When Social Isolation Is Nothing New: A Longitudinal Study on Psychological Distress During COVID-19 Among University Students With and Without Preexisting Mental Health Concerns

The coronavirus disease 2019 (COVID-19) global pandemic has had an unprecedented impact on college and university campuses internationally (e.g., widespread campus closures, transitions to online learning). Postsecondary students, who were already a developmentally vulnerable population, are now facing additional new challenges, which could lead to increased mental health concerns. However, there is a paucity of research on the psychological impacts of COVID-19, or who may be most at risk, among postsecondary students. To address these gaps in the literature, we recontacted a sample of 773 postsecondary students (74% female, M_{age} =18.52) who previously completed a survey on student mental health in May 2019, again in May 2020. Students filled out an online survey at both time points, reporting on their recent stressful experiences and mental health. Although we expected that students with preexisting mental health concerns would show increased psychological distress during the pandemic, this hypothesis was not supported. Instead, repeated-measures analyses demonstrated that students with preexisting mental health concerns showed improving or similar mental health during the pandemic (compared with one year prior). In contrast, students without preexisting mental health concerns were more likely to show declining mental health, which coincided with increased social isolation among these students. Our findings underscore that colleges and universities will not only need to continue to support students with preexisting mental health needs but also prioritize early prevention and intervention programming to mitigate the impacts of COVID-19 on students with increasing psychological distress, potentially stemming from increasing social isolation in response to the pandemic.

Public Significance Statement

Although there is mounting concern that students with preexisting mental health concerns may be particularly vulnerable to the psychological impacts of COVID-19, the present study found that students without preexisting mental health concerns had greater increases in psychological distress during the pandemic. Increases in social isolation were unique to students without preexisting mental health concerns (whereas students with preexisting mental health concerns showed no change), which may account for the worsening of their mental health.

Keywords: COVID-19, mental health, postsecondary students, social isolation

Before the novel coronavirus disease 2019 (COVID-19) pandemic, the burgeoning prevalence of mental health issues on postsecondary campuses was already at the forefront of public health concerns (Duffy, Twenge, & Joiner, 2019; Xiao et al., 2017). As many as 1 in 5 students met the diagnostic criteria for a mental health disorder (Auerbach et al., 2017; Oswalt et al., 2020), and 30% to 50% of students reported experiencing overwhelming stress, anxiety, and depressive symptoms during the postsecondary years (American College Health Association, 2019). Need for access to care on college and university counseling centers was already mounting (Oswalt et al., 2020; Xiao et al., 2017). Due to the COVID-19 global pandemic, students are now facing new and unprecedented challenges (e.g., significant academic change and disruption, stay at home orders, etc.). As a result, several authors have cautioned that students, who were already a vulnerable population (Arnett, 2016), may be at heightened risk for increasingly severe mental health issues (Araújo, de Lima, Cidade, Nobre, & Neto, 2020; Zhai & Du, 2020).

Despite widespread concern, to date there is a paucity of empirical literature on COVID-19 and postsecondary student mental health. There is a pressing need to identify the psychological impacts of COVID-19 among students, as well as identify those most at risk, so that effective mitigation strategies can be developed for ongoing responses to the pandemic and future outbreaks (Rajkumar, 2020). Many researchers have argued that individuals with preexisting mental health concerns will be most adversely impacted by the pandemic (Druss, 2020; Yao, Chen, & Xu, 2020), which could further exasperate equational inequity in the postsecondary context. Moreover, it has been suggested that the psycho-logical impacts of COVID-19 will continue to persist long after the pandemic has peaked (Fiorillo & Gorwood, 2020; Galea, Merchant, & Lurie, 2020; Gunnell et al., 2020). Consequently, academic

institutions may need to be prepared to provide support to students who are most vulnerable to the psychological impacts of COVID-19 both now and in the foreseeable future (Araújo et al., 2020; Zhai & Du, 2020).

The Impact of COVID-19 on Postsecondary Campuses

The novel coronavirus (COVID-19), which was first reported in Wuhan, China, in December 2019, soon began to spread around the globe. In March 2020, the World Health Organization declared a global pandemic as the number of confirmed COVID-19 cases grew internationally. At present (July 27, 2020), there have been more than 16 million confirmed cases of COVID-19 and more than 600,000 deaths in 216 countries worldwide (World Health Organization, n.d.). As COVID-19 outbreaks have occurred internationally, widespread closures, travel bans, and social distancing protocols have been implemented to reduce its spread. As a result of efforts to slow the spread of the pandemic, by April 2020, there were school closures in more than 194 countries nationwide, effecting more than 91% of the world's enrolled learners. This disruption has been described as "unparalleled" in the history of education globally (Lee, 2020; UNESCO, n.d.).

Several authors have underscored the challenges postsecondary students may be experiencing in response to COVID-19 (Lee, 2020; Moawad, 2020; Sahu, 2020; Zhai & Du, 2020), including campus closures, disruption to research and internship placements, widespread transition to remote online learning, changes in assessment and examinations, as well as exam cancellations. Moreover, it has been suggested that these changes may result in delays in time to completion, as well as reduce successful entry into the job market for students (Zhai & Du, 2020). In a recent survey of more than 100,000 postsecondary students in Canada, it was found

that 26% of respondents had courses cancelled or delayed, 21% were not able to complete a course or a planned credential on time, and 35% had work placements delayed or cancelled (Statistics Canada, 2020a). On top of these academic and employment disruptions, many postsecondary students also experienced dorm closures and relocations, and some experienced separation from family or academic institutions as a result of travel bans (Lee, 2020; Sahu, 2020). Additionally, widespread closures and social distancing guidelines meant that many students were left alone and isolated (Cao et al., 2020; Galea et al., 2020; Killgore, Cloonan, Taylor, & Dailey, 2020; Zhai & Du, 2020).

COVID-19 and Mental Health

Many have suggested that mental health concerns will increase globally in response to the pandemic (Gunnell et al., 2020; Holmes et al., 2020), and some have even argued that the psychological impacts will be as significant as the physical health impacts from COVID-19, particularly for vulnerable populations (Galea et al., 2020; Ornell, Schuch, Sordi, & Kessler, 2020). Although research specifically on postsecondary students is scarce, research on men- tal health during the pandemic among community-based samples is emerging. In these cross-sectional studies, approximately 20% to 35% of respondents report anxiety, 20% to 30% report depressive symptoms, 25% report binge drinking, and 10% to 30% report severe stress (Centre for Addiction & Mental Health, 2020; Huang & Zhao, 2020; Liu et al., 2020; Mazza et al., 2020; Qiu et al., 2020; Statistics Canada, 2020b; Wang et al., 2020). Further, findings suggest that younger adults may be at increased risk for distress during COVID-19, relative to older adults (Huang & Zhao, 2020; Wang et al., 2020). To our knowledge, there is only one published study specifically focused on postsecondary student mental health during COVID-19; in this study of

college students in China, 25% of students reported high levels of anxiety following an outbreak (Cao et al., 2020).

Although researchers have yet to examine variability in risk, students with preexisting mental health concerns may be at greater risk for heightened psychological distress stemming from COVID- 19, relative to students without preexisting mental health concerns (Druss, 2020; Yao et al., 2020). For these individuals, increased loneliness attributable to closures and social distancing, greater difficulty accessing previously accessible supports, and heightened uncertainty could exacerbate existing symptoms and lead to epi- sodic relapses of mental illness (Dar, Iqbal, & Mushtaq, 2017; Druss, 2020; Rajkumar, 2020; Yao et al., 2020). Students with mental health concerns already experience increased academic challenges and are more susceptible to disengagement and attrition from their studies (Arria et al., 2013; Eisenberg, Golberstein, & Hunt, 2009; Lipson & Eisenberg, 2018), which can leave these students without a necessary credential for successful entry into the labour market. The additional psychological impacts of COVID-19 for students with preexisting concerns may further widen the gap between students with and without mental health challenges, continuing to create inequities within postsecondary contexts. However, there are no studies at present on the psycho- logical impacts of COVID-19 on students with preexisting mental health concerns.

