

**UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF  
MENTAL HEALTH FOR GRADUATE STUDENTS**

By

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## ABSTRACT

Mental health challenges are six times higher in graduate students compared to the general population. Despite the strikingly high numbers, very few students seek professional help. This study aims to determine if academic staff members (ASMs) are potential gatekeepers of mental health for graduate students, as they are well-positioned to offer an initial point of contact to connect students in distress to professional help sources. A total of 125 ASMs at a large teaching and research university in Canada completed an anonymous online survey that measured multiple factors associated with being a mental health gatekeeper, such as mental health literacy, preparedness and self-efficacy, using the Mental Health Literacy Scale (MHLS), Gatekeeper Behavior Scale (GBS) and Gatekeeper Self-Efficacy Scale (GKSES), respectively, along with demographic and professional information. Open-ended questions on types of support and/or training required were also included to understand what changes need to be adopted for ASMs' work organization upon taking the role of a gatekeeper. The data were analyzed using descriptive and inferential statistics, including one-way ANOVA, to compare differences among genders, academic disciplines and academic ranks. ASMs demonstrated higher mean scores in all three outcome measures: mental health literacy ( $M=123$ ,  $SD=23$ ), gatekeeper behavior scale ( $M=62$ ,  $SD=21$ ) and gatekeeper self-efficacy scale ( $M=37$ ,  $SD=14$ ) as compared to previous studies. There was a significant difference in mental health literacy among academic disciplines ( $F(2,120)=7.8$ ,  $p=0.001$ ) and academic ranks ( $F(3,121)=3.9$ ,  $p=0.01$ ). The findings also indicated significant differences in both preparedness ( $F(2,120)=5.9$ ,  $p=0.003$ ) and self-efficacy ( $F(2,120)=9.2$ ,  $p=0.000$ ) between academic disciplines. No difference was found between genders in any of the

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three outcome measures. The participants recognized the need to support students but did not feel adequately prepared to recognize mental health challenges or feel knowledgeable about how to support students. ASMs in this study revealed the need for appropriate gatekeeper training and addressed effective strategies, coping tools, and resources that the university can implement to support them.

Thus, ASMs can be potential gatekeepers of mental health for graduate students if they can receive appropriate training and support from the university to help their graduate students effectively when needed.

**Keywords:** mental health, graduate students, university, academic staff members, gatekeeper of mental health, gatekeeper training

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**LIST OF ABBREVIATIONS AND SYMBOLS**

Academic Staff Members	<b>ASMs</b>
Gatekeeper Behavior Scale	<b>GBS</b>
Gatekeeper Self-efficacy Scale	<b>GKSES</b>
Gatekeeper Training	<b>GKT</b>
Mental Health Literacy Scale	<b>MHLS</b>
World Health Organization	<b>WHO</b>

## Chapter 1: Introduction

### 1.1 Introduction

The World Health Organization defines mental health "as a state of well-being in which an individual realizes their abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community" (WHO, 2018, Key Facts, para. 2). It is the foundation of our ability to express emotions, work, socialize and have a pleasant life. Therefore, it is a crucial global concern to promote, protect, and restore every individual's mental health (WHO, 2018).

Academics and policymakers have raised many concerns regarding the research conditions at universities and their potential impact on an individual's mental health in recent years (Levecque et al., 2017; Phillips & Heywood-Roos, 2014). The prevalence of mental health conditions is six times higher in the graduate student population compared to the general population (Evans et al., 2018). Graduate students are particularly prone to deal with pressures related to conducting research, teaching, publishing, and finding employment, in addition to the stress from the expectations and relationship with their supervisors (Hyun et al., 2006). The strikingly high numbers of mental health challenges demonstrate the need for immediate action to establish and expand mental health support for graduate students through updated resources within career development offices, faculty training, and change in how work is organized in academia.

While it should always be a priority to protect one's mental health and wellbeing, there are several compelling reasons why attention to graduate students' mental health is important. First, graduate students' work is an essential and major source of scientific and academic advancement (Levecque et al., 2017). An individual's mental health can affect the quality and quantity of their research work

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(Danna & Griffin, 1999). Second, it may constitute a substantial financial burden to academic institutions and research teams, as most graduate students are a part of large research projects, determining a significant scientific impact (Lee et al., 2015). Finally, several studies provide evidence that graduate student dropout rates vary from 30 to 50 percent, depending on the nation and academic discipline (Stubb et al., 2012). These high dropout rates may jeopardize the growth and quality of academic research. Therefore, the implication of qualified researchers not pursuing academic careers because of mental health challenges should be an essential concern for researchers and policymakers, as scientific progress and cognitive ability are vital not just for academic productivity but also for economic competition (Rindermann & Thompson, 2011). In addition, prioritizing graduate students' mental health can also be beneficial for universities when they promote healthy work-life balance, a proper workload, involve an open decision-making approach with the graduate students and assist supervisors in adopting leadership methods that can lead to satisfactory and robust work relations with their students (Levecque et al., 2017).

Mental health concerns account for a more extensive disease burden among young adults than any other health condition (Michaud et al., 2006). Despite the widespread prevalence, most of these mental health conditions are undiagnosed and go untreated in the young adult population (Blanco et al., 2008). There is a considerable difference between the prevalence of mental health challenges and the frequency at which graduate students seek treatment, creating a "treatment gap" (Kohn et al., 2004). We need to identify effective strategies to narrow this gap to improve this critical phase of a student's life. Gatekeeper training (GKT) is shown to be a promising strategy for narrowing this treatment gap (Lipson et al., 2014). Gatekeeper programs represent a potential mechanism for increasing access to treatment as a powerful prevention strategy. GKT targets people in regular contact with others in their network (Lipson et al., 2014). The training aims to

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equip non-professional individuals with the skills and knowledge to identify individuals facing mental health challenges by recognizing risk factors, intervene to encourage them to get support, and connect them to appropriate mental health support services (Lipson et al., 2014). Academic staff members (ASMs) have been recognized as potential gatekeepers who can help connect students with professional mental health services in educational settings (Hughes et al., 2018; McAllister et al., 2014). Since professors work closely with graduate students, they are well-positioned to offer an initial point of contact for referral to appropriate professional help resources (Frederico & Davis, 1996). However, little is known about the ASMs' perceptions of mental health concerns in graduate students, their attitude towards it, or whether these factors affect how prepared they are to help students experiencing mental health challenges.

### 1.2 Problem Statement

It is well documented that the prevalence of mental health challenges is elevated in the graduate student population (Arnold, 2014; Evans et al., 2018; Oswald & Riddick, 2007; Puri, 2019) and most conditions are undiagnosed and left untreated in a young adult population (Blanco et al., 2008). As Lipson (2014) states, GKTs are a promising prevention strategy to help connect individuals going through psychological distress to professional help. ASMs are considered to be in the frontline position to provide such support (Hughes et al., 2018; McAllister et al., 2014). Currently, there is a lack of research on the attitude and awareness of university ASMs, their mental health literacy and readiness to be potential gatekeepers, if asked to take on this role. There is a need to study this knowledge gap by investigating the literacy of ASMs and their readiness to assist students exhibiting signs of psychological distress.

### 1.3 Purpose of study

The purpose of this study is to determine whether university ASMs are potential gatekeepers of mental health for graduate students and what is their knowledge base for this role. It also aims to understand the potential challenges ASMs may face taking up the role of gatekeeper, if requested to do so; and the support services they would need to improve the university's ability to support them and the students with mental health challenges. This study will focus on [University] ASMs who teach and/or supervise graduate students. The goal of this study is to gain an understanding of the perception and readiness of ASMs as gatekeepers to support graduate students' mental health. This study aims to provide new insights into developing mental health research and support strategies at the university.

### 1.4 Research Questions

This study aims to answer the following *research questions*:

1. Are university ASMs potential gatekeepers of mental health for graduate students?
  - What is the current knowledge of the ASMs surrounding their perception of the mental health needs of the graduate student population?
  - Is there a difference across genders, academic disciplines, and academic rank concerning their awareness of the mental health needs of graduate students?
2. What is the readiness of ASMs for the role as mental health gatekeepers of graduate students, and what potential challenges they may face in taking up this role?
  - Are they confident to take up this role?
  - Are they prepared to take up this role?
  - How likely are they to engage and refer students to support services?

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3. What services, interventions, and support would the ASMs need to improve the university's ability to support them and graduate students with mental health challenges?
  - Do they have sufficient resources and required training to support the students?

## Chapter 2: Literature Review

The research in mental health remains diverse and fragmented despite some noteworthy advances in this area (Bailey, 2012; Pellmar & Eisenberg, 2000; Wittchen et al., 2014). Upon reviewing the available literature, the results display an interesting trend in the evolution of research in the mental health field over the past four decades. Recent research has shown a promising pattern for understanding university students' mental health and wellbeing locally and internationally (Hernández-Torrano et al., 2020). Hernández-Torrano and colleagues (2020), in their bibliometric review, also reported that research on the mental health of graduate students has grown significantly in the last decade; however, it has not reached maturity and will continue to develop more in the coming years.

### 2.1 Mental Health and Wellbeing

Mental health is defined "as a state of well-being in which an individual realizes their abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community" (WHO, 2018, Key Facts, para. 2). A person's mental wellbeing can be considered as a dynamic process that enables them to satisfy their psychological needs to a greater or lesser extent based on their external circumstances and to increase feelings of happiness and satisfaction (New Economics Foundation, 2008). According to Keyes (2005), the term *mental health challenges or problems* refers to less than optimal mental health. Mental disorders or illnesses are short-term or long-term conditions that can alter a person's thoughts, emotions, mood and behavior to function everyday. It can also affect their ability to relate to others (Medline Plus, n.d.). Since the WHO highlighted a close connection between mental health and wellbeing, the Mental Health Commission of Canada titled their mental health strategy: "Toward Recovery and Wellbeing: A framework for a Mental Health Strategy for Canada" (Mental Health Commission of Canada,

Mental Health Strategy for Canada, para. 4). *Mental health* has been used as a euphemism for *mental illness* for a long time (Manwell et al., 2015). Mental health is not the mere absence of mental illness, and the same has been reflected in the recent advancement in research and clinical practices in the field (Galderisi et al., 2015). The term *challenge* (i.e., mental health *challenge*) is increasingly used instead of disorder, problem, or illness due to the positive approach toward mental health. This strength-based term recognizes that the challenges faced by a person can be overcome; they can achieve their goals and live in harmony within the community (Australian Health Ministers Advisory Council, 2013).

A recent report by the WHO (2020) states that almost one billion people are living with mental health challenges globally. According to the Mental Health Commission of Canada, one in five people experience a mental health problem annually in Canada, and almost 60% of people going through mental health challenges will not seek help (Mental Health Commission of Canada, Making the Case for Investing in Mental Health in Canada, page 1, para. 3).

## 2.2 Mental Health Concerns in Graduate Students

Post-secondary students' mental health has attracted attention from stakeholders like the government, educational institutes, and community organizations. Some studies have suggested that there is a "mental health crisis" (Lunau, 2012; Off Course on Campus, 2015). Auerbach et al. (2016, 2018) estimate that generally within a 12-month period, between a quarter and a third of university students will have experienced mental health challenges compared to the general population. Academic success and student learning are strongly influenced by an individual's mental health and wellbeing. Mental health is a crucial foundation for students to enhance their learning experience, reach their potential, and achieve success (Silverman et al., 2008). There is strong evidence that mental health challenges can affect academic performance. The impacts



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include losing interest in learning, increased anxiety, dropping out, and poor academic performance (Patterson & Kline, 2008). University students are the most vulnerable population because common mental health challenges like stress, anxiety and depression are reported to increase during the teenage years and spike in the early adulthood period around 25 years (Kessler et al., 2007). In the last ten years, studies have indicated a rise in the number and seriousness of mental health challenges and help-seeking behaviors of students in universities globally (Auerbach et al., 2018; Hunt & Eisenberg, 2010; Lipson et al., 2019; Verger et al., 2010).

Universities are high-stress environments (Bullock et al., 2017; MacKean, 2011; Oswalt & Riddick, 2007). Research has shown that college students experience high levels of stress and lower wellbeing than the general population (Soysa & Wilcomb, 2015), and the trend is increasing (Hoffman, 2015; Pryor et al., 2010). International research on assessing self-rated and objectively-rated psychological distress levels in university students has also proven that mental health challenges are prevalent in this population (Bayram & Bilgel, 2008; Burris et al., 2009; Field et al., 2009; Khawaja & Dempsey, 2007; Leahy et al., 2010; Stallman, 2010; Wynaden et al., 2013; Yorgason et al., 2008), and appear to be increasing while their wellbeing and resilience is declining (Hunt & Eisenberg, 2010; Williams et al., 2015).

Graduate school experience is rewarding and invigorating but is also stressful and demands a good balance in academic, work, and personal life (Bonifas & Napoli, 2014). Graduate students in research-based programs have to take up and balance multiple new professional roles: student, researcher, teaching assistant, or instructor (Myers et al., 2012) and face an array of new responsibilities in their personal and professional lives. Entering new work environments can be stressful and can trigger many feelings, including fear of failure (Ellis et al., 2015). Studies have demonstrated that successful graduate program traits are linked with students' emotional

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wellbeing and motivation to finish their program, which also includes high levels of social, financial, and institutional support provided by the academic department; democratic and functional mentoring structure; and use of support services for successful completion of a graduate program (Benton, 2003; Goldberg, 1998; Johnson & Huwe, 2002). And yet, there is a paucity of research on how the graduate students maintain a sense of wellbeing while managing all these responsibilities. Researchers have given attention to the undergraduate student population in examining ways to minimize stress (Baghurst & Kelley, 2014; Kruger & Sonoro, 2016; Neff et al., 2007). Graduate students differ from undergraduate students in various ways (Arnold, 2014). As Baird (1990) rightly describes, “graduate study is much less structured, much more individualized, and consequently often much more unclear and ambiguous in its demands on students. These demands call for unusual coping strategies and are met at an emotional cost” (p., 371). They also face pressure to perform well, learn and acquire a wide range of skills, excel in their research projects, meet deadlines, solve problems independently, and develop career opportunities (Mousavi et al., 2018).

An online survey involving Ontario postgraduate students (n=2,001) found that the majority of the students (70%) felt pressured to overwork, more than half of the students (51%) did not feel supported by their institution, 67% felt anxious about finishing their degree on time, and 63% reported feeling fearful of failing or appearing weak (Canadian Federation of Students-Ontario [CFSO], 2018). Similarly, a national survey of psychology graduate students conducted in the United States (USA) as a part of the American Psychological Association of Graduate Students (APAGS) and the APA Advisory Committee on Colleague Assistance found that the top-rated stressors included: academic/coursework pressures (68.1%), finances/debt (63.9%), anxiety (60.7%), and poor work-life balance (58.7%). Thirty-five percent reported depression, 33.7% reported physical health issues, and slightly more than one-third of students (38.2%) reported burnout or fatigue (El-

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Ghoroury et al., 2012). Female postgraduate students have been found to experience higher stress levels (Mallinckrodt & Leong, 1992; Matheny et al., 2005; McLaughlin, 1985; Jungbluth et al., 2011; Toews et al., 1997; Verdone, 2020) and are more likely to suffer from mental health conditions (Eaton et al., 2012) than their male counterparts. Moreover, international students experience higher anxiety and stress levels than domestic students (Hyun et al., 2007). These trends are a major concern in the graduate and professional student population, particularly considering the association between stress and poor academic performance (Stewart et al., 1999; Struthers et al., 2000). Many students experience greater vulnerability to stressors or lack adequate coping resources because of the highly competitive nature of graduate training (Farber, 2000). Chronic stress can increase the risk of physical and psychological ailments (Mariotti, 2015) and can be detrimental to academic performance (Bruce, 2009). Individuals who report chronic stress are more likely to be diagnosed with depression (Hammen, 2005; Mazure, 1998; Pizzagalli, 2014). Due to high stress levels and uncertain career prospects, graduate students are more likely to develop mental health conditions (Evans et al., 2018; Garcia-Williams et al., 2014; Gewin, 2012; Gould 2014; Wang, 2015) and graduation rates may suffer due to high stress (Greeson et al., 2014). Yet, very little attention has been given to understanding the cause and consequences of this stress and minimizing the burden of multiple role memberships in the graduate student population.

It is well documented that rates of common mental health concerns like anxiety and depression are elevated in the graduate student population (Arnold, 2014; Oswald & Riddick, 2007; Puri, 2019). Research conducted across three universities in Australia reported that more than 50% of university students had psychological distress levels indicative of mental health problems before getting professional help. Students in this study also reported that they could not meet their study and work commitments. Studies have also shown that students in distress experience challenges

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like difficulty in notetaking, completing assignments, participating in in-class activities, and writing exams (Collins & Mowbray, 2005; Megivern et al., 2003; Rickerson et al., 2004).

Another national-level study conducted in the USA on counselling psychology graduate students reported that stress, poor student-supervisor relationship, and lack of social support were associated with burnout and dissatisfaction in future career (Kovach Clark et al., 2009). Research also shows that the majority of the students who experience mental health challenges or low wellbeing levels do not receive mental health treatment (Blanco et al., 2008; Eisenberg et al., 2011; Lipson et al., 2019). The most commonly cited reasons that university students do not seek help are the fear of stigma and discrimination (Eisenberg et al., 2009; Michaels et al., 2017; Wynaden et al., 2014; Zartaloudi & Madianos, 2010), fear of not acquiring an academic position in the future and being judged by fellow peers (Pryal, 2014). As university students fail to disclose their mental health problems due to the fear of discrimination, they experience loneliness and isolation and struggle to meet their academic requirements, with many dropping out of their programs (Wynaden et al., 2013). Those in scientific fields (Powell, 2016) experience immense pressure to compete for funding and produce data. Therefore, graduate students managing academia and dealing with mental health challenges is a serious concern (Wynaden et al., 2013). If the problems remain unresolved, they may affect the student's ability to succeed in their academic endeavours, leading to increased stress levels, decreased productivity, and increased absenteeism (Cook, 2007).

With the increase in the number of students experiencing mental health challenges, there is also a growing concern that the universities' support services are not developing at the same rate (Hernández-Torrano et al., 2020). Universities need to facilitate early intervention strategies to enhance student support (Kim et al., 2011). Universities are also in the position to foster a more supportive environment and develop a positive attitude to increase awareness to prevent

unwanted consequences on students' mental wellbeing (Galbraith et al., 2014) and academic outcomes (Storrie et al., 2010).

### 2.3 Gatekeepers of Mental Health and Gatekeeper Training (GKT)

"Gatekeepers" are people who come in primary contact with individuals in distress due to their profession or relationship (Ghoncheh et al., 2016; Isaac et al., 2009). In gatekeeper training (GKT), a person is trained to a) identify individuals facing mental health challenges by recognizing risk factors, b) encourage them to get help, and c) refer them to professionals for treatment (Centers for Disease Control, 1992; Gould, M.S., & Kramer, 2001). GKTs were primarily considered a strategy for suicide prevention, but they are now also used to address other mental health challenges such as depression and anxiety (Lipson, 2014; Lipson et al., 2014). Studies have shown that GKT is associated with an increase in the rate of detection and treatment of depression, a reduction in rates of accidental deaths, and moderate to severe family violence (Isaac et al., 2009).

Over the last 40 years, the use of gatekeepers through GKT has become a popular approach and is accepted worldwide as a crucial, effective, and commonly executed prevention strategy for identifying and referring individuals in a mental health crisis (Beautrais et al., 2007; Ghoncheh et al., 2016; Gould, M.S., & Kramer, 2001; Isaac et al., 2009; Kalafat, 2003; Lipson et al., 2014; Mann et al., 2005; Pasco et al., 2012; WHO, 2012). It emerged as a prevention strategy for suicide in the late 1960s in Philadelphia (Isaac et al., 2009). The gatekeeper's first definition was described as "any person to whom troubled people are turning for help" (Snyder, 1971, p. 39). The first report on GKT was published in the *Bulletin of Sociology* in 1971, written by Dr. John Snyder (Snyder, 1971). The Canadian Mental Health Association and the provincial government advisory committee of Alberta took the first initiative to create and implement a GKT program in the early 1980s

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(Ramsay et al., 1990). In the last few decades, the GKT programs have been executed both nationally and internationally.

Gatekeepers can be divided into two groups: designated or emergent (Ramsay et al., 1990). The designated group includes trained professionals such as those in medicine, psychology, social work, and nursing (Isaac et al., 2009). In contrast, the emergent group involves people from the community, who might not be formally trained but emerge as potential gatekeepers who can identify individuals by recognizing risk factors and providing assistance when needed. This group involves teachers, professors, coaches, family members, friends, bartenders, hairdressers, servers, and many others, who are in a position to make informal observations (Cross et al., 2010; Isaac et al., 2009; Moskos et al., 2005).

The GKT is designed to assist those at the highest risk who do not seek help. Specific recognizable warning signs can help identify these individuals (Gould, M.S, & Kramer, 2001). The purpose of this training is to educate the potential gatekeepers and develop their knowledge, attitude, and skills to recognize individuals at risk, assess the risk level, control the situation properly and refer them to professionals when necessary (Cross et al., 2010; Gould, M.S. et al., 2006; Isaac et al., 2009; Mann et al., 2005). These training programs have been executed in various places like schools, colleges, universities, senior living centers (Florio et al., 1996), workplaces (Kitchener & Jorm, 2004), prisons (Hayes et al., 2008), military (Rozanov et al., 2002) and in aboriginal communities (Capp et al., 2001). Currently, several GKT programs are widely adopted such as Question Persuade and Respond (QPR), LivingWorks, Yellow Ribbon, Sources of Strength (SOS), and Applied Suicide Intervention Skills Training (ASIST).

