On-Campus Health Interventions: An Exploration of Student Perceptions

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The undersigned recommend the acceptance of the thesis

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Abstract

Health concerns among post-secondary students, specifically psychological distress and illness, have been increasing. In response, the broader university community has been called upon to support students in this domain, however, there is a lack of research about students' perceptions of these members of campus responding in this context. This study explored perceptions of the appropriateness of a professor, campus psychologist, and campus enforcement and patrol (CEP) officer intervening with students in non-emergency and potential emergency physical and psychological health situations. A sample of 151 current and former post-secondary students with a mean age of 23.97 years (range 18-66) completed the online questionnaire. A key finding was that a campus psychologist was considered the most appropriate to respond to psychological health concerns. Additionally, while there were no scenarios in which a campus psychologist or a professor were considered the least appropriate to respond, a CEP officer was considered the least appropriate to respond in the emergency psychological health scenario. Further, there were differences in the perceptions of physical and psychological health scenarios. These results may inform university policy regarding those deemed most appropriate to respond to students within the context of health.

On-campus health interventions: An exploration of student perceptions

Health concerns, particularly psychological distress and illness, impact the lives of many post-secondary students. Research indicates that there are increasing rates of psychological illness within university and college student populations. In 2018, Auerbach et al. (2018) reported that a minimum of 33% of students had a psychological illness, with some reporting multiple psychological illnesses. In 2007, across 196 U.S. campuses, 21.9% of students had been diagnosed with psychological illnesses with this percentage increasing to 35.5% by 2017 (Lipson et al., 2019). Additionally, Lipson et al. (2019) found that 5.8% of sampled students experienced suicidal ideation in 2007, a rate that increased to 10.8% in 2016-2017 (Lipson et al., 2019). In Canada, 4.7% of female university students sampled in 2011 had a mood disorder and 7.5% had an anxiety disorder and by 2017 these rates had increased to 11.4% with a mood disorder and 13.9% with an anxiety disorder (Weins et al., 2020). There is consistent evidence of an upward trend in rates of psychological distress and illness among post-secondary students.

With an increase in the number of students with psychological distress and illness comes an increase in demand for psychological health services at universities and colleges. For example, Lipson et al. (2019) found that in 2007, 6.6% of university students sampled used psychological health services on campus, which increased in 2017 to 11.8%. Although there is an increased demand for services, many universities have not met the demand with increased resources (Lipson et al., 2019; Mowbray et al., 2006; Watkins et al., 2011). Further, as the demand for psychological health services on campus has increased, service spaces and staff numbers remained the same, staff reporting being

overwhelmed has increased, and confidence in helping ability has decreased (Watkins et al., 2011).

There are a range of psychological health professionals that provide on campus services at post-secondary institutions. In a sample of 55 Canadian universities, the most common professionals providing on campus psychological health care were counsellors, psychologists, and social workers, with a mean ratio of one psychological health professional to 1778.96 students (ranging from 480 to 5375) (Peyton, 2019). The services provided on campus typically included one-to-one therapy, group counselling, and crisis intervention (Bourdon et al., 2020; Peyton, 2019; Yang et al., 2015), with the addition of workshops, peer support, online resources, and couples counselling on some campuses (Bourdon et al., 2020; Peyton, 2019).

With increasing psychological health awareness and student need leading to a high demand for care, other members of campus, beyond psychological health professionals, have been called on to assist. For example, academic staff have been encouraged to provide informal assistance to students with psychological distress and illness by adjusting deadlines and other grading components and bringing discussions of psychological illness into their classrooms (Rango, 2018; Quinn et al., 2009). Academic staff are also encouraged to be empathetic listeners (White & LaBelle, 2019), help students access psychological health supports (Rango, 2018; White & LaBelle, 2019), and monitor students by reporting concerning behaviors (Niehaus et al., 2020; White & LaBelle). With these increased expectations, some academic staff have reported concerns about feeling unqualified (Niehaus et al., 2020; White & LaBelle, 2019). Despite the increase in expectations of the academic staff in assisting students with their

psychological health needs, there is limited research on students' perceptions of this expanded role.

Another group from the campus community that have been identified to respond to students with psychological health concerns are campus enforcement and patrol (CEP) officers. On many university campuses, students are specifically instructed to call a CEP officer in a psychological health emergency. On campus, some of the roles of CEP officers are to provide security, enforce campus policies, respond to accidents, incidents, and concerns on campus, handle lost and found items, and provide first-aid services. Similar to academic staff, despite the growing expectation that CEP officers will respond to students with psychological health concerns, there is limited research on student perceptions of this role. While there is a lack of research on perceptions of CEP officers responding to psychological health concerns, there is research on perceptions of police officers responding to this domain. Although these two professional groups are not the same, they are similar in that their jobs involve enforcement and responding to individuals in need. Due to these similarities, perceptions of police officers assisting with psychological health emergencies provides the closest data to understanding CEP officers intervening in psychological health scenarios. This research shows that individuals have had negative experiences with police officers responding to calls for assistance in their personal psychological distress situations (Albert & Simpson, 2015; Brennan et al., 2016; Lavoie, 2016). Police have been reported to be disrespectful and unsupportive towards carers of the individual having a psychological health emergency (Albert & Simpson, 2015). In addition, carers of those with psychological illness have reported that police officers were quick to assume that the individual in distress would hurt them, which

resulted in inappropriate use of force (Brennan et al., 2016; Lavoie, 2016). Given these findings, it is important to explore students' perceptions of CEP officers in psychological health situations.

While there is a lack of research on students' perceptions of campus community members responding to students in psychological distress, there is evidence to show a persistent difference in the perception of psychological illness in comparison to physical illness. Youssef et al. (2012) discovered that Caribbean college students reading scenarios that described individuals with various psychological and physical illnesses always viewed those with psychological illnesses more negatively than those with physical illnesses. Similarly, Kowalski and Peipert (2019) found that individuals with psychological illness had more associated stigma compared to individuals with a physical illness. Hasson-Ohayon et al. (2018) reported that within the general population, mothers with a psychological illness were viewed more negatively compared to mothers with a physical illness. Further, Singletary et al. (2015) found that participants rarely listed psychological factors as components of a person's health, which indicates that psychological health was not always considered to be connected to a person's overall health, but physical health was always considered essential to overall health. Based on these findings, there is consistent evidence that physical illness continues to be viewed differently than psychological illness.

Although there has been an increase in the psychological health concerns of post-secondary students and additional campus community members encouraged to respond to these concerns, there is a lack of research examining students' perceptions of the members of campus who have been encouraged to intervene. Further, there is a lack of

information regarding students' perceptions of physical and psychological health concerns and the appropriateness of intervention. As such, the goal of the study was to explore post-secondary students' perceptions of interventions for on-campus health concerns, both physical and psychological. Specifically, the study examined perceived appropriateness of a professor, campus psychologist, and CEP officer responding to students in non-emergency and potentially emergency physical and psychological health situations.

Method

Participants

A sample of 151 current and former post-secondary students volunteered to complete the online questionnaire. Of these participants, 122 were current post-secondary students (101 women, 16 men, 5 another gender) and 29 were former post-secondary students (20 women, 9 men). Participants' age ranged from 18 to 66 years, with a mean age of 23.97 years (*SD* = 9.14). The mean age for women was 23.26 years (*SD* = 8.79) and the mean age for men was 29.37 years (*SD* = 10.98). For the current students, the year of study ranged from first year to fifth year or beyond (*M* = 2.56, *SD* = 1.32). For the individuals who were not current post-secondary students, the time since last enrolled ranged from 30 years to 3 months, with a mean of 11.19 years (*SD* = 9.50). Twenty-seven current students (17.88% of participants) and nine former students (5.96% of participants) had used on-campus psychological health services. For current students, ratings of their on-campus psychological health service experience ranged from 1 (very negative) to 5 (very positive), with a mean of 4.00 (*SD* = 1.21). For former students, ratings of their on-campus psychological health service experience ranged from 2 (somewhat negative) to 5 (very positive), with a mean of 4.00 (*SD* = 1.00). Sixty-five current students (43.05% of participants) and 15 former students (9.93% of participants) had used off-campus psychological health services. For current students, ratings of their off-campus psychological health service experience ranged from 1 (very negative) to 5 (very positive), with a mean of 3.86 (*SD* = 1.13). For former students, ratings of their off-campus psychological health service experience ranged from 2 (somewhat negative) to 5 (very positive), with a mean of 4.33 (*SD* = .82). There were 121 participants (80.13% of

participants) who identified as White/Caucasian**,** 14 (9.27% of participants) identified as Indigenous, 7 (4.64% of participants) identified as Asian, 1 (0.66% of participants) identified as Hispanic, 1 (0.66% of participants) identified as Black/African Canadian, and 6 (3.97% of participants) identified as another ethnicity.

Materials

All participants completed the study through an online survey that included an informed consent form, the questionnaire, and end of study information. The informed consent form provided participants with information about the researcher, task requirements, duration, purpose of the study, and the details of participation. The form also stated that the results of the study would be used to complete an honours thesis as a requirement of Psychology 4959, Honours Project in Psychology II. Additionally, it was stated that the results would be presented and may be published. Participants were also informed that the study was anonymous, that information would be analyzed and reported on a group basis, and that they could stop participating any time prior to the submission of responses. See Appendix A for the informed consent form.

