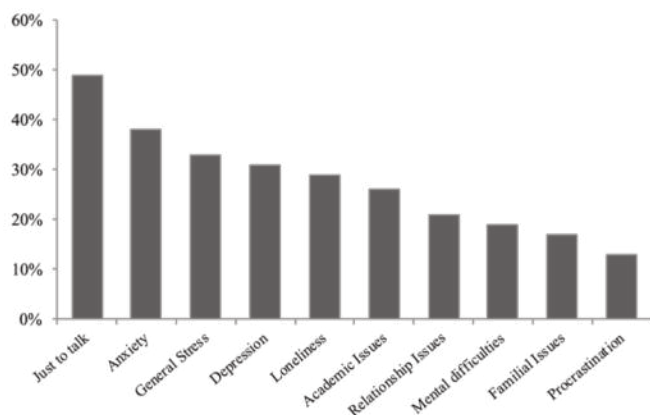*Topics discussed in peer support sessions as reported by supportees.*

Table 2
Supportees' scores on the Outcome Rating Scale (ORS)

Area of wellbeing	Mean (SD)	Mode (n)	Range
Individually	4.90 (2.05)	5 (20)	1-10
Interpersonally	5.22 (2.23)	5 (23)	1-10
Socially	4.92 (2.22)	6 (20)	1-10
Overall	5.03 (1.96)	5 (30)	1-10
Total ORS Score	20.14 (7.30)	23 (11)	5-40

Note. SD = standard deviation.

Table 3
Supportees' scores on the Generalized Anxiety Disorder-7 (GAD-7)

Area of anxiety	Mean (SD)	Mode (n)	Range
Nervousness	1.92 (0.96)	3 (35)	0-3
Inability to stop worrying	1.90 (1.02)	3 (36)	0-3
Worrying too much	1.97 (0.94)	3 (34)	0-3
Trouble relaxing	1.78 (1.06)	3 (33)	0-3
Being so restless it is hard to sit still	0.92 (1.03)	0 (43)	0-3
Becoming easily annoyed or irritable	1.15 (0.95)	1 (44)	0-3
Feeling afraid something awful might happen	1.46 (1.07)	2 (28)	0-3
Total anxiety score	11.03 (5.63)	7 (9)	0-21
Overall anxiety impairment severity	1.74 (0.85)	2 (39)	0-3

Note. SD = standard deviation.

Session Quality. The Session Rating Scale (SRS; Duncan et al., 2003) was used to assess the quality of the peer support sessions. Supportees were asked four questions regarding their session: "Did you feel heard, understood, and respected?", "Did you talk about things you wanted to talk about?", "The supporter's approach was a good fit for me", and "Overall, today's session was right for me." Responses to these questions range from 0 ("low agreement") to 10 ("high agreement"). Responses on this scale can be summed for a total session rating score ranging from 0 to 40, with scores under 36 indicating potential issues with the relationship. The SRS has been shown to have adequate reliability and validity as a clinical tool (Duncan et al., 2003).

Table 4
Supportees' scores on the Patient Health Questionnaire-9 (PHQ-9)

Area of depression	Mean (SD)	Mode (n)	Range
Little interest or pleasure in doing things	1.27 (1.05)	1 (33)	0-3
Feeling down, depressed or hopeless	1.59 (1.01)	1 (38)	0-3
Trouble falling/staying asleep, sleeping too much	1.46 (1.06)	1 (33)	0-3
Feeling tired or having little energy	1.70 (1.00)	1 (35)	0-3
Poor appetite or overeating	1.23 (1.05)	1 (35)	0-3
Feeling bad about yourself, or that you are a failure, or have let yourself or your family down	1.66 (1.06)	1 (31)	0-3
Trouble concentrating on things such as reading	1.50 (1.12)	1 (34)	0-3
Being so fidgety or restless that you have been moving around more than usual	0.99 (1.10)	0 (44)	0-3
Thoughts that you would be better off dead or of hurting yourself in some way	0.48 (0.77)	0 (65)	0-3
Total depression score	11.54 (6.79)	5 (10)	0-27
Overall depression impairment severity	1.93 (1.23)	2 (27)	0-3

Note. SD = standard deviation.

Table 5
Supportee scores on the Session Rating Scale (SRS)

Area of session rating	Mean (SD)	Mode (n)	Range
Relationship	9.17 (1.49)	10 (71)	1-9
Topics	9.29 (1.18)	10 (68)	6-10
Approach or method	8.63 (1.76)	10 (52)	2-10
Overall	9.04 (1.41)	10 (53)	5-10
Total SRS Score	36.09 (4.94)	40 (21)	17-40

Note. SD = standard deviation.

