

**Predictors of Undergraduates' Psychological Well-Being: Social Support Stability,
Campus Resource Stability, and Locus of Control**

BY

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Abstract

The purpose of the present study was to investigate social and campus resources as predictors of students' psychological well-being, with locus of control (LOC) as a potential mediator. The study consisted of 138 participants who were enrolled in an Introductory Psychology course, and the students completed an online questionnaire with an incentive of 1 course credit as compensation for participating in the study. Findings demonstrated that perceived stability of resources added additional variance in students' psychological well-being, suggesting that the stability of resources should be considered in addition to the availability of resources when assessing students' psychological well-being. Results demonstrated that perceived campus support also accounted for additional variance in students' psychological well-being, and therefore should be considered alongside perceived social support when investigating support systems and students' well-being. Individual measures of perceived support did not predict LOC, nor did LOC serve as a significant mediator in the relationship between perceived support and psychological well-being. Using the findings of the present study as the foundation for future research, as well as resource organization and prioritization, it is possible to further the general understanding of students' support needs while helping to ensure a positive university experience both academically and socially.

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Predictors of Undergraduates' Psychological Well-Being: Social Support Stability, Campus Resource Stability, and Locus of Control

Youth and young adults in Canada are among the most vulnerable in the country's population in terms of mental-health related problems; they have the third highest youth suicide rate in the industrial world, and suicide is the leading cause of death for those between the ages of 15 to 24 (Youth Mental Health Canada, 2019). As of 2016, 46% of all students in Ontario reported experiencing symptoms of depression, and 65% reported experiencing symptoms of anxiety which have both increased significantly since 2013 (Ontario Universities, 2016). In the last year, the majority of Ontarian post-secondary students reported feeling depressed (Centre for Addiction and Mental Health, 2022). Evidently, the mental health crisis in young adults, students included, deserves great attention and investigation as these numbers appear to be increasing (Youth Mental Health Canada, 2019).

In an effort to better understand contributors to mental health, one may consider the particular relevance of social support resources. People often seek support from their social circles, such as their peers or family. In addition, university students may seek out additional external support in the form of campus resources, such as on-campus counselling, peer tutors, or academic advisors (Pilar et al., 2020). Given that both social support and campus supports are external resources, locus of control may be an additional factor to consider when investigating help seeking behaviour. Locus of control is defined as one's perception of their control over the outcomes of their life (Rotter, 1966). In the present study, the role of locus of control was investigated as a potential mediating factor in the relationship between social support availability and

stability, campus resource availability and stability, and university students' psychological well-being.

Social Support Resources and Well-Being

Social support is the feeling of being cared for, as well as a sense of belonging, within one's social circle (Canadian Mental Health Association, 2023). Social support resources can take the form of peers, friends, family, or others in a person's life, and the level of support felt from these resources constitutes one's perception of social support (Strong & Gore, 2020; Blagojevic-Damasek et al. 2012). The amount of social support one receives can range between very strong to very poor and may have varying impacts on a person's well-being (Strong & Gore, 2020). There have been consistent findings that relate perceived social support to well-being, as higher levels of perceived support can contribute to positive feelings (Siedlecki et al., 2014). Social support can be viewed specifically through the lens of the stress buffering hypothesis, which suggests that social support may mitigate the negative effects of stress of life on both mental and physical health (Szkody & Mckinney, 2020).

Szkody and Mckinney (2020) conducted a study which measured perceived availability of social support, appraisal for stress, and physical and psychological well-being in undergraduate students. Primary appraisal for stress refers to the individual's perception and evaluation of a negative life event, and secondary appraisal is their evaluation of their resources and coping tools to handle the event (Szkody & McKinney, 2020). Through an online survey comprised of the Multidimensional Survey of Perceived Social Support (Zimet et al., 1988), Risky Behaviour and Stressful Events scale (O'Hare et al., 2006), Stress Appraisal Measure (Peacock & Wong, 1990), and

World Health Organization – Quality of Life Instrument (WHOQOL Group, 1998), they found that students’ perceived availability of social support was associated with physical and mental health in females, but not in males. Past research suggests that this finding may be due to females being more aware of their social relationships, leading them to be more likely to seek out or desire social support (Szkody & McKinney, 2020). In support of this finding, previous research has also shown that females typically have more supportive social networks, with more friends providing support than males (Caetona et al., 2013).