The questionnaire consisted of questions divided into two categories: intervention scenarios and demographics. Before beginning the questionnaire, participants were given a qualification question. In order to complete the survey, participants had to have either attended university/college in the past or currently be enrolled in university/college, therefore, participants were asked this question. Those who selected yes proceeded to the study. Those who selected no were taken to the end of the study information page.

The first section of the questionnaire included the intervention scenarios. The order of the scenarios was randomly varied to protect against order effects. The gender of

the fictitious student in each scenario was not identified and gender-neutral names were used for each character. The first scenario described a non-emergency psychological health situation with a fictitious student named Alex. The second scenario described a non-emergency physical health situation with a fictitious student named Taylor. The third scenario described a potential emergency psychological health situation with a fictitious student named Morgan. The fourth scenario described a potential emergency physical health situation with a fictitious student named Dakota. A potential emergency scenario involved potentially life-threatening health concerns that required action, while the non-emergency scenarios featured no life-threatening concerns and did not require immediate action. Participants were asked how appropriate it would be for a professor, CEP officer, or campus psychologist to approach each student in the situation. In addition, participants were asked the number of individuals that would be appropriate to respond to the situation and the appropriateness of calling 911.

The second section of the questionnaire included the demographics questions. Participants were asked about their age, gender, ethnicity, and post-secondary status, including current year of study or time since last enrolled. Participants were also asked about accessing psychological health services on or off campus and to rate their experience with those services. See Appendix B for the questionnaire.

The end of study information provided a link for students in participating psychology classes to enter their student number (completely separate from the questionnaire to ensure anonymous data) to receive course credit. The form also restated the purpose of the study, researcher information, how to obtain results, and ethics information. See Appendix C for the end of study information.

Procedure

This study was approved by an ethics review process in the psychology program at Grenfell Campus, Memorial University and was found to be in compliance with Memorial University's ethics policy as well as the Tri-council Policy on Ethics. Potential participants were invited to participate through the Grenfell Campus Research Participant Pool, the Psychology Majors/Minors Brightspace page, Grenfell Messenger, and posters advertised via Facebook and Instagram. Students in participating classes were offered 0.50% course credit as compensation for completing the study. Participants were provided with a link to the questionnaire on Qualtrics (www.qualtrics.com), an online Canadian survey software company, that was open for a four-week data collection period. Participants were informed that their responses were anonymous and voluntary. See Appendix D for the advertising materials and poster.

Results

Appropriateness of Intervening Ratings

A three-way repeated measures ANOVA was performed to examine the effects of health type (psychological and physical), severity level of the situation (non-emergency and potential emergency), and type of person intervening (professor, CEP officer, and campus psychologist) on appropriateness of intervening ratings. To see the descriptive statistics for this analysis, refer to Table 1. This ANOVA yielded a significant main effect of health type, $F(1, 149) = 46.89$, $p < .001$, $\eta_p^2 = .24$; severity level, $F(1, 149) = 364.80$, $p < .001$, $\eta_p^2 = .71$; and person intervening, $F(2, 298) = 40.09$, $p < .001$, $\eta_p^2 = .21$. Additionally, significant interactions were found between health type and severity level, $F(1, 149) = 72.77$, $p < .001$, $\eta_p^2 = .33$; health type and person intervening, $F(1.89, 281.07) = 150.81$, $p < .001$, $\eta_p^2 = .50$; severity level and person intervening, $F(2, 298) = 10.92$, $p < .001$, $\eta_p^2 = .07$; and, most importantly, health type by severity level by person intervening, $F(1.94, 289.05) = 4.85$, $p = .009$, $\eta_p^2 = .03$. Since the three-way interaction was significant, it is the focus of this results section. See Appendix E for the complete analyses for the main effects and interactions.

When analyzing the three-way interaction, the interaction was split by severity level. First, a two-way repeated measures ANOVA was performed to examine the effect of health type and person intervening on appropriateness of intervening ratings in non-emergency scenarios (see Figure 1). For the main effect of health type, there were significantly higher ratings of appropriateness of intervening for psychological health scenarios compared to physical health scenarios (mean difference = .94, $p < .001$, 95% CI [.76, 1.13]), $F(1, 149) = 98.32$, $p < .001$, $\eta_p^2 = .40$. For the main effect of person

intervening, there was a significant difference in appropriateness ratings across the three types of individuals, $F(2, 298) = 39.70$, $p < .001$, $\eta_p^2 = .21$. A professor was rated significantly more appropriate to intervene compared to a CEP officer (mean difference = .17, $p = .01$, 95% CI [.03, .32]). The campus psychologist was rated significantly more appropriate to intervene compared to a professor (mean difference = .37, $p < .001$, 95% CI [.22, .52]) and compared to a CEP officer (mean difference = .54, $p < .001$, 95% CI [.39, .70]). For the interaction between health type and person intervening, there was a significant difference in appropriateness ratings, $F(1.89, 281.34) = 92.17$, $p < .001$, $\eta_p^2 = .38$. Two one-way repeated measures ANOVAs, one for each health type, were conducted. For the non-emergency psychological health scenario (see Table 1 for descriptive statistics), a significant difference in appropriateness of intervening ratings for the three different types of people was found, $F(2, 300) = 100.40$, $p < .001$, $n^2 = .40$. Pairwise post-hoc tests revealed that the campus psychologist was rated significantly more appropriate to intervene in the non-emergency psychological health scenario compared to a professor (mean difference = 1.02, $p < .001$, 95% CI [.79, 1.25]) and compared to a CEP officer (mean difference = 1.19, $p < .001$, 95% CI [.97, 1.42]). All other comparisons were not significant.

Next, the non-emergency physical health scenario was examined (see Table 1 for descriptive statistics). Mauchly's test indicated that the assumption of sphericity was violated, $\chi^2(2) = 7.64$, $p = .022$, therefore, Huynh-Feldt corrected tests were reported ($\varepsilon = .96$). A one-factor repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of individuals in the non-emergency physical health scenario, $F(1.93, 289.31) = 6.56$, $p =$

.002 , n^2 = .04. Pairwise post-hoc tests, using a Bonferroni correction revealed that a professor was rated significantly more appropriate to intervene in the non-emergency physical health scenario compared to a CEP officer (mean difference = .18, *p* = .032, 95% CI [.01, .35]) and compared to the campus psychologist (mean difference = .27, *p* = .001, 95% CI [.09, .45]). All other comparisons were not significant.

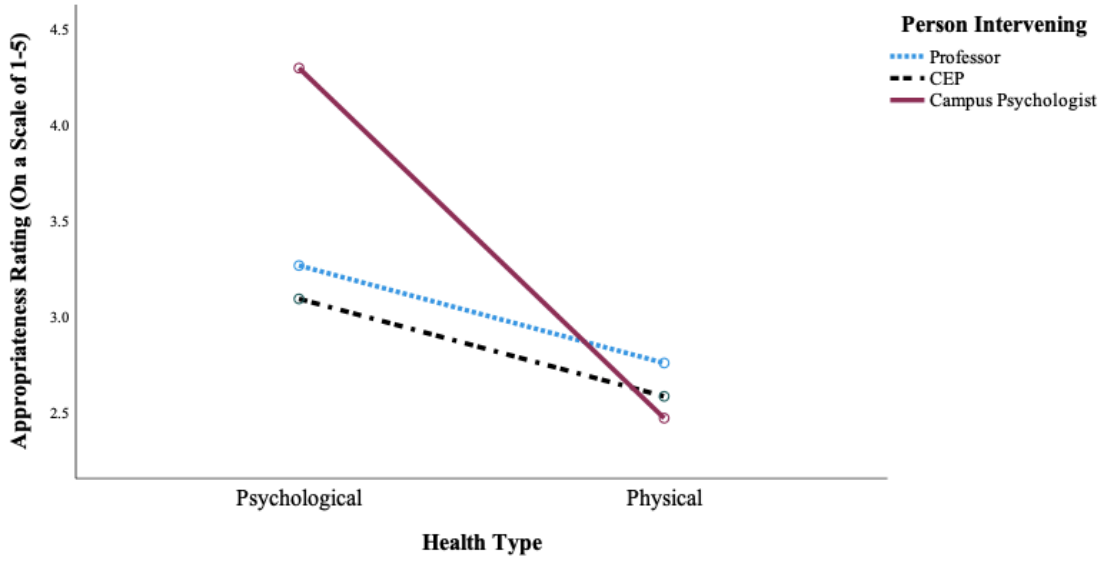
Table 1

Ratings of Appropriateness of Intervening for a Professor, CEP Officer, and Campus Psychologist in Potential Emergency and Non-Emergency Psychological and Physical Health Scenarios

Conditions	Psychological Health			Physical Health		
	M	*SD*	n	*M*	*SD*	n
Potential Emergency						
Professor	4.32	.07	153	4.64	.07	154
CEP Officer	3.86	.10	153	4.58	.08	154
Campus Psychologist	4.85	.03	153	4.20	.09	154
Non-Emergency						
Professor	3.28	.09	151	2.76`	.09	151
CEP Officer	3.11	.10	151	2.58	.10	151
Campus Psychologist	4.30	.08	151	2.48	.10	151