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GKTs have been studied in peers, schoolteachers, and counsellors and have been reported to have a positive effect on knowledge, attitude, and skills (Centers for Disease Control, 1992; Garland & Zigler, 1993; Gould, M.S., & Kramer, 2001; King & Smith, 2000; Wyman et al., 2008). Studies on various gatekeepers like health care providers, university faculty staff, resident advisors, social work students, secondary school staff and students, and veterans' health administration staff have proven that their perceived knowledge, attitude, and skills improved after the training (Cerel et al., 2012; Cross et al., 2010; Indelicato et al., 2011; Jacobson et al., 2012; King & Smith, 2000; Matthieu et al., 2009; Matthieu et al., 2008; Stuart et al., 2003; Tompkins & Witt, 2009; Wyman et al., 2008). Research on in-person gatekeeping training programs in a college setting has also shown a positive effect. Participants reported increased knowledge about risk factors, approaching someone, and intervening to persuade them to get support (Indelicato et al., 2011). A previous study by Wyman et al. (2008) also reported that gatekeeping behaviors increased among individuals already in contact with people in distress after the QPR training.

As borrowed from the attachment theory (Cassidy, 1999), the gatekeeper model also posits that people feel comfortable sharing their feelings with their acquaintances (Anderson et al., 2010). One of the principles of public health is mass saturation of awareness, which means that, with the increase in the proportion of gatekeepers, the likelihood of other community members' involvement in responding to mental health crises also increases (Brown et al., 2006). This 'saturation approach' can potentially lead to an entire cultural shift around mental health and treatment utilization (Lipson, 2014). In a study by Downs and Eisenberg (2012), it was reported that the majority (64.1%) of the students who sought mental health care were encouraged by others to make this decision.

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The strength of the GKT program is that it can be moulded to address specific issues. Using local statistics, special training on substance use, depression, etc., can be provided to the potential gatekeepers (Isaac et al., 2009). It also helps to avoid the demanding task of creating new pathways of care by training familiar faces within the community to provide help for those in need, which ultimately strengthens their respective environment and encourages them to take control of the situation in which they may have previously felt helpless (Isaac et al., 2009).

### 2.4 Academic Staff members (ASMs) as Gatekeepers of Mental Health

Mental health challenges present an extensive disease and disability burden; therefore, it is strategically essential to increase awareness of its social and economic impact on the university (Begg et al., 2007). Social support is a psychosocial coping resource that affects a person's self-esteem and self-efficacy, helps decrease stress (Thoits, 1995) and influences emotional wellbeing (Kawachi & Berkman, 2001). Foley (2020) indicated that graduate students often receive less institutional support compared to their undergraduate counterparts. Studies have reported that low support can affect job satisfaction levels, anxiety and emotional fatigue (De Lange et al., 2004; Vanroelen et al., 2009).

Academic advisors have a great responsibility toward their graduate students, as good mentorship is considered a crucial aspect of graduate student programs (Busch, 1985; Lechuga, 2011). A recent US study that surveyed 2,279 graduate students indicated that a poor student-advisor relationship was a common characteristic in 50% graduate students who experience depression and/or anxiety (Evans et al., 2018). Similarly, Gottschall's (2014) study that surveyed 421 Canadian graduate students reported a significant correlation between a good supervisor relationship and positive



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psychological health i.e., decreased levels of depressive symptoms, increased self-esteem and life satisfaction.

Many studies have demonstrated that poor relationships with academic supervisors can be negatively correlated with stress and positively associated with research self-efficacy (Morrison & Lent, 2014; Rice et al., 2016; Schlosser et al., 2011). The regression results of another study that surveyed 477 doctoral students across two universities found that good mentorship correlated with student outcomes such as satisfaction and academic improvement (Lunsford, 2012). Peluso (2011), in their study focusing on 292 psychology graduate students, found that mentor relationships played an important part in protecting students' mental health. Experiences of discouragement from faculty were found to be negatively correlated to career self-efficacy levels (Bratton, 1997). A dysfunctional relationship with one's supervisor (with issues ranging from inadequate frequency of advising to improper treatment), has been linked to burnout or fatigue (Cornér et al., 2017; Devine & Hunter, 2017; Kovach Clark et al., 2009; Peltonen et al., 2017), depressive symptoms (Evans et al., 2018; Peluso et al., 2011) and career dissatisfaction (Kovach Clark et al., 2009) in graduate students.

A study found that mentors referred approximately one-quarter of international students to mental health support services who were seeking counselling (Yi et al., 2003). Research has reported that international students rely more on their supervisors and peers than on other support services available on campus (Heggins & Jackson, 2003; Shen & Herr, 2004). Students whose academic performance was significantly affected by an emotional or stress-related problem and those who had a good relationship with their supervisor were more likely to use mental health support services (Hyun et al., 2006). They also tended to rely on their advisors, especially regarding

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career assistance, professional development and finding employment after graduation (Shen & Herr, 2004)

ASMs are considered to be in the frontline position to provide support (Hughes et al., 2018; McAllister et al., 2014), and previous studies have identified that it is common for ASMs to support students facing mental health challenges (Hughes et al., 2018; Margrove et al., 2014; Reavley et al., 2012). They are well-positioned to be the initial contact for students in distress and refer them to appropriate support services as potential gatekeepers (Frederico & Davis, 1996). Gulliver et al. (2019) found that the university staff with high mental health literacy levels were more likely to engage with students experiencing mental health challenges. They also found that females from health and behavioral science departments demonstrated higher levels of mental health literacy compared to men. This supports a previous study investigating the effect of gender (Swami, 2012) and discipline (Laws & Fiedler, 2012) on mental health knowledge.

However, some ASMs do not feel equipped to take on this role (Gulliver et al., 2019) as there are insufficient resources and systems that can support their work (Hughes et al., 2018). Additionally, they feel they cannot discriminate between normal emotional issues and mental health challenges (Hughes et al., 2018; Laws & Fiedler, 2012; McAllister et al., 2014). This lack of knowledge reduces their confidence to engage with students in distress (Cleary et al., 2011; Margrove et al., 2014). In contrast, Hughes and Byrom (2019) reported that the healthcare ASMs in their study felt equipped to support students' mental health. For academic settings, previous studies have focused on mental health training in schoolteachers and resident advisors where the researchers reported an increase in the mental health knowledge, attitude and confidence of the educators which could help in effective mental health promotion and prevention programming (Jorm et al., 2010; Kutcher et al., 2013; Lipson et al., 2014; Pasco et al., 2012; Tompkins & Witt, 2009; Wyman et al., 2008).

However, there is minimal to no information available about the readiness of ASMs to be a potential mental health gatekeeper, and their attitude and awareness towards the mental health challenges in graduate students.

## 2.5 Using Organizational Ergonomics to study ASMs as Gatekeepers for Mental Health

The term *ergonomics* was coined by Wojciech Jastrzebowski in his philosophical narrative called "The Science of work" in 1857. It is derived from the Greek words - "*ergon*," meaning work and labour, and "*nomos*," meaning laws. Therefore, ergonomics means "Science of Work" (International Ergonomics Association (IEA), 2014, definition, para. 1). It is also used interchangeably with the term human factors. Ergonomics (or human factors) can be defined as "the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human wellbeing and overall system performance" (International Ergonomics Association (IEA), 2014, definition, para. 1). In ergonomics, the fundamental premise is to examine various physical and psychosocial aspects of work and develop strategies to help adapt work environments to best suit a worker's functional capacity. These adaptations serve to promote and protect the overall health and wellbeing of the workers. Ergonomists help plan and assess tasks, environments, and systems to be compatible with people's abilities, limitations, and needs.

According to ErgoPlus, ergonomics can be divided into three categories (ErgoPlus, Ergonomics 101: The Definition, Domains, and Applications of Ergonomics): 1) Physical ergonomics; 2) Cognitive Ergonomics; 3) Organizational ergonomics.

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*Physical ergonomics* is the oldest, most studied and popular type. It involves human anatomical, biomechanical, physiological and kinanthropometric factors related to physical activity.

*Cognitive ergonomics* deals with mental processes. These include memory, reasoning, perception, motor response, and how they affect the interactions between humans and their surrounding systems. It focuses on stressors experienced by an individual. Therefore, cognitive ergonomics focuses on curating better environmental design, which leads to better decision-making.

*Organizational ergonomics* deals with streamlining the sociotechnical systems and their organizational policies, processes and framework. Work organization addresses how work is designed and performed. It refers to "... (the way jobs are designed and performed) and to the organizational practices (management and production methods and accompanying human resource policies) that influence job design. Also included in this concept of organization of work are external factors, such as the legal and economic environment and technological factors that encourage or enable new organizational practices" (Sauter et al., 2002. Page 2, para. 1). This includes the tasks that are executed, the people who perform the tasks, and the entire process of completing these tasks.

Factors considered within organizational ergonomics include the distribution of work tasks, production methods, work pace, management, scheduling, remuneration, training practices and policies. Much of the research on work organization has focused on the duration of work (Johnson, & Lipscomb, 2006), shift work (Bambra et al., 2008), stressors of work such as job strain (i.e., high demand and low control) (Belkic et al., 2004; Karasek & Theorell, 1990), social support (Johnson, J.V., 1989; Richardson, 2008), effort-reward balance (Siegrist et al., 2004), and job security (Ferrie et al., 2008).

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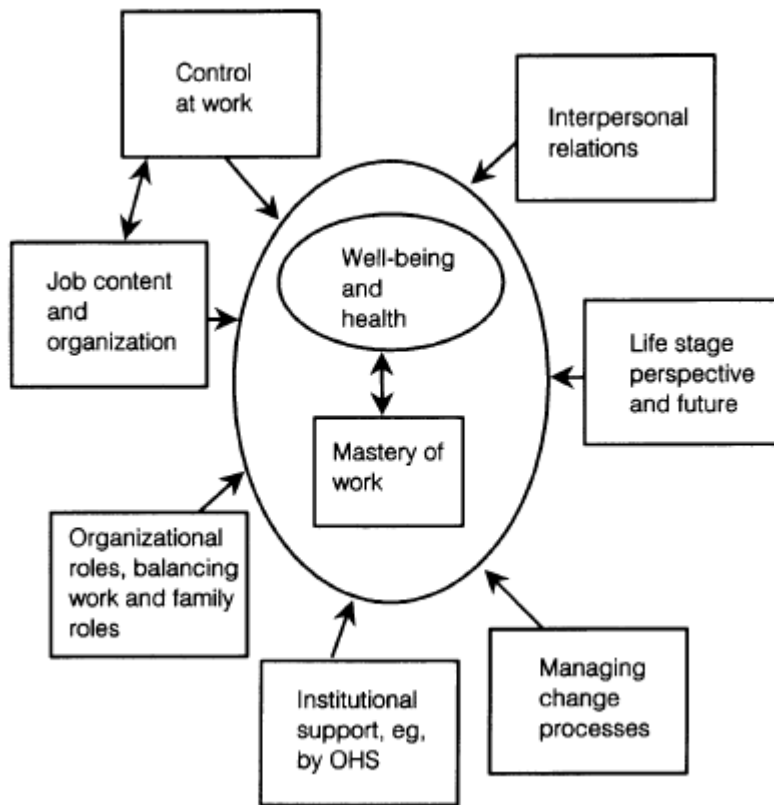


Figure 1: Criteria for good work organization, only the main directions of relation are indicated (OHS = Occupational Health Services) (Lindström, 1994).

Lindström (1994) states, “the main criteria for good work organization are work characteristics such as work organization and content, control at work, interpersonal relations, role at work, and the balance between various roles. The criteria forming strategies to promote good work organization were mastery of work, management of changes, support of employees by occupational health services, and emphasis on life-stage perspective and the future” (page 131, para. 3), as shown in Figure 1. The participatory approach for the redesign and reorganization of work can promote the initial four criteria. The last four criteria are the different approaches and interventions that can be used as strategies (Lindström, 1994). There is a long convention in occupational health research demonstrating that work organization and health are highly interrelated. The focal concept in occupational health research is that the presence of poor health, or low levels of wellbeing, is not

merely an individual symptom but it stems from an imbalance between the individual and their surrounding environment (Stubb et al., 2011). The organizational context of work has not received much attention, and its health effects are not well examined. It includes participatory management strategies, work-life programs, flexible work arrangements, and high performance with a lean production system (Levecque et al., 2017). As Kinman (2008) suggests, we need to research specific features of an organizational environment that can influence health outcomes for specific groups within the university, as the task characteristics and research conditions vary across the academic population.

The most commonly examined characteristics of work context are work roles, workloads, job demands, support from colleagues or supervisors, and job security (Leka et al., 2010). Job demands are the physical, cognitive, organizational, and social aspects of the work that require physical and psychological effort. Job control refers to having control over one's work environment, such as skills, decision-making, work pace, or timing of breaks (Karasek & Theorell, 1990). These characteristics are linked to the prevalence of mental health problems (Levecque et al., 2017). De Lange et al. (2004) have reported a consistent association between high job demands and depressive feelings, and emotional exhaustion. Occupational health studies have shown that low job control comes at a significant emotional cost (De Lange et al., 2004; Vanroelen et al., 2009).

According to the existing literature on occupational stress in academia, the workload is one of the main reasons for stress in academic staff (Biron et al., 2008; Gillespie et al., 2001; Kinman, 2001; Kinman et al., 2006; Mark & Boyd et al., 2011; Mark & Smith, 2012; Sun et al., 2011; Tytherleigh et al., 2005; Winefield et al., 2003). Other identified significant sources of occupational stress in this population are job position security, autonomy in research, types of grants or scholarship, supervisor relationships and lack of social support (Chandler et al., 2002; Gillespie et al., 2001;

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Kinman, 2001; Reevy & Deason, 2014; Tytherleigh et al., 2005; Winefield et al., 2003). Research in occupational health indicated that job control and job demands are not the only factors that can influence health as social support plays an important role (Cox et al., 2000).

Understanding the perception and readiness of the ASMs to be a gatekeeper of mental health is crucial because a participatory approach demonstrates fairness and justice in the organization and is a solid enactment of having job control, which helps build mutual support between the employer and the employee (LaMontagne et al., 2012). The current study contributes to this necessity by linking the association between mental health and organizational factors. This research focuses exclusively on ASMs that teach and/or supervise graduate students across all academic disciplines at a large teaching and research university. It will enable the comparison of data from various academic departments. As working conditions and task characteristics for ASMs are quite different and vary across different positions, it is essential to identify specific demographic factors such as gender and organizational factors like academic discipline and academic rank from a research policy perspective. Hence, as Slavin et al (2014) suggest, a carefully designed curriculum to support graduate students and ASMs can significantly develop students' wellbeing and resilience. It is an essential and fundamental step to establish the infrastructure to ensure that the ASMs feel supported to take up the role of mental health gatekeeper, which will serve the goal of improving the graduate student experience so that they can perform at their best potential as the academic workforce of the future.

### 2.6 In Summary

It is crucial to take a broader systematic approach to promote positive mental health for graduate students within the academic setting. This would involve going beyond the student counselling and health support services, which will help create an inclusive community that fosters the individuals'

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copied abilities and self-esteem. This study aims to provide new insights into developing mental health research and support strategies at the university. Developing a framework for ASMs to act as potential gatekeepers of mental health for graduate students will change the way their work is organized as it will add new responsibilities. This will require training and changes in workplace policies and practices. This study also aims to guide university administrators and ergonomists on enhancing the current services and programs to promote mental health and wellbeing in universities and provide alternative ways of support. Our goal is to contribute to mental health research development and provide context to help guide policymakers, future researchers and other stakeholders towards areas, domains, and populations that need to be further investigated and develop new strategies. Hence, this study will aim to answer the following research questions:

1. Are university ASMs potential gatekeepers of mental health for graduate students?
  - What is the current knowledge of the ASMs surrounding their perception of the mental health needs of the graduate student population?
  - Is there a difference across genders, academic disciplines, and academic rank concerning their awareness of the mental health needs of graduate students?
2. What is the readiness of ASMs for the role as mental health gatekeepers of graduate students, and what potential challenges they may face in taking up this role?
  - Are they confident to take up this role?
  - Are they prepared to take up this role?
  - How likely are they to engage and refer students to support services?
3. What services, interventions, and support would the ASMs need in order to improve the university's ability to support them and graduate students with mental health challenges?



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- Do they have sufficient resources and required training to support the students?

## Chapter 3: Methodology

This chapter provides an overview of the methodological procedures used for the study.

The Health Research Ethics Board (HREB) granted prior approval for this research on August 11, 2021 (Researcher Portal File# 20220358; Reference# 2021.108). Data for the survey were collected between August 2021 – September 2021.

### 3.1 Research Design and protocol

This study utilized a mixed methods approach called concurrent nested design, where both quantitative and qualitative data are collected at the same time (Kroll & Neri, 2009). In this design, one of the methods dominates (here, quantitative), and the other (here, qualitative: open-ended questions) is embedded in it to address a subtopic that is connected with the research question of the study (Kroll & Neri, 2009). This study included a cross-sectional survey to explore the ASMs' mental health knowledge, awareness of mental health challenges for graduate students and their readiness to adopt the role of gatekeeper of graduate students' mental health. The survey also explored potential challenges that ASMs believed may impact their ability to take up a gatekeeping role, as well as open-ended questions on types of support and/or training required, and other suggestions related to performing this role. These open-ended questions were included to provide valuable information on support and training needed by the ASMs that cannot be captured with an objective scale. This feedback would also help to understand what changes need to be adopted for ASMs' work organization upon taking the role of a gatekeeper. Therefore, the concurrent nested design was the appropriate choice for this study.

The survey questionnaire was designed for this research project using [Qualtrics software](#) (Qualtrics, Provo, UT) ([Appendix C: Survey Questionnaire](#)). Prior to launching the survey, a pilot test was conducted for feedback with a small subset of ten participants—five ASMs and five graduate

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students from the School of Human Kinetics and Recreation at Memorial University of Newfoundland. Modifications were made to better answer the research questions of the study.

A link to the survey was then sent out along with an information letter via email to all ASMs of the university. Emails included a standard greeting, a description of the study ([Appendix A: Recruitment Letter](#)), and a link directing potential participants to the survey consent form ([Appendix B: Informed consent](#)). Once the respondents consented to the study, they could proceed and complete the survey. If the potential participants refused to consent, they were directed to a "Thank you" page. Participants were informed that they could discontinue the survey and withdraw from the study at any point in time with no repercussions.

### 3.2 Study participants

A non-random, purposeful sampling method was used to recruit participants. Barbour (2007) supports selecting participants via purposive sampling, where participants are selected from pre-existing groups with the sample selected to include people of interest about a specific purpose. Potential participants included all ASMs who teach and/or supervise graduate students from all academic programs offered at the university. ASMs were invited to participate irrespective of age, gender, academic discipline, or academic rank. The inclusion of ASMs from different ranks and academic disciplines helped to understand whether differences might exist across these groups regarding ASMs' awareness and readiness to act as gatekeepers of mental health for graduate students.

A contact list of all the ASMs at the university was prepared using the online public directory to identify potential participants. As per the latest (April 1, 2019 – March 31, 2020) annual report by the department of human resources, there were approximately 1500 ASMs from various academic disciplines across the university. To calculate the minimum sample size required for this study, an

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online calculator was used where the probability level was set at 0.05, with a default power level of 0.8 for medium effect size (0.15) and twelve predictors (i.e., gender (2), academic discipline (3), academic rank (4), Mental Health Literacy Scale (MHLS; 1), Gatekeeper Behavior Scale (GBS; 1), and Gatekeeper Self-Efficacy Scale (GKSES; 1), which estimated the minimum sample size to be 127 participants (Soper, 2021).

### 3.3 Recruitment of participants

The recruitment email was distributed in two primary ways: a) by the researcher and b) by the administration heads of the different academic departments, who helped to send the survey to all university ASMs from different academic disciplines via email. Additional recruitment strategies were explored with varying success: Marcomm (Marketing and Communications team) assisted us by adding a message about the survey on Newslines. We reached out to the faculty union, but they informed that they could only use their communications listserv for the union-related information as per their standard policy. Additionally, the Office of Faculty Relations could not assist in the recruitment as they indicated that they do not keep a distribution list of faculty members at the university.

### 3.4 Survey Administration

The online survey was created and published on [Qualtrics](#), which took approximately 15 minutes for the participants to complete. The survey included: a) summary of the study, b) informed consent form, c) questions on demographics including age, gender, academic discipline, academic rank, number of students supervised/taught, years of teaching/supervising experience, d) questions on awareness of ASMs about mental health challenges in graduate students e) questions to understand the mental health knowledge of ASMs using MHLS (O'Connor & Casey, 2015), f) questions to understand the readiness of ASMs using GBS (Albright et al., 2016) and GKSES

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(Takahashi et al., 2020), g) questions on potential challenges to take up this role, and h) questions on the availability and need of support services for ASMs.

A single instrument that covered all the areas of interest in this research was not available; hence, some questions were adopted from evidence-based tools such as: MHLS, GBS, and GKSES. The remaining questions were developed by the researchers for this study to better understand the ASMs' awareness of the mental health challenges prevalent in the graduate student population, potential challenges faced by ASMs taking up the role of gatekeeper and open-ended questions on support and training services for the ASM's and the graduate students.

Three email reminders at 2, 3 and 4 weeks were sent with a link to the survey to increase the response rate (Dillman, 2014). Response rates are also reported to increase significantly after one follow-up email (Heberlein & Baumgartner, 1978). Due to the sensitive nature of the given topic of mental health, an emergency number was displayed in the upper corner of the screen throughout the survey, and a complete list of mental health resources was also mentioned as a precaution (Eisenberg et al., 2007).