Within social support, the feeling of belonging may be particularly important for university students (Dutcher et al., 2022). Dutcher et al. (2022) investigated the relationship between sense of belonging among peers and future depressive symptoms in first year university students. Participants completed a series of questionnaires measuring feelings of belonging, depressive symptoms, sense of social fit, loneliness, and social interactions, at the beginning, middle, and end of the semester. Findings suggested that lower reported levels of belonging were related to higher reported levels of depressive symptoms and loneliness (Dutcher et al., 2022). Overall, the level of belonging was the strongest predictor of future depressive symptoms, followed by loneliness, then frequency of social interactions. These findings may suggest that subjective social experiences, belongingness, and loneliness, are stronger predictors of depression than objective social experiences. Therefore, having a strong sense of belonging within one’s social environment, specifically university, may be especially relevant when it comes to reducing future depressive symptoms (Dutcher et al., 2022).

Perceived Support Stability

Many researchers have solely focused on the number of social resources a person relies on, rather than the perceived stability of the support (Blagojevic-Damasek et al. 2012; Szkody & McKinney, 2020; Dutcher et al., 2022). In this sense, stability can be defined as the consistency and predictability of receiving social support resources and can be independent of the amount of social support one receives (Strong & Gore, 2020). Strong and Gore (2020) conducted several experiments, the first of which sought to investigate the relationship between the stability of social resources and students' mental wellbeing. This was a correlational study using undergraduate students in psychology courses. To assess social resource availability and stability, they asked their participants to rate the extent to which they received a variety of social support resources over the course of one month (Strong & Gore, 2020). To assess psychological distress, several measures were used. Perceived stress was measured by using the Perceived Stress Scale (Cohen et al., 1983), feelings of depression were measured by using the Center for Epidemiologic Studies Depression scale (Radloff, 1977), and anxiety was measured using the Beck Anxiety Inventory (Beck et al., 1988). The findings suggested that those with consistent levels of social resource availability were more likely to report lower levels of psychological distress (depression, anxiety, and stress; Strong & Gore, 2020).

Given that social resources, and stability of these resources, have been found to be related to reports of lower psychological distress, the current study evaluated both availability and stability of social resources, along with psychological well-being in university students. As many university students have unique stressors based on their

school experience, the present study was also interested in the impact of campus support resources and their perceived stability on student mental health.

Resource Stability, Campus Supports, and Well-Being

In the existing literature, there have been limited studies that consider campus resources outside of those specific to sexual assault, and even fewer examining campus resource stability. Although many universities aim to provide academic resources for students, mental health resources, such as campus counsellors, peer support groups, or organizations like Jack.org, may not be perceived as having equal relevance. Yet, it has been reported that approximately 66% of college students may suffer academically because of their mental health; 86% reported feeling overwhelmed by their responsibilities; 57% reported experiencing symptoms of anxiety; and 35% reported feeling too depressed to properly function (American College Health Association, 2022). These statistics clearly demonstrate the need for campus support resources aside from academic supports.

Graham et al. (2019) investigated the use of college campus resources designated to assist female sexual assault survivors. A variety of questionnaires were used to determine the extent to which each participant used campus resources, and their psychological well-being was assessed through the Mental Health Inventory 18 (MHI-18) questionnaire. The findings suggested that many survivors did not use any campus resources unless they were experiencing extremely high levels of psychological distress after the negative life event (Graham et al., 2019). This posed the question: Why are so many students not utilizing the resources on campus?

Arttime et al. (2019) also investigated service utilization among trauma-exposed university students. Students were surveyed on the kind of trauma they experienced; interpersonal trauma or military service trauma, and whether they sought assistance through mental health services, campus health services, or if they would consider utilizing any services. Arttime et al. (2019) found that those utilizing services were more likely to use a general health resource (7% to 74% depending on the trauma) rather than campus resources (8%-24%). Similar to the findings of Graham et al. (2019), Arttime et al. (2019) found that those with more severe distress were more likely to utilize campus resources. These findings suggest that there may be issues with the availability, stability, and/or perceived role of campus resources.