Figure 1

Mean Ratings of Appropriateness of Intervening for a Professor, CEP Officer, and Campus Psychologist in Psychological and Physical Non-Emergency Scenarios



To determine how ratings of appropriateness differed for individuals intervening in non-emergency scenarios, both physical and psychological, three repeated measures t-tests indicated that appropriateness of intervening ratings were significantly higher for a professor in the non-emergency psychological health scenario ($M = 3.28$, $SD = 1.15$) compared to the non-emergency physical health scenario ($M = 2.77$, $SD = 1.12$), $t(150) = 4.40$, $p < .001$, 95% CI [.28, .74]; ratings were significantly higher for a CEP officer in the non-emergency psychological health scenario ($M = 3.11$, $SD = 1.21$) compared to the non-emergency physical health scenario ($M = 2.60$, $SD = 1.18$), $t(150) = 4.32$, $p < .001$, 95% CI [.27, .73]; and ratings were significantly higher for the campus psychologist in the non-emergency psychological health scenario ($M = 4.29$, $SD = .99$) compared to the

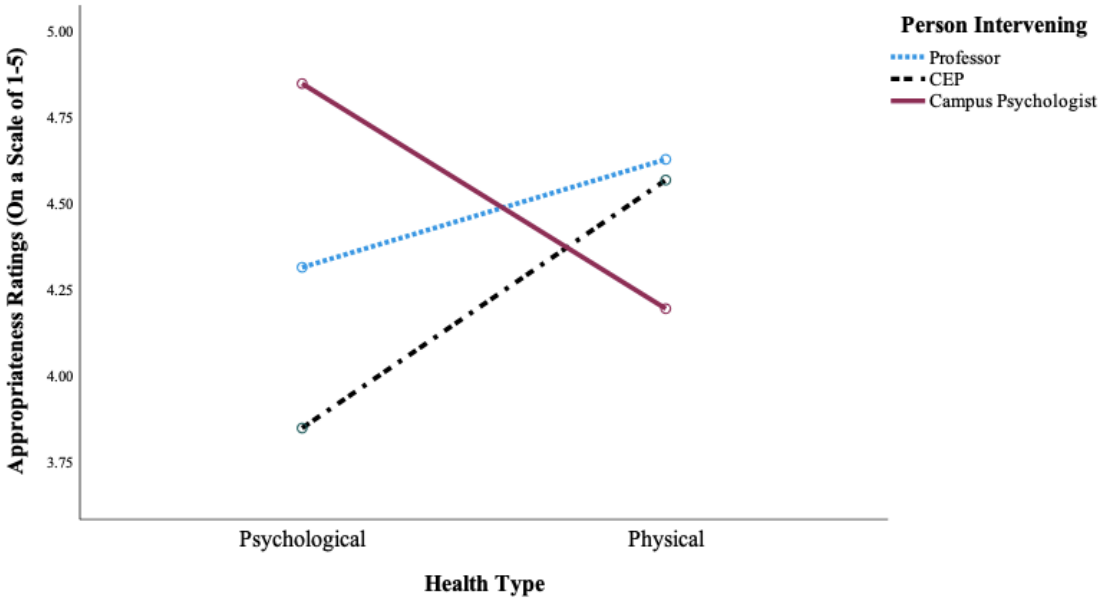
non-emergency physical health scenario (M = 2.47, SD = 1.18), $t(149) = 16.37$, $p < .001$, 95% CI [1.60, 2.04].

A two-way repeated measures ANOVA was performed to examine the effect of health type and person intervening on appropriateness of intervening ratings in potential emergency scenarios (see Figure 2). A significant main effect of person intervening, $F(2, 304) = 17.41$, $p < .001$, $\eta_p^2 = .10$, revealed that a professor was rated significantly more appropriate to intervene compared to a CEP officer (mean difference = .26, $p < .001$, 95% CI [.13, .39]) and that the campus psychologist was rated significantly more appropriate to intervene compared to a CEP officer (mean difference = .30, $p < .001$, 95% CI [.16, .45]). All other comparisons were not significant, and neither was the health type main effect. There was a significant health type by person intervening interaction, $F(1.85, 280.60) = 90.95$, $p < .001$, $\eta_p^2 = .37$. Two one-way repeated measures ANOVAs, one for each health type, were conducted (see Table 1 for descriptive statistics). Mauchly's test indicated that the assumption of sphericity was violated, $\chi^2(2) = 29.90$, $p < .001$, therefore, Huynh-Feldt corrected tests are reported ($\varepsilon = .86$). A significant difference was found in appropriateness of intervening ratings for the three different types of individuals in the potential emergency psychological health scenario, $F(1.71, 260.31) = 72.87$, $p < .001$, $n^2 = .32$. Pairwise post-hoc tests, using a Bonferroni correction, showed that a professor was rated significantly more appropriate to intervene in the potential emergency psychological health scenario compared to a CEP officer (mean difference = .46, $p < .001$, 95% CI [.26, .67]). The campus psychologist was rated significantly more appropriate to intervene in the potential emergency psychological health scenario

compared to a professor (mean difference = .53, $p < .001$, 95% CI [.37, .69]) and compared to a CEP officer (mean difference = .99, $p < .001$, 95% CI [.76, 1.22]).

Figure 2

Mean Ratings of Appropriateness of Intervening for a Professor, CEP Officer, and Campus Psychologist in Psychological and Physical Potential Emergency Scenarios



Regarding the potential emergency physical health scenario (See Table 1 for descriptive statistics), Mauchly's test again indicated a violation of the sphericity assumption, $\chi^2(2) = 13.27$, $p = .001$, therefore, Huynh-Feldt corrected tests are reported ($\varepsilon = .93$). A one-factor repeated-measures ANOVA indicated a significant difference in appropriateness of intervening ratings across responder types, $F(1.87, 285.68) = 23.45$, $p < .001$, $n^2 = .13$. Pairwise post-hoc tests, again using a Bonferroni correction, indicated that a professor was rated significantly more appropriate to intervene compared to the campus psychologist (mean difference = .44, $p < .001$, 95% CI [.26, .63]). A CEP officer was rated significantly more appropriate to intervene compared to the campus

psychologist (mean difference = .38, $p < .001$, 95% CI [.20, .56]). All other comparisons were not significant.

To determine how ratings of appropriateness differed for individuals intervening in potential emergency scenarios, both psychological and physical, three repeated measures t-tests were conducted across each level of the person intervening variable. Appropriateness of intervening ratings were significantly higher for a professor in the potential emergency physical health scenario ($M = 4.63$, $SD = .84$), compared to the potential emergency psychological health scenario ($M = 4.32$, $SD = .80$), $t(152) = -3.77$, $p < .001$, 95% CI [-.48, -.15]; CEP officer appropriateness of intervening ratings were significantly higher in the potential emergency physical health scenario ($M = 4.58$, $SD = .99$), compared to the potential emergency psychological health scenario ($M = 3.86$, $SD = 1.17$), $t(152) = -6.38$, $p < .001$, 95% CI [-.94, -.50]; and the campus psychologist appropriateness of intervening ratings were significantly higher in the potential emergency psychological health scenario ($M = 4.85$, $SD = .41$), compared to the potential emergency physical health scenario ($M = 4.19$, $SD = 1.11$), $t(152) = 7.11$, $p < .001$, 95% CI [.48, .84].

Number of People Appropriate to Respond

A two-way repeated measures ANOVA was performed to examine the effects of health type and severity level of the situation on the number of people rated appropriate to respond in the scenarios (see Figure 3). A significant main effect of severity level, $F(1, 148) = 221.60$, $p < .001$, $\eta_p^2 = .60$ indicated that there were significantly higher ratings of the number of people appropriate to respond for potential emergency scenarios compared to non-emergency scenarios (mean difference = 1.22, $p < .001$, 95% CI [1.06, 1.38]). All

other main effects were not significant, however, a significant interaction of health type by severity level was found $F(1, 148) = 56.94$, $p < .001$, $\eta_p^2 = .28$. Four repeated measures t-tests, conducted across the two levels of health type and severity level, indicated that ratings of the number of people appropriate to intervene in a psychological health scenario were significantly higher for the potential emergency scenario ($M = 3.23$, $SD = 1.37$) compared to the non-emergency scenario ($M = 2.59$, $SD = 1.09$), $t(149) = -6.05$, $p < .001$, 95% CI [-.85, -.43]; the ratings of the number of people appropriate to intervene in a physical health scenario were significantly higher for the emergency scenario ($M = 3.86$, $SD = 1.42$) compared to the non-emergency scenario ($M = 2.06$, $SD = 1.19$), $t(149) = -15.38$, $p < .001$, 95% CI [-2.03, -1.57]; and ratings of the number of people appropriate to intervene in a non-emergency scenario were significantly higher for the psychological health scenario ($M = 2.59$, $SD = 1.09$) compared to the physical health scenario (M = 2.06, $SD = 1.19$), $t(149) = 4.60$, $p < .001$, 95% CI [.30, .75]. Additionally, a repeated measures t-test indicated that ratings of the number of people appropriate to intervene in a potential emergency scenario were significantly higher for the physical health scenario ($M = 3.86$, $SD = 1.42$) compared to the psychological health scenario ($M = 3.22$, $SD = 1.36$), $t(151) = -5.49$, $p < .001$, 95% CI [-.88, -.41].