The Present Study

In the present study, we sought to provide a much needed examination of the mental health impacts of COVID-19 among postsecondary students and provide new insight into which students may be most vulnerable for psychological distress stemming from COVID-19. Although emerging findings from community-based samples suggest that mental health challenges in

response to COVID-19 may be commonly occurring, a significant limitation of the literature is a lack of pre-COVID-19 assessment data to examine change in symptoms before and during the COVID-19 pandemic (Mazza et al., 2020). Thus, it is difficult to ascertain from previous work whether mental health symptoms are emerging in response to COVID-19 or reflect typical patterns of mental health symptoms in these populations. Further, researchers have yet to explore the differential impacts of COVID-19 on persons with and without preexisting mental health concerns, despite calls that those with preexisting mental health concerns may be particularly at risk (Druss, 2020; Yao et al., 2020). To address these limitations, we recontacted a group of participants, who previously completed a survey on stress and coping in university in May 2019, and invited them to fill out a survey again in May 2020. By using data collected one year earlier, we were able to test whether students experienced changes in mental health symptoms before and during the pandemic, and whether those with preexisting mental health challenges (assessed in May 2019) experienced greater psychological distress relative to students without preexisting mental health concerns in response to COVID-19. By assessing participants in both May 2019 and May 2020, we were able to capture comparatively similar times of the academic year for students, which is a major strength of the present study. We had two central research objectives: (a) How has student stress and mental health changed since before the pandemic? (b) Are students with preexisting mental health challenges at greater risk for distress during the pandemic? We expected that all students would show increased psychological distress from May 2019 to May 2020, and that those with preexisting mental health concerns would show the most pronounced increases over time.

Method

Participants

The present sample consisted of 733 university students (M_{age} = 18.52, *SD* = .73, 74% female, 25% male, 1% other) who previously completed a survey on student mental health in May 2019 at a large academic institution in Canada (*N* = 964 at Time 1). Thirty-one percent of participants identified as East Asian, 24% identified as South Asian, 21% percent of participants identified as Caucasian, 5% identified as Arab or West Asian, and 19% identified as other, including Black, West Indian, Filipino, and Latin American.

Procedure

Students were contacted via e-mail and invited to complete a follow-up survey on their experiences in university again. Consenting participants were sent an online survey using Qualtrics, which participants could complete remotely via smartphone or computer. Participants received $20 for the original survey they completed in May 2019 (Time 1), and for the survey completed in May 2020 (1 year follow-up; Time 2) they received $10. The University Research Ethics Board approved the study, and all participants provided informed consent. It is important to note that research has consistently found that asking young adults to report on their mental health does not have any iatrogenic effects, or lead to increased psychological distress (Edwards, Kearns, Calhoun, & Gidycz, 2009; Gould et al., 2005; Whitlock, Pietrusza, & Puring- ton, 2013). Nevertheless, several precautions were taken in the present study. At each assessment, participants were given a 24-hr distress line contact number, as well as a list of several local resources and supports. Participants could also access these re- sources anytime during the survey using a "Feeling Distressed" button. At the end of the survey, participants completed a positive mood induction which required them to reflect on one positive event from the previous day (Seligman, Steen, Park, & Peterson, 2005).

COVID-19 Context

The first cases of COVID-19 emerged in Canada in January 2020, and as of July 27, 2020 there were more than 110,000 confirmed cases. At this time, the highest rates of cases had been reported in Quebec and Ontario (Government of Canada, 2020). A state of emergency was declared in the province in which the present academic institution is situated in March 2020, which resulted in sweeping closures to all nonessential business, services, and public spaces across the province, as well as the closure of publically funded schools (including colleges and universities). As a result, the academic institution at which data was collected also transitioned to remote learning and research in March. At the time of submission of the present study, this state of emergency remained in effect (although phased reopenings of nonessential services were starting in various cities across the region).

Measures

All measures were completed by participants at both time points, in May 2019 and May 2020.

Demographics. Participants completed a demographics questionnaire, reporting on age (in years), gender (1 = *male*, 2 = *female*, 3 = *transgender*, 4 = *unsure*, 5 = *prefer not to disclose*, 6 = *other*), and ethnicity.

Recent stressful experiences. Participants reported on their recent stressful experiences using the Inventory of College Stu- dents' Recent Life Experiences (ICSRLE; Kohn, Lafreniere, & Gurevich, 1990). The inventory is designed to assess seven stressors relevant to university students, including developmental challenge (e.g., struggling to meet academic demands), time pressure (e.g., too many things to do at once), academic alienation (e.g., dissatisfaction with

school), romantic problems (e.g., conflict with one's partner), assorted annoyances (e.g., getting "ripped" off when purchasing services), social mistreatment (e.g., isolation, loneliness), and friendship problems (e.g., being disappointed by friends). Participants were asked to indicate how much each stressor had recently been a part of their life on a scale ranging from 1 = *not at all a part of my life* to 4 = *very much a part of my life*. Ratings were averaged such that higher scores represented greater exposure to stressful experiences. The ICSRLE has demonstrated strong psychometric properties in previous research with university samples (Kohn et al., 1990; Osman, Barrios, Longnecker, & Osman, 1994). Cronbach's alphas for the scale at Time 1 and Time 2 were .95 and .94, respectively.

Social support. Participants were asked to complete the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). The MSPSS consists of 12 items assessing participants' perceived social support from three groups: family, friends, and significant other (e.g., "My friends really try to help me"). Participants were asked to indicate how strongly they agreed with each statement on a scale from 1 = *very strongly disagree* to 7 = *very strongly agree*. Participant responses were averaged such that higher scores indicated higher perception of social support. The MSPSS has demonstrated good psychometric properties with undergraduate student samples (He, Turnbull, Kirshbaum, Phillips, & Klainin-Yobas, 2018; Zimet, Powell, Farley, Werkman, & Berkoff, 1990). Cronbach's alphas were .93 and .92 at Times 1 and 2.

Perceived stress. Participants completed the Perceived Stress Scale 10 (PSS-10) to capture the degree to which situations in their life were perceived as stressful (Cohen & Williamson, 1988). The PSS-10 consists of 10 items (e.g., "How often have you felt that things were going your way?") and items were rated on a scale ranging from 0 = *never* to 4 = *very often*. Ratings were

averaged across items such that higher scores represented greater perceived stress. The PSS-10 has demonstrated strong internal consistency and convergent and divergent validity among university students (Roberti, Harrington, & Storch, 2006). Cronbach's alphas at Time 1 and Time 2 were .84 and .84, respectively.

Difficulties in emotion regulation. Participants completed the Difficulties in Emotion Regulation Scale—Short Form (DERS- SF; Kaufman et al., 2016). A list of 18 statements were provided (e.g., "When I'm upset, I become embarrassed for feeling that way") and participants indicated how often that statement applied to them from 1 = *almost never (0% to 10% of the time)* to 5 = *almost always (91% to 100% of the time)*. Item responses were averaged to create a total score such that higher scores indicated greater emotion dysregulation. The DERS-SF has been shown to have strong psychometric properties (Hallion, Steinman, Tolin, & Diefenbach, 2018; Kaufman et al., 2016). Cronbach's alphas at Time 1 and Time 2 were .90 and .89, respectively.

Emotions. Participants reported on their current emotions using two subscales from the Positive and Negative Affect Schedule—Expanded (PANAS-X): sadness and joy (Watson & Clark, 1994). Participants were asked to indicate the extent to which they had felt 13 emotions over the past week (e.g., cheerful, happy, sad) on a scale from 1 = *very slightly or not at all* to 5 = *extremely*. Scores were averaged such that higher scores represented greater presence of that emotion (i.e., sadness, joy). The PANAS-X has demonstrated good internal consistency, test–retest reliability, and convergent and discriminant validity (Crawford & Henry, 2004; Watson, Clark, & Tellegen, 1988). Cronbach's alpha were .89 and .88 at Times 1 and 2 for the sadness subscale and .93 and .93 for the joy subscale at Times 1 and 2, respectively.

Nonsuicidal self-injury. Participants completed an adapted version of the Inventory of Statements about Self-Injury (ISAS; Klonsky & Glenn, 2009). Participants were asked to indicate whether they recently engaged in a list of seven behaviours (i.e., cutting, biting, burning, carving, severe scratching, banging or hitting self, rubbing skin against rough surfaces) without suicidal intent within the past four months. The ISAS has shown strong structural and construct validity and test–retest reliability among university undergraduate populations (Glenn & Klonsky, 2011; Klonsky & Glenn, 2009).

Depressive symptoms. To assess depressive symptoms, participants completed the Centre for Epidemiologic Studies Depression Scale—Revised (CESD-R; Eaton, Smith, Ybarra, Muntaner, & Tien, 2004). Participants indicated how frequently they experienced several depressive symptoms (e.g., I felt sad, I had trouble getting to sleep) over the past two weeks on a scale from 0 = *not at all or less than one day* to 4 = *nearly every day for two weeks*. Participant responses were summed, such that higher scores indicated heightened experience of depressive symptoms. The CESD-R has demonstrated high internal consistency and good convergent and divergent validity (Van Dam & Earleywine, 2011). Cronbach's alphas were .95 and .94 at Times 1 and 2, respectively.