Even when campus support resources are offered, there are a multitude of barriers that students may face that prevent them from seeking the help they need (Goodman, 2017; Arttime et al., 2019). Goodman (2017) conducted a comprehensive literature review on mental health in college students, and specifically sought to identify the needs of students on campus. The specific topics Goodman (2017) investigated were mental health and academic performance, the ecological model of college student mental health and success, barriers to utilization of services, the existing evidence-based interventions, and the benefits and challenges to service implementation. Through thorough evaluation, the overall conclusions across the literature were that universities were not providing adequate resources for students (Goodman, 2017). In order to effectively educate students, mental health resources are necessary for ensuring a healthy and positive environment on campus.

Goodman (2017) argued that for students to seek help, they first needed to be able to recognize their own needs. Using the ecological model of facilitators and challenges, Goodman (2017) assessed a comprehensive list of previous studies and created an extensive list of individual, interpersonal, and institutional factors that impact students' mental health and their help-seeking behaviours. For example, a few facilitators of mental health were high self-esteem, supportive families and peers, and availability of quality mental health services on a day-to-day basis (Goodman, 2017). A few challenges were low self-esteem, family or cultural stigma surrounding help-seeking, and low-quality supportive services.

When it comes to university campus supports, resources include campus counselling centers, campus rape crisis centers, university health centers, campus 24-hour help lines, campus support groups, or peer counselling (Gore et al., 2019). Goodman (2017) identified campus counseling centers as the primary source of mental health care for university students, as this is an affordable resource which is supported by evidence-based strengths. For instance, students are able to receive a variety of interventions that are beneficial to them and their specific needs.

Goodman (2017) also identified numerous benefits to implementing mental health services on campus. Not only can the campus resources reduce symptoms of stress, anxiety, and other mental illnesses, they can be beneficial for those needing assistance in their everyday lives. For instance, poor mental health has been attributable to poor academic performance, which then creates a tautological cycle in which one contributes to the other (Goodman, 2017). Therefore, mental health resources on campus

allow students to have access to resources that improve their psychological well-being which may also improve their academic performance.

Guthrie and Fruiht (2020) investigated on-campus social support and hope as unique predictors for perceived academic ability in undergraduates. Participants completed questionnaires on four measures; trait hope for agency, academic hope, supportive individuals on campus, and perceived ability to persist within their degree. Guthrie and Fruiht (2020) found that having high satisfaction and confidence to achieve academic goals was associated with receiving more support on-campus. Therefore, they concluded that receiving on-campus support from staff, faculty, and advisors were predictive of higher hope and academic hope, as well as greater academic performance and positive academic self-perceptions (Guthrie & Fruiht, 2020).

The concept that external supports on campus can be associated with higher reported psychological well-being, academic performance, and positive self-perceptions (Goodman, 2017; Artime et al., 2019; Gore et al., 2019; Graham et al., 2019; Guthrie & Fruiht, 2020), suggests that there may be a mediating factor. It has been suggested that locus of control may be a primary mediator in the relationship between perceived social supports and psychological well-being (Strong & Gore, 2020).

A mediator is a third variable which explains the relationship between the other two variables (MacKinnon et al., 2007). MacKinnon et al. (2007) explain mediation as the representation of a third variable, M, in the relationship between two variables, X and Y, where X leads to M, which then leads to Y ($X \rightarrow M \rightarrow Y$). In this case, locus of control could be a mediator in the relationship between perceived support stability and psychological well-being. Essentially, when one perceives consistent support from their

social and campus resources, they could feel increased feelings of control over their surroundings, which will then improve their psychological well-being (Strong & Gore, 2020). This could be attributed to students feeling like there are actions they can take, like accessing the supports, that would make a difference in their lives.

Locus of Control and Social Support

Locus of control was originally developed by American psychologist Julian Rotter. Rotter (1966) defines locus of control as a person's perception of why an event occurred; if it was determined by their own actions, or if it occurred by chance. A person who believes that their life events occur due to their own actions has an internal locus of control, while people with an external locus of control perceive that their life events occur by chance or luck. Those of whom have more perceived control over their lives are likely to report better levels of mental well-being than those perceiving less control over their environment, suggesting that locus of control is an important factor in one's psychological well-being (Strong & Gore, 2020).