Appropriateness Ratings for Calling 911

A two-way repeated measures ANOVA examined the effects of health type and severity level on the appropriateness rating of calling 911 (see Figure 4). A main effect of severity level, $F(1, 150) = 898.49$, $p < .001$, $\eta_p^2 = .86$, indicated significantly higher ratings of appropriateness of calling 911 for potential emergency scenarios compared to non-emergency scenarios (mean difference = 2.18, $p < .001$, 95% CI [2.04, 2.32]). All

other main effects were not significant. A significant health type by severity level interaction, $F(1, 150) = 89.72$, $p < .001$, $\eta_p^2 = .37$, and four repeated measures t-tests as a post-hoc analysis, indicated that ratings of the appropriateness of calling 911 in psychological health scenarios were significantly higher for the potential emergency scenario ($M = 3.36$, $SD = 1.33$) compared to the non-emergency scenario ($M = 1.85$, $SD = 1.08$), $t(150) = -13.99$, $p < .001$, 95% CI [-1.72, -1.30]; physical health scenarios were significantly higher for the emergency scenario ($M = 4.18$, $SD = 1.05$) compared to the non-emergency scenario (M = 4.18, $SD = 1.05$), $t(150) = -30.19$, $p < .001$, 95% CI [-3.03, -2.66]; ratings of the appropriateness of calling 911 in non-emergency scenarios was significantly higher for psychological health scenarios ($M = 1.85$, $SD = 1.08$) compared to physical health scenarios ($M = 1.33$, $SD = .72$), $t(150) = 5.64$, $p < .001$, 95% CI [.34, .70]; and ratings of the appropriateness of calling 911 in potential emergency scenarios were significantly higher for physical health scenarios ($M = 4.19$, $SD = 1.04$) compared to psychological health scenarios ($M = 3.37$, $SD = 1.33$), $t(152) = -6.52$, $p < .001$, 95% CI [-1.06, -.57].

Figure 3

Mean Number of People Appropriate to Intervene in Non-Emergency and Potential Emergency Psychological and Physical Health Scenarios.

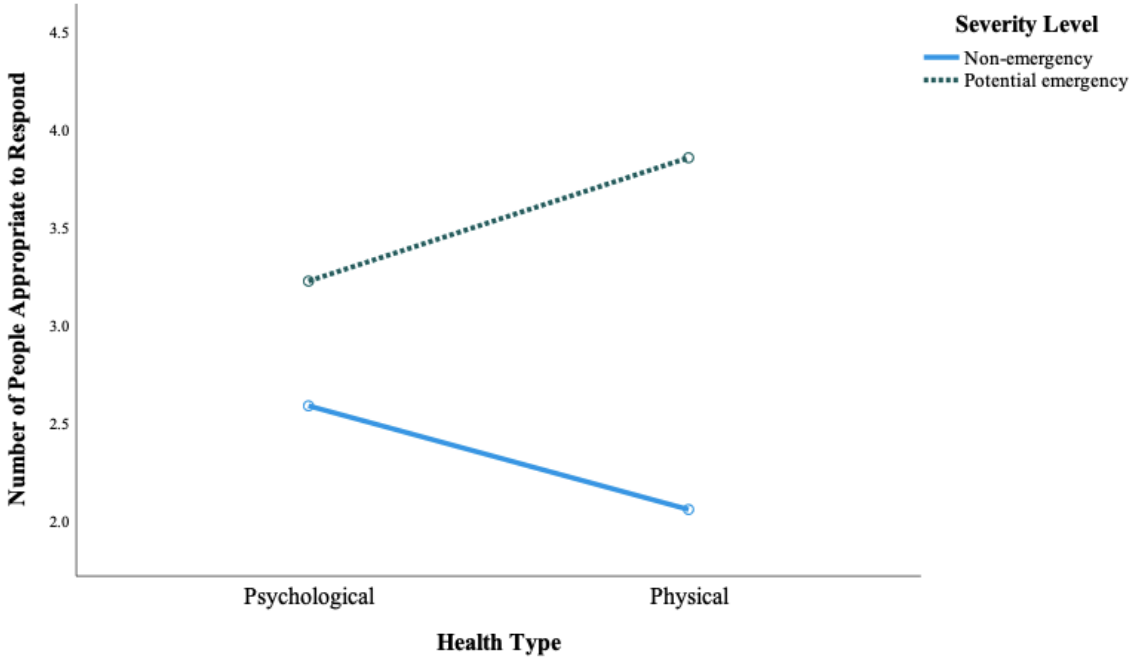
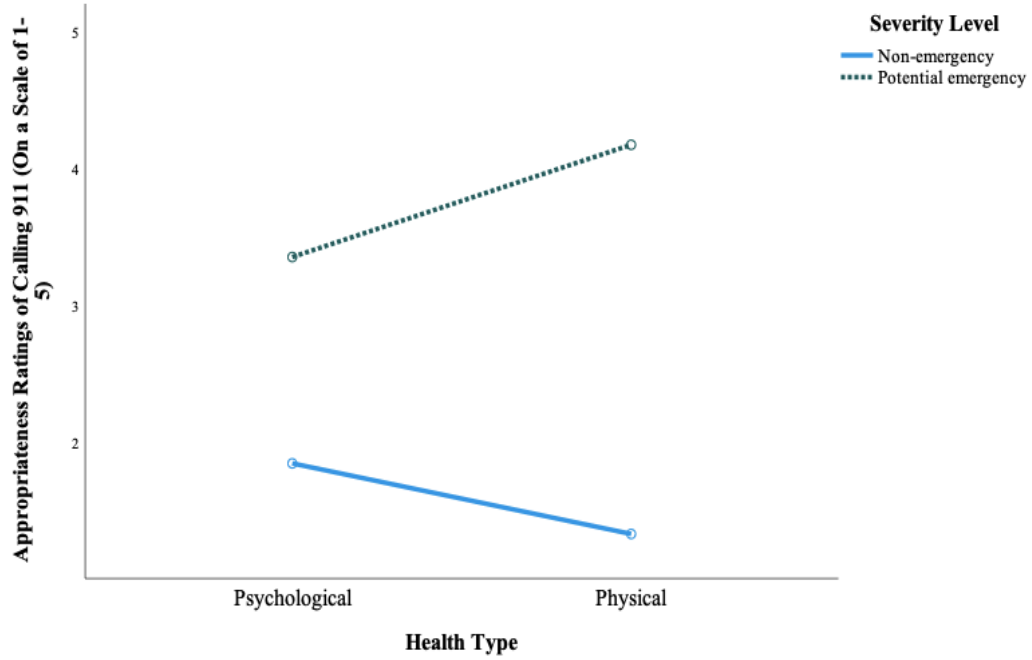


Figure 4

Mean Ratings of Appropriateness of Calling 911 in Psychological and Physical Non-Emergency and Potential Emergency Scenarios



Discussion

The purpose of the study was to explore perceptions of the appropriateness of campus community members responding to student health situations. Specifically, current and former post-secondary students rated the appropriateness of a campus psychologist, professor, and campus enforcement and patrol (CEP) officer responding to non-emergency and potential emergency psychological and physical student health concerns on campus. Perceptions of the appropriateness of responding varied, as participants considered the campus psychologist, professor, and CEP officer to be appropriate to respond in different scenarios.

Of the three campus community members explored in this study (i.e., campus psychologist, professor, and CEP officer), participants identified the campus psychologist to be the most appropriate to respond in the psychological health situations; a perception consistent across potential emergency and non-emergency scenarios. However, perceptions differed when the seriousness of the scenario (i.e., non-emergency versus potential emergency), and not the health type, was considered. The campus psychologist was considered to be more appropriate to respond to potential emergency situations compared to non-emergencies. While the above findings were all unique to the campus psychologist, there was one finding about the campus psychologist that overlapped with perceptions of the CEP officer: in the non-emergency physical health scenario, the campus psychologist and a CEP officer were given similar ratings of appropriateness to respond.

The perception among participants that the campus psychologist was considered the most appropriate to respond in psychological health situations is noteworthy,

particularly in the context of previous research. Cunningham et al. (2017) found that student participants preferred face-to-face mental health services from a psychologist or psychiatrist over e-resources and self-help. This finding, along with the results of the current study, suggest that there is satisfaction among students in the ability of on-campus psychologists to assist them in times of psychological need.

While the campus psychologist was considered the most appropriate to respond in psychological health situations, it was the professor who was considered appropriate to respond in both psychological and physical health scenarios. Overall, a professor was considered appropriate to respond to both physical and psychological health scenarios when the health type (i.e., physical health versus psychological health), and not the seriousness of the scenario, was examined. However, when the seriousness of the scenario was taken into consideration, there was a difference in the scenarios in which a professor was considered most appropriate to respond. When the scenario was not an emergency, a professor was considered more appropriate to respond to the physical health scenario compared to the psychological health scenario. When the scenario was a potential emergency, a professor was considered more appropriate to respond to a psychological health scenario compared to the physical health scenario. Another difference was found when the seriousness of the situation (i.e., non-emergency versus potential emergency), and not the health type, was considered. In this case, a professor was considered more appropriate to respond to potential emergencies compared to non-emergencies. While the above findings were all unique to a professor, there were two findings about the professor that overlapped with perceptions of the CEP officer. When examining both the non-emergency psychological health scenario and the potential

emergency physical health scenario, a CEP officer and a professor were given similar ratings of appropriateness to respond.