Anxiety symptoms. Participants completed the Generalised Anxiety Disorder (GAD-7) questionnaire to capture anxious symptoms (e.g., "feeling nervous, anxious or on edge"; Spitzer, Kroenke, Williams, & Löwe, 2006). Participants were asked to rate how frequently they were bothered by each symptom over the past two weeks on a scale from 0 = *not at all* to 3 = *nearly every day*. Participant responses were summed such that higher scores indicated higher levels of anxious symptoms. The GAD-7 has demonstrated strong psychometric properties (Kroenke,

Spitzer, Williams, & Löwe, 2010; Löwe et al., 2008). Cronbach's alphas were .92 and .92 at Time 1 and Time 2, respectively.

Borderline personality disorder characteristics. Participants completed the McLean Screening Instrument for borderline personality disorder (MSI-BPD) to assess borderline personality disorder (BPD) symptoms (Zanarini et al., 2003). Participants indicated whether each item (e.g., I have felt empty) was true for them, with 0 = *no* and 1 = *yes*. Item responses were summed, such that higher scores indicated greater BPD symptoms. The MSI-BPD has demonstrated strong internal consistency, criterion validity, and is a good predictor of BPD diagnosis (Patel, Sharp, & Fonagy, 2011). Cronbach's alphas were .82 and .80 at Times 1 and 2, respectively.

Alcohol dependence symptoms. To assess alcohol-related problems, participants completed the Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). The AUDIT is a 10-item measure of alcohol consumption, drinking behaviour, and alcohol-related problems. Participant responses across all items were summed, with higher scores indicating problematic drinking. The AUDIT has demonstrated strong psychometric properties among university student populations (Kokotailo et al., 2004).

Posttraumatic stress disorder symptoms. To assess trauma symptoms, participants were asked to complete the 20-item PTSD Checklist (PCL; Blevins, Weathers, Davis, Witte, & Domino, 2015). The PCL was adapted to correspond to multiple stressful experiences, as opposed to anchoring the scale to one specific experience/event. Participants were asked to indicate how much they had been bothered by a problem (e.g., repeated, disturbing, and unwanted memories of stressful experience[s]) on a scale from 1 = *not at all* to 5 = *extremely*. Responses were averaged, such that higher scores indicated higher experiences of PTSD symptoms. The PCL has

demonstrated strong internal consistency, test–retest reliability, and convergent and discriminant validity among university students (Blevins et al., 2015). Cronbach's alphas were .96 and .96 at Times 1 and 2, respectively.

Perceived burdensomeness. Participants were asked to complete eight items from the Perceived Burdensomeness Scale (PBS; Peak et al., 2016), which assessed how much of a burden they believed they were to their family, friends, and society in general (e.g., "I feel like I am a burden to others"). Participants rated their degree of agreement to each statement on a scale from 1 = *not at all* to 5 = *a great deal*. Ratings were averaged across items, such that higher scores represented a heightened sense of burden. The PBS has shown strong internal consistency and concurrent validity and internal consistency (Bell et al., 2018; Peak et al., 2016). Cronbach's were .97 and .96 at Times 1 and 2, respectively.

Grit. Participants completed the Grit Scale for Children and Adults (GSCA; Sturman & Zappala-Piemme, 2017). The GSCA consisted of 12 items capturing participants' belief in their ability to achieve success in a task, regardless of the challenges presented (e.g., "No matter what happens to me I will be okay"). Participants indicated their agreement with each statement on a scale from 1 = *strongly disagree* to 5 = *strongly agree*. Participant responses were averaged across all items such that higher scores represented higher levels of grit. The GSCA demonstrates high internal consistency, test–retest reliability and construct validity (Sturman & Zappala-Piemme, 2017). Cronbach's were .81 and .83 at Times 1 and 2, respectively.

Missing Data

The present sample was limited to only those participants who completed an assessment at both time points (May 2019 and May 2020). Given that the May 2020 follow-up survey was

not originally planned, we did not build in retention strategies for retaining participants over time. As a result, we opted to include only those who reconsented to study participation again in May 2020. It is important to note that when we compared participants who completed the follow-up to participants who did not complete the follow-up, these groups did not significantly differ on most of the primary study variables. However, students who did not do the follow-up assessment reported higher sadness and lower social support at Time 1 ($p < .01$). Given that we restricted the sample to those who participated at both assessments, the only source of missing data was from incomplete survey responses (but this missing data was quite small, less than 1%). For data that was missing as a result of incomplete responding, EM (expectation- maximization) imputation was used. EM is an iterative maximum likelihood procedure in which a cycle of calculating means and covariances followed by data imputation is repeated until a stable set of estimated missing values is reached. Methodological research has demonstrated that EM estimation is preferable to pairwise deletion, list-wise deletion, or means substitution (Schafer & Graham, 2002).

Plan of Analysis

First, we utilized descriptive analyses to examine variable means and standard deviations at each assessment point. To examine whether participants' scores on each of the study variables changed from May 2019 to May 2020, we used repeated-measures analyses. Given that there is some evidence that COVID-19 related distress may be higher among females than males, gender was included as a covariate in these analyses (Qiu et al., 2020; Statistics Canada, 2020b; Wang et al., 2020). We also included a between-subjects factor, which was whether participants had a preexisting mental health concern in May 2019 (0 = *no*, 1 = *yes*). To establish whether students had a preexisting mental health concern, we used their responses on the CESD-R, the GAD-7,

the BPD-10, and the AUDIT at Time 1. We utilized previously established cut-off scores to identify clinically significant risk on each of these measures: a cut off score of 22 on the CESD-R (Vilagut, Forero, Barbaglia, & Alonso, 2016), a cut-off score of 7 on the BPD-10 (Zanarini et al., 2003), a cut-off score of 10 for the GAD-7 (Spitzer et al., 2006), and a cut-off score of 8 on the AUDIT (Saunders et al., 1993). To identify significant differences between groups at the level of repeated-measures ANOVA analyses we used a reduced alpha of 0.01. For follow-up testing of significant interactions, we maintained an alpha of .05. We wanted to balance our exploratory testing with a reduction in alpha to account for multiple analyses. Finally, a secondary regression analysis was used to examine whether increasing social mistreatment predicted increased risk for psychological distress among all students during the pandemic.

Results

Preliminary

Variable means and standard deviations are presented in Table

1. Given that the romantic problems variable was skewed, we applied a square root transformation to this variable. Using our criteria for preexisting mental health concerns, 33% of the sample reported clinically significant depressive symptoms, 27.3% re- ported anxiety, 9.4% reported BPD symptoms, and 10.4% reported alcohol use disorder symptoms at Time 1 (similar percentages of clinically significant risk were also reported at Time 2). Preliminary paired-samples *t* tests revealed that participants who were identified as having a preexisting mental health concern reported greater risk on all study measures at both Times 1 and 2 ($p < .001$) than students without a preexisting mental health concern.

Primary

The repeated-measures ANOVA analyses (with time as the within subjects factor, and preexisting mental health status as the between subjects factor) revealed there was a significant effect of preexisting mental health status on several variables over time (see Supplementary Table 1). For the stress variables, there was an effect of preexisting mental health status on developmental challenge, F(l, 723) = 9.027, $p < .01$, η_p^2= .01, time pressure, F(l, 723) = 7.104, $p < .01$, η_p^2 = .01, academic alienation, F(1,723) = 13.836. $p < .001$, η_p^2 = .02. social mistreatment, F(1,723) = 26.510, $p < .001$, η_p^2 = .04, and friendship problems, F(1,723) = 11.163, $p < .01$, η_p^2 = .02. There also were significant interactions with preexisting mental health status and several of the mental health indices including perceived stress, F(l, 723) = 22.494, p < .001. η_p^2= .03. difficulties in emotion regulation, F(1. 723) = 17.463, $p < .01$, η_p^2= .02, sadness F(1, 723) = 45.049, $p < .001$, η_p^2 = .06, depressive symptoms, F(l. 723) = 90.094. $p < .001$, η_p^2 = .11, anxiety symptoms, F(l. 723) = 61.986 $p < .001$, η_p^2 = .08, BPD symptoms, F(1, 723) = 14.440, $p < .001$, η_p^2 = .02, PTSD symptoms. F(l, 723) = 13.777, $p < .001$. η_p^2 = .02, and burdensomeness, F(1,723) = 35.658, $p < .001$, η_p^2 = .05. Groups did not significantly differ in NSSI or assorted annoyances over time, but there were trend effects for romantic problems, F(1, 723) = 5.657. $p < .05$, η_p^2 = .02, social support. F(I, 723) = 5.349, $p < .05$, η_p^2 = .01, joy, F(l, 723) = 6.493, $p < .05$, η_p^2= .01, alcohol dependence symptoms, F(l, 723) = 6.375, $p < .05$, η_p^2 = .01. and grit, F(l, 723) = 5.285, $p < .05$. η_p^2= .01.