Gore et al. (2016) investigated the relationship between locus of control and mental and physical well-being in over 2,000 undergraduate students across three studies which were all conducted using online questionnaires. Through these studies, they determined that internal and external locus of control may be best measured as separate constructs. By measuring locus of control as separate constructs, it is possible to consider that one may have an internal locus of control in most aspects of their life, but still accept that there are some outcomes that simply are out of one's control. Gore et al. (2016)'s analyses suggested that the extent to which people perceived their experiences with an external locus of control was a stronger predictor of psychological

well-being than those who had a highly internal locus of control. A high external locus of control was associated with reporting lower levels of psychological well-being while an internal locus of control was associated with reporting better overall well-being. However, internal locus of control was a weaker predictor in terms of its direct impact on overall well-being compared to an external locus of control. (Gore et al., 2016).

Strong and Gore (2020) sought to investigate locus of control as a mediator in the relationship between the stability of social resources and students' mental well-being. Their second study incorporated the factor of locus of control, and they measured subjective well-being instead of psychological distress. To assess social resource availability and stability, they asked their participants to rate the extent to which they received a variety of social support resources over the course of one month (Strong & Gore, 2020). To assess locus of control, they used Lachman and Weaver's (1988) scale of Personal Mastery and Personal Constraints and to assess subjective well-being, Strong and Gore (2020) used the 5-Item Satisfaction with Life Scale (Diener et al., 1985) and The Positive and Negative Affect Schedule (Watson et al., 1988). Findings showed that consistency of social resources predicted well-being.

Strong and Gore (2020) also found that locus of control was a consistent mediator in the relationship between social support and psychological well-being, such that the extent to which an individual feels control over their environment is related to their sense of satisfaction and positivity. Social support is crucial in terms of building self-esteem, resiliency, and effectively managing negative life events, and therefore is related to the way in which an individual perceives control over their life outcomes (Okpych et al., 2018, Strong & Gore, 2020). Perceived consistency of social support is

related to stronger feelings of control over one's environment; hence, social support stability is associated with an internal locus of control (Strong & Gore, 2020). Given that an internal locus of control is associated with reports of better psychological well-being, locus of control may mediate the relationship between perceived social support stability and psychological well-being.

The Present Study

The present study expanded on prior research by Strong and Gore (2020), through investigating locus of control as a mediating factor in the relationship between support resources and psychological well-being. In addition to these variables, the present study assessed campus resources and their perceived stability. Much of past research on social resources has focused on the amount of social support received, not the stability of such resources, and research that does consider the stability of resources typically does not include campus resources. Given that the sample for this study was undergraduate students, it was important to specifically consider campus resources while also distinguishing between perceived availability and stability of resources. The present study stands to add to our knowledge on the relationship between locus of control, resource support availability and stability, and psychological well-being in undergraduate students.

The present study sought to investigate the relationship between social support resource availability and stability, campus resource availability and stability, and students' mental well-being, with locus of control as a potential mediating factor. The hypotheses for the present study were based on Strong and Gore (2020) and were adapted to include campus resource availability and stability.

- (1) Perceived social support availability will predict well-being, and perceived stability of social support will add additional unique variance in explaining well-being.
- (2) Perceived campus resource availability will predict well-being, and perceived stability of campus resources will add additional unique variance in explaining well-being.
- (3) Perceived campus resources will provide additional variance in predicting well-being over perceived social support.
- (4) Locus of control will mediate the relationships between perceived social and campus resources and psychological well-being.

Method

Participants

The present study had 138 participants with 108 who identified as female, 24 who identified as male, and 6 who identified as non-binary. The mean age was 18.97 (SD = 2.46) years; participants were recruited from Introductory Psychology courses at a small Canadian university. Eighty-two percent of students were in their first year of study. Students were incentivized to participate through receiving 1 point for course credit.

Materials

Social Support

The Multidimensional Survey of Perceived Social Support (Zimet et al., 1988) was used to measure the perceived availability of social support from friends, family, and close individuals from the past term. The questionnaire consisted of 12 items.