Data Analysis

IBM SPSS version 22 was used for data processing and analysis. Descriptive statistics were calculated to answer questions relevant to the program evaluation.

Results

From September to December 2018, 120 questionnaires were completed out of a total of 153 sessions that occurred at the PSC, representing a 78.4% response rate. Of the 120 responses, nine surveys had incomplete responses and these responses were excluded. The number of students utilizing the PSC every week ranged from 7 to 18 with a greater number of sessions coinciding with university examination periods.

Demographic characteristics of students utilizing the service are reported in Table 1. Of the 153 sessions, 119 were drop-in sessions and 35 were appointments. Of the supportees who used the service, 45.3% indicated that they were currently seeing a mental health professional either on or off campus and 15.8% indicated that they were currently on a waitlist to access psychological services. The primary reasons reported for seeking out the PSC for those currently seeing a mental health professional included lack of availability of mental health professional ($n = 20$) and the need for immediate support ($n = 11$).

Figure 1 presents the ten primary reasons reported for accessing the PSC. Other reasons for using the service included panic (11.7%), culture shock (5.8%), sexual assault (4.2%), alcohol/substance use (4.2%), grief (3.3%), and suicidality (1.7%).

Supportees were asked about their present well-being based on the ORS (Table 2). Overall, 84.3% of supportees had a total well-being score under 25. Furthermore, supportees were asked about their level of anxiety over the past two weeks (Table 3). Overall, 24.2% ($n = 29$) reported moderate anxiety and 23.3% ($n = 28$) reported severe anxiety. Finally, supportees were asked about their level of depression over the past two weeks (Table 4). Overall, 22.5% ($n = 27$) reported moderate depression, 14.2% ($n = 17$) reported moderately-severe depression and 10.8% ($n = 13$) reported severe depression. Total scores for anxiety and depression were strongly correlated ($r = .71$, $p < .01$).

Supportees were asked about the quality of their peer support session based on the SRS (Table 5). Overall, 57.4% ($n = 69$) of supportees rated their session between 36 and 40 indicating a good relationship between supporter and supportee, with 12.5% ($n = 13$) of supportees rating their sessions as slightly below threshold (score of 34 and 35). Furthermore, 80.8% ($n = 97$) of supportees agreed or strongly

agreed that talking to a supporter helped them with their mental and emotional wellbeing. When asked to compare the quality of their experience in session to other mental health services they had received in the past, 69.2% of supportees indicated that the quality of their peer support session was good ($n = 44$) or excellent ($n = 39$). Lastly, 96% ($n = 99$) of supportees agreed or strongly agreed that they would recommend the PSC to a friend and 91% ($n = 88$) perceived the service as being beneficial to other students.

DISCUSSION

This program evaluation report marks an initial attempt to understand who accesses a university-based peer support service and understand the quality of the service as reported by those accessing it. Regarding the first evaluation question, the PSC receives a higher number of female (73.9%) as compared to male (23.2%) supportees. A disproportionate number of females appear to be accessing the service as females represent 58.3% of the student body served by the PSC (McGill University, 2018). It is a common finding in the psychological and medical literature that females are more likely than males to seek out support and mental health services (Matheson et al., 2014). Furthermore, males have been found to be less likely to seek support compared to females as they may perceive various barriers to accessing support, such as stigma and embarrassment, lack of acceptance from peers, fear of homophobic responses, and a preference for self-reliance (Gulliver et al., 2010; Lynch et al., 2018). Given this discrepancy, additional evaluations and initiatives are necessary to understand how the PSC could adapt to reduce some of the barriers perceived by males to increase accessibility to the service for all.

Regarding ethnicity, the PSC appears to serve a greater proportion of non-White students as compared to the general student population of the university. To explain this discrepancy, it is possible that a greater proportion of non-White students are international students, who may have smaller support networks (Hefner & Eisenberg, 2009) and are therefore accessing the PSC to acquire peer support for both emotional and information-related reasons. It is also possible that ethnic minority students are disproportionally utilizing this service as they may experience other stressors such as difficulties with sociocultural adjustment (McGarvey, Brugha, Conroy, Clarke, & Byrne, 2015) or the experience of discrimination (Ozer, 2015; Poyrazli & Lopez, 2007), which may result in increased support-seeking behaviors. As for sexual orientation, the general student population of

the university identifies as 88.3% heterosexual, 4.1% bisexual, 3.8% gay, and 2.1% unsure (McGill University, 2009). Results from this evaluation suggest that the PSC serves a relatively higher number of individuals who are bisexual (20.3%) and questioning (5.8%) and a relatively lower number of heterosexual students (62.3%). As sexual minorities (e.g., gay, lesbian, bisexual, questioning) have been found to experience a greater number of stressors related to discrimination and victimization (Meyer, 2003), it is possible that they are seeking peer support to help them cope with these difficulties. Based on these findings, it is important that supporters remain open, accepting, and aware of issues faced by sexual minority populations in addition to providing adequate referrals associated with issues presented in session.