### *3.4.1 Variables and measuring scales:*

Independent variables included gender, academic discipline, and academic rank. The academic disciplines were combined into three categories: 1) Allied Health Disciplines 2) Science & Engineering and 3) Arts, Education & Social Science departments for analysis. Dependent variables include awareness, knowledge and readiness, which were assessed using the following scales:

1. **Mental Health Literacy Scale (MHLS):** The MHLS was used to measure participants' knowledge of mental health illnesses and recognition of risk factors, knowledge of availability of professional services or self-treatment, and attitudes towards promotion of positive mental health and appropriate help-seeking behavior (Jorm et al., 2005; Wei et al., 2013). It is a 35-item univariate scale, and modifications were made after pilot testing,

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where four new questions were added to examine the perception of ASMs about the prevalence of mental health challenges in females, international students, and LGBTQ2S+ students. The questions were answered using a 4-point Likert scale ranging from 1 (very unlikely/unhelpful) to 4 (very likely/helpful) and a 5-point Likert scale ranging from 1 (*strongly disagree/definitely unwilling*) to 5 (*strongly agree/definitely willing*). An additional response 0 (*unsure/don't know*) was added for Q11 to Q29 as part of the modification. The researcher reverse-coded and recoded individual responses and then summed the scale to a maximum score of 176 and a minimum score of 20, where a higher score meant higher mental health literacy. The scale demonstrates good internal consistency, reliability ( $r(69) = .797, p < .001$ ) and construct validity ( $r(370) = .234, p < .001$ ) (O'Connor & Casey, 2015).

- 2. Gatekeeper Behavior Scale (GBS):** The GBS is an 11-item scale that has been proven to be a valid tool to assess gatekeeper skills such as preparedness, likelihood, and self-efficacy to predict behavior (Albright et al., 2016). The questions for the subscale preparedness are answered using the 5-point scale ranging from 1 (*very low*) to 5 (*very high*), whereas the questions for the subscales likelihood and self-efficacy are answered using the 4-point scale ranging from 1 (*very unlikely/strongly disagree*) to 4 (*very likely/strongly agree*). To calculate the composite score of the GBS scale, an average of all the items in the three subscales was calculated (preparedness, likelihood, and self-efficacy). Next, the mean score was standardized using the percentage of maximum possible (POMP) method for all three subscales. The standardized mean score expresses the raw scores as a percentage of the maximum possible score. Lastly, the final overall score was computed by averaging all subscales' POMP scores, where higher scores indicate more readiness. The scale has displayed a good internal consistency ( $\alpha = 0.93$ ) and convergent validity ( $r = .519, p < .001$ ) (Albright et al., 2016).

- 3. Gatekeeper Self-Efficacy Scale (GKSES):** The GKSES is a new scale developed to measure self-efficacy as a part of gatekeeper skills. It is a 9-item univariate scale where responses are provided using a 7-point rating scale ranging from 1 (*not at all*) to 7 (*extremely*), and a total score is reported as the mean of all items. The scale has a maximum score of 63 and a minimum score of 9, where higher scores suggest greater perceived self-efficacy for suicide prevention. The scale has demonstrated an acceptable internal consistency (Cronbach's  $\alpha$  coefficient .95) and concurrent validity ( $r = .25, p = .000$ ) (Takahashi et al., 2020).

The remaining open-ended questions were used to obtain ASMs' perspectives on what services, interventions, and support they would want to be offered by the university to support the mental health of the ASMs and the graduate students. Out of 125 participants, 69 responded to the open-ended questions. The responses of 69 participants were then read, coded, categorized, and examined for specific themes relating to the research questions (Braun & Clarke, 2006). We also developed a list of seven potential challenges using the feedback from the pilot testing results, which were as follows: a) No appropriate training b) Perceptions about whether this role is valued by the university, c) Increase in workload, d) Might affect your own mental health, e) Not ready to be a gatekeeper of mental health, f) Impact on Tenure/promotion, and g) Explicit or implicit inequities in providing emotional support to graduate students. The participants were asked to rank these statements in order from the most relevant challenge (highest rank) to least relevant challenge (lowest rank). An eighth option labelled as 'other', where the respondents had the opportunity to add a potential challenge that was not included in the list noted above. The challenges were ranked by calculating the top three most ranked statements by the ASMs.

### 3.5 Data Management

The survey data were stored and protected with a password on [Qualtrics](#). For security, Qualtrics is protected by high-end firewall systems and is hosted by trusted data centers that use Transport Layer Security (TLS) encryption (also known as HTTPS) for all the transmitted data. (Qualtrics, Provo, UT). Moreover, they perform regular scans to ensure that vulnerabilities are identified and fixed (Qualtrics, Provo, UT). After the data collection, the data were exported to the Excel spreadsheet and removed from Qualtrics. The data were saved on a password-protected personal computer, accessible only to the researchers (i.e., Ms. Punjabi and Dr. Cullen). As per the Memorial University policy on Integrity in Scholarly Research, the data will be safely stored and accessible (except where such access could violate the anonymity of subjects or the confidentiality of data) for a minimum of five years from the date of publication of any peer-reviewed manuscripts resulting from this work.

### 3.6 Data Analysis

The data were analyzed using IBM SPSS Statistics (Version 26) predictive analytics software, and the significance level was set at  $p < .05$ . Data were screened for missing values and outliers prior to running analyses. No statistical analyses to compensate for these missing data (i.e., case deletion, multiple imputations) were completed in the present study. Following the data screening, tests for normality and homogeneity were considered. The test of normality was statistically significant for more than half of the variables at one or more time points. The skewness and kurtosis were within acceptable ranges of (-2 to +2) and (-7 to +7), respectively, for all variables. The homogeneity of variance was tested using the Levene's test. The descriptive statistics (i.e., frequencies, mean and standard deviation) were performed for all the variables to derive a sample profile. To address our research questions, information collected through the survey was stratified by demographics, i.e.,



gender, academic discipline, and academic rank. Along with the descriptive analysis, inferential statistics was performed using one-way ANOVA for sub-group analyses to explore differences among ASMs across gender, academic disciplines, and academic rank. Multiple pairwise comparisons were made using Tukey's Honestly Significant Difference (HSD;  $\alpha < .05$ ) for all significant ANOVA results (Field, 2013).

An inductive thematic analysis approach was taken to analyse the responses from the open-ended questions and derive themes from the data. The responses of 69 participants were read and re-read prior to further analysis to ensure that the emerging themes were grounded in the original data (Fereday & Muir-Cochrane, 2006). The responses were coded using the word repetition and cutting and sorting techniques (Ryan & Bernard, 2000) to organize the data and develop themes relating to the research questions (Braun & Clarke, 2006). The qualitative data were analysed by one researcher and only one question and one participant was coded at a time.

### 3.7 Ethical Considerations

To abide by the guidelines stated by the Tri-Council Policy for the Ethical Conduct for Research Involving Humans, this study was approved Health Research Ethics Board before commencement (Researcher Portal File# 20220358; Reference# 2021.108). The participants were introduced to the study when they were contacted via the recruitment email. Respondents were presented with an informed consent form and indicated their consent by clicking, their intent to continue into the survey. Respondents were informed that they could withdraw from the study at any time without repercussions. The participants were also informed that any information shared in the survey course could not be identified with any detail that might compromise their anonymity and privacy.

## Chapter 4: Results

The following chapter presents the results of this study. The results are presented in order of the research questions to be answered. First, the descriptive analyses are reported: sample characteristics, awareness and knowledge of mental health concerns, readiness to be a gatekeeper of mental health, and potential challenges to take up this role, followed by separate one-way analysis of variance tests (ANOVAs) with Tukey's post hoc multiple comparisons (HSD;  $\alpha < .05$ ) to explore the differences across gender, academic discipline, and academic rank. Lastly, the responses to the open-ended questions on support and training are coded and categorized into emerging themes.

### 4.1 Sample

#### 4.1.1 Sample size

We were able to access 1325 email contacts via the online public directory, out of which 848 were successfully delivered. Out of the 848 surveys distributed to the ASMs, 161 were completed. However, the total sample size was 125 after excluding participants who did not meet the eligibility criteria, yielding a response rate of 15%, which matched the estimated minimum sample size required to be sufficiently powered for this study (Soper, 2021).

#### 4.1.2 Sample characteristics

Out of the total 125 participants, 50% of ASMs were *females* (n=63), 45% were *males* (n=59) and <5% identified as *gender diverse* (n=<5). The majority of the participants (87%, n=109) were between the age of 35-64 years, 33.6% ASMs held the academic rank of *Professor/Professor Emeritus* (n=42), 33.6% were *Associate Professors* (n=42), 22.4% were *Assistant Professors* (n=28) and 10% included *Adjunct Professor & Per-Course Instructors* (n=13) who supervised and/or taught graduate students. Approximately 50% of ASMs (n=52) had more than ten years of

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teaching/supervising experience. The majority of the ASMs (41%) belonged to the Science & Engineering disciplines (n=51), 33% were from Arts, Education & Social Science disciplines (n=41), and 25% ASMs belonged to Allied Health disciplines (n=31).

Table 1: Sample Characteristics

<b>Sample Characteristics</b>	<b>N (125)</b>	<b>% (/100)</b>
<b>Gender</b>		
Male	59	47
Female	63	50
Gender Diverse	<5*	<5*
<b>Age</b>		
26-34	<10*	<5*
35-44	39	32
45-54	36	29
55-64	34	27
65 or older	<10*	<10*
<b>Academic Discipline</b>		
Allied Health Disciplines	31	25
Science & Engineering	51	42
Arts, Education & Social Science	41	33
<b>Academic Rank</b>		
Professor/Professor Emeritus	42	34
Associate Professor	42	34
Assistant Professor	28	22
Adjunct Professor & Per-Course Instructor	13	10
<b>Years of Experience</b>		
<1 year	<5*	<5*
1-5 years	30	24
6-10 years	32	26
11-20 years	45	36
21+ years	17	14

\* Data has been censored for responses that represent <10% of the sample

## 4.2 Research Question 1

Here, we aimed to understand if ASMs are potential gatekeepers of mental health by assessing their mental health literacy and examining if there are any differences across genders, academic disciplines, and academic rank.

### 4.2.1 Awareness

The majority of the ASMs (87%) agreed with the statement that graduate students' mental health impacted their ability to produce good work (n=109), and 91% stated that a great to moderate amount of consideration should be given to student wellbeing when designing curriculum or in choosing pedagogy (n=114). When asked if they were familiar with the term 'gatekeeper of mental health,' 18% of ASMs were extremely familiar (n=23), whereas 45% were moderate to slightly familiar (n=56), and 37% were not familiar at all (n=46).

We were also interested to understand the awareness of ASMs surrounding the prevalence of mental health challenges among females, LGBTQ2S+ students and international students. Results indicated that 49% of ASMs (n=61) agreed with the statement that international students are more likely to experience mental health challenges, and 64% ASMs (n=80) agreed that LGBTQ2S+ students are more susceptible to mental health challenges. Forty-four percent of ASMs (n=55) indicated that women are more likely to experience mental health challenges, whereas 42% ASMs (n=53) responded that men are more likely to experience mental health challenges.

### 4.2.2 Knowledge:

#### 4.2.2.1 MHLS

To assess ASMs' knowledge about various aspects of mental health, we adopted the MHLS (O'Connor & Casey, 2015), which has a maximum score of 176 and a minimum score of 20. Higher scores indicate higher mental health literacy. The descriptive statistics are presented in Table 2 below. One-way ANOVAs were conducted to examine differences across gender, academic

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disciplines, and academic rank, and are further described in the sections that follow. Equal variances were assumed in all three ANOVAs, as homogeneity of variance  $p>0.05$  as per the Levene’s test.

Table 2: Mental Health Literacy Score

<i>Variable</i>	<i>M</i>	<i>SD</i>
<b><i>Gender</i></b>		
Male	122	23
Female	125	21
Gender Diverse	129	21
<b><i>Academic Discipline</i></b>		
Allied Health Disciplines	124	26
Science & Engineering	116	22
Arts, Education & Social Science	134	17
<b><i>Academic Rank</i></b>		
Professor & Professor Emeritus	115	25
Associate Professor	131	20
Assistant Professor	121	22
Adjunct Professor & Per-Course Instructors	129	19

Comparative Analysis:

*Gender:*

The mean mental health literacy score of male ASMs was 122 (SD=23), 125 (SD=21) of female ASMs and 129 (SD=21) of ASMs who identify as gender diverse. No significant difference was observed in the one-way ANOVA among genders:  $F(2,120)=0.3, p=0.7$ .

*Academic Discipline*

The mean mental health literacy score was the highest in Arts, Education & Social Science disciplines (M=134, SD=17), followed by Allied Health disciplines (M=124.5, SD=26), and Science & Engineering disciplines (M=116 SD=22). There was a statistically significant difference noted among academic disciplines:  $F(2,120)=7.8, p=0.001$ . The Cohen’s d statistic (0.3) indicated a medium effect

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size (Cohen,1988). Post hoc comparisons with Tukey's test confirmed that the mental health literacy for ASMs in Science & Engineering disciplines (M=116, SD=22) was significantly lower than ASMs in Arts, Education & Social Science disciplines (M=134, SD=17).

### *Academic Rank*

The mean mental health literacy was highest among ASMs ranked as Associate Professors (M=131, SD=20), followed by Adjunct Professors & Per-Course Instructors (M=129, SD=19) and then Assistant Professors (M=121, SD=22). ASMs who indicated their academic rank as Full Professor or Professor Emeritus demonstrated the lowest mental health literacy in this study (M=115, SD=25). A statistically significant difference was found in the one-way ANOVA for academic rank ( $F(3,121) = 3.9, p=0.01$ ). The Cohen's d statistic (0.3) indicated a medium effect size (Cohen,1988). Post hoc comparisons with Tukey's test revealed a significant difference between the highest and lowest scoring groups (i.e., between Associate Professors (M=131, SD=20), and Full Professors or Professor Emeritus (M=115, SD=25)).

### 4.3 Research Question 2

The second research question of the study sought to understand the *readiness* of ASMs for the role of gatekeeper of graduate students' mental health and the *potential challenges* that they might face in taking up this role.

#### *4.3.1 Readiness:*

The ASMs were asked if they would be ready to be mental health gatekeepers for graduate students if given the opportunity, and 58% ASMs responded yes (n=72). Approximately 55% ASMs (n=68) had previously been approached for mental health support by graduate students in the past, out of which 95% (n=65) found themselves providing ongoing support to the students.

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4.3.1.1 GBS

The GBS assessed gatekeeper skills such as preparedness, likelihood, and self-efficacy. The mean standardized scores of the three subscales are presented in Table 3. These scores express the raw scores as a percentage of the maximum possible score, where higher scores indicate more readiness. The overall GBS scores are listed in Table 4 below. One-way ANOVAs were conducted to examine differences across gender, academic disciplines, and rank, and are further described in the sections that follow. Equal variances were assumed in all three ANOVAs, as homogeneity of variance  $p > 0.05$  as per the Levene’s test.

Table 3: Gatekeeper Behavior Score for Subscales

<i>Variable</i>	<i>Preparedness</i>		<i>Likelihood</i>		<i>Self-efficacy</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<b><i>Gender</i></b>						
<b>Male</b>	56	25	68	24	55	27
<b>Female</b>	58	20	74	19	61	24
<b>Gender Diverse</b>	52	41	79	31	53	49
<b><i>Academic Discipline</i></b>						
<b>Allied Health Disciplines</b>	60	25	77	17	66	21
<b>Science &amp; Engineering</b>	53	22	64	21	47	25
<b>Arts, Education &amp; Social Science</b>	60	23	76	24	65	26
<b><i>Academic Rank</i></b>						
<b>Professor &amp; Professor Emeritus</b>	57	24	70	26	55	27
<b>Associate Professor</b>	60	27	75	20	64	22
<b>Assistant Professor</b>	51	19	66	17	51	26
<b>Adjunct Professor &amp; Per-Course Instructors</b>	62	21	74	23	62	28

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### 4.3.1.1.1 Preparedness

#### *Gender*

The mean preparedness score for male ASMs was 56 (SD=25), 58 (SD=20) for female ASMs and 52 (SD=41) of ASMs who identify as gender diverse. There was no significant difference observed in the one-way ANOVA among genders:  $F(2,120)=.22, p=0.8$

#### *Academic discipline*

The mean preparedness score was the highest in Arts, Education & Social Science disciplines (M=60, SD=23) and Allied Health disciplines (M=60, SD=25), followed by Science & Engineering disciplines (M=53, SD=22). There was a statistically significant difference noted among academic disciplines:  $F(2,120)=1.5, p=0.2$ . The Cohen's d statistic (0.1) indicated a small effect size (Cohen,1988). Post hoc comparisons with Tukey's Test confirmed that the preparedness score for ASMs in Science & Engineering disciplines (M=53, SD=22) was significantly lower than ASMs in Arts, Education & Social Science disciplines (M=60, SD=23) and Allied Health disciplines (M=60, SD=25).

#### *Academic rank*

The mean preparedness score was highest among ASMs ranked as Adjunct Professors & Per-Course Instructors (M=62, SD=21), followed by Associate Professors (M=60, SD=24) and then Professor and Professor Emeritus (M=57, SD=24). ASMs who indicated their academic rank as Assistant professors demonstrated the lowest preparedness score in this study (M=51, SD=19). However, there was no significant difference observed in the one-way ANOVA among academic ranks:  $F(3,121)=1.2, p=0.3$ .



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### 4.3.1.1.2 Likelihood

#### *Gender*

The mean likelihood score for male ASMs was 68 (SD=24), 74 (SD=19) for female ASMs and 79 (SD=31) of ASMs who identify as gender diverse. There was no significant difference observed in the one-way ANOVA among genders:  $F(2,120)=1.3, p=0.2$ .

#### *Academic discipline*

The mean likelihood score was the highest in Allied Health disciplines (M=77, SD=17), followed by Arts, Education & Social Science disciplines (M=76, SD=24) and Science & Engineering disciplines (M=64, SD=21). There was a statistically significant difference noted among academic disciplines:  $F(2,120)=5.1, p=0.007$ . The Cohen's d statistic (0.3) indicated a medium effect size (Cohen,1988). Post hoc comparisons with Tukey's Test confirmed that the likelihood score for ASMs in Science & Engineering disciplines (M=64, SD=21) was significantly lower than ASMs in Allied Health disciplines (M=77, SD=17) and Arts, Education & Social Science disciplines (M=76, SD=24).

#### *Academic rank*

The mean likelihood score was highest among ASMs ranked as Associate Professors (M=75, SD=20), followed by Adjunct Professors & Per-Course Instructors (M=74, SD=23) and then Professor and Professor Emeritus (M=70, SD=26). ASMs who indicated their academic rank as Assistant professors demonstrated the lowest likelihood score (M=66, SD=17). However, there was no significant difference observed in the one-way ANOVA among academic ranks:  $F(3,121)=.9, p=0.4$ .

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### 4.3.1.1.3 Self-efficacy

#### *Gender*

The mean self-efficacy score for male ASMs was 55 (SD=27), 61 (SD=24) for female ASMs and 53 (SD=49) of ASMs who identify as gender diverse. There was no significant difference observed in the one-way ANOVA among genders:  $F(2,120) = .66, p=0.5$ .

#### *Academic discipline*

The mean self-efficacy score was the highest in Allied Health disciplines (M=66, SD=21), followed by Arts, Education & Social Science disciplines (M=65, SD=26) and Science & Engineering disciplines (M=47, SD=25). There was a statistically significant difference noted among academic disciplines:  $F(2,120)=8.7, p<0.001$ . The Cohen's d statistic (0.3) indicated a medium effect size (Cohen,1988). Post hoc comparisons with Tukey's Test confirmed that the self-efficacy score for ASMs in Science & Engineering disciplines (M=47, SD=25) was significantly lower than ASMs in Allied Health disciplines (M=66, SD=21) and Arts, Education & Social Science disciplines (M=65, SD=26).

#### *Academic rank*

The mean self-efficacy score was highest among ASMs ranked as Associate Professors (M=64, SD=22), followed by Adjunct Professors & Per-Course Instructors (M=62, SD=28) and then Professor and Professor Emeritus (M=56, SD=27). ASMs who indicated their academic rank as Assistant professors demonstrated the lowest self-efficacy score (M=51, SD=27). However, there was no significant difference observed in the one-way ANOVA among academic ranks:  $F(3,121)=1.5, p=0.2$ .

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Table 4: Gatekeeper Behavior Score (Overall Score)

<i>Variable</i>	<i>M</i>	<i>SD</i>
<b><i>Gender</i></b>		
Male	59	22
Female	64	19
Gender Diverse	60	37
<b><i>Academic Discipline</i></b>		
Allied Health Disciplines	68	18
Science & Engineering	54	20
Arts, Education & Social Science	67	22
<b><i>Academic Rank</i></b>		
Professor & Professor Emeritus	60	25
Associate Professor	66	20
Assistant Professor	56	18
Adjunct Professor & Per-Course Instructors	66	22

Comparative Analysis of overall GBS scores:

*Gender*

The mean GBS scores for female ASMs was  $M=64$  ( $SD=19$ ),  $M=59$  ( $SD=22$ ) for male ASMs and  $M=60$  ( $SD=37$ ) of ASMs who identify as gender diverse. There was no statistically significant difference observed in the one-way ANOVA among genders:  $F(2,120) = 0.8, p=0.4$ .

*Academic Discipline*

The mean GBS score was the highest in Allied Health Disciplines ( $M=68, SD=18$ ) followed by Arts, Education & Social Science discipline ( $M=67, SD=22$ ) and Science & Engineering disciplines ( $M=54, SD=20$ ). There was a statistically significant difference noted in the one-way ANOVA between academic disciplines:  $F(2,120) = 5.9, p=0.003$ . The Cohen's  $d$  statistic (0.3) indicated a medium effect size (Cohen,1988). Post hoc comparisons with Tukey's Test confirmed that the Allied Health disciplines had significantly higher GBS scores ( $M=67.6, SD=18.8$ ) than Science & Engineering disciplines ( $M=54, SD=20$ ).