Follow-up analyses were conducted for significant interaction effects. For the stress variables, it was found that both groups reported decreases in developmental challenge, t(332) = 5.939, $p < .001$, for those with preexisting mental health concerns, and t(399) = 2.384, $p < .05$,

for those without preexisting mental health concerns. Both groups also reported decreases in time pressure, $t(332) = 6.658$, $p < .001$, for those with preexisting mental health concerns, and $t(399) = 3.416$, $p < .01$, for those without preexisting mental health concerns (see example-Figure I). These decreases in developmental challenge and time pressure were stronger for students with preexisting mental health concerns. Students with preexisting mental health concerns also showed decreased academic alienation, $t(332) = 4.728$, $p < .001$, and friendship problems over time, $t(332) = 4.529$, $p < .001$, but those without preexisting mental health concerns showed no change in academic alienation $t(399) = -.095$, *ns*, or friendship problems $t(399) = .759$, *ns*. Notably, students with preexisting mental health concerns reported no change in social mistreatment (which taps into social isolation and loneliness) from May 2019 to May 2020, $t(332) = .738$, *ns*, but there was an increase for students without preexisting mental health concerns over time, $t(399) = -7.281$, $p < .001$ (see Figure 2).

Follow-up analyses for the mental health indicators showed that students with preexisting mental health concerns showed decreasing perceived stress, $t(332) = 3.276$, $p < .01$, sadness, $t(332) = 2.708$, $p < .01$, depressive symptoms, $t(332) = 5.069$, $p < .001$. anxiety, $t(332) = 5.834$, $p < .001$, PTSD symptoms, $t(332) = 2.441$. $p < .05$, and perceived burdensomeness $t(332) = 5.104$ $p < .001$, over time. In contrast, students without preexisting mental health concerns showed increasing perceived stress, $t(399) = -3.414$, $p < .01$, sadness, $t(399) = -7.114$. $p < .001$, depressive symptoms, $t(399) = -8.928$, $p < .001$, anxiety, /(399) = -5.009, $p < .001$, BPD symptoms, $t(399) = -3.979$, $p < .001$, PTSD symptoms, $t(399) = -3.324$. $p <$,01 and burdensomeness over time, $t(399) = -2.836$, $p < .01$ (see exampies in Figures 3 and 4).

Secondary Analysis: Social Isolation and Mental Health

Given that we found that individuals who showed increasing social mistreatment (which assesses social isolation and loneliness) also seemed to be at heightened risk for declining mental health, we wanted to examine the relation between changes in social isolation and mental health during the pandemic in the entire sample. We ran a linear regression analysis predicting a composite measure of psychological distress at Time 2 (i.e., perceived stress, difficulties in emotion regulation, sadness, NSS1, depressive symptoms, anxiety symptoms, BPD symptoms, alcohol symptoms, PTSD symptoms, and burdensomeness) from the standardized residual change scores in social mistreatment from Time 1 to Time 2. Controlling for gender, it was found that increasing social mistreatment predicted greater psychological distress at Time 2, $F(2, 723) = 96.846$, $p < .001$ ($B = .432$).

Discussion

Although many authors have cautioned that COVID-19 could have a profound impact on postsecondary student mental health (Araujo et al., 2020; Sahu, 2020: Wang et ah, 2020; Zhai & Du, 2020), there has been a lack of research on the psychological impacts of COVID-19, or an examination of which students may be most at risk, in the postsecondary context, The present study is the first to address these limitations, by examining student mental health pre- and post-declaration of COVID-19 as a global pandemic, at comparable times of the year (May 2019; May 2020). Although we expected that students with preexisting mental health challenges would show increased psychological distress in response to the pandemic (Druss, 2020; Yao et al., 2020), this hypothesis was not supported. Instead, we found that students with preexisting mental health challenges showed improving, if not similar, mental health during the pandemic (compared with one year prior). In contrast, students without preexisting mental health challenges showed increasing psychological distress in the context of the pandemic. Our findings

offer new insight into the psychological impacts of COVID-19 on students and suggest that these impacts may be particularly salient among students without a previous history of mental health concerns.

To date, only a handful of studies have sought to examine mental health in relation to COVID-19 (Rajkumar, 2020). Typically, these studies involve assessing participants' mental health following an outbreak of COVID-19 in a particular region or country. In these studies, it has been found that as many as ¼ of participant samples report feeling moderate to severe depressive symptoms, anxiety, stress, and/or binge drinking in the w ake of the pandemic (Huang & Zhao, 2020; Mazza et al., 2020; OdriozolaGonzález, Planchuelo-Gómez, Irurtia, & de Luis-García, 2020; Qiu et al., 2020; Wang et al., 2020). However, a significant limitation of these studies is a lack of pre-COVID-19 comparative data, to determine whether there was within individual change in psychological distress during COVID-19 (Mazza et al., 2020). By capitalizing on a previously collected data point (May 2019), we were able to address this limitation. When we examined mental health symptomology in May 2019 and May 2020, we found prevalence rates comparable to these other studies, both before and during COVID-19. Our findings suggest that previously reported rates of psychological distress during COVID-19 may not reflect significant population-change in distress from prior to COVID-19, but rather are more reflective of enduring mental health concerns in these populations.

On the basis of recent findings that suggest there may be variability in psychological responses to the pandemic (Nanos and Mental Health Commission of Canada, 2020), we examined whether there was a significant effect of having a preexisting mental health concern prior to the pandemic on stress and psychological distress. Inconsistent with our predictions, students with preexisting mental health challenges typically showed no changes or decreasing

risk over time, whereas students without preexisting mental health concerns were more likely to show increased risk. For example, compared with one year earlier, students with preexisting mental health concerns showed decreasing stressful experiences and perceived stress, as well as depressive symptoms, anxiety, PTSD symptoms, and burdensomeness (and comparable rates of self-harm and B PD symptoms). In contrast, students without preexisting mental health challenges reported increasing sadness, depressive symptoms, anxiety symptoms, BPD symptoms, PTSD symptoms, and burdensomeness. Although students with preexisting mental health concerns continued to report higher risk than those without preexisting mental health concerns at each time point, our findings suggest that individuals without preexisting mental health concerns were the ones who experienced the greatest deterioration in mental health in the context of the pandemic.

Social isolation stemming from closures and social distancing as a result of the pandemic has been identified as a key factor that may lead to increased mental health concerns (Galea et ah, 2020; Killgore et al., 2020). In our sample, we found that stressors involving social mistreatment (which includes measures of social isolation and loneliness) significantly increased-but only for those w ithout preexisting mental health challenges. Students with preexisting mental health concerns reported no change. This finding is novel, because it suggests that contrary to suggestions in the field (Druss, 2020; Yao et al., 2020), students who may be most adversely impacted by increased social distancing, are those who are not accustomed to feeling isolated and alone (rather those who already feel this way).1 In other words, only students who experience increasing social isolation as a result of COVID-19 may be at heightened risk for increasing psychological distress. In support of this contention, in a secondary analysis we showed that increasing social isolation predicted greater mental health

symptoms during the pandemic (i.e., a composite measure of perceived stress, depressive symptoms, anxiety, BPD symptoms, etc.).

It is also important to note that our data revealed that several stressors *decreased* for students from May 2019 to May 2020 (e.g., see Figure 1). Many of these stressors reflect demands on students in the postsecondary context (e.g., having too many things to do at once, struggling to meet academic expectations, findings courses too demanding, not enough time for sleep). Although it is possible that students are adapting better over time to the university context, an alternative explanation is that changes stemming from the pandemic (e.g., a move to all online learning, loss of employment, etc.) meant that students experienced a reduction in competing demands/stressors on their time. Exposure to stressors has long been implicated in the development of internalizing and externalizing behaviours (March-Llanes, Marques-Feixa, Mezquita, Fañanás, «fe Moya-Higueras, 2017). The finding that many academic related stressors decreased, particularly for students with preexisting mental health concerns, may also help to explain why these students showed improving mental health (because they experienced the greatest reductions in terms of stressors).