As for the mental health status of supportees, over 47.5% report moderate to severe anxiety and 47.5% report moderate to severe depression. Furthermore, anxiety, general stress, and depression are among the main reasons reported for seeking out peer support. This result would be consistent with the literature indicating that anxiety and depression are serious issues within the university student population (Auerbach et al., 2016; Beiter et al., 2015; Hunt & Eisenberg, 2010; Krumrie et al., 2010; Vaez & Laflamme, 2008). With 45% of supportees reporting currently seeing a mental health professional, it is possible that this peer support service acts as a complement to professional services. Finally, high positive ratings for the PSC made by students speaks to the ability of trained peer supporters to provide high quality support that may help individuals experiencing difficulties that impact their psychological wellbeing.

Limitations

Although the results from this program evaluation have provided insights regarding the people who access peer support services and the quality of this service, there are a few noteworthy limitations. First, not all supportees who accessed the service completed the questionnaire which may have influenced the results. Furthermore, only 57.5% of supportees completed the demographic portion of the questionnaire; this limits our understanding of who accesses the service. Second, the use of a self-report questionnaire could have affected responses due to insincere or inaccurate responding. Third, motivations behind accessing the peer support service were not assessed in the present program evaluation. Future evaluations should consider including an open-ended question assessing reasons for accessing the service. Fourth, no information was collected regarding supportees who

could have used the service more than once. Future evaluations could consider collecting this information to understand why certain individuals access peer support more than once and how they evaluate their second or third experiences with the service.

CONCLUDING REMARKS

Based on the findings of a separate ongoing project within the PSC, approximately 28% of Canadian universities have been identified as having a student-run peer support service providing active listening services to university students. As many of these peer support services have been founded within the last decade, there appears to be a national trend towards increasing awareness to mental health issues among students and the implementation of projects that attempt to normalize and destigmatize mental health difficulties and support seeking behaviors. The PSC offers a concrete example of a successful peer support service and a model that can be implemented by other universities to create significant change on university campuses. Future evaluations are necessary to compare how various peer support services are managed and to compare the benefits these services yield across different student populations.

The evaluation of a university-based peer support service highlights the potential benefits of peer support such as improving accessibility to mental health services for university students, many of whom experience difficulties with academic, psychological, and interpersonal problems. The PSC approach of combining active listening techniques with appropriate resource referral has potential to provide students with personalized support when they are in immediate need. Long waitlists and financial costs are often cited as an obstacle for seeking help (Eisenberg et al., 2007). Thus, free drop-in services can provide individuals with an accessible and confidential space to seek support when other services may not be available.

References

Adlaf, E. M., Gliksman, L., Demers, A., & Newton-Taylor, B. (2001). The prevalence of elevated psychological distress among Canadian undergraduates: Findings from the 1998 Canadian Campus Survey. *Journal of American College Health, 50*, 67-72.

Alada, M., & Tezer, E. (2009). Effects of a peer helping training program on helping skills and self-growth of peer helpers. *International Journal for the Advancement of Counselling, 31*, 255-269.

Auerbach, R., Alonso, J., Axinn, W., Cuijpers, P., Ebert, D., Green, J., . . . & Bruffaerts, R. (2016). Mental disorders

among college students in the World Health Organization World Mental Health Surveys. *Psychological Medicine, 46*(, 2955-2970.

Bayram, N., & Bilgel, N. (2008). The prevalence and sociodemographic correlations of depression, anxiety and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology, 43*, 667-672.

Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders, 173*, 90-96.

Bringhurst, D. L., Watson, C. W., Miller. S. D., & Duncan, B. L. (2006). The reliability and validity of the Outcome Rating Scale: A replication study of a brief clinical measure. *Journal of Brief Therapy, 5*, 23-30.

Byrom, N. (2018). An evaluation of a peer support intervention for student mental health. *Journal of Mental Health, 27*, 240-246.