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### *Academic Rank*

The mean GBS scores was the highest among ASMs ranked as Associate Professors (M=66, SD=20) and Adjunct Professors & Per-Course instructors (M=66, SD=22) followed by Professor & Professor Emeritus (M=60, SD=25). ASMs who indicated their academic ranks as Assistant Professors reported the lowest GBS score (M=56, SD=18). However, there was no statistically significant difference observed in one-way ANOVA among academic ranks ( $F(3,121) = 1.6, p=0.21$ ).

### 4.3.1.2 GKSES

The GKSES was used to assess the self-efficacy skills of ASMs for taking up the role of gatekeeper of graduate student mental health. The scale has a maximum score of 63 and a minimum score of 9, where higher scores suggest greater perceived self-efficacy for suicide prevention. The descriptive statistics are presented in Table 5 below. One-way ANOVAs were conducted to examine differences across gender, academic disciplines, and academic rank, and are further described in the sections that follow. Equal variances were assumed in all three ANOVAs, as homogeneity of variance  $p>0.05$  as per the Levene's test.

*Table 5: Gatekeeper Self-Efficacy Score*

<i>Variable</i>	<i>M</i>	<i>SD</i>
<b><i>Gender</i></b>		
Male	36	14
Female	38	14
Gender Diverse	45	22
<b><i>Academic Discipline</i></b>		
Allied Health Disciplines	42	14
Science & Engineering	31	12
Arts, Education & Social science	41	14
<b><i>Academic Rank</i></b>		
Professor & Professor Emeritus	33	13
Associate Professor	40	15
Assistant Professor	37	15
Adjunct Professor & Per-Course Instructors	42	13

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Comparative Analysis:

### *Gender*

The mean GKSES score of female ASMs was 38 (SD=14), male ASMs scored 36 (SD=14) and gender diverse ASMs scored 45 (SD=22). However, the one-way ANOVA indicated no statistically significant difference between genders:  $F(2,120)= 0.6, p=0.5$ .

### *Academic Discipline*

The mean GKSES scores was the highest in Allied Health disciplines (M=42, SD=14) followed by Arts, Education & Social Science disciplines (M=41, SD=14) and Science & Engineering disciplines (M=31, SD=12). There was a statistically significant difference among different academic disciplines:  $F(2,120)=9.2, p=0.000$ . The Cohen's d statistic (0.3) indicated a medium effect size (Cohen,1988). Post hoc comparison with the Tukey test confirmed that the gatekeeper self-efficacy scores were significantly lower in Science & Engineering disciplines (M=31, SD=12.6) compared to the Allied Health disciplines (M=42, SD=14).

### *Academic Rank*

The mean GKSES scores was the highest among ASMs ranked as Adjunct Professors & Per-Course Instructors (M=42, SD=13) followed by Associate Professors (M=40, SD=15) and Assistant Professors M=37 (SD=15). ASMs who indicated their academic rank as Professor & Professor Emeritus demonstrated lowest self-efficacy scores (M=33, SD=13). However, there was no statistically significant difference observed in one-way ANOVA among academic ranks:  $F(3,121)=1.9, p=0.13$ .

### *4.3.2 Potential Challenges*

The participants were asked to rank seven potential challenges according to their perspective. *Lack of appropriate training* was ranked first by the majority of the ASMs (n=97; 78%), followed by *not*

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*being confident to be a gatekeeper* (n=55; 44%) and *concerns about the inequalities that may arise approaching graduate students* (n=42, 33%). The other potential challenges included: *an increase in workload* (n=38, 30%), *uncertainty if the role of being a gatekeeper was supported by the university* (n=32, 26%) and *impact on their wellbeing* (n=33, 26%). Approximately 68% ASMs (n=83) reported that taking this role might affect their mental wellbeing. The *impact on tenure* (n=5, 4%) was the lowest ranked option out of all the potential challenges.

### 4.4 Research Question 3

Our third research question sought to understand the ASMs' perspectives on the availability of support services on campus and suggestions to improve the university's ability to support both ASMs and graduate students dealing with mental health challenges.

#### 4.4.1 Support and training

The majority of the ASMs (70%) were aware of the student support services offered on-campus such as the Student Wellness and Counselling Centre (SWCC), 24hr crisis helpline and mobile crisis response team. Seventy-seven percent of ASMs (n=96) had not received any mental health-related training. Out of the 23% (n=28) who had received training, 11 ASMs had mental health first aid training, 4 ASMs had gatekeeper-specific training (for example, ASSIST, LivingWorks, and mental health crisis training), and 13 ASMs had received formal training as part of their profession. With respect to initiatives their respective academic departments had taken to encourage ASMs to interact with graduate students on the topic of mental health, 15 ASMs reported that no initiatives were taken in their department, and 3 ASMs mentioned that discussions were held when needed during the time of crisis.

#### 4.4.2 Qualitative themes

The open-ended responses of 69 participants about their suggestions on support and training needs were coded and categorized into three emerging themes relating to the research questions:

- 1) *Gatekeeper specific mental health training & support for ASMs* (n=48) as suggested by the participants, “training on what to look for, how to respond in the first instance” (Participant 22); “there is so much we could be doing. As a faculty member, I would like more training in how to handle these situations” (Participant 17); and “training for ASMs, more info to students about what’s available and when to seek help” (Participant 54). This could include introducing popular GKT trainings such as Question Persuade and Respond (QPR), LivingWorks Applied Suicide Intervention Skills Training (ASIST) and Mental health First Aid training. Support service centers and a “helpline or dedicated resource/contact for ASMs to avail of when they have questions about what they see a student exhibiting or where they are uncertain of how to proceed” (Participant 3).
- 2) *Better curriculum design for mental health services* (n=18) where respondents suggested offering timely services to the students, more financial investment for mental health resources, improving the quality and safety of services and availability of professionals. ASMs voiced that, “the university needs to increase counselling staff/support on campus-so that there are less wait times” (Participant 7), another shared similar feedback, “more counsellors, consistency with counsellors (e.g., students sees same counsellor each visit), increased scheduling of counselling timetables (e.g., counsellors available after classes, night-times), less online apps and more postings and signage in the university about where counsellors are and how to get to them”(Participant 111).
- 3) *Awareness of mental health support & services* (n=3) suggesting that the university and academic departments “should take more initiatives and normalize conversations surrounding the topic of mental health, regular mental health training and checkpoints” (Participant 12) and include “better awareness campaigns for students and faculty/staff in roles for own mental health but also for

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ways to help” (Participant 70). A short, concise document of all the support resources available at the university as suggested by an ASM, “it would be nice to have a one-page pdf of all MUN, St. John’s, and online services” (Participant 38). Additionally, a participant recommended that the ASMs who are trained can use an “email signature line or syllabus, which would be helpful to encourage students” (Participant 25) so that they can reach out to them when the need arises.



## Chapter 5: Discussion

The following chapter summarizes the findings of the research questions of this study as they relate to the current literature on the topic. It also discusses the strengths and limitations and provides recommendations and implications for future researchers.

### 5.1 Discussion

This study adds to the limited research on gatekeeper training. It attempts to take the first steps in analyzing and laying the groundwork for understanding the readiness of ASMs to be mental health gatekeepers. It provides valuable information that may be used to assist in developing an initiative for creating programs to prepare ASMs for the role of being a gatekeeper, that will potentially reduce the number of mental health concerns in graduate students by increasing support. The findings of this study can also help guide university administrators and ergonomists to enhance the current services and programs that promote mental health and wellbeing in universities and provide better alternative ways to support both graduate students and ASMs.

The present study employed a mixed methods methodology called concurrent nested design by conducting an anonymous online survey designed to address the following three research questions: 1) awareness and attitude of ASMs towards mental health challenges in graduate students and their mental health literacy, 2) readiness to become a gatekeeper of mental health and potential challenges they may face taking up this role, and lastly 3) availability and need of support services for ASMs. Given the multitude of factors known to contribute to being considered an ideal gatekeeper of mental health, no one assessment tool can be used to measure all the factors. Therefore, three different scales were incorporated: the MHLS, which tested the mental health literacy of the participants, and the GBS and GKSES, which evaluated the preparedness and self-efficacy of the respondents to take up the gatekeeper role, respectively. The data were

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analyzed using descriptive and inferential statistics (one-way ANOVA) to compare differences between gender, academic disciplines and academic ranks.

### *5.1.1 Mental health literacy, preparedness and self-efficacy:*

There was no statistically significant difference among genders in any of the three outcome measures, contrary to previous studies showing that females have higher mental health literacy compared to men (Gorczyński et al., 2017; Kim et al., 2015; Lee et al., 2020; Sullivan et al., 2019). This could be because the sample consisted of highly educated ASMs, as mental health literacy is reported to be higher in educated individuals (Kim et al., 2015).

#### MHLS:

In this study, the mean MHLS scores of Associate professors (M=131), Adjunct Professors & Per-Course Instructors (M=129), and ASMs in Arts, Education & Social Science disciplines (M=134), were higher compared to the Australian community sample (M=128; White & Casey, 2017) and Australian university students (M=127; O'Connor & Casey, 2015) in the original study. The female ASMs (M=125) in this study also scored higher compared to the UK university students (M=123; Gorczyński et al., 2017b). However, ASMs in the Allied Health disciplines (M=124) scored lower compared to the Australian healthcare professionals (M=145.5; O'Connor & Casey, 2015).

#### GBS:

The overall composite GBS scores in this study were higher in female ASMs (M=64), Associate Professors (M=66), Adjunct Professors & Per-Course instructors (M=66), ASMs in the Allied Health disciplines (M=68) and Arts, Education & Social Science disciplines (M=67), compared to the pre-gatekeeper training scores of the participants in Albright and colleagues' (2016) study (M=63) that consisted of university and school faculty, staff and students in the US (Albright et al., 2016).

#### GKSES:

The GKSES score of female ASMs (M=38) in the present study was higher compared to the females (M=27; Takahashi et al., 2021) in the original study. Similarly, the ASMs in Allied Health disciplines

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(M=42) and Arts, Education & Social Science disciplines (M=41) had higher scores compared to the pre-training scores of medical workers (M=30) and educational workers (M=29) in the original study (Takahashi et al., 2021).

The findings of GBS and GKSES in this study were consistent as both scales measured a similar variable, self-efficacy. The Science & Engineering disciplines consistently reported the lowest scores in all three scales, emphasizing that more initiatives to educate and create awareness about mental health needs should be implemented in Science & Engineering departments. The Allied Health disciplines scored the highest in GBS and GKSES, as ASMs working in healthcare fields are trained and comparatively more equipped to provide support to students struggling with mental health (Hughes & Byrom, 2019). These findings are also consistent with the results reported by Takahashi and colleagues (2021), which showed that medical workers scored the highest in gatekeeper self-efficacy skills.

The majority of the ASMs in this study scored higher compared to the original community samples in all three outcome measures. These findings indicate that ASMs can potentially be the ideal gatekeepers of mental health for their students in university setting given the appropriate training and strong institutional support.

### *5.1.2 Attitude and Awareness:*

ASMs in our study believed that mental health challenges could affect graduate students' ability to produce good work (87%, n=109), and it is crucial to consider graduate students' wellbeing when designing curriculum and choosing pedagogy (91%, n=114). Previous research reported that women, international students, and LGBTQ2S+ students are more likely to experience psychological distress compared to their peers (Backhaus et al., 2021; Eisenberg et al., 2013; Mallinckrodt & Leong, 1992; McLaughlin, 1985; Toews et al., 1997). Our findings indicate that the

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ASMs are aware that these groups of students are more vulnerable to experiencing mental health challenges.

### *5.1.3 Potential Challenges:*

The majority of the ASMs (68%) reported that being a gatekeeper would likely affect their mental wellbeing (n=83); however, the impact on an ASM's mental wellbeing was identified as one of the lowest ranked challenge by participants, when asked to rank potential challenges they may face in this role. Further, upon asking if they would be ready to be a mental health gatekeeper if given the opportunity, 58% responded positively. The ASMs ranked "lack of training" as the number one challenge they would face in taking up the role of gatekeeper for graduate student mental health. Moreover, one of the emerging themes from the open-ended question on support was "Gatekeeper specific training", where the participants voiced that they do not feel equipped to support students. These findings reflect that the ASMs are ready to be a gatekeeper of mental health and extend help to their students but are not confident to take this responsibility as they do not have any appropriate training in that area.

### *5.1.4 Support and Training:*

The participants were given the opportunity to voice their opinions and concerns through open-ended questions and let the researcher know their suggestions to improve the university's ability to provide them with better support. These responses gave some very valuable suggestions such as having a helpline or dedicated resource for ASMs to avail when they have questions and are uncertain of how to proceed when assisting a student. Other suggestions included that, ASMs who are trained can use an email signature so students are aware that they can reach out to them when the need arises, having regular mental health training and checkpoints, and a short, concise document of all the support resources available at the university and off campus. Lastly, the need for appropriate gatekeeper training for ASMs was highly recommended.

### *5.1.5 Work Reorganization and Redesign*

ASMs' role in supporting students in distress is inevitable. To ensure that ASMs are well equipped and supported to take up this role, we need to investigate work organization which will require institutional direction and support. Lindström (1994) suggested, the following three strategies be promoted by the participatory approach for the redesign and reorganization of work:

#### **1. *Mastery of work***

As backed by literature and suggestions of the participants in this study, the ASMs need to get gatekeeper specific training to develop skills to recognize individuals at risk, assess the risk level, and signpost them to professionals when necessary. These trainings should be available in a range of accessible formats so they can fit ASMs' work schedules. Along with the training, developing skills to manage distressing information is also important to protect their own mental wellbeing.

#### **2. *Management of changes***

Persuading students to only reach out to professional help will not change the role that ASMs play in supporting the students. Students will continue to seek help from their ASMs because they know that the ASMs are familiar with the demands they face (Hughes et al., 2018). In our study, 55% ASMs (n=68) had been approached for mental health support by graduate students in the past, out of which 95% (n=65) found themselves providing ongoing support to the students. Therefore, it is crucial for the institutes to define the work roles clearly by specifying the responsibilities of academics and that of student support services. *Figures 2 & 3* below, show the traditional and collaborative models of the role division between professional mental health support services and academics. In the collaborative model, the overlap between academics and student services is focussed on development and learning, and curriculum development, which can facilitate better integration of support services (Hughes et al., 2018).

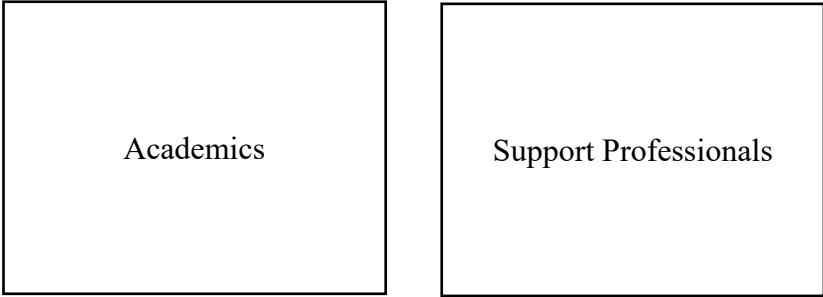


Figure 2: Traditional relationship between Student Services and academics (Hughes et al., 2018)

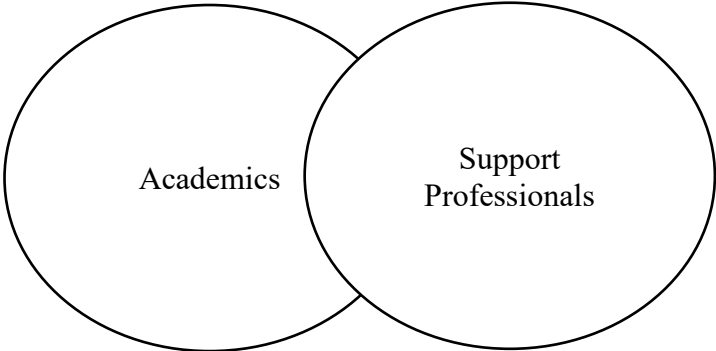


Figure 3: Collaborative model of relationship between academics and Student Services (Hughes et al., 2018)

**3. Support of employees**

The ASMs in our study raised questions to know if the university values the role and whether they will be supported for taking up this role. The academic institutions must recognize the mental and emotional workload of the unavoidable roles that the ASMs have to play, and proactively support them. Therefore, acknowledgment and recognition of efforts through incentives and prioritizing mental health counselling support for ASMs is highly encouraged. The ASMs should feel supported, and it should be easy for them to ask for help or advice when they need. Lastly, as Hughes’s (2018) report identifies, it is crucial for ASMs to reaffirm and maintain boundaries while being skilled and supportive to students to protect their own mental wellbeing and maintain good work-life balance.

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The university can communicate to the students to limit approaching ASMs to fixed hours within the working week.

### 5.2 Strengths and Limitations

To improve and to learn from this study, the following strengths and limitations have been identified: A major strength of this study was the inclusion of multiple potential factors associated with being a mental health gatekeeper. It explored determinants like mental health literacy, attitude and awareness, readiness and potential challenges through objectively verifiable outcome measures and their suggestions on support and training needs through open-ended questions. The anonymous online survey did not collect any personal identifiable information and made it easier for the participants to answer sensitive questions honestly without the fear of being judged or overheard by others. These factors are proven to prevent the social desirability bias (Dillman, 2014). Lastly, we reminded them of the confidential nature of the study in the recruitment email and the informed consent letter (Aday, 1996).

A notable limitation was that the researcher did not personally interview the ASMs to understand their perception about taking the role of mental health gatekeeper. Qualitative studies help understand the beliefs, values and assumptions, and raise more issues using a broad and open-ended inquiry (Choy, 2014). However, the participant responses to the open-ended questions were thematically coded using a similar qualitative approach which gave a lot of valuable insights into their values, beliefs and needs. The surveys used self-reported outcome measures, which increases the chances of inaccurate reporting (Dillman, 2014). Also, this study explored the readiness of ASMs to be a gatekeeper of mental health for graduate students if and when the need arises. This does not necessarily imply that ASMs would be willing to add this role to their professional responsibilities permanently. It is crucial to distinguish between the two as readiness refers to the

possession of self-efficacy required to be open to the possibility to learn and adapt, whereas willingness would be an implied reality, where the individual exhibits the motivation to lead (Keating et al., 2014). The participants of this study showed higher self-efficacy skills, which would be helpful for them to take the lead when needed, but does not indicate their willingness to adopt the role of mental health gatekeeper voluntarily. Another potential limitation of this study is the small sample size which can decrease the generalizability of the results and might not be representative of all ASMs. Also, the study was conducted at one university, and the results might not be generalizable to other universities. Lastly, the survey is cross-sectional, so causal relationships and direction of association between variables cannot be established. However, a cross-sectional survey was the appropriate choice for this study as it can assess many outcomes and their prevalence, it is quick and easy to conduct, and it is relatively inexpensive (Levin, 2006).

### 5.3 Recommendations for future consideration

Research and policy analysis of the work organization of ASMs and their role as gatekeepers of mental health for graduate students is an important and understudied area that could extend in several directions:

#### *5.3.1 Recommendation for future research*

Future studies could involve graduate students in the project to understand their mental health needs and perception of having their ASMs as first responders when the need arises. It would also be worthwhile for researchers to explore if ASMs would be willing to add the role of mental health gatekeeper of graduate students to their professional responsibilities. We recommend that future researchers implement a high-quality experimental design to determine how mental health needs and utilization change over time in a dynamic environment. Additionally, conducting research at various academic institutions both locally and globally with a large sample size will increase the



generalizability and reliability of the findings. Employing qualitative methods will provide more in-depth information, which the stakeholders could then use to improve policies and programs more efficiently. The literature review identified that there was not one standard assessment tool that would measure all aspects of mental health and gatekeeping; future researchers could build on this gap.

### *5.3.2 Recommendation for university stakeholders*

We encourage the department heads to regularly investigate mental health concerns and share the strategies with other academic units. The universities must take proactive measures like maintaining staffing levels in student counselling centers, taking initiatives to create awareness to disseminate knowledge of mental health support services available, and offering timely support services as these strategies are less expensive and more effective than responding to crises. The ASMs in this study shared some great feedback on how the university can better support them. This would include mental health and gatekeeper training, an accessible list of mental health support services on and off campus for students, and helplines and support centers for ASMs. The university stakeholders should also define the role of a mental health gatekeeper, so the ASMs are better prepared for the responsibilities. The university should positively encourage the ASMs by rewarding them with incentives for their ongoing mentorship and pedagogical training to graduate students.

#### 5.4 Conclusion

The mental health of graduate students is one of the most pressing concerns for universities (Turk et al., 2020), because it not only has implications for their health and wellbeing but also at academic, scientific and economic levels (Eisenberg et al., 2009; Lee et al., 2015; Levecque et al., 2017; Rindermann & Thompson, 2011). From 2009 to 2019, the number of university students experiencing mental health challenges has doubled (Duffy et al., 2019). It has become even more important to go beyond the student counselling centers and create an inclusive community that fosters the individuals' coping abilities. Academic institutions are well-positioned to serve as support communities that can play a vital role in protecting students' mental health.

ASMs are considered at the forefront to serve as initial contact for students in distress and refer them to appropriate support services as potential gatekeepers (Frederico & Davis, 1996). ASMs, as gatekeepers of mental health, will recognize signs of mental health distress, be aware of available support services and have the skills to provide support and refer the students to professionals. With answers to a foundational set of questions from the current study, key aspects of ASMs' attitudes towards the role of being a gatekeeper of mental health can be applied in the design and implementation of the training being delivered as well as the university policies. A carefully designed curriculum to support the ASMs and the students can significantly develop their wellbeing and resilience (Slavin et al., 2014). Developing a framework for ASMs to act as potential mental health gatekeepers for graduate students will change how their work is organized and add new responsibilities. This will require appropriate training and changes in workplace policies and practices. Thus, when mental health is perceived as a shared responsibility of the university, more ASMs can play a role in awareness, education, safety, early detection and treatment response. Such a holistic approach to mental health in an academic setting can result in notable advancements in the university's ability to safeguard the mental health of ASMs and students.