Limitations and Directions for Future Research

The present study has many notable strengths, including its focus on postsecondary students, a large sample, and the use of a data point collected prior to COVID-19, However, there also are a number of limitations to highlight. First, there were significant restrictions in response to COVID-19 imposed at the present academic institution, and in the region, when data collection occurred. Thus, results may not be generalizable to other postsecondary student samples from schools with less restrictive policies in place. Second, participants were

predominantly female, East and South Asian, and Caucasian, so it is possible that these results may not generalize to other postsecondary or emerging adult samples with varying demographic backgrounds. Third, we chose to resurvey participants using the same assessments we used in May 2019, so that we could examine changes in stress and mental health consistently over time, and have a comparable reference point (May 2020). That said, the psychological impacts of COVID-19 may have been greater closer to the onset of the pandemic (academic institutions closed in Canada in mid-March) or may become greater as the pandemic continues; clearly, ongoing longitudinal research is needed. Given that we tried to maintain measure continuity, we also did not modify our measures so that they were specific to COVID-19. Future research may benefit from asking individuals to report on their mental health as a result of COVID-19 directly (e.g., How often have you been feeling nervous, anxious, or on edge, because of COVID-19?). Finally, given that this study is correlational in nature, we cannot capture causality: as a result, it is possible that the effects reported are a result of other unmeasured third variables rather than meaningful group differences.

Conclusions and Implications

Although research on mental health during the pandemic is beginning to emerge, our study is unique in that it involves a longitudinal design, which includes data collected before and during COVID-19. Our novel findings suggest that the mental health situation on college and university campuses in the aftermath of COVID-19 may not be as dire as some authors have warned, as we did not see higher rates of clinically significant symptoms reported pre- and during COVID-19. Instead, the prevalence rates of clinically significant symptoms were comparable. We did observe a reduction in wellness and increasing psychological distress among students without preexisting mental health concerns during COVID-19. Our findings suggest that

increasing social mistreatment (particularly isolation and loneliness) among these students may at least in part account for this distress. Our findings underscore that universities will need to continue to support the ongoing needs of students with preexisting mental health challenges (who remained at higher risk on mental health indicators at each time point). However, our findings suggest that universities should also prioritize developing early intervention and prevention programming for students for whom the pandemic may be particularly challenging, such as students who are beginning to show declining mental health in response to increasing social isolation,

References

American College Health Association. (2019). National College Health Assessment. Retrieved from https://www.acha.org/dtx;umenls/ncha/NCHAIII_FALL_20I9_UNDERGRADUATE_REFERENCĒ_GROUP_DATA_ REPORT.pdf

Araújo, F. J. O., de Lima, L. S. A., Cidatie, P. I. M., Nobre, C. B., & Nelo, M. L. R. (2020). Impact of Sars-Cov-2 and its reverberation in global higher education and mental health, Psychiatry Research, 288, 112977, hltp://dx.doi.org/IO. 10 l6/j.psychres.2020.112977

Arnett, J. J. (2016). College students as emerging adults: The developmental implications of the college contexi. Emerging Adulthood, 4, 219222. http://dx.doi.org.proxy3.library.mcgill.ca/l0.l 177/2167696815587422

Atria, A. M., Caldeira, K. M., Vincent. K. B, Winick, E. R.. Baron, R A., & O'Grady, K. E.

(2013). Discontinuous college enrollment: Associations with substance use and mental health. Psychiatric Sendees, 64, 165-172. hllp://dx.doi.org/10.1 l76/appi.ps.201200106

Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G.Caldas-de-, J. M, (2017). Menial heallh disorders among college students in the World Mental Health Surveys. Psychological Medicine, 46. 2955-2970. http://dx.doi.org.proxy3.library.mcgill.ca/10.1017/ S0033291716001665

Bell. C. M., Ridley. J. A.. Overholser, J. C" Young. K.. Athey, A., Lehmann, I, & Phillips, K (2018). The role of perceived burden and social support in suicide and depression. Suicide and Life-Threatening Behavior, 48, 87-94. http://dx.doi.org.proxy3.library.mcgill.ca/IO.llll/sllb.12327

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., &. Domino, J. L. (2015), The posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. Journal of Traumatic Stress, 28, 489-498. http://dx.doi.org.proxy3.library.mcgill.ca/l0.l002/jls.22059

Cao, W.. Fang. Z., Hou. G.. Han. M., Xu, X.. Dong, J., & Zheng. J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry Research, 287, 112934. http://dx.doi.org.proxy3.library.mcgill.ca/10 . 1016/j.psychres.2020.112934

Centre for Addiction and McnUil Heallh. (n.d.). COVID-I9 NalUmat Survey Dashboard. Retrieved from hltps;//www.camh.ca/en/lH;allli-iiifo/ niental-heallh-and-covid-19/eovid-l9-nalional-survey

Cohen, S., & Williamson. O. (1988). Perceived stress in a probability sample of ihc Uniicd States. The Social Psychology of Health, IX 31-67. hllp7/dx.doi.oiy/IO.I111/j.l559-1816.i983.lb02325.x

Crawford. J. R.. & Henry. J. D. (2004). The positive and negative affect schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical .sample. British Journal of Clinical Psychology, 43, 245-265. hltp://dx.doi.org/l0.I.U8/0l44665O3l752934

Dai. K. A.. Iqlxil. N.. & Mushlag. A. (2017). Intolerance of uncertainly, depression, and anxiety: Examining the indirect and moderating effects ol worry. Asian Journal oj Psschiairy, 29, 129-133. hllp://dx.doi.org/ IO.IOI6/j.ajp.20t7.04.0l7

DrUSS. B. G. (2020). Addressing (he COVID-19 pandemic in populations with serious mental illness. Journal of the American Medical Association Psychiatry. Advance online publication. http://dx.doi.org.proxy3.library.mcgill.ca/IO.IOOI/ jama.2020.3413.

Duffy. M. R. Twengc. J. M.. & Joiner. T. E. (2019). Trends in mood and anxiety symptoms and suicide-related outcomes aiming U.S. undergraduates. 2007-2018: Evidence Irom Iwo national surveys. Journal of Adolescent Health. 65. 590-598. h!tp://dx.doi.org/IO.IOI6/j..iadohealth .2019.04.033

Eaton. W.. Smilh. C. Ybarra. M.. Muniaiiet. C. & Tien, A. (2004). Comet for epidemiological

studies depression scale: Review and revision (CBSD and CBSD-R). In M. Maruish (\idX The use of psychological testing fartreatment planning and autcome· assessment: Instruments far adulis (pp. 363-377·. Mahwah. NJ: Rrlhaum.

Edwards. K. M., Kcams, M. C. Calhoun. K. S., & Gidytv. C. A. (2009). College women's reactions In sexual assault research participation: Is it distressing? Psychology of Women Quarterly, 33, 225-234. http://dx.doi ··rg/10.1111/j .1471-6402.2009.0I492.X

Eisenbcrg. D.. Golbvrslein. E.. & Hunt. J. B. (20091. Menial health and academic success in college. The B. E. Journal of Economic Analysis & Policy. 9. 1-35. http://dx.doi.org.proxy3.library.mcgill.ca/IO.22U2/l935-l682.2191

Galea, S., Merchant, R. M., & Lurie, N. (2020). The mental health consequences of COVID-19 and physical distancing. Journal of the American Medical Association, ISO, 817-818. http://dx.doi.org.proxy3.library.mcgill.ca/10 .1002/da.20838

Glenn, C. R" & Klonsky, E. D. (2011). One-year test-retest reliability of the Inventory of Statements about Sel Γ-Injury (ISAS). Assessment, 18, 375-378. http://dx.doi.org.proxy3.library.mcgill.ca/10.l 177/1073191111411669

Gould, M. S., Marrocco, F. A.. Kleinman, M., Thomas, J G., Mostkoff, K., Cote, J., & Davies, M. (2005). Evaluating iatrogenic risk of youth suicide screening programs: A randomized controlled trial. Journal of the American Medical Association, 293, 1635-1643. http://dx.doi.org.proxy3.library.mcgill.ca/ 10.1001 /j ama.293.13.1635