Participants responded to each question using a 7-point Likert scale in which one equals very strongly disagree and seven equals very strongly agree. Their mean Perceived Social Support score was obtained by summing the scores from all 12 questions and dividing by 12. The scores ranged from one to seven with higher scores indicating more perceived social support.

Stability of Social Support

To measure the stability of social support, an adapted version of Strong and Gore's (2020) questions was used. Participants were given the same items as the Multidimensional Survey of Perceived Social Support (Zimet et al., 1988) but instead of answering how much they agreed with each statement, participants indicated how consistent they perceived the resources to have been in the last term on a 5-point Likert scale where one equals never consistent and five equals always consistent. To obtain the Stability of Social Support score, the responses to the 12 items were summed and divided by 12. The scores ranged from one to five, with higher scores indicating more consistent perceived social support.

Perceived Campus Resource Availability

To measure campus resource availability, a scale similar to the Multidimensional Survey of Perceived Social Support (Zimet et al., 1988) was used. The questions were adapted for this study to pertain to campus resources rather than social support resources. Participants responded to the nine questions on a 7-point Likert scale where one is equal to very strongly disagree and seven is equal to very strongly agree. To obtain a Perceived Campus Resource Availability score, the answers were summed and

then divided by nine. Scores ranged from one to seven, with higher scores indicating more perceived availability of campus resources.

Stability of Campus Resources

The same items used to measure Perceived Campus Resource Availability were used to measure the stability of campus resources. However, participants were asked to indicate their perceived stability of the resources over the past term on a 5-point Likert scale with one being equal to never consistent and five being equal to always consistent. To obtain a Stability of Campus Resources score, all answers were summed and divided by nine. Scores ranged from one to five, with higher scores indicating more consistent perceived availability of campus resources.

Locus of Control

Lachman and Weaver's (1988) scales of Personal Mastery and Personal Constraints were used to measure participants' assessments of how they perceive their level of control over their environments. The Personal Mastery scale consists of three sections. The scores from each section were used to obtain a mean value for the Personal Mastery Scale. The Personal Constraint scale also consists of three sections. The scores from each section were used to obtain a mean value for the Personal Constraints scale. The mean score of each scale was calculated to obtain two separate scores, which were then standardized. The standardized scores were used to obtain a total Locus of Control score ($z\text{Mastery} - z\text{Constraints}$). Higher, positive scores indicate internal locus of control while lower, negative scores indicate external locus of control.

Psychological Distress

The Perceived Stress Scale - Revised (Wickrama et al., 2013) was used to measure participants' sense of personal control over their daily life stressors. The Beck Anxiety Inventory (Beck et al., 1988) was used to assess 21 anxiety symptoms. The Perceived Stress Scale consists of two subscales, psychological competency and psychological vulnerability, and participants responded using a 4-point score where one is equal to never and four is equal to very often. The scores of the psychological competency subscale were reversed, and then the scores were summed with higher scores indicating higher perceived stress. The Beck Anxiety Inventory consists of 21 common symptoms (e.g., numbness or tingling) of anxiety and participants were asked to rate how much they had been bothered by each symptom in the past week on a 4-point scale where zero is equal to not at all and three is equal to severely – I could barely stand it. The mean anxiety score was calculated. To obtain an overall Psychological Distress score, the mean anxiety score and the perceived stress scores were standardized by obtaining their z scores which were then summed. Higher scores indicate higher levels of psychological distress.

Procedure

Participants were provided with an informed consent form prior to beginning the questionnaires. Participants followed a link through SONA to complete each questionnaire once they read and signed the informed consent form. The questionnaires were online and took approximately 30 minutes to complete. All the answers to the questions were kept anonymous and confidential. This was a correlational study.

Results

Initially, there were 151 respondents to this study's questionnaire. After pro-rating to include responses where a minimum of 80% of survey questions were answered and accounting for missing data, the number of participants for the analyses was reduced to was 138. Descriptive statistics and inter-correlations for all variables are presented in Table 1.