Based on the findings of this study, it appears that participants were open to professors assisting students in situations beyond the academic context, as there were no health scenarios in which a professor was deemed the least appropriate to respond. When considering the qualities students value in a professor, caring for their well-being has been reported to be important. Strage (2008) found that 44.2% of participants indicated that their ideal professor would care about their well-being which demonstrated that students think positively about professors who attend to their well-being in the classroom and beyond. While it is important for professors to demonstrate that they care, in order to effectively improve the well-being of students when approached for help, professors need to have information on how to provide proper assistance.

To increase professors' efficacy and comfort with supporting students' psychological wellness, the mental health literacy of professors is an important area of focus. It has been found that completing a mental health literacy course led to increased accuracy in the identification of psychological health concerns, increased understanding of available services, increased knowledge of medications used to treat psychological illness, reduced stigma around psychological health concerns, and improved knowledge of psychological health (Martin, 2016; Ravindran et al., 2018). The increased mental health literacy in professors could positively impact their interactions with students who may be experiencing psychological distress or illness. It is important to note that role of professors in this context would be a supportive one, with the main goal of connecting students with appropriate care and intervention. Professors should remain mindful of their

role with students and not overstep the boundaries of this academic relationship. Equipping professors with adequate knowledge in this domain may facilitate students effectively using professors as a first point of contact in their steps towards psychological care and support.

Similar to a professor, a CEP officer was also considered to be appropriate to respond in the range of student health concerns. Overall, a CEP officer was considered to be more appropriate to respond to physical health situations. However, when the seriousness of the situation (i.e., non-emergency versus potential emergency) was taken into consideration, this perception changed. In the event of a potential emergency, a CEP officer's response was considered to be more appropriate for physical health situations compared to the psychological health situations. For non-emergencies, however, a CEP officer's response was considered to be more appropriate for the psychological health situations than physical health situations. Finally, when the seriousness of the situation (i.e., non-emergency versus potential emergency) was examined without considering health type, a CEP officer was considered to be more appropriate to respond to potential emergencies compared to non-emergencies.

Despite post-secondary institutions' expectations of CEP officers to respond to students in health situations, there has been a lack of research on students' perceptions about CEP officers in this role. The results of this study showed that participants did not think it was appropriate for a CEP officer to respond in potential emergency psychological health situations. This finding demonstrates the disconnect between practice and perception, as currently students are instructed to call a CEP officer if they are experiencing a potential emergency psychological health situation on campus. While

more research is needed to test the generalizability of this finding regarding the appropriateness of CEP officers responding to students experiencing psychological health concerns, it does provide a foundation to start the discussion of strategies to address this perception. First, if it is consistently found that other members of campus are perceived as more appropriate to respond in this context, a change in the policy may be necessary to address students' concerns in this domain. Alternatively, if it is decided that CEP officers are indeed the most appropriate to respond in these situations, then the perceptions of students need to be addressed. The current study did not explore why students gave the ratings they did, but this would be an important follow up study to understand the student perspective on this issue. Once a full understanding is obtained, universities can tailor the information provided to address the concerns and potential misperceptions or rethink who should respond to students in this context.

Aside from this study, there is a lack of research into perceptions of CEP officers responding to student health concerns. The research closest to this topic is the literature on police officers responding to mental health emergencies in the community. While CEP officers and police officers are very different, they are similar in some of the duties that come with their work, such as the expectation to respond to health concerns, enforce policies/laws, and provide assistance to students/the public. Based on the findings of this study and the literature about police officers, perceptions of CEP officers responding to psychological health situations appear to be consistent with perceptions of police officers responding to similar situations. Studies have shown that participants reported that police officers were disrespectful and unsupportive when responding to calls to assist an individual facing a psychological health concern (Albert & Simpson, 2015; Brennan et

al., 2016; Lavoie, 2016). Participants also reported not wanting police at the scene of a psychological health concern because they did not want officers to use force against their loved one and they believed police officers needed more education on psychological distress and illness (Albert & Simpson, 2015; Brennan et al., 2016; Lavoie, 2018). Participants have also reported that they would prefer to call a mental health professional to respond to a psychological health concern involving no aggression; however, if the situation were to escalate and aggression came into play, participants reported that they would then seek the help of the police (Albert & Simpson, 2015). There are similarities with the findings of the current study that showed when a student was in an emergency psychological health situation, the campus psychologist was considered the most appropriate to respond and a CEP officer was the least appropriate to respond.

Based on the results of the study, it appears that there were differences in the perceptions of psychological and physical health scenarios, a finding that is consistent with previous research (e.g., Hassan-Ohayon et al., 2018; Kowalski & Peipert, 2019; Youssef et al., 2012). One of the key differences that emerged in the results was the perception of seriousness in the various health scenarios. In the potential emergency health scenarios, participants indicated that it was more appropriate to call 911 in the physical health situations than the psychological health situations, despite both depicting potentially life-threatening situations. Calling 911 is reserved for serious situations, therefore, by identifying that it was more appropriate to call 911 for physical health concerns over psychological health concerns demonstrated that these situations were considered more serious. Interestingly, the opposite was found in non-emergency situations, where participants rated it more appropriate to call 911 for the psychological

health situation over the physical health situation. This inconsistency in perceptions of seriousness may provide more evidence that these two health types are not equally regarded. A similar perception was observed regarding the number of people who should respond to each health situation. Consistent with the perceptions of calling 911, when it was a potential emergency physical health situation, more people were considered appropriate to respond than in the potential emergency psychological health situation. The number of people responding provided further information on the perceived seriousness of the situation, which again suggests that participants viewed the physical health situation as more serious than the psychological health situation. This difference in the perception of physical and psychological health continued when considering the number of people appropriate to respond to a non-emergency health situation. In the event of a non-emergency psychological health situation, participants thought more people should respond than in the physical health situation. These results provide further evidence of the perceived differences in physical versus psychological health.

A possible explanation for the finding that participants may not consider the potential emergency psychological health situation to be as serious as the potential emergency physical health situation could be related to perceptions of what constitutes overall health. Singletary et al. (2015) found that participants considered aspects of physical health to be connected to overall health, but the same was not found for psychological health; psychological health was regarded as separate from overall health. It is possible that participants in this study held a similar belief that physical health situations, which were considered a part of overall health, were more serious than psychological health situations. However, this does not explain why the non-emergency

psychological health scenario was considered to be more serious than the non-emergency physical health scenario. This finding was not consistent with previous literature, as most other works have found that participants consistently view physical health as more serious than psychological health (Hassan-Ohayon et al., 2018; Kowalski & Peipert, 2019; Youssef et al., 2012). Additional research is needed to better understand this finding.

To address this discrepancy between perceptions of psychological and physical health, students could benefit from mental health literacy education. As indicated previously, mental health literacy has been shown to help individuals identify and understand psychological illnesses and reduce stigma (Martin, 2016; Ravindran et al., 2018). Increased knowledge in this area may help students appreciate the potential seriousness of psychological distress and understand when situations are an emergency or a non-emergency.

There were limitations in this study that are important to consider when interpreting the results. The first limitation was this study occurred during the COVID-19 pandemic. The pandemic may have had an impact on participants' perspectives of health scenarios and appropriateness of intervention. Further, there were many first-year students who participated in the study. Given the pandemic, all university courses have been delivered remotely for the past year, which means that these students have never been on campus. As a result, they have never interacted with CEP officers, had the opportunity to form an in-person student-professor relationship, or work with an on-campus psychologist in-person. This lack of on-campus experience may have impacted how they answered the questions. A replication of this study when students are back on-

campus for in-person classes would be useful to determine if the results would be different.

A second limitation in this study was a lack of diversity in the sample. The majority of participants were White women. To obtain more generalizable results, a more diverse sample is needed, as the perceptions about on-campus health interventions may be different for different groups of people.

A third limitation of the study was that participants were not asked to explain their appropriateness ratings, only to indicate the level of appropriateness. Future research could explore participants reasons for assigning their ratings. This information could offer deeper insight into the factors that students consider when determining appropriateness to respond in on-campus health situations.

In addition to the aforenoted elements to consider in future research, there are other aspects to explore that build upon the findings in this study. First, future research could explore a wider range of health scenarios. In the current study, the presented scenarios were clearly either physical or psychological in nature. By asking students about a wider range of scenarios that include aspects of both health types, it may be possible to achieve a more complex understanding of a range of health situations. Another direction for future research would be to assess the perceived appropriateness of another student responding during a health situation, as there are some situations in which another student may be the only one available to respond.

In conclusion, a campus psychologist, professor, and CEP officer were each considered appropriate to respond to different student health situations. Participants reported that it was appropriate for a campus psychologist to respond to psychological

health situations, a professor to respond to students in both psychological and physical situations, and that a CEP officer was not an appropriate person to intervene in a potential psychological emergency. Further, participants' perceptions of physical and psychological health were discrepant, indicating there is a need for further exploration and education about each aspect of health. Overall, the findings from this study demonstrate the need to further explore how students view the health interventions available to them on campus and the individuals who are encouraged to respond to students in this context.