Government of Canada. (2020). Coronavirus disease (COVID-19): Outbreak update. Retrieved

from https://www.canada.ca/en/public-health/ services/diseases/2019-novel-coronavirus-infection.html

Gunnell, D., Appleby, L., Arensman, E., Hawlon, K.. John, A., Kapur, N., . . . the COVID-19 Suicide Prevention Research Collaboration. (2020). Suicide risk and prevention during the COVID-19 pandemic. The Lancet Psychiatry, 7, 468-471. http://dx.doi.org.proxy3.library.mcgill.ca/10.1016/S22150366(20)30171-1

Hallion, L. S., Steinman. S. A., Tolin, D. F., & Diefenbach. G. J. (2018). Psychometric properties of the difficulties in emotion regulation scale (DERS) and its short forms in adults with emotional disorders. Frontiers in Psychology, 9, 539. http://dx.doi.org.proxy3.library.mcgill.ca/l0.3389/fpsyg.2018.00539

He. F. X., Turnbull. B.. Kirshbautn. M. N.. Phillips. B" & Klainin-Yobas, P. (2018). Assessing stress, protective factors and psychological wellbeing among undergraduate nursing students. Nurse Education Today, 68, 4-12. http://dx.doi.0rg/l0.l016/j.nedt.20l8.05.0l3

Holmes, E. A., O'Connor, R. C., Perry. V. H., Tracey, I., Wessely, S., Arseneault, L.Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. The Lancet Psychiatry, 7, 547-560. http://dx.doi.org.proxy3.library.mcgill.ca/10 .1016/S2215-0366(20)30168-1

Huang, Y., & Zhao, N. (2020). Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: A web-based cross-sectional survey. Psychiatry Research, 288, 112954. http://dx.doi .org/10.1016/j .psychres.2020.112954

Kaufman. E. A., Xia, M.. Fosco, G., Yaplangco, M., Skidmore, C. R., & Crowell, S. E. (2016). The Difficulties in Emotion Regulation Scale Short Form (DERS-SF): Validation and replication in adolescent and adult samples. Journal of Psychopathology and Behavioral Assessment, 38, 443-455. http://dx.doi.org.proxy3.library.mcgill.ca/l0.1007/sl0862-015-9529-3

KiIIgore, W. D. S., Cloonan, S. A., Taylor, E. C., & Dailey, N. S. (2020). Loneliness: A signature mental health concern in the era of COVID-19. Psychiatry Research, 290, 113117. http://dx.doi.org.proxy3.library.mcgill.ca/10.1016/j.psychres .2020.113117

Klonsky, E. D., & Glenn, C. R. (2009). Assessing (he functions of non-suicidal self-injury: Psychometric properties of ihe Inventory of Statements About Self-injury (ISAS). Journal of Psychopathology and Behavioral Assessment, 31, 215-219. http://dx.dot.org/10.1007/ s 10862-008-9107-z

Kohn, P M., Lafreniere, K., & Gurevich, M. (1990). The Inventory of College Students' Recent Life Experiences: A decontaminated hassles scale for a special population. Journal of Behavioral Medicine, 13, 619-630. hltp ://d x .doi.org/10.1007/B F00844738

Kokotailo, P. K., Egan, J., Gangnon, R.. Browm, D., Mundt, M., & Fleming. M. (2004). Validity of the alcohol use disorders identification test in college students. Alcoholism: Clinical and Experimental Research, 28. 914-920. http://dx.doi.org.proxy3.library.mcgill.ca/l0.1097/0l.ALC.0O00128239 .87611.F5

Kroenke. K., Spitzer. R. L., Williams, J. B. W., & Löwe, B. (2010). The Patient Health

Questionnaire somatic, anxiety, and depressive symptom scales: A systematic review. General Hospital Psychiatry, 32, 345-359. http://dx.doi.org.proxy3.library.mcgill.ca/10.1016/j.genhosppsych.2010.03.006

Lee, J. (2020). Mental health effects of school closures during COVID-19. The Lancet Child A Adolescent Health. 4, 421. http://dx.doi.org.proxy3.library.mcgill.ca/IO .1016/52352-4642(20)30109-7

Lipson, S. K., & Eisenberg, D. (2018). Menial health and academic attitudes and expectations in university populations: Results from the healthy minds study. Journal of Mental Health, 27, 205-213. http://dx .doi.org/10.1080/09638237.2017.1417567

Liu, N.. Zhang, F" Wei, C" Jia, Y., Shang, Z., Sun, L.,... Liu, W. (2020). Prevalence and predictors of PTSS during COVID-19 outbreak in China hardesl-hit areas: Gender differences matter. Psychiatry Research, 287, 112921. http://dx.doi.org.proxy3.library.mcgill.ca/10.10l6/j.psychres.2020.l 12921

Löwe, B.. Decker, O.. Müller, S., Brähler, E., Schellberg, D., Herzog, W., & Herzberg, P. Y. (2008). Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. Medical Care, 46, 266-274. http://dx.doi.org.proxy3.library.mcgill.ca/IO.l097/MLR .ObO13e318160d093

March-Llanes, J., Marqués-Feixa, L., Mezquita, L., Fafianás, L., & MoyaHigueras, J. (2017).

Stressful life events during adolescence and risk for externalizing and internalizing psychopathology: A meta-analysis. European Child A Adolescent Psychiatry, 26, 1409-1422. http://dx.doi .org/10.1007/S00787-017-0996-9

Mazza, C., Ricci, E., Biondi, S., Colasanti, M., Ferraculi, S., Napoli, C., & Roma, P. (2020). A nationwide survey of psychological distress among Italian people during the COVID-19 pandemic: Immediate psychological responses and associated factors. International Journal of Environmental Research and Public Health, 17, 3165. http://dx.doi.org.proxy3.library.mcgill.ca/IO.3390/ ijerph 17093165

Moawad, R. A. (2020). Online learning during the COVID- 19 pandemic and academic stress in university students. Revista Romaneasca Pentru Educaţie Multidimensionala, 12, 100-107. http://dx.doi.org.proxy3.library.mcgill.ca/IO.l8662/ rrem/l2.1sup2/252

Nanos and Mental Health Commission of Canada. (2020, April). Canadians report an increase in feeling stressed regularly or all the time now compared with one month before COVID-19. Retrieved from https://www .mental heal thcommi.ssion.ca/sites/default/files/2020-05/nanos_covid_may_ 2020.pdf

Odriozola-González, P., Planchuelo-Gomez, Á,, Irurtía, M. J., & de LuisGarcía, R. (2020). Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. Psychiatry Research, 290, 113108, http://dx.doi.org.proxy3.library.mcgill.ca/IO. 1016/j.psychres.2020 .113108

Omeli, F-, Schuch, J. B., Sordi, A. O., & Kessler, F H P. (2020). "Pandemie fear" and COVID-

19: Mental health burden and strategies. Revísta brasileira de psiquiatría, 42, 232-235. http://dx.doi.org.proxy3.library.mcgill.ca/10 . 1590/1516-4446-2020-0008

Osman, A., Barrios, F. X.. Longnecker, J., & Osman, J. R. (1994). Validation of the Inventory of College Students' Recent Life Experiences in an American college sample. Journal of Clinical Psychology, 50, 856863. http://dx.doi.org.proxy3.library.mcgill.ca/10.1002/1097-4679(199411)50:6<856:AIDJCLP2270500607 >3.0.CO ;2-C

Oswalt, S. B.. Lederer, A. M.. Chestnut-Steich, K" Day, C. Halbritter, A.. & Ortiz, D. (2020). Trends in college students' mental health diagnoses and utilization of services, 2009-2015. Journal of American College Health, 68, 41-51. htlp://dx.doi.org/10.1080/07448481.2018.1515748

Patel, A. B., Sharp. C. C., & Fónagy, P. (2011). Criterion validity of the MS1-BPD in a community sample of women. Journal of Psychopathology and Behavioral Assessment, 33, 403-408. http://dx.doi.org.proxy3.library.mcgill.ca/IO. 1007/ si 0862-0! 1-9238-5

Peak. N. J.. Overholser, J. C.. Ridley. J., Braden. A.. Fisher. L., Bixler. J., & Chandler, M. (2016). Too much to bear: Psychometric evidence supporting the perceived burdensomeness scale, Crisis, 37, 59-67, http://dx.d0t.0rg/l 0.1027/0227-5910/a000355