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, Tri-Council Policy Statement (TCPS): Ethical conduct for research involving humans, December 2010.

Cooke, R., Bewick, B. M., Barkham, M., Bradley, M., & Audin, K. (2006). Measuring, monitoring and managing the psychological wellbeing of first year university students. *British Journal of Guidance & Counselling, 34*, 505-517.

Duncan, B. L., Miller, S. D., Sparks, J. A., Claud, D. A., Reynolds, L. R., Brown, J., & Johnson, L. D. (2003). The Session Rating Scale: Preliminary psychometric properties of a "working" alliance measure. *Journal of Brief Therapy, 3*, 3-12.

Eisenberg, D., Golberstein, E., & Gollust, S. E. (2007). Help-seeking and access to mental health care in a university student population. *Medical Care, 45*, 594-601.

Eisenberg, D., Hunt, J., Speer, N., & Zivin, K. (2011). Mental health service utilization among college students in the United States. *Journal of Nervous and Mental Disease, 199*, 301-308.

Gulliver, A., Bennett, K., Bennett, A., Farrer, L. M., Reynolds, J., & Griffiths, K. M. (2015). Privacy issues in the development of a virtual mental health clinic for university students: A qualitative study. *Journal of Medical Internet Research, Mental Health, 2*, 1-10.

Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: A systematic review. *BMC Psychiatry, 10*, 113-121.

Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health, 46*, 3-10.

Hefner, J., & Eisenberg, D. (2009). Social support and mental health among college students. *American Journal of Orthopsychiatry, 79*, 491-499. doi:10.1037/a0016918

Kadison, R., & DiGeronimo, T. F. (2004). *College of the overwhelmed: The campus mental health crisis and what to do about it*. San Francisco, CA, US: JosseyBass.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606-613.

Kroenke, K., Spitzer, R. L., Williams, J. B., & Lowe, B. (2010). The Patient Health Questionnaire somatic, anxiety, and depressive symptom scales: A systematic review. *General Hospital Psychiatry, 32*, 345-359.

Krumrie, E. J., Newton, F. B., & Kim, E. (2010). A multi-institution look at college students seeking counseling: Nature and severity of concerns. *Journal of College Student Psychotherapy, 24*, 261-283.

Lee, D., Olson, E. A., Locke, B., Michelson, S. T., & Odes, E. (2009). The effects of college counseling services on academic performance and retention. *Journal of College Student Development, 50*, 305-319.

Löwe, B., Decker, O., Muller, S., Brahler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y. (2008). Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. *Medical Care, 46*, 266-274.

Lynch, L., Long, M., & Moorhead, A. (2018). Young men, help-seeking, and mental health services: Exploring barriers and solutions. *American Journal of Men's Health, 12*, 138-149.

Lyndon, M. P., Strom, J. M., Alyami, H. M., Yu, T.-C., Wilson, N. C., Singh, P. P., . . . Hill, A. G. (2014). The relationship between academic assessment and psychological distress among medical students: A systematic review. *Perspectives on Medical Education, 3*, 405-418.

Matheson, F. I., Smith, K. L., Fazli, G. S., Moineddin, R., Dunn, J. R., & Glazier, R. H. (2014). Physical health and gender as risk factors for usage of services for mental illness. *Journal of Epidemiology and Community Health, 68*, 971-978.

McGarvey, A., Brugha, R., Conroy, R. M., Clarke, E., & Byrne, E. (2015). International students' experience of a western medical school: a mixed methods study exploring the early years in the context of cultural and social adjustment compared to students from the host country. *BMC Medical Education, 15*, 111.

McGill University. (2009). *Student demographic survey: Final report*. Retrieved from: https://www.mcgill.ca/studentlifeandlearning/files/studentlifeandlearning/final_report_1.pdf

McGill University. (2018, October 26). *Enrolment report fall 2018: Total (FT and PT) enrolments by faculty, by degree and by gender*. Retrieved from: https://www.mcgill.ca/es/registration-statistics/fall-2018

McKinney, K. G. (2009). Initial evaluation of active minds: A student organization dedicated to reducing the stigma of mental illness. *Journal of College Student Psychotherapy, 23*, 281-301.

Meyer I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, *129*, 674-697.

Oyekcin, D. G., Sahin, E. M. & Aldemir, E. (2017). Mental health, suicidality and hopelessness among university students in Turkey. *Asian Journal of Psychiatry, 29*, 185-189.