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Appendix A

Informed Consent Form

On-campus health interventions: An exploration of student perceptions

The purpose of this Informed Consent Form is to ensure you understand the nature of this study and your involvement in it. This consent form will provide information about the study, giving you the opportunity to decide if you want to participate.

Researchers: This study is being conducted by Anna Dollimount as part of the course requirements for Psychology 4959, Honours Project in Psychology II, under the supervision of Dr. Jennifer Buckle in the psychology program at Grenfell Campus, Memorial University.

Purpose: The study is designed to investigate perceptions of interventions for on campus student health issues. The results will be used to write an honors thesis as part of the course requirements for Psychology 4959, Honours Project in Psychology II. The results will be presented and may be published.

Task Requirements: You will be asked to complete a questionnaire. There are no right or wrong answers; the research is on perceptions only. You may omit any questions you do not wish to answer.

Duration: The questionnaire will take approximately 10 minutes to complete.

Risks and Benefits: There are no obvious risks or benefits involved with your participation in this study. If answering any of the questions makes you uncomfortable, please feel free to omit them. If this study raises any personal issues for you, please contact Counselling and Psychological Services (CPS) at Grenfell Campus at 637-7919 or cps@grenfell.mun.ca, if you are a student at Grenfell Campus. Participants within Newfoundland and Labrador can call the NL Mental Health Crisis Line at 1-888-737-4668. All participants can call the Canadian Crisis Hotline at 1-888-353-2273.

Anonymity: Your questionnaire responses are anonymous. IP addresses will not be collected. All information will be analyzed and reported on a group basis. Thus, individual responses cannot be identified. The survey company, Qualtrics, hosts this study and data on private Canadian servers. All data will also be held on a password protected computer for a minimum of 5 years, per Memorial University's policy.

Right to Withdraw: Your participation in this research is voluntary and you are free to stop participating at any time before the submission of responses. Once you complete this survey and click submit, your data cannot be removed because

identifying information is not collected, therefore data cannot be linked to individuals.

Contact Information: If you have questions or concerns about the study, please contact Anna Dollimount at adollimount@grenfell.mun.ca, or the research supervisor, Dr. Buckle, at jlbuckle@grenfell.mun.ca. If you are interested in knowing the results of the study, please contact Anna or Dr. Buckle after April 2021.

This study has been approved by an ethics review process in the psychology program at Grenfell Campus, Memorial University and has been found to be in compliance with Memorial University's ethics policy as well as Tri-council Policy on Ethics. If you have ethical concerns about the research, you may contact the chairperson of the GC-REB at gcethics@grenfell.mun.ca.

By clicking next, I acknowledge that I am at least 19 years old and a current or former college/university student and I have been informed of, and understand, the nature and purpose of the study, and I freely consent to participate.

Appendix B

Qualification Question

1. Are you attending or have you ever attended university/college?
    - Yes
    - No

Intervention Scenarios:

Please read the scenario and answer the questions that follow.
Alex is sitting at a table in the cafeteria on campus. Alex is sitting alone and is talking. Alex seems to be responding to someone, but there is no one talking to Alex and Alex is not on the phone. Throughout the meal, Alex continues to respond to a voice that nobody else can hear.

2. Please rate how appropriate it would be for a professor to approach Alex about this situation.
    - 1- *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

3. Please rate how appropriate it would be for a campus enforcement and patrol (CEP) officer to approach Alex about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

4. Please rate how appropriate it would be for the campus psychologist to approach Alex about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

5. What would be the appropriate number of people to approach Alex about this situation?
    - 0
    - 1
    - 2
    - 3

- 4
- 5+

6. Please rate how appropriate it would be to call 911 in this situation.
    - 1 – *Very inappropriate*
    - 2 – *Somewhat inappropriate*
    - 3 – *Neither appropriate nor inappropriate*
    - 4 – *Somewhat appropriate*
    - 5 – *Very appropriate*

Please read the scenario and answer the questions that follow.
Taylor is limping while walking in the cafeteria on campus. Taylor's leg shows no signs of additional injury beyond the limp. Although Taylor is limping, they walk to the table without difficulty and sit down alone at the table.

7. Please rate how appropriate it would be for a professor to approach Taylor about this situation.
    - 1- *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

8. Please rate how appropriate it would be for a campus enforcement and patrol (CEP) officer to approach Taylor about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

9. Please rate how appropriate it would be for the campus psychologist to approach Taylor about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

10. What would be the appropriate number of people to approach Taylor about this situation?
    - 0
    - 1
    - 2
    - 3

- 4
- 5+

11. Please rate how appropriate it would be to call 911 in this situation.
    - 1 – *Very inappropriate*
    - 2 – *Somewhat inappropriate*
    - 3 – *Neither appropriate nor inappropriate*
    - 4 – *Somewhat appropriate*
    - 5 – *Very appropriate*

Please read the scenario and answer the questions that follow.
Morgan is sitting alone at a table in the cafeteria on campus. When opening their backpack, a piece of paper falls out of it and onto the floor. It appears to be a suicide note written on the paper.

12. Please rate how appropriate it would be for a professor to approach Morgan about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate or inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

13. Please rate how appropriate it would be for a campus enforcement and patrol (CEP) officer to approach Morgan about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate or inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

14. Please rate how appropriate it would be for the campus psychologist to approach Morgan about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate or inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

15. What would be the appropriate number of people to approach Morgan about this situation?
    - 0
    - 1
    - 2
    - 3
    - 4

- 5+

16. Please rate how appropriate it would be to call 911 in this situation.
    - 1 – *Very inappropriate*
    - 2 – *Somewhat inappropriate*
    - 3 – *Neither appropriate nor inappropriate*
    - 4 – *Somewhat appropriate*
    - 5 – *Very appropriate*

Please read the scenario and answer the questions that follow.
Dakota is sitting alone at a table in the cafeteria on campus. Dakota looks concerned and appears to be experiencing pain. Dakota is clutching their chest with both hands.

17. Please rate how appropriate it would be for a professor to approach Dakota about this situation.
    - 1- *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

18. Please rate how appropriate it would be for a campus enforcement and patrol (CEP) officer to approach Dakota about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

19. Please rate how appropriate it would be for the campus psychologist to approach Dakota about this situation.
    - 1 - *Very inappropriate*
    - 2 - *Somewhat inappropriate*
    - 3 - *Neither appropriate nor inappropriate*
    - 4 - *Somewhat appropriate*
    - 5 - *Very appropriate*

20. What would be the appropriate number of people to approach Dakota about this situation?
    - 0
    - 1
    - 2
    - 3
    - 4
    - 5+

21. Please rate how appropriate it would be to call 911 in this situation.
    - 1 – *Very inappropriate*
    - 2 – *Somewhat inappropriate*
    - 3 – *Neither appropriate nor inappropriate*
    - 4 – *Somewhat appropriate*
    - 5 – *Very appropriate*

Demographics

22. How old are you? _____

23. What is your gender?
    - Female
    - Male
    - Another gender
    - Perfer not to answer

24. What is your ethnicity?
    - White/European Canadian
    - Indigenous
    - Asian
    - Hispanic
    - Black/African-Canadian
    - Other: _____

25. Are you currently enrolled in college or university?
    - Yes
    - No

26. What is your current year of study?
    - First
    - Second
    - Third
    - Fourth
    - Fifth or beyond

27. If you are not enrolled in college or university, in what year were you last enrolled? _____

28. Have you ever used mental health services (e.g., counselling and/or psychological services) on campus?
    - Yes
    - No

How would you rate your experience?
    - 1 – *Very negative*

- 2 – *Somewhat negative*
- 3 – *Neither negative nor positive*
- 4 – *Somewhat positive*
- 5 – *Very positive*

29. Have you ever used mental health services (e.g., counselling and/or psychological services) off campus?
    - Yes
    - No

    How would you rate your experience?
    1 – *Very negative*
    2 – *Somewhat negative*
    3 – *Neither negative nor positive*
    4 – *Somewhat positive*
    5 – *Very positive*

Appendix C

End of Study Information

Thank you for participating in this study. The results of this study will be used to write an honours thesis and will be presented and may be published. If you are in a participating psychology class, you can receive course credit by submitting your student number at this link. **Insert link here.**

The purpose of this study was to understand current and former student perceptions of on-campus interventions for health issues. The scenarios that were presented in this questionnaire were fictional, created for use in this study.

If you have any questions or concerns about the study, please contact Anna Dollimount at adollimount@grenfell.mun.ca, or the research supervisor Dr. Jennifer Buckle at jlbuckle@grenfell.mun.ca. If you are interested in knowing the results of the study, please contact Anna or Dr. Jennifer Buckle after April 2021. If this study raised any personal issues for you, please contact Counselling and Psychological Services (CPS) at Grenfell Campus at 637-7919 or cps@grenfell.mun.ca, if you are a student at Grenfell Campus. All participants within Newfoundland and Labrador can call the NL Mental Health Crisis Line at 1-888-737-4668. All participants can call the Canadian Crisis Hotline at 1-888-353-2273. This study was approved by an ethics review process in the psychology program at Grenfell Campus, Memorial University and was found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research conducted in this study, you may contact the chairperson of the GC-REB at gcethics@grenfell.mun.ca.