Qiu, J., Shen, B., Zhao. M.. Wang, Z" Xie, B., & Xu, Y. (2020). A nationwide survey of

psychological distress among Chinese people in the COVID-19 epidemic: Implications and policy recommendations. General Psychiatry, 33, e 100213. http://dx.doi.org.proxy3.library.mcgill.ca/10.ll.36/gpsych2020-100213

Rajkumar. R. P. (2020). COVID-19 and mental health: A review of the existing literature. Asian Journal of Psychiatry, 52, 102066. http://dx .doi .org/10.1016/j.ajp.2020.102066

Roberti, J. W., Harrington, L. N., & Storch, E. A. (2006). Further psychometric support for the 10-ilem version of the Perceived Stress Scale. Journal of College Counseling, 9, 135-147. http://dx.doi.org.proxy3.library.mcgill.ca/10.1002/j .2161 -1882.2006.IhOOlOO.x

Sáhu, P. (2020). Closure of universities due to coronavirus disease 2019 (COVID-19): Impact on education and mental health of students and academic staff. Cureus, 12. e7541. http://dx.doi.org.proxy3.library.mcgill.ca/]0.7759/cureus .7541

Saunders. J, B., Aasland, O. G., Babor. T. F" de la Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol Consumption-!!. Addiction, 88, 791-804. http:// dx.doi.org/10.1111/j.l 360-0443.1993.tb02093.x

Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the stale of the art. Psychological Methods,. 7, 147-177. http://dx.doi.org.proxy3.library.mcgill.ca/10 . 1037/1082-989X.7.2.147

Seligman, M. E. P., Steen, T. A., Park. N., & Peterson, C. (2005). Positive psychology progress:

Empirical validation of interventions. American Psychologist, 60, 410-421. http://dx.doi.org.proxy3.library.mcgill.ca/l0.l037/0003-066X.60.5 .410

Spitzer, R L, Kroenke, K., Williams, J. B. W , & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. Archives of Internal Medicine, 166, 1092-1097. http://dx.doi.org.proxy3.library.mcgill.ca/IO. 1001/ archinte. 166.10.1092

Statistics Canada. (2020a). How are postsecondary students in Canada impacted by the COVID-19 pandemic? Retrieved from https://ww·wl50 .statcan.gc.ca/nI/pub/11-627-m/l l-627-m2020032-eng.htm

Statistics Canada. (2020b). Mental health of Canadians during the Covid-19 pandemic. Retrieved from https://www150.statcan.gc.ca/nl/ en/pub/I l-627-m/l l-627-m2020039-eng.pdf?sl=L8kMkZlk

Sturman, E. D., & Zappala-Piemme, K. (2017). Development of the Grit Scale for Children and Adults and its relation to student efficacy, test anxiety, and academic performance. Learning and Individual Differences, 59, 1-10. http://dx.doi.org.proxy3.library.mcgill.ca/10.l016/j.lindif.20l7.08.004

UNESCO, (n.d.). Covid-19 educational disruption and responses. Retrieved July 7, 2020, from https://en.unesco.org/covidl9/education response

Van Dam, N. T" & Earleywine. M. (2011). Validation of the Center for Epidemiologic Studies

Depression Scale-Revised (CESD-R): Pragmatic depression assessment in the general population. Psychiatry Research, 186, 128-132. http://dx.doi.org.proxy3.library.mcgill.ca/10.1016/j.psychres.2010.08.OI8

Vilagut, G" Forero, C. G., Barbaglia, G., & Alonso, J. (2016). Screening for depression in the general population with the Center for Epidemiologic Studies Depression (CES-D): A systematic review with metaanalysis. PLoS ONE, 11, e0155431. http://dx.doi.org.proxy3.library.mcgill.ca/10.1371/journal .pone.0155431

Wang, C" Pan, R" Wan, X., Tan. Y" Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. International Journal of Environmental Research and Public Health, /7, 1729. http://dx.doi.org.proxy3.library.mcgill.ca/10 ,3390/ijerphl 7051729

Watson, D., & Clark. L. A. (1994). The PANAS-X: Manual for the Positive and Negative Affect Schedule - Expanded Form. Iowa Research Online, 277, 1-27.<http://dx.doi.org.proxy3.library.mcgill.ca/IOJ 11 l/j.!742-4658.2010.07754.x

Watson. D.. Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063-1070. http://dx.doi.org.proxy3.library.mcgill.ca/10.1037/0022-3514.54.6.1063

Whitlock, J., Pietrusza, C., & Purington, A. (2013). Young adult respondent experiences of

disclosing self-injury, suicide-related behavior, and psychological distress in a web-based survey. Archives of Suicide Research, 17, 20-32. http://dx.doi.org.proxy3.library.mcgill.ca/10.l080/l38l 1118.2013.748405

World Health Organization, (n.d.). Coronavirus disease (COVID-19) pandemic. Retrieved July 7, 2020, from https://www.who.inl/emergencies/ disease s/novel-coronavirus-2019

Xiao, H., Carney, D. M., Youn, S. J., Janis, R. A., Castonguay, L. G., Hayes, J. A., & Locke, B. D. (2017). Are we in crisis? National mental health and treatment trends in college counseling centers. Psychological Services, 14. 407-415. http://dx.doi.org.proxy3.library.mcgill.ca/l0.l037/ser0000130

Yao, H., Chen, J. H., & Xu, Y. F. (2020). Patients with mental health disorders in the COVID-19 epidemic. The Lancet Psychiatry, 7, e21, http://dx.doi.org.proxy3.library.mcgill.ca/IO. 1016/S2215-0366(20)30090-0

Zanarini, M. C., Vujanovic, A. A., Parachini, E. A., Boulanger, J. L., Frankenburg, F. R.. & Hennen. J. (2003). A screening measure for BPD: The McLean Screening Instrument for borderline personality disorder (MSI-BPD). Journal of Personality disorders, 17, 568-573. http://dx .doi.org/I0.1521/pedi. 17.6.568.25355

Zhai. Y., & Du. X. (2020). Addressing collegiate mental health amid COVID-19 pandemic. Psychiatry Research, 288, 113003. http://dx.doi .org/l 0.1016/j .psychres.2020.11300.3

Ziniet, G. D" Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale

of Perceived Social Support. Journal of Personality Assessment, 52, 30-41. http://dx.doi.org.proxy3.library.mcgill.ca/IO.1207/sl532 7752jpa5201_2

Zimet, G. D., Powell, S. S., Farley, G. K., Werkman, S.f & Berkoff. K. A. (1990). Psychometric characteristics of the Multidimensional Scale of Perceived Social Support. Journal of Personality Assessment, 55, 610617. http://dx.doi.org.proxy3.library.mcgill.ca/10.1080/00223891.1990.9674095

Tables and Figures

Table 1

Significant Differences From Time 1 to Time 2 by Group (Preexisting Mental Health Concern, No Preexisting Mental Health Concern)

	Total Sample		Preexisting MH concern		No Preexisting MH concern	
Variable	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2

Developmental challenge	2.46 (.69)	2.32 (.68)	2.77 (.63)$_b$	2.55 (.66)$_a$	2.20 (.63)$_b$	2.13 (.64)$_a$
Time pressure	2.29 (.69)	2.11 (.69)	2.57 (.65)$_b$	2.32 (.66)$_a$	2.06 (.63)$_b$	1.94 (.66)$_a$
Academic alienation	2.13 (.80)	2.04 (.75)	2.45 (.79)$_b$	2.24 (.76)$_a$	1.86 (.70)	1.86 (.71)
Romantic problems	1.44 (.58)	1.45 (.58)	1.63 (.69)	1.57 (.63)	1.28 (.42)	1.35 (.52)
Assorted annoyances	1.56 (.49)	1.48 (.45)	1.77 (.53)	1.65 (.48)	1.40 (.38)	1.34 (.37)
Social mistreatment	1.85 (.67)	1.94 (.62)	2.19 (.69)	2.16 (.48)	1.57 (.49)$_a$	1.76 (.56)$_b$
Friendship problems	1.66 (.65)	1.56 (.61)	1.91 (.70)$_b$	1.73 (.65)$_a$	1.44 (.50)	1.42 (.54)
Social support	5.11 (1.30)	5.17 (1.18)	4.72 (1.35)	4.89 (1.18)	5.44 (1.17)	5.40 (1.14)
Perceived stress	3.00 (.66)	3.01 (.66)	3.36 (.58)$_b$	3.25 (.60)$_a$	2.70 (.57)$_a$	2.81 (.63)$_b$
DERS	2.43 (.72)	2.45 (.69)	2.83 (.67)$_b$	2.75 (.66)$_a$	2.10 (.58)$_a$	2.19 (.60)$_b$
Sadness	2.46 (1.03)	2.58 (1.04)	3.07 (1.01)$_b$	2.90 (1.02)$_a$	1.95 (.72)$_a$	2.30 (.97)$_b$
Joy	3.11 (.90)	2.83 (.88)	2.81 (.83)	2.63 (.81)	3.36 (.89)	3.00 (.90)
NSSI	.18 (.38)	.20 (.40)	.27 (.45)	.29 (.45)	.10 (.30)	.12 (.33)