Ozer, S. (2015). Predictors of international students' psychological and sociocultural adjustment to the context of reception while studying at Aarhus University, Denmark. *Scandinavian Journal of Psychology, 56*, 717-725.

Pang, W. (2017, October). Peace of mind: Universities see spike in students seeking mental- health help. The Globe and Mail. Retrieved from: https://www.theglobeandmail.com/ news/national/education/peace-of-mind-universities-see-spike-in-students-seeking-mental-health-help/article36637574/

Pelletier, L., O'Donnell, S., Dykxhoorn, J., McRae, L., & Patten, S. (2017). Under-diagnosis of mood disorders in Canada. *Epidemiology and Psychiatric Sciences, 26*, 414-423.

Pierceall, E. A., & Keim, M. C. (2007). Stress and coping strategies among community college students. *Community College Journal of Research and Practice, 31*, 703-712.

Poyrazli, S. & Lopez, M. D. (2007). An exploratory study of perceived discrimination and homesickness: A comparison of international students and American students. *The Journal of Psychology: Interdisciplinary and Applied, 141*, 263-280.

Prince, J. P. (2015). University student counseling and mental health in the United States: Trends and challenges. *Mental Health & Prevention, 3*, 5-10.

Regehr, C., Glancy, D., & Pitts, A. (2013). Interventions to reduce stress in university students: A review and meta-analysis. *Journal of Affective Disorders, 148*, 1-11.

Ryan, M. L., Shochet, I. M., & Stallman, H. M. (2010). Universal online interventions might engage psychologically distressed university students who are unlikely to seek formal help. *Advances in Mental Health, 9*, 73-83.

Stallman, H. M. (2010). Psychological distress in university students: A comparison with general population data. *Australian Psychologist, 45*, 249-257.

Solomon, P. (2004). Peer support/peer provided services underlying processes, benefits, and critical ingredients. *Psychiatric Rehabilitation Journal, 27*, 392-401.

Tang, F., Byrne, M., & Qin, P. (2018). Psychological distress and risk for suicidal behavior among university students in contemporary China. *Journal of Affective Disorders, 228*, 101-108.

Vaez, M., & Laflamme, L. (2008). Experienced stress, psychological symptoms, self-rated health and academic achievement: A longitudinal study of Swedish university students. *Social Behavior and Personality: An International Journal, 36*, 183-196.

It "pays"
to be a member of the CPA!

We asked what would add significant value to membership in the Canadian Psychological Association (CPA),

The answer... "add something tangible that benefits me!"

We heard you and partnered with

👑 **entertainment.** to create

the exclusive **CPA Perks** program!

CPA Members & Affiliates now have access to over 365,000 ways to save across North America and the opportunity to earn back their CPA membership fee, several times over!

One CPA member recently emailed us to say that he saved $1,500 with a single CPA Perks coupon, used at a participating Home & Garden retailer in his home town.

CPA Perks...

✓ has an app for your smart phone

✓ uses geo-location to find all the savings near you, wherever you are

✓ gives you the option to print coupons at home, or present them on your phone

Get our premium benefit!

🍴 Restaurants   🎈 Attractions   ⛷ Skiing   🚗 Car Rentals

🛍 Shopping   🏌 Golfing   🛏 Hotels   ✈ Air Fare

For more details, visit www.CPA.ca/CPAPerks TODAY!

The Canadian Psychological Association (CPA) was organized in 1939 and incorporated under the Canada Corporations Act, Part II, in May 1950.

CANADIAN
PSYCHOLOGICAL
ASSOCIATION

SOCIÉTÉ
CANADIENNE
DE PSYCHOLOGIE

CPA's objectives are:
- To improve the health and welfare of all Canadians;
- To promote excellence and innovation in psychological research, education, and practice;
- To promote the advancement, development, dissemination, and application of psychological knowledge; and
- To provide high-quality services to members.

Benefits and services of CPA membership include, but are not limited to:
- CPA Journals
- Psynopsis (Canada's psychology magazine)
- CPA News (CPA's electronic newsletter)
- Reduced fees for access to APA's PsycNET® GOLD package
- Publications
- CPA's Annual Convention
- Awards
- Advocacy
- Sections and Special Interest Groups
- Continuing Education
- Accreditation
- Liability Insurance
- Personal Home and Auto Insurance
- Student Members (living in Canada) receive a complimentary CPA Student Price Card
- Pro Bono Legal Advice
- Laptop Theft Recovery
- Practice and Personal Banking Products

Visit www.cpa.ca/membership/becomeamemberofcpa to join today!