Table 1

Descriptive Statistics and Inter-Correlations Among Predictors of Students'

Psychological Well-Being

	1	2	3	4	5	6
1. Social Support Availability	--					
2. Social Support Stability	.839***					
3. Campus Resource Availability	.210**	.195*				
4. Campus Resource Stability	.311***	.257**	.804***			
5. Locus of Control	-.117	-.116	-.136	-.106		
6. Psychological Distress	-.345**	-.363**	-.261**	-.287***	.283**	--
Mean	64.96	45.54	30.57	42.52	0.00	0.00
(SD)	(12.78)	(9.47)	(7.77)	(10.75)	(1.41)	(1.79)
Minimum	18.00	16.00	9.00	9.00	-4.37	-3.84
Maximum	84.00	60.00	45.00	63.00	5.47	4.50

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

As presented in Table 1, perceived social support availability and stability, and perceived campus resource availability and stability were all positively correlated with one another, such that higher perceived availability of resources was associated with higher perceived stability of resources. Perceived social and campus supports were all negatively correlated with psychological distress, such that the more one perceived their support/resources to be available and stable, the lower their levels of psychological distress. Locus of control was not significantly correlated with any other measures except for psychological distress. Locus of control and psychological distress were significantly positively related, such that higher scores on locus of control, which indicate an internal locus of control, were associated with higher scores on psychological distress, which indicate more psychological distress.

Regression Analyses

To test the first hypothesis, a hierarchical multiple regression analysis was undertaken with students' psychological distress as the outcome and two predictors: perceived social support availability and perceived social support stability. In the first step, psychological distress was regressed on perceived social support availability. In the second step, perceived social support stability was added. The final model is presented in Table 2; the stability measure added unique variance when added after the availability measure and is the only significant *b* in the final model.

Table 2*Regression Values for Hypothesis 1*

	F-change	R ²	R ² change	Standardized β
Social Support	18.39***	.119	.119	-.345
Availability				
Social Support Stability	2.85*	.137	.018	-.250*

Note. * $p < .05$; *** $p < .001$

To test the second hypothesis, a hierarchical multiple regression analysis was conducted with students' psychological distress as the outcome and two predictors: perceived campus resource availability and campus resource stability. In the first step, psychological distress was regressed on campus resource availability, and in the second step, campus resource stability was added. The overall model is presented in Table 3; campus resource availability significantly predicted students' levels of distress, but campus resource stability did not add additional variance.

Table 3*Regression Values for Hypothesis 2*

	F-change	R ²	R ² change	Standardized β
Campus Resource	9.91**	.068	.068	-.085
Availability				
Campus Resource Stability	2.47	.085	.017	-.218

Note. ** $p < .01$

To test the third hypothesis, a hierarchical multiple regression was conducted to investigate whether perceived campus resources would provide additional variance in predicting psychological distress over perceived social support in general. The first step

included social support availability and social support stability with distress as the outcome. The second step added campus resource availability and campus resource stability. The overall model was supported, such that perceived campus resources contributed to additional variance in students' levels of psychological distress.

Table 4
Regression Values for Hypothesis 3

	F-change	R ²	R ² change	Standardized β
Step One	10.74***	.137	.137	--
Social Support Availability	--	--	--	-.134
Social Support Stability	--	--	--	-.250
Step Two	3.26*	.178	.041	--
Social Support Availability	--	--	--	-.076
Social Support Stability	--	--	--	-.250*
Campus Resource Availability	--	--	--	-.096
Campus Resource Stability	--	--	--	-.124

Note. * $p < .05$; *** $p < .001$

Mediation Analysis

The final hypothesis sought to investigate locus of control as a mediator in the relationship between perceived social support and campus support and psychological distress. The first step to the mediation was to compute a total perceived support score by adding social support availability, social support stability, campus resource availability, and campus resource stability. The direct effect of this composite measure of perceived support on psychological distress was confirmed by a simple regression analysis, $F(1, 136) = 28.36, p < .001$. The unstandardized b was equal to $-.024(SE = .004), p < .001$.

The second step to the mediation analysis was to assess the effect of perceived support on the mediator of locus of control through a simple regression. This relationship was significant, 1-tailed test, $F(1, 137) = 3.31, p = .035$. The unstandardized b was $-.007(SE = .004)$.