Depressive symptoms	17.62 (13.46)	18.44 (13.24)	28.07 $(12.29)_b$	24.29 $(13.44)_a$	8.91 $(6.29)_a$	13.56 $(10.91)_b$
Anxiety symptoms	6.68 (5.53)	6.39 (5.46)	10.81 $(5.21)_b$	8.92 $(5.93)_a$	3.25 $(2.74)_a$	4.27 $(3.94)_b$
BPD symptoms	2.50 (2.54)	2.59 (2.51)	4.02 (2.67)	3.74 (2.64)	1.24 $(1.55)_a$	1.63 $(1.94)_b$
Alcohol symptoms	2.23 (3.60)	2.27 (3.50)	3.41 (4.66)	3.14 (4.25)	1.25 (1.90)	1.56 (2.51)
PTSD symptoms	1.84 (.87)	1.84 (.85)	2.35 $(.95)_b$	2.22 $(.94)_a$	1.42 $(.50)_a$	1.53 $(.60)_b$
Burdensomeness	2.13 (1.13)	2.05 (1.06)	2.71 $(1.17)_b$	2.43 $(1.14)_a$	1.64 $(.83)_a$	1.74 $(.88)_b$
Grit	2.97 (.60)	2.93 (.61)	2.75 (.52)	2.76 (.57)	3.15 (.60)	3.07 (.61)

Note. DERS = difficulties in emotion regulation; NSSI = nonsuicidal self-injury; BPD = borderline personality disorder; PTSD = posttraumatic stress disorder; MH = mental health. Within each group (pre-existing mental health concern, no pre-existing mental health concern) difference subscripts across rows denote significant differences from Time 1 to Time 2

Figure 1. Time pressure over time by group. * denotes significant difference from Time 1 to Time 2.

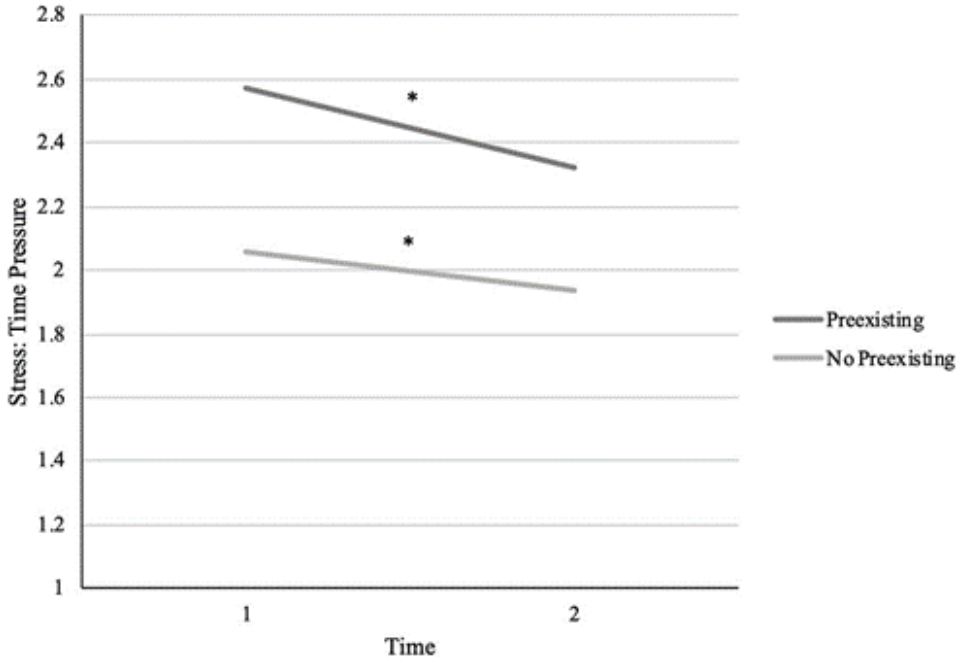

Figure 2. Social mistreatment over time by group. * denotes significant difference from Time 1 to Time 2.

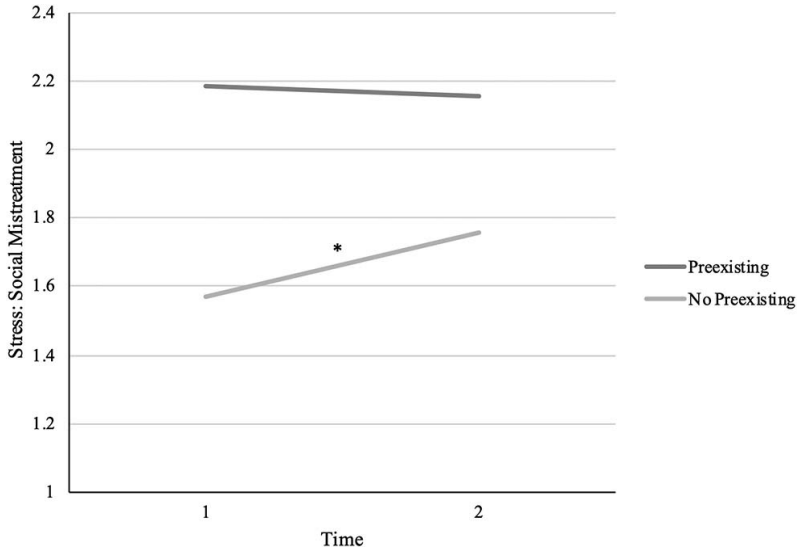

Figure 3. Perceived stress over time by group. * denotes significant difference from Time 1 to Time 2.

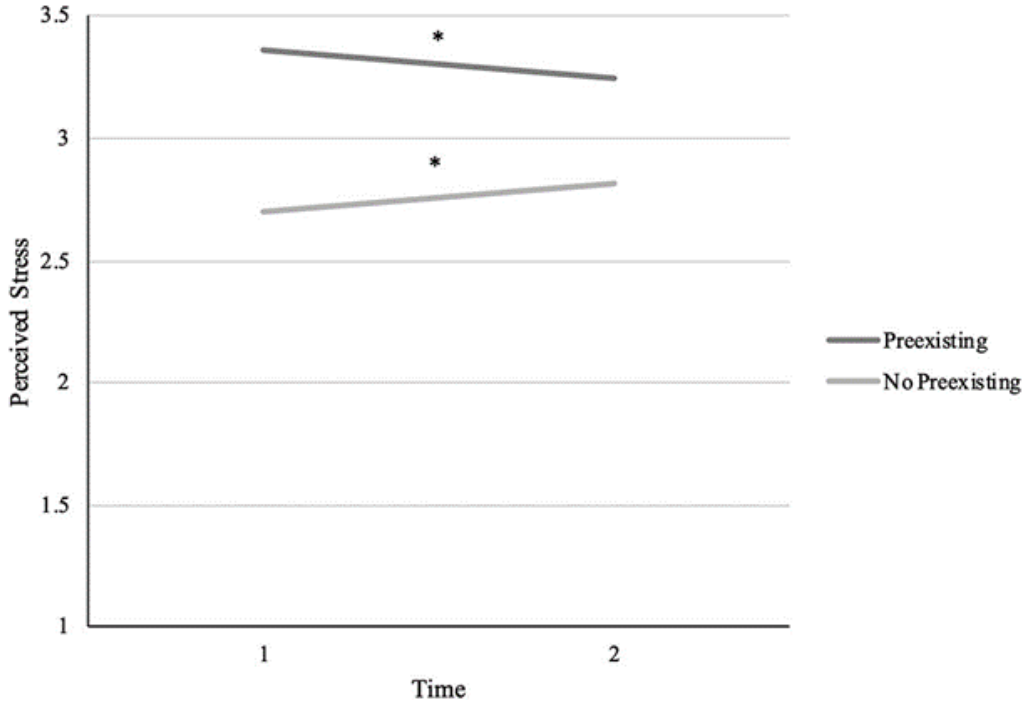

Figure 4. Depressive symptoms over time by group. *denotes significant difference from Time 1 to Time 2.