Appendix D

Advertising Text

Grenfell Campus Research Participant Pool

Student volunteers are requested to complete a 10-minute voluntary and anonymous online questionnaire about their perceptions of interventions for on campus student health issues. This study is a student project that is being conducted to meet the course requirements for Psychology 4959, Honours Project in Psychology II. By participating in this study, you can receive 0.50% extra credit towards a participating psychology class. This study was approved by an ethics review process in the psychology program at Grenfell Campus, Memorial University and was found to be in compliance with Memorial University's ethics policy as well as Tri-council Policy on Ethics. If you have any questions, please contact Anna Dollimount at adollimount@grenfell.mun.ca or the research supervisor, Dr. Jennifer Buckle, at jlbuckle@grenfell.mun.ca. Please use the following link to participate in the study **Insert link here.**

Messenger

Volunteers needed to complete a 10-minute online voluntary and anonymous survey about their perceptions of interventions for on campus student health issues. Anyone who is currently attending college/university or has previously attended college/university is eligible to complete the survey. This study is a student project that is being conducted to meet the course requirements for Psychology 4959, Honours Project in Psychology II. This study was approved by an ethics review process in the psychology program at Grenfell Campus, Memorial University and was found to be in compliance with Memorial University's ethics policy as well as Tri-council Policy on Ethics. If you

have any questions, please contact Anna Dollimount at adollimount@grenfell.mun.ca, or the research supervisor, Dr. Jennifer Buckle at jlbuckle@grenfell.mun.ca. Please use the following link to participate in the study **Insert link here.**

Psychology Majors/Minors Brightspace Page

Hi everyone!

My name is Anna Dollimount and I am a fourth-year student completing a Bachelor of Science (Honours) in Psychology. As a part of my honours degree, I am looking for student volunteers to complete a 10-minute online questionnaire about their perceptions of interventions for on campus student health issues. Participation is voluntary and your answers are anonymous. Anyone who is currently attending college/university or has previously attended college/university is eligible to complete the survey. This study has been approved by an ethics review process in the psychology program at Grenfell Campus, Memorial University and has been found to be in compliance with Memorial University's ethics policy as well as Tri-council Policy on Ethics. If you have ethical concerns about the research, you may contact the chairperson of the GC-REB at gcethics@grenfell.mun.ca. If you have any questions, please contact me at adollimount@grenfell.mun.ca, or the research supervisor, Dr. Jennifer Buckle at jlbuckle@grenfell.mun.ca. Thank you in advance. Please use the following link to participate in the study **Insert link here.**

Social Media Post

Hi everyone!

As a part of my honours degree, I am looking for volunteers to complete a 10-minute online questionnaire about their perceptions of interventions for on campus student health

issues. Participation is voluntary and your answers are anonymous. Anyone who is currently attending college/university or has previously attended college/university is eligible to complete the survey. This study has been approved by an ethics review process in the psychology program at Grenfell Campus, Memorial University and has been found to be in compliance with Memorial University's ethics policy as well as Tri-council Policy on Ethics. If you have ethical concerns about the research, you may contact the chairperson of the GC-REB at gcethics@grenfell.mun.ca. Please feel free to share this link with anyone who is currently or has previously attended college or university and may like to complete the survey. If you have any questions, please contact me at adollimount@grenfell.mun.ca, or the research supervisor, Dr. Jennifer Buckle, at jlbuckle@grenfell.mun.ca. Thank you in advance.

Appendix E

Additional Analyses

For the interaction of health type by severity level by person intervening main effect of health type, there were significantly higher ratings of appropriateness of intervening for psychological health scenarios compared to physical health scenarios (mean difference = .41, $p < .001$, 95% CI [.29, .53]). For the main effect of severity level, there were significantly higher ratings of appropriateness of intervening for potential emergency scenarios compared to non-emergency scenarios (mean difference = 1.32, $p < .001$, 95% CI [1.18, 1.46]). For the main effect of the person intervening, pairwise comparisons were made with a Bonferroni correction. Ratings of appropriateness of intervening were significantly higher for a professor compared to a CEP officer (mean difference = .22, $p < .001$, 95% CI [.10, .33]), the campus psychologist compared to a professor (mean difference = .21, $p < .001$, 95% CI [.10, .32]) and the campus psychologist compared to a CEP officer (mean difference = .43, $p < .001$, 95% CI [.31, .55]).

To determine how the ratings of appropriateness of intervening for each type of individual differed in each scenario, four one-way repeated-measures ANOVAs were conducted (see Table 1 in the results section for descriptive statistics). First, the non-emergency psychological health scenario was examined. A one-factor repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of individuals in the non-emergency psychological health scenario, $F(2, 300) = 100.40$, $p < .001$, $\eta_p^2 = .40$. Pairwise post-hoc tests using a Bonferroni correction revealed that the campus psychologist was rated

significantly more appropriate to intervene in the non-emergency psychological health scenario compared to a professor (mean difference = 1.02, $p < .001$, 95% CI [.79, 1.25]) and compared to a CEP officer (mean difference = 1.19, $p < .001$, 95% CI [.97, 1.42]). All other comparisons were not significant.

Second, the potential emergency psychological health scenario was examined. Mauchly's test indicated that the assumption of sphericity was violated, $\chi^2(2) = 29.90$, $p < .001$, therefore, Huynh-Feldt corrected tests are reported ($\varepsilon = .86$). A one-factor repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of individuals in the potential emergency psychological health scenario, $F(1.71, 260.31) = 72.87$, $p < .001$, $n^2 = .32$. Pairwise post-hoc tests using a Bonferroni correction revealed that a professor was rated significantly more appropriate to intervene in the potential emergency psychological health scenario compared to a CEP officer (mean difference = .46, $p < .001$, 95% CI [.26, .67]). The campus psychologist was rated significantly more appropriate to intervene in the potential emergency mental health scenario compared to a professor (mean difference = .53, $p < .001$, 95% CI [.37, .69]) and compared to a CEP officer (mean difference = .99, $p < .001$, 95% CI [.76, 1.22]).

Next, the non-emergency physical health scenario was examined. Mauchly's test indicated that the assumption of sphericity was violated, $\chi^2(2) = 7.64$, $p = .02$, therefore, Huynh-Feldt corrected tests are reported ($\varepsilon = .96$). A one-factor repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of people in the non-emergency physical health scenario, $F(1.93, 289.31) = 6.56$, $p = .002$, $n^2 = .04$. Pairwise post-hoc tests using

a Bonferroni correction revealed that a professor was rated significantly more appropriate to intervene in the non-emergency physical health scenario compared to a CEP officer (mean difference = .18, p = .032, 95% CI [.01, .35]) and compared to the campus psychologist (mean difference = .27, p = .001, 95% CI [.09, .45]). All other comparisons were not significant.

Finally, the potential emergency physical health scenario was examined. Mauchly's test indicated that the assumption of sphericity was violated, $\chi^2(2) = 13.27$, p = .001, therefore, Huynh-Feldt corrected tests are reported (ε = .93). A one-factor repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of individuals in the potential emergency physical health scenario, $F(1.87, 285.68) = 23.45$, $p < .001$, $n^2 = .13$. Pairwise post-hoc tests using a Bonferroni correction revealed that a professor was rated significantly more appropriate to intervene in the potential emergency physical health scenario compared to the campus psychologist (mean difference = .44, $p < .001$, 95% CI [.26, .63]). A CEP officer was rated significantly more appropriate to intervene in the potential emergency physical health scenario compared to the campus psychologist (mean difference = .38, $p < .001$, 95% CI [.20, .56]). All other comparisons were not significant.

The health type by severity level interaction was analyzed. A 2x2 repeated measures ANOVA was conducted to examine the impact of health type and severity level on ratings of appropriateness of intervening. For the main effect of health type, there was a significant difference in appropriateness ratings across the two types, $F(1, 149) = 46.89$, $p < .001$, $\eta_p^2 = .24$. There were significantly higher ratings of appropriateness of

intervening for psychological health scenarios compared to physical health scenarios (mean difference = .41, $p < .001$, 95% CI [.29, .53]). For the main effect of severity level, there was a significant difference in appropriateness ratings across the two types, $F(1, 149) = 364.80$, $p < .001$, $\eta_p^2 = .71$. There were significantly higher ratings of appropriateness of intervening for the potential emergency scenarios compared to the non-emergency scenarios (mean difference = 1.32, $p < .001$, 95% CI [1.18, 1.46]). For the interaction between health type and severity level, there was a significant difference in appropriateness of intervening ratings, $F(1, 149) = 72.77$, $p < .001$, $\eta_p^2 = .33$. To determine which severity levels differed from one another in relation to health type, two repeated measures t-tests were conducted.

First, a repeated measures t-test indicated that appropriateness of intervening ratings were significantly higher for the non-emergency psychological health scenario ($M = 3.55$, $SD = .91$) compared to the non-emergency physical health scenario ($M = 2.61$, $SD = 1.03$), $t(149) = 9.92$, $p < .001$, 95% CI [.76, 1.13]. Next, a repeated measures t-test indicated that appropriateness of intervening ratings were not significantly different for the potential emergency psychological health scenario ($M = 4.34$, $SD = .62$) compared to the potential emergency physical health scenario ($M = 4.47$, $SD = .85$), $t(152) = -1.64$, $p = .103$, 95% CI [-.27, .03].