## References

- Aday, L. A. (1996). Designing and conducting health surveys-A comprehensive surveys.
- Albright, G. L., Davidson, J., Goldman, R., Shockley, K. M., & Timmons-Mitchell, J. (2016). Development and validation of the gatekeeper behavior scale. *Crisis*.
- Anderson, K. A., Maile, J. J., & Fisher, L. G. (2010). The healing tonic: A pilot study of the perceived ability and potential of bartenders. *Journal of Military and Veterans Health, 18*(4), 17.
- Antaramian, S. (2015). Assessing psychological symptoms and well-being: Application of a dual-factor mental health model to understand college student performance. *Journal of Psychoeducational Assessment, 33*(5), 419-429.
- Appleton, S. (2012). Psychological distress and mental health problems in tertiary students. *School of Psychology and Counselling, Queensland University of Technology, Brisbane*.
- Arnold, C. (2014). Paying graduate school's mental toll. *Science*. Available at: <https://www.sciencemag.org/careers/2014/02/paying-graduate-schools-mental-toll>
- Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G., ... & Bruffaerts, R. (2016). Mental disorders among college students in the World Health Organization world mental health surveys. *Psychological Medicine, 46*(14), 2955-2970.
- Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., ... & Kessler, R. C. (2018). WHO World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology, 127*(7), 623.
- Australian Health Ministers Advisory Council (2013). A national framework for recovery orientated mental health services: Policy and theory. In Department of Health, & Ageing CoA (Eds.), Canberra: Department of Health and Ageing, Commonwealth of Australia

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Backels, K., & Wheeler, I. (2001). Faculty Perceptions of Mental Health Issues among College Students. *Journal of College Student Development, 42*(2), 173-86.
- Backhaus, I., Lipson, S. K., Fisher, L. B., Kawachi, I., & Pedrelli, P. (2021). Sexual assault, sense of belonging, depression and suicidality among LGBTQ and heterosexual college students. *Journal of American College Health, 69*(4), 404-412.
- Baghurst, T., & Kelley, B. C. (2014). An examination of stress in college students over the course of a semester. *Health Promotion Practice, 15*(3), 438-447.
- Bailey, D. (2012). *Interdisciplinary Working in Mental Health*. Macmillan International Higher Education.
- Baird, L. L. (1990). The melancholy of anatomy: The personal and professional development of graduate and professional school students. *Higher Education: Handbook of Theory and Research, 6*, 361-392.
- Bambra, C. L., Whitehead, M. M., Sowden, A. J., Akers, J., & Pettecrew, M. P. (2008). Shifting schedules: the health effects of reorganizing shift work. *American Journal of Preventive Medicine, 34*(5), 427-434.
- Barbour, R. (2007). *Doing Focus Groups* (Thousand Oaks, CA & London, Sage Publications).
- Barrera, A. Z., Torres, L. D., & Munoz, R. F. (2007). Prevention of depression: the state of the science at the beginning of the 21st Century. *International Review of Psychiatry, 19*(6), 655-670.
- Barrios, L. C., Everett, S. A., Simon, T. R., & Brener, N. D. (2000). Suicide ideation among US college students associations with other injury risk behaviors. *Journal of American College Health, 48*(5), 229-233.
- Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social Psychiatry and Psychiatric Epidemiology, 43*(8), 667-672.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Beautrais, A., Fergusson, D., Coggan, C., Collings, C., Doughty, C., Ellis, P., ... & Surgenor, L. (2007). Effective strategies for suicide prevention in New Zealand: a review of the evidence. *The New Zealand Medical Journal*, 120(1251), U2459.
- Begg, S. (2007). The burden of disease and injury in Australia 2003. <http://www.aihw.gov.au/publication-detail/?id=6442467990&libID=6442467988>.
- Belkic, K. L., Landsbergis, P. A., Schnall, P. L., & Baker, D. (2004). Is job strain a major source of cardiovascular disease risk? *Scandinavian Journal of Work, Environment & Health*, 85-128.
- Benton, T. H. (2003). The 5 virtues of successful graduate students. *The Chronicle of Higher Education*, 50(2).
- Bienvenu, O. J., & Ginsburg, G. S. (2007). Prevention of anxiety disorders. *International Review of Psychiatry*, 19(6), 647-654.
- Biron, C., Brun, J. P., & Ivers, H. (2008). Extent and sources of occupational stress in university staff. *Work*, 30(4), 511-522.
- Blanco, C., Okuda, M., Wright, C., Hasin, D. S., Grant, B. F., Liu, S. M., & Olfson, M. (2008). Mental health of college students and their non-college-attending peers: Results from the national epidemiologic study on alcohol and related conditions. *Archives of General Psychiatry*, 65(12), 1429-1437.
- Bonifas, R. P., & Napoli, M. (2014). Mindfully increasing quality of life: A promising curriculum for MSW students. *Social Work Education*, 33(4), 469-484.
- Bozeman, B., & Gaughan, M. (2011). Job satisfaction among university faculty: Individual, work, and institutional determinants. *The Journal of Higher Education*, 82(2), 154-186.
- Bratton, M. (1997). The academic experiences, career self-efficacy, and performance self-esteem of female and male doctoral students in counseling psychology. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 58(1-A), 0079.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Brener, N. D., Hassan, S. S., & Barrios, L. C. (1999). Suicidal ideation among college students in the United States. *Journal of Consulting and Clinical Psychology, 67*(6), 1004.
- Brown, C. H., Wyman, P. A., Guo, J., & Peña, J. (2006). Dynamic wait-listed designs for randomized trials: New designs for prevention of youth suicide. *Clinical Trials, 3*(3), 259-271.
- Bruce, S. P. (2009). Recognizing stress and avoiding burnout. *Currents in Pharmacy Teaching and Learning, 1*(1), 57-64.
- Bullock, G., Kraft, L., Amsden, K., Gore, W., Prengle, B., Wimsatt, J., ... & Goode, A. (2017). The prevalence and effect of burnout on graduate healthcare students. *Canadian Medical Education Journal, 8*(3), e90.
- Burris, J. L., Brechting, E. H., Salsman, J., & Carlson, C. R. (2009). Factors associated with the psychological well-being and distress of university students. *Journal of American college health, 57*(5), 536-544.
- Busch, J. W. (1985). Mentoring in graduate schools of education: Mentors' perceptions. *American Educational Research Journal, 22*(2), 257-265.
- Canadian Federation of Students - Ontario (2018) Not in the syllabus – Findings from the Canadian Federation of Students Ontario's survey on graduate student mental health. Available at: [https://cfsontario.ca/wp-content/uploads/2018/03/Not-In-The-Syllabus-Report\\_ENG.pdf](https://cfsontario.ca/wp-content/uploads/2018/03/Not-In-The-Syllabus-Report_ENG.pdf)
- Capp, K., Deane, F. P., & Lambert, G. (2001). Suicide prevention in Aboriginal communities: application of community gatekeeper training. *Australian and New Zealand Journal of Public Health, 25*(4), 315-321.
- Cassidy, J. (1999). The nature of a child's ties. U: J. Cassidy I P.R. Shaver (Ur.), Handbook of attachment: Theory, research, and clinical applications (str. 3-20). New York: The Guilford Press.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Centers for Disease Control (1992). Youth suicide prevention programs: A resource guide. (1992). Georgia: Centers for Disease Control.
- Cerel, J., Padgett, J. H., Robbins, V., & Kaminer, B. (2012). A state's approach to suicide prevention awareness: Gatekeeper training in Kentucky. *Journal of Evidence-Based Social Work, 9*(3), 283-292.
- Chandler, J., Barry, J., & Clark, H. (2002). Stressing academe: The wear and tear of the new public management. *Human Relations, 55*(9), 1051-1069.
- Choy, L. T. (2014). The strengths and weaknesses of research methodology: Comparison and complimentary between qualitative and quantitative approaches. *IOSR journal of humanities and social science, 19*(4), 99-104.
- Cleary, M., Walter, G., & Jackson, D. (2011). "Not always smooth sailing": Mental health issues associated with the transition from high school to college. *Issues in Mental Health Nursing, 32*(4), 250-254.
- Cohen, J. (1988). Statistical power analysis for the behavioural sciences(2<sup>nd</sup> ed). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Collins, M. E., & Mowbray, C. T. (2005). Higher education and psychiatric disabilities: National survey of campus disability services. *American Journal of Orthopsychiatry, 75*(2), 304-315.
- Conner, K. R., & Goldston, D. B. (2007). Rates of suicide among males increase steadily from age 11 to 21: Developmental framework and outline for prevention. *Aggression and Violent Behavior, 12*(2), 193-207.
- Cook, L. J. (2007). Striving to help college students with mental health issues. *Journal of Psychosocial Nursing and Mental Health Services, 45*(4), 40-44.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Cornér, S., Löfström, E., & Pyhältö, K. (2017). The relationship between doctoral students' perceptions of supervision and burnout. *International Journal of Doctoral Studies*.
- Couper, M. P. (2000). Web surveys: A review of issues and approaches. *The Public Opinion Quarterly*, 64(4), 464-494.
- Cox, T., Griffiths, A., & Rial-Gonzalez, E. (2000). Work-related stress. *Office for Official Publications of the European Communities, Luxembourg*.
- Cranford, J. A., Eisenberg, D., & Serras, A. M. (2009). Substance use behaviors, mental health problems, and use of mental health services in a probability sample of college students. *Addictive Behaviors*, 34(2), 134-145.
- Cross, W., Matthieu, M. M., Lezine, D., & Knox, K. L. (2010). Does a brief suicide prevention gatekeeper training program enhance observed skills? *Crisis: International Journal of Suicide- and Crisis-studies*, 31(3), 149-159.
- Danna, K., & Griffin, R. W. (1999). Health and well-being in the workplace: A review and synthesis of the literature. *Journal of Management*, 25(3), 357-384.
- De Lange, A. H., Taris, T. W., Kompier, M. A. J., Houtman, I. L. D., & Bongers, P. M. (2004). Work characteristics and psychological well-being. Testing normal, reversed and reciprocal relationships within the 4-wave SMASH study. *Work and Stress*, 18(2), 149-166.
- Devine, K., & Hunter, K. H. (2017). PhD student emotional exhaustion: the role of supportive supervision and self-presentation behaviours. *Innovations in Education and Teaching International*, 54(4), 335-344.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, Phone, Mail, and Mixed-mode Surveys: The Tailored Design Method* (Fourth Edition). John Wiley & Sons.
- Downs, M. F., & Eisenberg, D. (2012). Help seeking and treatment use among suicidal college students. *Journal of American College Health*, 60(2), 104-114.



UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Duffy, M. E., Twenge, J. M., & Joiner, T. E. (2019). Trends in mood and anxiety symptoms and suicide-related outcomes among US undergraduates, 2007–2018: Evidence from two national surveys. *Journal of Adolescent Health, 65*(5), 590-598.
- Eaton, N. R., Keyes, K. M., Krueger, R. F., Balsis, S., Skodol, A. E., Markon, K. E., ... & Hasin, D. S. (2012). An invariant dimensional liability model of gender differences in mental disorder prevalence: evidence from a national sample. *Journal of Abnormal Psychology, 121*(1), 282.
- Eisenberg, D., Downs, M. F., Golberstein, E., and Zivin, K. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review, 66*, 522–541.
- Eisenberg, D., Golberstein, E., & Gollust, S. E. (2007). Help-seeking and access to mental health care in a university student population. *Medical Care, 45*(7), 594-60145.
- Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry, 77*(4), 534-542.
- Eisenberg, D., Hunt, J., & Speer, N. (2012). Help seeking for mental health on college campuses: Review of evidence and next steps for research and practice. *Harvard Review of Psychiatry, 20*(4), 222-232.
- Eisenberg, D., Hunt, J., & Speer, N. (2013). Mental health in American colleges and universities: variation across student subgroups and across campuses. *The Journal of Nervous and Mental Disease, 201*(1), 60-67.
- Eisenberg, D., Hunt, J., Speer, N., & Zivin, K. (2011). Mental health service utilization among college students in the United States. *The Journal of Nervous and Mental Disease, 199*(5), 301-308.
- Eisenberg, D., Nicklett, E. J., Roeder, K., & Kirz, N. E. (2011). Eating disorder symptoms among college students: Prevalence, persistence, correlates, and treatment-seeking. *Journal of American College Health, 59*(8), 700-707.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- El-Ghoroury, N. H., Galper, D. I., Sawaqdeh, A., & Bufka, L. F. (2012). Stress, coping, and barriers to wellness among psychology graduate students. *Training and Education in Professional Psychology, 6*(2), 122.
- Ellis, A. M., Bauer, T. N., Mansfield, L. R., Erdogan, B., Truxillo, D. M., & Simon, L. S. (2015). Navigating uncharted waters: Newcomer socialization through the lens of stress theory. *Journal of Management, 41*(1), 203-235.
- ErgoPlus, Ergonomics 101: The Definition, Domains, and Applications of Ergonomics. Available at: <https://ergo-plus.com/ergonomics-definition-domains-applications/#:~:text=According%20to%20the%20International%20Ergonomics%20Association%2C%20there%20are%20three%20broad,physical%2C%20cognitive%2C%20and%20organizational.>
- Evans, T. M., Bira, L., Gastelum, J. B., Weiss, L. T., & Vanderford, N. L. (2018). Evidence for a mental health crisis in graduate education. *Nature biotechnology, 36*(3), 282-284.
- Farber, N. K. (2000). *Counseling Psychology Doctoral Students' Help Seeking Behavior: Factors Affecting Willingness to Seek Help for Psychological Problems* (Doctoral dissertation, ProQuest Information & Learning).
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International journal of qualitative methods, 5*(1), 80-92
- Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2007). Recurrence of major depression in adolescence and early adulthood, and later mental health, educational and economic outcomes. *The British Journal of Psychiatry, 191*(4), 335-342.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Ferrie, J. E., Westerlund, H., Virtanen, M., Vahtera, J., & Kivimäki, M. (2008). Flexible labor markets and employee health. *Scandinavian Journal of Work, Environment and Health Supplements*, (6), 98-110.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. sage.
- Field, T., Diego, M., Pelaez, M., Deeds, O., & Delgado, J. (2009). Breakup distress in university students. *Adolescence*, 44(176), 705-727.
- Florio, E. R., Rockwood, T. H., Hendryx, M. S., Jensen, J. E., Raschko, R., & Dyck, D. G. (1996). A model gatekeeper program to find the at-risk elderly. *Journal of Case Management*, 5(3), 106-114.
- Foley, N. F. (2020). Don't forget about graduate students. *The Chronicle of Higher Education*. Available at: <https://www.chronicle.com/article/Don-t-Forget-About-Graduate/248389>.
- Frederico, M. M., & Davis, C. (1996). *Gatekeeper Training and Youth Suicide Prevention: Report for Youth Suicide Prevention Initiative, Education and Training Consultancy*. Australian Catholic University.
- Fried, R. R., & Atkins, M. A. P. (2019). Breaking grad: building resilience among a sample of graduate students struggling with stress and anxiety via a peer coaching model—an 8-Month pilot study. *International Journal*, 17, 2.
- Galbraith, N.D., Brown, K.E. and Clifton, E. (2014), Student Nurses and Help Seeking for Stress. *Nursing Forum*, 49: 171-181.
- Galderisi, S., Heinz, A., Kastrup, M., Beezhold, J., & Sartorius, N. (2015). Toward a new definition of mental health. *World Psychiatry*, 14(2), 231.
- Garcia-Williams, A. G., Moffitt, L., & Kaslow, N. J. (2014). Mental health and suicidal behavior among graduate students. *Academic Psychiatry*, 38(5), 554-560.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Garland, A. F., & Zigler, E. (1993). Adolescent suicide prevention: current research and social policy implications. *American Psychologist, 48*(2), 169.
- Gewin, V. (2012). Mental health: Under a cloud. *Nature, 490*(7419), 299-301.
- Ghoncheh, R., Gould, M. S., Twisk, J. W., Kerkhof, A. J., & Koot, H. M. (2016). Efficacy of adolescent suicide prevention e-learning modules for gatekeepers: a randomized controlled trial. *JMIR Mental Health, 3*(1), e8.
- Gillespie, N. A., Walsh, M. H. W. A., Winefield, A. H., Dua, J., & Stough, C. (2001). Occupational stress in universities: Staff perceptions of the causes, consequences and moderators of stress. *Work & Stress, 15*(1), 53-72.
- Goldberg, C. (1998). After suicide, Harvard alters policies on graduate students. *The New York Times, A20*.
- Gorczynski, P., Sims-Schouten, W., Hill, D., & Wilson, J. C. (2017). Examining mental health literacy, help seeking behaviours, and mental health outcomes in UK university students. *The Journal of Mental Health Training, Education and Practice*.
- Gottschall, S. (2014). *The Influences of Sex, Gender Identity, and Power on Faculty-Graduate Student Relational Mentoring and Its Association with Student Psychological Health* (Doctoral dissertation, Carleton University).
- Gould, J. (2014). Mental health: Stressed students reach out for help. *Nature, 512*(7513), 223-224.
- Gould, M. S., & Kramer, R. A. (2001). Youth suicide prevention. *Suicide and Life-threatening Behavior, 31*(Supplement to Issue 1), 6-31.
- Gould, M. S., Greenberg, T., Velting, D. M., & Shaffer, D. (2006). Youth Suicide: A Review. *Prevention Researcher, 13*(3), 3-7.

## UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Greeson, J. M., Juberg, M. K., Maytan, M., James, K., & Rogers, H. (2014). A randomized controlled trial of Koru: A mindfulness program for college students and other emerging adults. *Journal of American College Health, 62*(4), 222-233.
- Gulliver, A., Farrer, L., Bennett, K., & Griffiths, K. M. (2019). University staff mental health literacy, stigma and their experience of students with mental health problems. *Journal of Further and Higher Education, 43*(3), 434-442.
- Hammen, C. (2005). Stress and depression. *Annu. Rev. Clin. Psychol., 1*, 293-319.
- Hanlon, C. (2012). State of mind: Addressing mental health issues on university campuses. *University Manager, 3*, 51-58.
- Hayes, A. J., Shaw, J. J., Lever-Green, G., Parker, D., & Gask, L. (2008). Improvements to suicide prevention training for prison staff in England and Wales. *Suicide and Life-Threatening Behavior, 38*(6), 708-713.
- Heberlein, T. A., & Baumgartner, R. (1978). Factors affecting response rates to mailed questionnaires: A quantitative analysis of the published literature. *American Sociological Review, 43*(4), 447-462.
- Heggins, W. J., & Jackson, J. F. (2003). Understanding the collegiate experience for Asian international students at a Midwestern research university. *College Student Journal, 37*(3), 379-392.
- Hernández-Torrano, D., Ibrayeva, L., Sparks, J., Lim, N., Clementi, A., Almukhambetova, A., ... & Muratkyzy, A. (2020). Mental health and well-being of university students: A bibliometric mapping of the literature. *Frontiers in Psychology, 11*, 1226.
- Hoffman, J. (2015). Anxiety on campuses: Reporter's notebook. *The New York Times*. Available at: <https://www.nytimes.com/times-insider/2015/05/28/anxiety-on-campus-reporters-notebook>.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Hughes, G. J., & Byrom, N. C. (2019). Managing student mental health: The challenges faced by academics on professional healthcare courses. *Journal of advanced nursing*, 75(7), 1539-1548.
- Hughes, G., Panjawni, M., Tulcidas, P., & Byrom, N. (2018). Student mental health: The role and experiences of academics (Rep.). Oxford: Student Minds.
- Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, 46(1), 3-10.
- Hyun, J. K., Quinn, B. C., Madon, T., & Lustig, S. (2006). Graduate student mental health: Needs assessment and utilization of counseling services. *Journal of College Student Development*, 47(3), 247-266.
- Hyun, J., Quinn, B., Madon, T., & Lustig, S. (2007). Mental health need, awareness, and use of counseling services among international graduate students. *Journal of American College Health*, 56(2), 109-118.
- IBM Corp. (2019). IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp.
- Indelicato, N. A., Mirsu-Paun, A., & Griffin, W. D. (2011). Outcomes of a suicide prevention gatekeeper training on a university campus. *Journal of College Student Development*, 52(3), 350-361.
- International Ergonomics Association What's ergonomics? Available at: <https://iea.cc/what-is-ergonomics/>
- Isaac, M., Elias, B., Katz, L. Y., Belik, S. L., Deane, F. P., Enns, M. W., ... & Swampy Cree Suicide Prevention Team (12 members) 8. (2009). Gatekeeper training as a preventative intervention for suicide: a systematic review. *The Canadian Journal of Psychiatry*, 54(4), 260-268.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Jacobson, J. M., Osteen, P. J., Sharpe, T. L., & Pastoor, J. B. (2012). Randomized trial of suicide gatekeeper training for social work students. *Research on Social Work Practice, 22*(3), 270-281.
- Johnson, J. V. (1989). Collective control: Strategies for survival in the workplace. *International Journal of Health Services, 19*(3), 469-480.
- Johnson, J. V., & Lipscomb, J. (2006). Long working hours, occupational health and the changing nature of work organization. *American Journal of Industrial Medicine, 49*(11), 921-929.
- Johnson, W. B., & Huwe, J. M. (2002). Toward a typology of mentorship dysfunction in graduate school. *Psychotherapy: Theory, Research, Practice, Training, 39*(1), 44.
- Jorm, A. F., Christensen, H., & Griffiths, K. M. (2006). The public's ability to recognize mental disorders and their beliefs about treatment: changes in Australia over 8 years. *Australian & New Zealand Journal of Psychiatry, 40*(1), 36-41.
- Jorm, A. F., Kitchener, B. A., Sawyer, M. G., Scales, H., & Cvetkovski, S. (2010). Mental health first aid training for high school teachers: a cluster randomized trial. *BMC Psychiatry, 10*(1), 1-12.
- Jungbluth, C., MacFarlane, I. M., Veach, P. M., & LeRoy, B. S. (2011). Why is everyone so anxious? An exploration of stress and anxiety in genetic counseling graduate students. *Journal of Genetic Counseling, 20*(3), 270-286.
- Kadison, R. (2004). The mental health crisis: What colleges must do. *The Chronicle of Higher Education, 51*(16), B20.
- Kalafat, J. (2003). School approaches to youth suicide prevention. *American Behavioral Scientist, 46*(9), 1211-1223.
- Karasek, R., & Theorell, T. (1990). *Healthy work: Stress, productivity, and the reconstruction of working life*. New York: Basic Books.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Kawachi, I., & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban health, 78*(3), 458-467.
- Keating, K., Rosch, D., & Burgoon, L. (2014). Developmental Readiness for Leadership: The Differential Effects of Leadership Courses on Creating "Ready, Willing, and Able" Leaders. *Journal of Leadership Education, 13*(3).
- Kessler, R. C., Amminger, G. P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Ustun, T. B. (2007). Age of onset of mental disorders: a review of recent literature. *Current Opinion in Psychiatry, 20*(4), 359.
- Keyes, C. L. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology, 73*(3), 539.
- Khawaja, N. G., & Dempsey, J. (2007). Psychological distress in international university students: An Australian study. *Australian Journal of Guidance and Counselling, 17*(1), 13.
- Kim, E. H., Coumar, A., Lober, W. B., & Kim, Y. (2011). Addressing mental health epidemic among university students via web-based, self-screening, and referral system: a preliminary study. *IEEE Transactions on Information Technology in Biomedicine, 15*(2), 301-307.
- Kim, J. E., Saw, A., & Zane, N. (2015). The influence of psychological symptoms on mental health literacy of college students. *American Journal of Orthopsychiatry, 85*(6), 620.
- King, K. A., & Smith, J. (2000). Project SOAR: A training program to increase school counselors' knowledge and confidence regarding suicide prevention and intervention. *Journal of School Health, 70*(10), 402-407.
- Kinman, G. (2001). Pressure points: A review of research on stressors and strains in UK academics. *Educational Psychology, 21*(4), 473-492.
- Kinman, G. (2008). Work stressors, health and sense of coherence in UK academic employees. *Educational Psychology, 28*(7), 823-835.



UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Kinman, G., & Jones, F. (2003). 'Running Up the Down Escalator': Stressors and strains in UK academics. *Quality in Higher education*, 9(1), 21-38.
- Kinman, G., & Jones, F. (2008). Effort-reward imbalance and overcommitment: predicting strain in academic employees in the United Kingdom. *International Journal of Stress Management*, 15(4), 381.
- Kinman, G., Jones, F., & Kinman, R. (2006). The Well-being of the UK Academy, 1998–2004. *Quality in Higher Education*, 12(1), 15-27.
- Kitchener, B. A., & Jorm, A. F. (2004). Mental health first aid training in a workplace setting: a randomized controlled trial [ISRCTN13249129]. *BMC Psychiatry*, 4(1), 1-8.
- Kohn, R., Saxena, S., Levav, I., & Saraceno, B. (2004). The treatment gap in mental health care. *Bulletin of the World health Organization*, 82, 858-866.
- Kovach Clark, H., Murdock, N. L., & Koetting, K. (2009). Predicting burnout and career choice satisfaction in counseling psychology graduate students. *The Counseling Psychologist*, 37(4), 580-606.
- Kroll, T., & Neri, M. (2009). Designs for mixed methods research. *Mixed methods research for nursing and the health sciences*, 31, 31-49
- Kruger, S., & Sonono, E. (2016). Physical activity and psychosomatic-related health problems as correlates of quality of life among university students. *Journal of Psychology in Africa*, 26(4), 357-362.
- Kutcher, S., Wei, Y., McLuckie, A., & Bullock, L. (2013). Educator mental health literacy: a programme evaluation of the teacher training education on the mental health & high school curriculum guide. *Advances in School Mental Health Promotion*, 6(2), 83-93.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- LaMontagne, A. D., & Noblet, A. J. (2012). Intervention development and implementation: understanding and addressing barriers to organizational-level interventions. In *Improving Organizational Interventions For Stress and Well-Being* (pp. 47-64). Routledge.
- Laws, T. A., & Fiedler, B. A. (2012). Universities' expectations of pastoral care: Trends, stressors, resource gaps and support needs for teaching staff. *Nurse Education Today*, *32*(7), 796-802.
- Leahy, C. M., Peterson, R. F., Wilson, I. G., Newbury, J. W., Tonkin, A. L., & Turnbull, D. (2010). Distress levels and self-reported treatment rates for medicine, law, psychology and mechanical engineering tertiary students: cross-sectional study. *Australian & New Zealand Journal of Psychiatry*, *44*(7), 608-615.
- Lechuga, V. M. (2011). Faculty-graduate student mentoring relationships: Mentors' perceived roles and responsibilities. *Higher Education*, *62*(6), 757-771.
- Lee, A. (2008). How are doctoral students supervised? Concepts of doctoral research supervision. *Studies in Higher Education*, *33*(3), 267-281.
- Lee, H. Y., Hwang, J., Ball, J. G., Lee, J., Yu, Y., & Albright, D. L. (2020). Mental health literacy affects mental health attitude: is there a gender difference?. *American journal of health behavior*, *44*(3), 282-291.
- Lee, Y. N., Walsh, J. P., & Wang, J. (2015). Creativity in scientific teams: Unpacking novelty and impact. *Research Policy*, *44*(3), 684-697.
- Leka, S., Jain, A., & World Health Organization. (2010). Health impact of psychosocial hazards at work: an overview.
- Levecque, K., Anseel, F., De Beuckelaer, A., Van der Heyden, J., & Gisle, L. (2017). Work organization and mental health problems in PhD students. *Research Policy*, *46*(4), 868-879.
- Levin, K. A. (2006). Study design III: Cross-sectional studies. *Evidence-based dentistry*, *7*(1), 24-25.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Lindsey, B. J., Fabiano, P., & Stark, C. (2009). The prevalence and correlates of depression among college students. *College Student Journal, 43*(4).
- Lindström, K. (1994). Psychosocial criteria for good work organization. *Scandinavian Journal of Work, Environment & Health, 20*(special), 123-133.
- Lipson, S. K. (2014). A comprehensive review of mental health gatekeeper-trainings for adolescents and young adults. *International Journal of Adolescent Medicine and Health, 26*(3), 309-320.
- Lipson, S. K., Lattie, E. G., & Eisenberg, D. (2019). Increased rates of mental health service utilization by US college students: 10-year population-level trends (2007–2017). *Psychiatric Services, 70*(1), 60-63.
- Lipson, S. K., Speer, N., Brunwasser, S., Hahn, E., & Eisenberg, D. (2014). Gatekeeper training and access to mental health care at universities and colleges. *Journal of Adolescent Health, 55*(5), 612-619.
- Lunau, K. (2012). The mental health crisis on campus: Canadian students feel hopeless, depressed, even suicidal. *Maclean's*.
- Lunsford, L. (2012). Doctoral advising or mentoring? Effects on student outcomes. *Mentoring & Tutoring: Partnership in Learning, 20*(2), 251-270.
- MacKean, G. (2011, June). Mental health and well-being in post-secondary education settings. In *CACUSS preconference workshop on mental health*.
- Mallinckrodt, B., & Leong, F. T. (1992). Social support in academic programs and family environments: Sex differences and role conflicts for graduate students. *Journal of Counseling & Development, 70*(6), 716-723.
- Mann, J. J., Apter, A., Bertolote, J., Beautrais, A., Currier, D., Haas, A., ... & Hendin, H. (2005). Suicide prevention strategies: a systematic review. *Journal of the American Medical Association, 294*(16), 2064-2074.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Manwell, L. A., Barbic, S. P., Roberts, K., Durisko, Z., Lee, C., Ware, E., & McKenzie, K. (2015). What is mental health? Evidence towards a new definition from a mixed methods multidisciplinary international survey. *BMJ Open*, *5*(6), E007079.
- Margrove, K. L., Gustowska, M., & Grove, L. S. (2014). Provision of support for psychological distress by university staff, and receptiveness to mental health training. *Journal of Further and Higher Education*, *38*(1), 90-106.
- Mariotti, A. (2015). The effects of chronic stress on health: new insights into the molecular mechanisms of brain–body communication. *Future Science OA*, *1*(3), FSO23.
- Mark, G., & Smith, A. P. (2012). Effects of occupational stress, job characteristics, coping, and attributional style on the mental health and job satisfaction of university employees. *Anxiety, Stress & Coping*, *25*(1), 63-78.
- Martin, J. M. (2010). Stigma and student mental health in higher education. *Higher Education Research & Development*, *29*(3), 259-274.
- Matheny, K. B., Ashby, J. S., & Cupp, P. (2005). Gender Differences in Stress, Coping, and Illness Among College Students. *Journal of Individual Psychology*, *61*(4).
- Matthieu, M. M., Chen, Y., Schohn, M., Lantinga, L. J., & Knox, K. L. (2009). Educational preferences and outcomes from suicide prevention training in the Veterans Health Administration: One-year follow-up with healthcare employees in Upstate New York. *Military Medicine*, *174*(11), 1123-1131.
- Matthieu, M. M., Cross, W., Batres, A. R., Flora, C. M., & Knox, K. L. (2008). Evaluation of gatekeeper training for suicide prevention in veterans. *Archives of Suicide Research*, *12*(2), 148-154.
- Mazure, C. M. (1998). Life stressors as risk factors in depression. *Clinical Psychology: Science and Practice*, *5*(3), 291-313.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

McAllister, M., Wynaden, D., Happell, B., Flynn, T., Walters, V., Duggan, R., ... & Gaskin, C. (2014).

Staff experiences of providing support to students who are managing mental health challenges: A qualitative study from two Australian universities. *Advances in Mental Health, 12*(3), 192-201.

McLaughlin, M. C. (1985). Graduate school and families: Issues for academic departments and university mental health professionals. *Journal of College Student Personnel, 26*(6), 488-491.

McNall, L. A., & Michel, J. S. (2011). A dispositional approach to work–school conflict and enrichment. *Journal of Business and Psychology, 26*(3), 397-411.

McNall, L. A., & Michel, J. S. (2017). The relationship between student core self-evaluations, support for school, and the work–school interface. *Community, Work & Family, 20*(3), 253-272.

Medline Plus, Mental disorders Available at: <https://medlineplus.gov/mentaldisorders.html>

Megivern, D., Pellerito, S., & Mowbray, C. (2003). Barriers to higher education for individuals with psychiatric disabilities. *Psychiatric Rehabilitation Journal, 26*(3), 217.

Memorial University of Newfoundland. (2020). Department of Human Resources Annual Report

April 1, 2019- March 31, 2020. Available at:

[http://www.mun.ca/hr/about/HR\\_AnnualReport\\_2020.pdf](http://www.mun.ca/hr/about/HR_AnnualReport_2020.pdf).

Mental Health Commission of Canada, Making the Case for Investing in Mental Health in Canada

Available at: [https://www.mentalhealthcommission.ca/sites/default/files/2016-](https://www.mentalhealthcommission.ca/sites/default/files/2016-06/Investing_in_Mental_Health_FINAL_Version_ENG.pdf)

[06/Investing\\_in\\_Mental\\_Health\\_FINAL\\_Version\\_ENG.pdf](https://www.mentalhealthcommission.ca/sites/default/files/2016-06/Investing_in_Mental_Health_FINAL_Version_ENG.pdf)

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

Mental Health Commission of Canada, Mental Health Strategy for Canada. Available at:

<https://www.mentalhealthcommission.ca/English/focus-areas/mental-health-strategy-canada>

Michaels, P. J., López, M., Rüsçh, N., & Corrigan, P. W. (2017). Constructs and concepts comprising the stigma of mental illness. *Psychology, Society, & Education, 4*(2), 183-194.

Michaud, C. M., McKenna, M. T., Begg, S., Tomijima, N., Majmudar, M., Bulzacchelli, M. T., ... & Murray, C. J. (2006). The burden of disease and injury in the United States 1996. *Population Health Metrics, 4*(1), 1-49.

Morrison, M. A., & Lent, R. W. (2014). The advisory working alliance and research training: Test of a relational efficacy model. *Journal of Counseling Psychology, 61*(4), 549.

Moskos, M., Olson, L., Halbern, S., Keller, T., & Gray, D. (2005). Utah youth suicide study: psychological autopsy. *Suicide and Life-Threatening Behavior, 35*(5), 536-546.

Mousavi, M. P., Sohrabpour, Z., Anderson, E. L., Stemig-Vindedahl, A., Golden, D., Christenson, G., ... & Bühlmann, P. (2018). Stress and Mental Health in Graduate School: How student empowerment creates lasting change. *Journal of Chemical Education, 95*(11), 1939-1946.

Myers, S. B., Sweeney, A. C., Popick, V., Wesley, K., Bordfeld, A., & Fingerhut, R. (2012). Self-care practices and perceived stress levels among psychology graduate students. *Training and Education in Professional Psychology, 6*(1), 55.

Neff, K. D., Kirkpatrick, K. L., & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality, 41*(1), 139-154.

Neuman, W., & Robson, K. (2014). *Basics of social research: Qualitative and quantitative approaches* (Third Canadian ed.). Toronto: Pearson Canada.

New Economics Foundation (n.d.) Retrieved May 2011 from:  
<http://www.neweconomics.org/projects/five-ways-well-being>

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Nicklin, J. M., & McNall, L. A. (2013). Work–family enrichment, support, and satisfaction: A test of mediation. *European Journal of Work and Organizational Psychology, 22*(1), 67-77.
- O'Connor, M., & Casey, L. (2015). The Mental Health Literacy Scale (MHLS): A new scale-based measure of mental health literacy. *Psychiatry research, 229*(1-2), 511-516.
- Off course on campus: The student mental health crisis. (2015). *CBC*. Available at: <http://www.cbc.ca/toronto/features/offcourse/#top>
- Oswalt, S. B., & Riddock, C. C. (2007). What to do about being overwhelmed: Graduate students, stress and university services. *College Student Affairs Journal, 27*(1), 24-44.
- Pasco, S., Wallack, C., Sartin, R. M., & Dayton, R. (2012). The impact of experiential exercises on communication and relational skills in a suicide prevention gatekeeper-training program for college resident advisors. *Journal of American College Health, 60*(2), 134-140.
- Patterson, P., & Kline, T. (2008). Report on Post-Secondary Institutions as Healthy Settings: The Pivotal Role of Student Services. Findings from a Study with College, Institute and University Students and Student Services Administrators in Canada. *Association of Canadian Community Colleges*.
- Pellmar, T. C., & Eisenberg, L. (2000). Barriers to interdisciplinary research and training. In *Bridging Disciplines in the Brain, Behavioral, and Clinical Sciences*. National Academies Press (US).
- Peltonen, J. A., Vekkaila, J., Rautio, P., Haverinen, K., & Pyhältö, K. (2017). Doctoral students' social support profiles and their relationship to burnout, drop-out intentions, and time to candidacy. *International Journal of Doctoral Studies, 12*, 157-173.
- Peluso, D. L., Carleton, R. N., & Asmundson, G. J. (2011). Depression symptoms in Canadian psychology graduate students: Do research productivity, funding, and the academic advisory relationship play a role? *Canadian Journal of Behavioural Science, 43*(2), 119-127.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Phillips, S., & Heywood-Roos, R. (2014). Job security for early career researchers is a significant factor in helping research make an impact. *Impact of Social Sciences Blog*.
- Pizzagalli, D. A. (2014). Depression, stress, and anhedonia: toward a synthesis and integrated model. *Annual Review of Clinical Psychology, 10*, 393-423.
- Powell, K. (2016). Young, talented and fed-up: scientists tell their stories. *Nature News, 538*(7626), 446.
- Pryal, K. R. G. (2014). Disclosure Blues: Should You Tell Colleagues About Your Mental Illness?. *The Chronicle of Higher Education*.
- Pryor, J. H., Hurtado, S., DeAngelo, L. E., Blake, L. P., & Tran, S. (2010). *The American freshman: National Norms Fall 2009*. Univ of California Press.
- Puri, P. (2019). The emotional toll of graduate school. *Scientific American*. Available at: <https://blogs.scientificamerican.com/observations/the-emotional-toll-ofgraduate-school/>.
- Qualtrics software, Version [September 2020] Of Qualtrics. Copyright ©2020, Qualtrics, Provo, UT, USA. <https://www.qualtrics.com>
- Raffing, R., Jensen, T. B., & Tønnesen, H. (2017). Self-reported needs for improving the supervision competence of PhD supervisors from the medical sciences in Denmark. *BMC Medical Education, 17*(1), 1-9.
- Ramsay, R. F., Cooke, M. A., & Lang, W. A. (1990). Alberta's suicide prevention training programs: a retrospective comparison with Rothman's developmental research model. *Suicide and Life-Threatening Behavior, 20*(4), 335-351.
- Reavley, N. J., McCann, T. V., & Jorm, A. F. (2012). Actions taken to deal with mental health problems in Australian higher education students. *Early Intervention in Psychiatry, 6*(2), 159-165.



UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Reavley, N. J., Ross, A. M., Killackey, E., & Jorm, A. F. (2013). Development of guidelines for tertiary education institutions to assist them in supporting students with a mental illness: a Delphi consensus study with Australian professionals and consumers. *PeerJ*, 1, e43.
- Reevy, G. M., & Deason, G. (2014). Predictors of depression, stress, and anxiety among non-tenure track faculty. *Frontiers in Psychology*, 5, 701.
- Rice, K. G., Suh, H., Yang, X., Choe, E., & Davis, D. E. (2016). The advising alliance for international and domestic graduate students: Measurement invariance and implications for academic stress. *Journal of Counseling Psychology*, 63(3), 331.
- Richardson, C. (2008). Working Alone. *New Labor Forum*, 17(3), 69-78.
- Rickerson, N., Souma, A., & Burgstahler, S. (2004). Psychiatric disabilities in postsecondary education: Universal design, accommodations and supported education. *National Capacity Building Institute on Issues of Transition and Postsecondary Participation for Individuals with Hidden Disabilities*.
- Rindermann, H., & Thompson, J. (2011). Cognitive capitalism: The effect of cognitive ability on wealth, as mediated through scientific achievement and economic freedom. *Psychological Science*, 22(6), 754-763.
- Rozanov, V. A., Mokhovikov, A. N., & Stiliha, R. (2002). Successful model of suicide prevention in the Ukraine military environment. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, 23(4), 171.
- Rummell, C. M. (2015). An exploratory study of psychology graduate student workload, health, and program satisfaction. *Professional Psychology: Research and Practice*, 46(6), 391.
- Ryan, G. W., & Bernard, H. R. (2000). Techniques to identify themes in qualitative data.
- Sauter, S. L., Brightwell, W. S., Colligan, M. J., Hurrell, J. J., & Katz, T. M. (2002). Changing organization of work and the safety and health of working people.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Schlosser, L. Z., Lyons, H. Z., Talleyrand, R. M., Kim, B. S., & Johnson, W. B. (2011). Advisor-advisee relationships in graduate training programs. *Journal of Career Development, 38*(1), 3-18.
- Sedgwick, P. (2014). Cross sectional studies: advantages and disadvantages. *BMJ: British Medical Journal, 348*(Mar26 2), G2276.
- Shen, Y. J., & Herr, E. L. (2004). Career placement concerns of international graduate students: A qualitative study. *Journal of Career Development, 31*(1), 15-29.
- Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I., & Peter, R. (2004). The measurement of effort–reward imbalance at work: European comparisons. *Social Science & Medicine, 58*(8), 1483-1499.
- Silverman, D., Underhile, R., & Keeling, R. (2008). Student health reconsidered: A radical proposal for thinking differently about health-related programs and services for students. *Student Health Spectrum*, June 2008, AETNA Student Health.
- Slavin, S. J., Schindler, D. L., & Chibnall, J. T. (2014). Medical student mental health 3.0: improving student wellness through curricular changes. *Academic Medicine, 89*(4), 573.
- Snyder, J. A. (1971). The use of gatekeepers in crisis management. *Bulletin of Suicidology, 8*(3), 39-44.
- Soper, D.S. (2021). A-priori Sample Size Calculator for Multiple Regression [Software]. Available from <https://www.danielsoper.com/statcalc/>
- Soyza, C. K., & Wilcomb, C. J. (2015). Mindfulness, self-compassion, self-efficacy, and gender as predictors of depression, anxiety, stress, and well-being. *Mindfulness, 6*(2), 217-226.
- Stallman, H. M. (2010). Psychological distress in university students: A comparison with general population data. *Australian Psychologist, 45*(4), 249-257.
- Stallman, H. M., & Shochet, I. A. N. (2009). Prevalence of mental health problems in Australian university health services. *Australian Psychologist, 44*(2), 122-127.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Stewart, S. M., Lam, T. H., Betson, C. L., Wong, C. M., & Wong, A. M. P. (1999). A prospective analysis of stress and academic performance in the first two years of medical school. *Medical Education, 33*(4), 243-250.
- Storrie, K., Ahern, K., & Tuckett, A. (2010). A systematic review: students with mental health problems—a growing problem. *International Journal of Nursing Practice, 16*(1), 1-6.
- Struthers, C. W., Perry, R. P., & Menec, V. H. (2000). An examination of the relationship among academic stress, coping, motivation, and performance in college. *Research in Higher Education, 41*(5), 581-592.
- Stuart, C., WAALEN PhD, J. K., & Haelstromm, E. (2003). Many helping hearts: An evaluation of peer gatekeeper training in suicide risk assessment. *Death Studies, 27*(4), 321-333.
- Stubb, J., Pyhältö, K., & Lonka, K. (2012). The experienced meaning of working with a PhD thesis. *Scandinavian Journal of Educational Research, 56*(4), 439-456.
- Sullivan, P., Murphy, J., & Blacker, M. (2019). The level of mental health literacy among athletic staff in intercollegiate sport. *Journal of Clinical Sport Psychology, 13*(3), 440-450.
- Sun, W., Wu, H., & Wang, L. (2011). Occupational stress and its related factors among university teachers in China. *Journal of Occupational Health, 53*(4), 280-286.
- Swami, V. (2012). Mental health literacy of depression: gender differences and attitudinal antecedents in a representative British sample. *PloS One, 7*(11), e49779.
- Takahashi, A., Tachikawa, H., Morita, N., Aiba, M., Shiratori, Y., Nemoto, K., & Arai, T. (2021). Suicide prevention Gatekeeper Self-Efficacy Scale (GKSES): A psychometric investigation with a Japanese sample. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 42*(2), 128.
- Takahashi, A., Tachikawa, H., Morita, N., Aiba, M., Shiratori, Y., Nemoto, K., & Arai, T. (2020). Suicide Prevention Gatekeeper Self-Efficacy Scale (GKSES). *Crisis*.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior, Spec.* 53-79.
- Toews, J. A., Lockyer, J. M., Dobson, D. J., Simpson, E., Brownell, A. K. W., Brenneis, F., ... & Cohen, G. S. (1997). Analysis of stress levels among medical students, resident, and graduate students at four Canadian schools of medicine. *Academic Medicine, 72*(11), 997-1002.
- Tompkins, T. L., & Witt, J. (2009). The short-term effectiveness of a suicide prevention gatekeeper training program in a college setting with residence life advisers. *The Journal of Primary Prevention, 30*(2), 131-149.
- Turk, J. M., Soler, M. C., & Ramos, A. M. (2020). College and university presidents respond to COVID-19: 2020 fall term survey. *American Council on Education*.
- Twenge, J. M., Gentile, B., DeWall, C. N., Ma, D., Lacefield, K., & Schurtz, D. R. (2010). Birth cohort increases in psychopathology among young Americans, 1938–2007: A cross-temporal meta-analysis of the MMPI. *Clinical Psychology Review, 30*(2), 145-154.
- Tytherleigh\*, M. Y., Webb, C., Cooper, C. L., & Ricketts, C. (2005). Occupational stress in UK higher education institutions: A comparative study of all staff categories. *Higher Education Research & Development, 24*(1), 41-61.
- Van Damme, D. (2014). Doctorate degree holders take research skills outside academia.
- Vanroelen, C., Levecque, K., & Louckx, F. (2009). Psychosocial working conditions and self-reported health in a representative sample of wage-earners: A test of the different hypotheses of the demand–control–support–model. *International Archives of Occupational and Environmental Health, 82*(3), 329-342.
- Verdone, M. (2020). *Stress Experienced by First-Year Students in Graduate-Level Health Care Professional Programs*. Edgewood College.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Verger, P., Guagliardo, V., Gilbert, F., Rouillon, F., & Kovess-Masfety, V. (2010). Psychiatric disorders in students in six French universities: 12-month prevalence, comorbidity, impairment and help-seeking. *Social Psychiatry and Psychiatric Epidemiology*, *45*(2), 189-199.
- Waddell, C., J. M. Hua, O. M. Garland, R. D. Peters, and K. McEwan. 2007. "Preventing Mental Disorders in Children: A Systematic Review to Inform Policy-Making." *Canadian Journal of Public Health* *98* (3): 166–173
- Wang, L. (2015). Opening up about stress in graduate school. *Chemical and Engineering News*, *93*(36), 59-61.
- Wei, Y., Hayden, J. A., Kutcher, S., Zygmunt, A., & McGrath, P. (2013). The effectiveness of school mental health literacy programs to address knowledge, attitudes and help seeking among youth. *Early intervention in psychiatry*, *7*(2), 109-121.
- Westefeld, J. S., Button, C., Haley Jr, J. T., Kettmann, J. J., Macconnell, J., Sandil, R., & Tallman, B. (2006). College student suicide: A call to action. *Death Studies*, *30*(10), 931-956.
- White, M., & Casey, L. (2017). Helping older adults to help themselves: the role of mental health literacy in family members. *Aging & mental health*, *21*(11), 1129-1137.
- Williams, M., Coare, P., Marvell, R., Pollard, E., Houghton, A. M., & Anderson, J. (2015). Understanding provision for students with mental health problems and intensive support needs: Report to HEFCE by the Institute for Employment Studies (IES) and Researching Equity, Access and Partnership (REAP).
- Winefield, A. H., & Jarrett, R. (2001). Occupational stress in university staff. *International Journal of Stress Management*, *8*(4), 285-298.
- Winefield, A. H., Gillespie, N., Stough, C., Dua, J., Hapuarachchi, J., & Boyd, C. (2003). Occupational stress in Australian university staff: Results from a national survey. *International Journal of Stress Management*, *10*(1), 51.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Wittchen, H. U., Knappe, S., Andersson, G., Araya, R., Banos Rivera, R. M., Barkham, M., ... & Schumann, G. (2014). The need for a behavioural science focus in research on mental health and mental disorders. *International Journal of Methods in Psychiatric Research*, 23(S1), 28-40.
- World Health Organization. (2012). Public health action for the prevention of suicide: a framework. *World Health Organization*. Available at: <https://apps.who.int/iris/handle/10665/75166>
- World Health Organization. (2020). World Mental Health Day: an opportunity to kick-start a massive scale-up in investment in mental health. Available at: <https://www.who.int/news/item/27-08-2020-world-mental-health-day-an-opportunity-to-kick-start-a-massive-scale-up-in-investment-in-mental-health>
- Wyman, P. A., Brown, C. H., Inman, J., Cross, W., Schmeelk-Cone, K., Guo, J., & Pena, J. B. (2008). Randomized trial of a gatekeeper program for suicide prevention: 1-year impact on secondary school staff. *Journal of Consulting and Clinical Psychology*, 76(1), 104.
- Wynaden, D., McAllister, M., Tohotoa, J., Al Omari, O., Heslop, K., Duggan, R., ... & Byrne, L. (2014). The silence of mental health issues within university environments: A quantitative study. *Archives of Psychiatric Nursing*, 28(5), 339-344.
- Wynaden, D., Wichmann, H., & Murray, S. (2013). A synopsis of the mental health concerns of university students: results of a text-based online survey from one Australian university. *Higher Education Research & Development*, 32(5), 846-860.
- Yi, J. K., Jun-Chih Giseala Lin, J. K., & Kishimoto, Y. (2003). Utilization of counseling services by international students. *Journal of Instructional Psychology*, 30(4), 333.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

Yorgason, J. B., Linville, D., & Zitzman, B. (2008). Mental health among college students: do those who need services know about and use them? *Journal of American College Health, 57*(2), 173-182.

Zartaloudi, A., & Madianos, M. (2010). Stigma related to help-seeking from a mental health professional. *Health Science Journal, 4*(2), 77.

## Appendices

### Appendix A: Recruitment Letter



**School of Human Kinetics and Recreation**  
Physical Education Building  
St. John's, NL, Canada A1C 5S7

Tel: 709-763-5824 | [aspunjabi@mun.ca](mailto:aspunjabi@mun.ca) | [www.mun.ca/hkr](http://www.mun.ca/hkr)

### Recruitment Emails

**[To be distributed by the research team directly to [University] Academic Staff Members, who are the prospective participants. The potential participants may also learn about this study through an email circulated by their academic unit head, faculty union, and through an announcement of the study (provided by the research team) in the University's Newline email. Scripts for these alternative recruitment efforts are now added to this document below.]**

#### Subject Line:

Recruiting [University] Academic Staff Members for research study: University Academic Staff Members as Gatekeepers of Mental Health for Graduate Students.

#### Email Body:

*\* This invitation is being circulated in a number of ways- apologies for cross posting. \**

#### **Do you feel ready to be a Gatekeeper of Mental Health for your graduate students?**

Dear Prospective Participant,

We are recruiting [University] Academic Staff Members (ASMs) to take part in our study in which participants complete an anonymous online survey. The purpose of the study is to understand if ASMs can be suitable gatekeepers of graduate students' mental health. For the purpose of this study, a graduate student is defined as "someone who has earned a bachelor's degree and is now pursuing a masters, PhD or professional doctorate degree". Our study will examine their readiness and perception for the role as gatekeeper and determine what services, interventions and supports they would need to improve the university's support of graduate students with mental health challenges.

The questionnaire will take only about 15 minutes of your time. Your responses will provide much needed insights into the organizational factors affecting the ability of ASMs to take up the role of gatekeeper and may help in implementing and improving the workplace policies at [University].

You can access the survey directly by clicking on the following link:



UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

<Survey Link>

If you have any questions about this research project, you can reach the research team by contacting Ms. Ashwini Punjabi at [aspunjabi@mun.ca](mailto:aspunjabi@mun.ca) or Dr. Kim Cullen at [kcullen@mun.ca](mailto:kcullen@mun.ca).

If you have questions regarding your rights as a research participant, please contact the Health Research Ethics Authority at (709) 777-6974 or [info@hrea.ca](mailto:info@hrea.ca).

Thank you,  
Ashwini Punjabi

**[To be emailed by research team to Academic heads, [unions] and forwarded by these organizations to potential participants through their distribution lists]**

**Subject Line:**

FOR DISTRIBUTION: Recruiting [University] Academic Staff Members for research study: University Academic Staff Members as Gatekeepers of Mental Health for Graduate Students

**Email Body:**

*\*Please support our recruitment efforts for this survey by forwarding to all the Academic Staff Members in your unit including faculty members, per course instructors etc.\**

**Do you feel ready to be a Gatekeeper of Mental Health for your graduate students?**

Dear Prospective Participant,

We are recruiting Academic Staff Members (ASMs) at [University] to take part in our study in which participants complete an anonymous online survey. The purpose of the study is to understand if ASMs can be suitable gatekeepers of graduate students' mental health. Our study will examine their readiness and perception for the role as gatekeeper and determine what services, interventions and supports they would need to improve the university's support of graduate students with mental health challenges.

The questionnaire will take only about 15 minutes of your time. Your responses will provide much needed insights into the organizational factors affecting the ability of ASMs to take up the role of gatekeeper and may help in implementing and improving the workplace policies at [University].

<Survey Link>

If you have any questions about this research project, you can reach the research team by contacting Ms. Ashwini Punjabi at [aspunjabi@mun.ca](mailto:aspunjabi@mun.ca) or Dr. Kim Cullen at [kcullen@mun.ca](mailto:kcullen@mun.ca).

If you have questions regarding your rights as a research participant, please contact the Health Research Ethics Authority at (709) 777-6974 or [info@hrea.ca](mailto:info@hrea.ca).

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

Thank you,  
Ashwini Punjabi

**[To be sent to MARCOMM and distributed to ASMs via NEWSLINE]**

**Subject Line:**

Item for Newslines: University Academic Members as Gatekeepers of Mental Health for Graduate students.

**Email Body:**

Please add the following notice to Newslines communications. We appreciate any assistance to communicate this survey invitation to [University] Academic Staff Members over the next week. Feel free to contact Ashwini Punjabi ([aspunjabi@mun.ca](mailto:aspunjabi@mun.ca)) or Dr. Kim Cullen ([kcullen@mun.ca](mailto:kcullen@mun.ca)) for more information about this research.

*For Distribution in Newslines:*

Are you an Academic Staff Member (ASM) who teaches or supervises graduate students?

If so, please consider participating in a survey being completed as a component of Ms. Ashwini Punjabi's Masters thesis in the School of Human Kinetics and Recreation. Ms. Punjabi and her supervisor, Dr. Kim Cullen, are recruiting ASMs at [University] to take part in an anonymous online survey that should take no more than 15 minutes of your time. The purpose of the study is to examine the readiness and perceptions of ASMs for the role of gatekeeper for graduate student mental health and determine what services, interventions and supports they would need to improve the university's support of graduate students with mental health challenges. Access the survey at the following link: << Insert Survey Link Here. >>

Thank you,  
Ashwini Punjabi

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

**The following changes to the email text as described above will be used for sending reminder emails, as outline below:**

1. For direct emails to ASMs by research team: Changes only to subject line as follows:

**Subject Line:** REMINDER NOTICE: Recruiting Academic Staff Members of [University] for research study: University Academic Staff Members as Gatekeepers of Mental Health for Graduate Students

**Email Body:** \*Same as above\*

2. For emails to Academic heads and the unions: Changes only to the email body text by adding a line at the start of the email body as follows:

**Subject Line:** \*Same as above\*

**Email Body** (Insert the following text at the start of the email, remainder of email will be \*Same as above\*):

The following email is being recirculated as a reminder notice above the following study.

3. For emails to MARCOM for distribution through NEWSLINE, there are no changes expected to what is posted above

## Appendix B: Informed Consent



### School of Human Kinetics and Recreation

Physical Education Building  
St. John's, NL, Canada A1C 5S7

Tel: 709-763-5824 | [aspunjabi@mun.ca](mailto:aspunjabi@mun.ca) | [www.mun.ca/hkr](http://www.mun.ca/hkr)

### Consent to Take Part in Research

**TITLE:** University Academic Staff Members as Gatekeepers of Mental Health for Graduate Students

**RESEARCHER(S):** Ms. Ashwini Punjabi, School of Human Kinetics and Recreation, Memorial University of Newfoundland, [aspunjabi@mun.ca](mailto:aspunjabi@mun.ca), (709)-763-5824.

**SUPERVISOR(S):** Dr. Kim Cullen, School of Human Kinetics and Recreation, Memorial University of Newfoundland, (709) 864-6936, [kcullen@mun.ca](mailto:kcullen@mun.ca)

You have been invited to take part in a research study. Taking part in this study is voluntary. You may choose to take part, or you may choose not to take part in this study. You also may change your mind at any time.

This consent form has important information to help you make your choice. It may use words that you do not understand. Please ask the researcher, Ms. Ashwini Punjabi, to explain anything that you do not understand. It is important that you have as much information as you need and that all your questions are answered. Please take as much time as you need to think about your decision to participate or not and ask questions about anything that is not clear.

#### 1. Why am I being asked to join this study?

You are being invited to join this study because we are interested in connecting with academic staff members who teach and/or supervise graduate students at [University]. For the purpose of this study, a graduate student is defined as “someone who has earned a bachelor’s degree and is now pursuing a masters, PhD or professional doctorate degree”.

This study will help us learn more information about the perceptions and readiness of academic staff members to be the potential gatekeepers of graduate student mental health.

**2. How many people will take part in this study?**

This study is open to all Academic Staff Members with either teaching or supervision responsibilities for graduate students, across all [University] campuses, units, and levels (i.e., Per Course Instructors to Professor Emeritus).

**3. How long will I be in the study?**

The survey will take approximately 15-20 minutes to complete.

**4. What will happen if I take part in this study?**

If you decide to volunteer for this study, you will complete an anonymous online survey. The survey questions will ask about who you are (e.g., age, sex, marital status, etc.) and about your job (e.g., academic discipline, position as a faculty, length of time on the job, etc.).

The survey will also ask you questions about your awareness of the mental health needs of graduate students and your thoughts about the role of being a gatekeeper of mental health for graduate students, your readiness for this role and the potential challenges that you may face taking up this role. The information you provide is for research purposes only. Some of the questions are personal. You can choose not to answer questions if you wish.

**5. Are there risks to taking part in this study?**

The survey will ask you questions about the prevalence of mental health challenges in the students and will also include questions about your thoughts and readiness for the role of being a gatekeeper of graduate student mental health. It will also include some potentially sensitive information (e.g., sex/gender, age, mental health status). While this may make you feel uncomfortable, the risks involved in completing this survey are no more than you would encounter in everyday life.

You may refuse to answer any questions that you do not wish to answer.

If you experience any negative consequences upon completing the survey, please make use of the following resources:

**Bridge the gApp:** If you are finding it difficult to cope or feel anxious, Bridge the gApp offers many services to support your wellbeing.

Visit <https://nl.bridgethegapp.ca/adult/>

**CHANNAL Warm Line:** If you are in need to talk to someone who can relate, reach out and speak with a trained mental health peer supporter, available 9 am to 12 am daily.

Call the Provincial Warm Line @ 1-855-753-2560

**Doorways NL:** St. John's is offering single sessions Monday to Friday at Building 532 Pleasantville. These sessions are available in person, virtually and by telephone.

Call (709) 752-4903 to discuss the option that is best for you

Or visit: <https://nl.bridgethegapp.ca/adult/service-directory/doorways-mental-health-walk-in-clinics-st-johns/>

**Employee Assistance Program:** [University] employees have access to a confidential, no cost, 24-hour, 7-day a week Employee Assistance Program (EAP) provided by Morneau Shepell.

Telephone: 1-800-387-4765 (TTY Service: 1-877-388-0275)

*If you are in immediate danger or need urgent medical support, call 911.*

## **6. What are the possible benefits of participating in this study?**

You will not benefit directly from participating in this study. This study can help to support student learning and curriculum development at [University] in the future. Other universities can use the information presented in the study to review how their faculty experience their role as gatekeepers of mental health and propose more research in this field locally and in Canada.

## **7. If I decide to take part in this survey, can I stop later?**

Participation in this study is voluntary. You may refuse to answer any questions that you do not wish to answer. You can leave the survey at any time by closing your web browser. Since the survey is anonymous, it will not be possible to remove your responses from the study once submitted.

## **8. What are my rights when participating in a research study?**

You have the right to receive all information that you need to decide about participating in this study. You also have the right to ask questions about this study at any time and to have them answered to your satisfaction.

Your rights to privacy are legally protected by laws that require safeguards to ensure that your privacy is respected.

Selecting the “Yes, I consent to participate in this study” option gives us your consent to be in this study. It tells us that you understand the information about the research study. When you select “Yes” on the webpage, you do not give up any of your legal rights against the researcher, sponsor or involved institutions for compensation, nor does this form relieve the researcher, sponsor, or their agents of their legal and professional responsibilities.

You have the right to be informed of the results of this study once the study is complete. Survey results will be published in peer-reviewed journal articles and academic conference presentations. All the data will be summarized, and no individual participant will be identifiable from these summarized results. An executive summary will be made available to all [University] Academic Staff Members via Newslines.

A PDF copy of this informed consent form will be available to download and save for your records.

## **9. What about my privacy and confidentiality?**

The ethical duty of confidentiality includes safeguarding participants' identities, personal information, and data from unauthorized access, use, or disclosure.

You need to know that any information that you provide in the survey will be confidential. All the data will be summarized, and no individual participant will be identifiable from these summarized results. The survey website is designed only to collect your responses to the survey questions. It will not collect any additional information that can potentially identify you (such as machine identifiers).

## **10. Who will see my personal information?**

Anonymity refers to protecting participants' identifying characteristics, such as name or physical attributes.

Every reasonable effort will be made to ensure your anonymity. No personally identifiable information will be collected in this survey. If you decide to contact researchers to discuss your survey, your participation in the study will no longer be anonymous.

The survey host, Qualtrics (Qualtrics, Provo, UT), will be used to collect your responses. The data collected from this study will be maintained on a password-protected computer database on an encrypted device in a restricted access area of Memorial University. The data will be accessed and used by the research team members, including the primary investigator and the supervisor. Data will be kept for a minimum of five years, as required by Memorial University's policy on Integrity in Scholarly Research. Dr. Kim Cullen will oversee the retention and disposal plans after completion of the study.

Data collected from you as part of your participation in this project will be hosted and stored electronically by Qualtrics (Qualtrics, Provo, UT). The data is subject to Qualtrics' privacy policy and any relevant laws of the country in which their servers are located. Therefore, data anonymity and confidentiality may not be guaranteed. For example, in rare instances, government agencies may obtain a court order compelling the provider to grant access to specific data stored on their servers. If you have questions or concerns about how your data will be collected or stored, please contact the researcher, and visit the provider's website for more information before participating. The privacy and security policy of the third-party hosting data collection and storing data can be found at <https://www.qualtrics.com/privacy-statement/>

## **11. Declaration of financial interest, if applicable**

A conflict of interest can occur when a person or group has more than one interest. In research, the people who run or work on studies must tell you if they have a conflict of interest.

There are no conflicts of interest to declare related to this study

## 12. What about questions or problems?

If you have any questions about taking part in this study, you can meet with the principal investigator who oversees the study. That person is:

**Ms. Ashwini Punjabi**, [aspunjabi@mun.ca](mailto:aspunjabi@mun.ca), (709) 763-5824.

Or you can talk to someone who is not involved with the study at all but can advise you on your rights as a participant in a research study. This person can be reached through the Ethics Office by phone at (709) 777-6974 and through email at [info@hrea.ca](mailto:info@hrea.ca).

### Informed Consent Webpage

Selecting the “Yes, I consent to participate in this study” option on the webpage means:

- I have had enough time to think about the information provided and ask for advice if needed.
- All my questions have been answered and I understand the information within this consent form.
- I understand that my participation in this study is voluntary.
- I understand that I am completely free at any time to refuse to participate or to withdraw from this study at any time, without having to give a reason, and that this will not change the quality of care that I receive.
- I understand that it is my choice to be in the study and there is no guarantee that this study will provide any benefits to me.
- I am aware of the risks of participating in this study.
- I do not give up any of my legal rights by signing this consent form.
- I understand that all the information collected will be kept confidential and that the results will only be used for the purposes described in this consent form.
- I understand that this data is being collected anonymously. Therefore, my data cannot be removed once I submit this survey.