The next interaction examined was the health type by person intervening interaction. To examine the effects of health type and type of person intervening on appropriateness of intervening ratings, a 2x2 repeated measures ANOVA was conducted. For the main effect of health type, there was a significant difference in appropriateness ratings across the two types, $F(1, 149) = 46.89$, $p < .001$, $\eta_p^2 = .24$. There were

significantly higher ratings of appropriateness of intervening for psychological health scenarios compared to physical health scenarios (mean difference = .41, $p < .001$, 95% CI [.29, .53]). For the main effect of person intervening, there was a significant difference in appropriateness ratings across the three types, $F(2, 298) = 40.09$, $p < .001$, $\eta_p^2 = .21$. There were significantly higher ratings of appropriateness of intervening for a professor compared to a CEP officer (mean difference = .22, $p < .001$, 95% CI [.10, .33]), the campus psychologist compared to a professor (mean difference = .21, $p < .001$, 95% CI [.10, .32]), and the campus psychologist compared to a CEP officer (mean difference = .43, $p < .001$, 95% CI [.31, .55]). For the interaction between health type and the person intervening, there was a significant difference in appropriateness of intervening ratings, $F(2, 298) = 150.81$, $p < .001$, $\eta_p^2 = .50$. To determine which types of individuals differed from one another in relation to health type, two one-way ANOVAs were conducted and split by health type.

First, psychological health scenarios were examined (see Table 2 for descriptive statistics). Mauchly's test indicated that the assumption of sphericity was violated, $\chi^2(2) = 10.29$, $p = .006$, therefore, Huynh-Feldt corrected tests are reported ($\varepsilon = .95$). A one-way repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of individuals in psychological health scenarios, $F(1.90, 284.67) = 123.27$, $p < .001$, $n^2 = .45$. Pairwise post-hoc tests using a Bonferroni correction revealed that a professor was rated significantly more appropriate to intervene in psychological health scenarios compared to a CEP officer (mean difference = .32, $p < .001$, 95% CI [.15, .48]). The campus psychologist was rated significantly more appropriate to intervene in psychological health

scenarios compared to a professor (mean difference = .78, $p < .001$, 95% CI [.62, .94]) and compared to a CEP officer (mean difference = 1.09, $p < .001$, 95% CI [.90, 1.29]).

Table 2

Ratings of Appropriateness of Intervening in Psychological Health Scenarios[a]

	Professor	CEP Officer	Campus psychologist
M	3.80	3.48	4.57
SD	.06	.08	.05
95% CI	[3.67, 3.92]	[3.32, 3.64]	[4.48, 4.66]

Note. CI = confidence interval.
[a]*n* = 151 participants.

Next, physical health scenarios were examined (see Table 3 for descriptive statistics). A one-factor repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of individuals in physical health scenarios, $F(2, 298) = 23.43$, $p < .001$, $n^2 = .14$. Pairwise post-hoc tests using a Bonferroni correction revealed that a professor was rated significantly more appropriate to intervene in physical health scenarios compared to the campus psychologist (mean difference = .36, $p < .001$, 95% CI [.22, .50]). A CEP officer was rated significantly more appropriate to intervene in physical health scenarios compared to the campus psychologist (mean difference = .24, $p < .001$, 95% CI [.11, .38]). All other comparisons were not significant.

To determine how individuals differed from one another in relation to health type, three repeated measures t-tests were conducted and split by the person intervening. First,

a repeated measures t-test indicated no significant difference in appropriateness of intervening ratings for a professor in the psychological health scenarios (M = 3.79, SD = .78) compared to the physical health scenarios (*M* = 3.70, *SD* = .73), *t*(150) = 1.36, *p* = .177, 95% CI [-.04, .24]. Next, a repeated measures t-test indicated no significant difference in appropriateness of intervening ratings for a CEP officer in the psychological health scenarios (M = 3.48, SD = 1.01) compared to the physical health scenarios (*M* = 3.59, *SD* = .78), *t*(150) = -1.26, *p* = .210, 95% CI [-.27, .06]. Finally, a repeated measures t-test indicated that the campus psychologist had significantly higher ratings of appropriateness of intervening for the psychological health scenarios (*M* = 4.57, *SD* = .56) compared to the physical health scenarios (M = 3.33, *SD* = .82), *t*(149) = 16.82, *p* < .001, 95% CI [1.09, 1.38].

Table 3

Ratings of Appropriateness of Intervening in Physical Health Scenarios[a]

	Professor	CEP Officer	Campus psychologist
M	3.69	3.58	3.33
SD	.06	.06	.07
95% CI	[3.58, 3.81]	[3.45, 3.70]	[3.20, 3.47]

Note. CI = confidence interval.
[a]*n* = 150 participants.

The final interaction examined is the severity level by person intervening interaction. To examine the effect of severity level and type of person intervening on appropriateness of intervening ratings, a 2x2 repeated measures ANOVA was conducted.

For the main effect of severity level, there was a significant difference in appropriateness ratings across the two types, $F(1, 149) = 364.80$, $p < .001$, $\eta_p^2 = .71$. There were significantly higher ratings of appropriateness of intervening for the potential emergency scenarios compared to the non-emergency scenarios (mean difference = 1.32, $p < .001$, 95% CI [1.18, 1.46]). For the main effect of person intervening, there was a significant difference in appropriateness ratings across the three types, $F(2, 298) = 40.09$, $p < .001$, $\eta_p^2 = .21$. There were significantly higher ratings of appropriateness of intervening for a professor compared to a CEP officer (mean difference = .22, $p < .001$, 95% CI [.10, .33]), the campus psychologist compared to a professor (mean difference = .21, $p < .001$, 95% CI [.10, .32]), and the campus psychologist compared to a CEP officer (mean difference = .43, $p < .001$, 95% CI [.31, .55]). For the interaction between severity level and the person intervening, there was a significant difference in appropriateness of intervening ratings $F(2, 298) = 10.92$, $p < .001$, $\eta_p^2 = .07$.

To determine which types of individuals differed from one another in relation to severity level, two one-way ANOVAs were conducted and split by severity level. First, non-emergency scenarios were examined (see Table 4 for descriptive statistics). A one-factor repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of people in non-emergency scenarios, $F(2, 298) = 39.70$, $p < .001$, $n^2 = .21$. Pairwise post-hoc tests using a Bonferroni correction revealed that a professor was rated significantly more appropriate to intervene in non-emergency scenarios compared to a CEP officer (mean difference = .17, $p = .01$, 95% CI [.03, .32]). The campus psychologist were rated significantly more appropriate to intervene in non-emergency scenarios compared to a professor (mean

difference = .37, $p < .001$, 95% CI [.22, .52]) and compared to a CEP officer (mean difference = .54, $p < .001$, 95% CI [.39, .70]).

Table 4

Ratings of Appropriateness of Intervening in Non-Emergency Scenarios[a]

	Professor	CEP Officer	Campus psychologist
M	3.01	2.84	3.38
SD	.07	.08	.07
95% CI	[2.87, 3.16]	[2.69, 2.99]	[3.25, 3.52]

Note. CI = confidence interval.
[a]*n* = 150 participants.

Next, potential emergency scenarios were analyzed (see Table 5 for descriptive statistics). A one-factor repeated-measures ANOVA indicated that there was a significant difference in appropriateness of intervening ratings for the three different types of people in potential emergency scenarios, $F(2, 304) = 17.41$, $p < .001$, $n^2 = .10$. Pairwise post-hoc tests using a Bonferroni correction revealed that a professor was rated significantly more appropriate to intervene in potential emergency scenarios compared to a CEP officer (mean difference = .26, $p < .001$, 95% CI [.13, .39]). The campus psychologist was rated significantly more appropriate to intervene in potential emergency scenarios compared to a CEP officer (mean difference = .30, $p < .001$, 95% CI [.16, .45]). All other comparisons were not significant.

To determine which types of individuals differed from one another in relation to severity level, three repeated measures t-tests were conducted and split by person

intervening. First, a repeated measures t-test indicated a significant difference in appropriateness of intervening ratings for a professor in the potential emergency scenarios (M = 4.47, SD = .64) compared to the non-emergency scenarios (*M* = 3.02, *SD* = .88), *t*(150) = -19.28, *p* < .001, 95% CI [-1.60, -1.30]. Next, a repeated measures t-test indicated a significant difference in appropriateness of intervening ratings for a CEP officer in the potential emergency scenarios (M = 4.21, SD = .84) compared to the non-emergency scenarios (*M* = 2.85, *SD* = .96), *t*(150) = -16.12, *p* < .001, 95% CI [-1.52, -1.19]. Finally, a repeated measures t-test indicated a significant difference in appropriateness of intervening ratings for the campus psychologist in the potential emergency scenarios (M = 4.52, SD = .61) compared to the non-emergency scenarios (*M* = 3.38, *SD* = .85), *t*(149) = -13.99, *p* < .001, 95% CI [-1.30, -.98].

Table 5

Ratings of Appropriateness of Intervening in Potential Emergency Scenarios[a]

	Professor	CEP Officer	Campus psychologist
M	4.48	4.22	4.52
SD	.05	.07	.05
95% CI	[4.38, 4.58]	[4.08, 4.35]	[4.42, 4.62]

Note. CI = confidence interval.
[a]*n* = 153 participants.