By entering the survey, I acknowledge that I have read the information and agree to participate in this study.

- Yes, I consent to participate in this study
- No, I do not consent to participate in this study



## Appendix C: Survey Questionnaire

### Start of Block: Demographics

#### Demographic Information

The following section will collect some basic demographic information about you. Please feel free to skip any question that you are not comfortable answering.

---

Are you a current or retired Academic Staff Member (ASM) at [University]?

- Yes
- No

*Skip To: End of Survey If Are you an Academic Staff Member (ASM) at [University]? = No*

---

For the purpose of this study, we are defining a graduate student as someone who has earned a bachelor's degree and is now pursuing a masters, PhD or professional doctorate degree".

Do you have experience in supervising or teaching graduate students?

- Yes
- No

*Skip To: End of Survey If Do you supervise or teach graduate students? = No*

*Skip To: Q94 If Do you supervise or teach graduate students? = Yes*

---

For how many years have you supervised or taught graduate students, till present?

- < 1 year
  - 1-5 years
  - 6- 10 years
  - 11- 20 years
  - 21+
- 

As an Academic Staff Member (ASM) at [University], do you have experience with:

- Teaching graduate students
- Supervising graduate students
- Both teaching and supervising graduate students

*Skip To: Q96 If As an Academic Staff Member (ASM) at [University], do you: = Supervise graduate students*

*Skip To: Q96 If As an Academic Staff Member (ASM) at [University], do you: = Both teach and supervise graduate students*

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*Skip To: Q97 If As an Academic Staff Member (ASM) at [University], do you: = Teach graduate students*



How many graduate students have you supervised as an ASM at [University]? (Please enter in numerical format)

\_\_\_\_\_



How many graduate students do you teach approximately per year?  
(Please enter in numerical format)

\_\_\_\_\_

What is your current job title?

- Assistant Professor
- Associate professor
- Professor
- Professor Emeritus
- Per course instructor
- Other \_\_\_\_\_

What is your age?

- < 25
- 26-34
- 35-44
- 45-54
- 55-64
- 65 or older

How would you classify your gender identity?

- Male
- Female
- Non-binary
- Transgender
- Other (Please specify) \_\_\_\_\_

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- Prefer not to say

What is your academic unit at [University]?

\*All [University] faculties were listed here

---

End of Block: Demographics

---

Start of Block: Mental Health Literacy Scale

### Mental Health Knowledge

The purpose of the following questions is to gain an understanding of your knowledge of various aspects to do with mental health.

Please note, there might be some terms that you may not be familiar with. When responding, we are interested in your degree of knowledge.

Therefore, when choosing your response, consider that:

**Very unlikely** = I am certain that it is NOT likely

**Unlikely** = I think it is unlikely but am not certain

**Likely** = I think it is likely but am not certain

**Very Likely** = I am certain that it IS very likely

**Unsure/Don't Know** = You don't know or are unsure about how to best answer the question

---

If someone became extremely nervous or anxious in one or more situations with other people (e.g., a party) or performance situations (e.g., presenting at a meeting) in which they were afraid of being evaluated by others and that they would act in a way that was humiliating or feel embarrassed, then to what extent do you think it is likely they have **Social Phobia**

- Very unlikely
- Unlikely
- Likely
- Very Likely
- Unsure/Don't Know

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If someone experienced excessive worry about a number of events or activities where this level of concern was not warranted, had difficulty controlling this worry and had physical symptoms such as having tense muscles and feeling fatigued then to what extent do you think it is likely they have **Generalised Anxiety Disorder**

- Very unlikely
  - Unlikely
  - Likely
  - Very Likely
  - Unsure/Don't Know
- 

If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities and experienced changes in their appetite and sleep then to what extent do you think it is likely they have **Major Depressive Disorder**

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that **Personality Disorders** are a category of mental illness

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that **Dysthymia** is a disorder

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that the diagnosis of **Agoraphobia** includes anxiety about situations where escape may be difficult or embarrassing

- Very unlikely

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that the diagnosis of **Bipolar Disorder** includes experiencing periods of elevated (i.e., high) and periods of depressed (i.e., low) mood

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that the diagnosis of **Drug Dependence** includes physical and psychological tolerance of the drug (i.e., require more of the drug to get the same effect)

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that in graduate students, **women are MORE likely to experience a mental illness of any kind compared to men**

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that in graduate students, **international students are MORE likely to experience a mental illness of any kind compared to domestic students**

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
-

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To what extent do you think it is likely that in graduate students, **LGBTQ2S+ community students are MORE likely to experience a mental illness of any kind compared to other students.**

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that in graduate students, **men are MORE likely to experience an anxiety disorder compared to women**

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that in graduate students, **international students are MORE likely to experience an anxiety disorder compared to domestic students**

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

To what extent do you think it is likely that in graduate students, **students from the LGBTQ2S+ community are MORE likely to experience an anxiety disorder compared to other students**

- Very unlikely
  - Unlikely
  - Likely
  - Very likely
  - Unsure/Don't Know
- 

Page Break-

When choosing your response, consider that:

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- **Very Unhelpful** = I am certain that it is NOT helpful
  - **Unhelpful** = I think it is unhelpful but am not certain
  - **Helpful** = I think it is helpful but am not certain
  - **Very Helpful** = I am certain that it IS very helpful
  - **Unsure/Don't Know** = You don't know or are unsure about how to best answer the question
- 

To what extent do you think it would be helpful for someone to **improve their quality of sleep** if they were having difficulties managing their emotions (e.g., becoming very anxious or depressed)

- Very Unhelpful
  - Unhelpful
  - Helpful
  - Very Helpful
  - Unsure/Don't Know
- 

To what extent do you think it would be helpful for someone to **avoid all activities or situations that made them feel anxious** if they were having difficulties managing their emotions

- Very Unhelpful
  - Unhelpful
  - Helpful
  - Very Helpful
  - Unsure/Don't Know
- 

Page Break-

When choosing your response, consider that:

- **Very unlikely** = I am certain that it is NOT likely
  - **Unlikely** = I think it is unlikely but am not certain
  - **Likely** = I think it is likely but am not certain
  - **Very Likely** = I am certain that it IS very likely
  - **Unsure/Don't Know** = You don't know or are unsure about how to best answer the question
- 

To what extent do you think it is likely that **Cognitive Behaviour Therapy (CBT)** is a therapy based on challenging negative thoughts and increasing helpful behaviours

- Very unlikely
- Unlikely

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Likely
- Very likely
- Unsure/Don't Know

Mental health professionals are bound by confidentiality; however, there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

*If you are at immediate risk of harm to yourself or others*

- Very unlikely
- Unlikely
- Likely
- Very likely
- Unsure/Don't Know

Mental health professionals are bound by confidentiality; however, there are certain conditions under which this does not apply.

To what extent do you think it is likely that the following is a condition that would allow a mental health professional to **break confidentiality**:

*If your problem is not life-threatening and they want to assist others to better support you*

- Very unlikely
- Unlikely
- Likely
- Very likely
- Unsure/Don't Know

Page Break-

Please indicate to what extent you agree with the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am confident that I know where to seek information about mental illness	•	•	•	•	•



UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

I am confident using the computer or telephone to seek information about mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident attending face to face appointments to seek information about mental illness (e.g., seeing the GP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident I have access to resources (e.g., GP, internet, friends) that I can use to seek information about mental illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break-

Please indicate to what extent you agree with the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
People with a mental illness could snap out if it if they wanted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A mental illness is a sign of personal weakness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A mental illness is not a real medical illness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with a mental illness are dangerous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is best to avoid people with a mental illness so that you don't develop this problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I had a mental illness I would not tell anyone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seeing a mental health professional means you are not strong enough to manage your own difficulties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I had a mental illness, I would not seek help from a mental health professional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe treatment for a mental illness, provided by a mental health professional, would not be effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break-

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

Please indicate to what extent you agree with the following statements:

	Definitely Unwilling	Probably Unwilling	Neither Unwilling nor Willing	Probably Willing	Definitely Willing
How willing would you be to move next door to someone with a mental illness?	•	•	•	•	•
How willing would you be to spend an evening socialising with someone with a mental illness?	•	•	•	•	•
How willing would you be to make friends with someone with a mental illness?	•	•	•	•	•
How willing would you be to have someone with a mental illness start working closely with you on a job?	•	•	•	•	•
How willing would you be to have someone with a mental illness marry into your family?	•	•	•	•	•
How willing would you be to vote for a politician if you knew they had suffered a mental illness?	•	•	•	•	•
How willing would you be to employ someone if you knew they had a mental illness?	•	•	•	•	•

**End of Block: Mental Health Literacy Scale**

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**Start of Block: Attitude and awareness**

**Perceptions regarding graduate student population mental health challenges**

The following questions will ask about your perceptions regarding mental health challenges faced by the graduate student population

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## UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

How much do you agree with the following statement: Graduate students' mental health will impact their ability to do good work?

- Strongly disagree
  - Disagree
  - Neither agree nor disagree
  - Agree
  - Strongly agree
- 

Page Break-

How much consideration should be given to student wellbeing when designing curriculum or in choosing pedagogy?

- A great deal
  - A lot
  - A moderate amount
  - A little
  - None at all
- 

Page Break-

Are you familiar with the meaning of being a gatekeeper of mental health?

- Extremely familiar
  - Very familiar
  - Moderately familiar
  - Slightly familiar
  - Not familiar at all
- 

Page Break-

### **Definition of Gatekeeper of Mental Health:**

**"Gatekeepers"** are people who come in primary contact with the individuals in distress due to their profession or relationship.

They are trained to:

- identify individuals facing mental health challenges by recognizing risk factors
  - encourage them to get help
  - refer them to the professionals for treatment
- 

If given the opportunity, do you think you would be ready to be a gatekeeper of mental health for your graduate students?

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Definitely yes
- Probably yes
- Might or might not
- Probably not
- Definitely not

End of Block: Attitude and awareness

---

Start of Block: Gatekeeper Behavior Scale

Please select the number that corresponds to the label that most represents you.

How would you rate your preparedness to:

	Very low (1)	Low (2)	Medium (3)	High (4)	Very High (5)
Recognize when a student's behavior is a sign of psychological distress	•	•	•	•	•
Recognize when a student's physical appearance is a sign of psychological distress	•	•	•	•	•
Discuss with a student your concern about the signs of psychological distress they are exhibiting	•	•	•	•	•
Motivate students exhibiting signs of psychological stress to seek help	•	•	•	•	•
Recommend mental health support services (such as the counseling center) to a student exhibiting signs of psychological distress	•	•	•	•	•

Page Break-

How likely are you to discuss your concerns with a student exhibiting signs of psychological distress?

- Very unlikely
- Unlikely
- Likely
- Very likely

How likely are you to recommend mental health/support services (such as the counseling center) to a student exhibiting signs of psychological distress?

- Very unlikely
- Unlikely

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Likely
- Very likely

Page Break-

Please rate how much you agree/disagree with the following statements

	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
I feel confident in my ability to discuss my concern with a student exhibiting signs of psychological distress	•	•	•	•
I feel confident in my ability to recommend mental health support services to a student exhibiting signs of psychological distress	•	•	•	•
I feel confident that I know where to refer a student for mental health support	•	•	•	•
I feel confident in my ability to help a suicidal student seek help	•	•	•	•

End of Block: Gatekeeper Behavior Scale

Start of Block: Gatekeeper Self-Efficacy Scale

In the following questions, we are asking about your confidence in contacting a person with suicidal thoughts. Confidence levels are presented on a scale from 1 (*not at all*) to 7 (*extremely*):

How do you feel now? Please select and mark the number.

When I contact a person with suicidal thoughts, I feel confident that...

	Not at all (1)	A little (2)	Not much (3)	Neither (4)	A little (5)	Very (6)	Extremely (7)
I can understand the mental states of people who intend to die by suicide	•	•	•	•	•	•	•
I know appropriate attitudes when in contact with a person with suicidal thoughts	•	•	•	•	•	•	•
I can listen closely to a person with suicidal thoughts	•	•	•	•	•	•	•

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I can calmly ask a person about their suicidal ideation (“want to die”) and plan	•	•	•	•	•	•	•
I am familiar with resources that a person with suicidal thoughts can utilize	•	•	•	•	•	•	•
I have basic knowledge about depression	•	•	•	•	•	•	•
I can connect a person with suicidal thoughts with necessary resources	•	•	•	•	•	•	•
I can cope calmly when counseling a person with suicidal intention	•	•	•	•	•	•	•
I can recognize signs of suicide and depression	•	•	•	•	•	•	•

End of Block: Gatekeeper Self-Efficacy Scale

Start of Block: Potential Challenges associated with being a gatekeeper

**Potential challenges ASMs may face as Gatekeepers**

This section will ask you to think about potential challenges you might anticipate having if taking on the role of gatekeeper of mental health for graduate students.

The following is a list of potential challenges that you may face in taking up the role of gatekeeper of mental health for graduate students. Please select and rank order these options from **MOST** challenging (1) to **LEAST** challenging (7), in your opinion

- \_\_\_\_\_ No appropriate training
- \_\_\_\_\_ Perceptions about whether this role is valued by the university
- \_\_\_\_\_ Increase in workload
- \_\_\_\_\_ Might affect your own mental health
- \_\_\_\_\_ Not ready to be a gatekeeper of mental health
- \_\_\_\_\_ Impact on Tenure/promotion
- \_\_\_\_\_ Explicit or implicit inequities in providing emotional support to graduate students
- \_\_\_\_\_ Other (Please specify)

Page Break-

Will being a gatekeeper and responding to student mental health issues have any impact on your wellbeing?

- Very unlikely
- Unlikely

## UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

- Likely
- Very likely

End of Block: Potential Challenges associated with being a gatekeeper

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Start of Block: Support and Training

### Support and Training

This section will ask you questions about your knowledge of mental health resources offered at the university, any training that you have received and support services that you would need to improve the university's ability to support students with mental health challenges.

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Has a graduate student ever approached you for mental health support in the past?

- Yes
- No

*Skip To: Q370 If Has a graduate student ever approached you for mental health support in the past? = Yes*

*Skip To: Q371 If Has a graduate student ever approached you for mental health support in the past? = No*

---

Do you find yourself providing ongoing support to these students after the initial conversation?

- Always
  - Most of the time
  - About half the time
  - Sometimes
  - Never
- 

Which of the following mental health support resources available for students have you heard about?

- Student Wellness and Counselling Centre
  - 24-hr Mental Health Crisis Helpline
  - Mobile Crisis Response Team
  - Evidence based CBT therapy for [University] Graduate students
  - Other (Please specify) \_\_\_\_\_
- 

Have you received any training for providing mental health support?

- Yes
- No

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

*Skip To: Q373 If Have you received any training for providing mental health support? = Yes*  
*Skip To: Q375 If Have you received any training for providing mental health support? = No*

What type of training have you received? Please specify.

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What initiatives has your academic unit taken to encourage ASMs to interact with graduate student on the topic of mental health?

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What services, interventions, support would you want offered to improve the university's ability to support graduate students and academic staff members?

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End of Block: Support and Training



UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

Appendix D: List of Survey items

<b>Domains, Variables</b>	<b># of items</b>	<b>Source instruments</b>
<b>DEMOGRAPHICS</b>		Items were developed by the researcher especially for this project.
Gender	1	
Academic rank	1	
Academic Discipline	1	
<b>ATTITUDE AND AWARENESS</b>	4	Items were developed by the researcher especially for this project.

UNIVERSITY ACADEMIC STAFF MEMBERS AS GATEKEEPERS OF MENTAL HEALTH FOR GRADUATE STUDENTS

<b>MENTAL HEALTH KNOWLEDGE</b>	35	Items were taken from the Mental Health Literacy Scale (MHLS) (O'Connor & Casey, 2015).
<b>READINESS</b>	11	Items were taken from the Gatekeeper Behavior Scale (Albright et al., 2014).
Preparedness	5	
Likelihood	2	
Self-efficacy	4	
<b>SELF-EFFICACY</b>	9	Items were taken from the Gatekeeper Self-Efficacy Scale (GKSES) (Takahashi et al., 2020).

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<p><b>POTENTIAL CHALLENGES</b></p>	<p>1</p>	<p>Items were developed by the researcher especially for this project.</p>
<p><b>SUPPORT AND TRAINING</b></p>	<p>7</p>	<p>Items were developed by the researcher especially for this project.</p>

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Appendix E: List of Variables

<b>Independent Variables</b>	<b>Dependent Variables</b>
<b>Gender</b>	Awareness and Attitude
<b>Academic rank</b>	Mental Health Literacy (MHLS)
<b>Academic Discipline</b>	Preparedness (GBS + GKSES)
	Potential Challenges
	Support & Training (Open + Close ended responses)

Appendix F: TCPS 2 Core Certificate



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Appendix G: Ethics Board Approval Letter



Research Ethics Office  
Suite 200, Eastern Trust Building  
95 Bonaventure Avenue  
St. John's, NL  
A1B 2X5

**July 19, 2021**

**PE 1020,  
230 Elizabeth Avenue, St. John's, A1C  
5S7**

**Dear Ms. Punjabi:**

**Researcher Portal File # 20220358  
Reference # 2021.108**

**RE: University Academic Staff Members as Gatekeepers of Mental Health for Graduate Students**

**Your application was reviewed by a subcommittee under the direction of the HREB and the following decision was rendered:**

X	Approval
	Approval subject to changes
	Rejection

**Ethics approval is granted for one year effective July 19, 2021. This ethics approval will be reported to the board at the next scheduled HREB meeting.**

**This is to confirm that the HREB reviewed and approved or acknowledged the following documents (as indicated):**

- Informed Consent Form\_Clean Version, approved
- Recruitment letter\_Clean Version, approved
- SurveyQuestionnaire\_Clean Version, approved

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- Protocol Document\_AshwiniPunjabi, approved
- TCPS2\_Certificate\_AshwiniPunjabi, acknowledged
- CV\_AshwiniPunjabi, acknowledged
- Supervisor Attestation Form\_signed, acknowledged

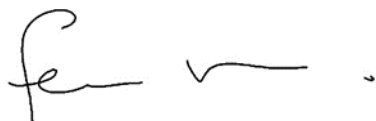
**Please note the following:**

- This ethics approval will lapse on July 19, 2022. It is your responsibility to ensure that the Ethics Renewal form is submitted prior to the renewal date.
- This is your ethics approval only. Organizational approval may also be required. It is your responsibility to seek the necessary organizational approvals.
- Modifications of the study are not permitted without prior approval from the HREB. Request for modification to the study must be outlined on the relevant Event Form available on the Researcher Portal website.
- Though this research has received HREB approval, you are responsible for the ethical conduct of this research.
- If you have any questions please contact [info@hrea.ca](mailto:info@hrea.ca) or 709 777 6974.

**The HREB operates according to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2), ICH Guidance E6: Good Clinical Practice Guidelines (GCP), the Health Research Ethics Authority Act (HREA Act) and applicable laws and regulations.**

**We wish you every success with your study.**

Sincerely,



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Dr Fern Brunger, Chair Non-Clinical Trials Committee  
Health Research Ethics Board



### **You Have Received Ethics Approval, Now What?: HREB Reporting Requirements**

Once a study has received ethics approval from the Health Research Ethics Board (HREB), there are still associated reporting requirements. In the conduct of approved research researchers are required to report to the HREB, in a timely manner, proposed changes from approved research that affect participants at any stage of the process. This includes, but is not limited to, changes to the consent form, changes to the tasks or interventions involved in the research, or changes to measures to protect privacy and confidentiality.

Any substantive change to the research should not be implemented prior to documented approval by the HREB, except when necessary to eliminate an immediate risk(s) to the participants. Below are examples of post approval documentation that must be submitted to the HREB:

#### **Amendments**

Any proposed change in the conduct of a study must be submitted to the HREB, and approved, before the change may be implemented. Such changes might include modification of recruitment procedures, inclusion or exclusion criteria, revised sample size, addition or deletion of study sites, changes to an intervention, consent forms, questionnaires or scripts, etc. If there are changes in project team members or changes to funding source(s)/sponsor(s), there are specific forms to complete to report this to the HREB.

#### **Adverse Events**

Serious and unanticipated adverse events that occur within Newfoundland and Labrador are required to be reported to the HREB. Such events may occur in both clinical trials and in other types of research, e.g. collapse during a rehabilitation program, emotional breakdown requiring follow up care during an interview, or breach of privacy during correspondence. Serious adverse events that are fatal or life-threatening are required to be reported to the HREB as soon as the research team is aware of the event.

#### **Protocol Deviations**

Deviations from an approved study protocol must be reported to the HREB. Changes that eliminate immediate hazards to participants do not require prior approval, but must be reported soon as reasonably possible.

### **Safety Reports**

**Safety reports providing information on all serious adverse events (SAEs) occurring in a clinical trial must be provided by the sponsor to the HREB, normally on a three or six monthly basis (i.e. in accordance with the specified reporting timelines that were outlined in the approved ethics application).**

### **Investigator Brochure (IB) and Product Monograph (PM)**

**Throughout the course of a clinical trial, changes may be implemented to study documents. All revisions to approved study documents must be submitted to the HREB to ensure the record is up to date. If the revisions include new risk or safety information there may be a requirement to notify research participants.**

### **Ethics Renewal/Study Closure**

**Ethics approval lasts for one year. Ethics renewal is required annually, on the anniversary of the date of the HREB notification of approval. Once data collection is no longer ongoing, a study closure form is required to be submitted to the HREB for the study to remain active or to be closed in good standing.**