The third step to the mediation was to assess the effect of locus of control on psychological distress. A multiple regression was conducted with distress as the outcome, and the total perceived support score and locus of control as the predictors, $F(2, 135) = 19.21, p < .001$. The unstandardized coefficients for this regression were $-.022 (SE = .004), p < .001$ for perceived support and $.285 (SE = .098), p = .004$ for locus of control.

The fourth step to the mediation analysis was to conduct a Sobel Test. The test indicated no significant mediation: Sobel = $-.50 (SE = .001), p = .134$. This indicates that perceived support still had a direct influence on psychological distress, even when LOC was considered.

Discussion

The present study sought to investigate social support and campus resources as predictors of students' psychological well-being, with locus of control as a possible mediator. As one of the first studies to investigate stability of resources, and one of the few to investigate campus resources in addition to overall perceived support, the findings revealed important relations among perceived support and students' psychological well-being. Results indicated that perceived stability of resources adds additional variance in predicting students' levels of psychological well-being, suggesting that stability of resources should be considered an important factor in

addition to availability of resources when considering psychological well-being.

Individual measures of perceived support did not predict locus of control, nor was locus of control found to be a significant mediator between perceived support and psychological well-being. Further, perceived campus support was found to be an additional important predictor of well-being.

The first hypothesis that perceived social support availability would predict students' psychological well-being was supported. This is an established finding in the literature (Strong & Gore, 2020; VanderZee et al., 1997) that was extended here by also investigating perceived social support stability as a predictor of psychological well-being. Perceived stability was found to account for additional variance of psychological well-being, further supporting the first hypothesis. These findings replicate those of Strong and Gore (2020), who were the first to introduce measures of perceived stability of social support as its own variable. The present findings highlight the importance of perceived stability of resources in addition to the number of resources available.

The second hypothesis that perceived campus support availability would be a predictor of students' psychological well-being was also supported. The second part of the hypothesis predicted that perceived stability of campus resources would provide additional explanation for psychological well-being, however this was not supported. There are several possibilities to explain why perceived stability did not uniquely predict well-being when it comes to campus resources, one of which could be that campus resources simply are perceived as being unstable in general. Since the COVID-19 pandemic, campus resources have continuously shifted from in person to virtual, and now many are hybrid. The pandemic also made some resources inaccessible, and some

had to be put on hold (e.g., in person counselling sessions). These changes to where resources are held and when they were available may have led to an overall student perception that resources were not consistently available on campus, thus weakening the relation between responses on this measure and other variables under study. This may be exacerbated by the fact that many students have spent less time on campus over the past few years due to pandemic related constraints, and thus may not be aware of current resources.

The third hypothesis predicted that total perceived campus resources would provide additional variance in psychological well-being over other perceived social supports was supported. Given that the population for this study was entirely university students, this highlights the role and importance of campus resources in students' lives. Most university students at this institution either live on campus, or very close by, and would likely turn to resources available on campus in times of need. Although it has been established that students heavily rely on their social circles for support (Siedlecki et al., 2014; Strong & Gore, 2020; Szkody & Mckinney, 2020), findings also suggest that students rely on the campus resources close to them (Goodman, 2017; Artime et al., 2019; Gore et al., 2019; Graham et al., 2019; Guthrie & Fruiht, 2020), which may be even more prominent for students in a small university located in a small community, such as the participants of the present study.

While the separate measures of perceived support did not correlate significantly with locus of control, a composite measure of support was found to predict locus of control in the mediation analysis. Locus of control was found to predict psychological well-being, although it did not mediate the relationships between perceived support and

students' psychological well-being, as has been proposed elsewhere (Strong & Gore, 2020). A possible explanation as to why locus of control was not a mediator may be due to students' average ages; typically, students are within the age range of those who are most vulnerable to mental health problems (Youth Mental Health Canada, 2019). As such, students' locus of control may not be associated with their perceived levels of psychological distress as students may experience poor mental health outcomes regardless of their perception of control.

The direction of the relationship between LOC and psychological well-being found in the present study suggests that an internal locus of control is related to worse psychological well-being, which is not consistent with previous research. For instance, Gore et al. (2016) found that internal locus of control was related to better psychological well-being and external locus of control was related to worse psychological well-being. Strong and Gore (2020) found further support for the relationship between internal locus of control and better psychological well-being.

Locus of control pertains to how an individual perceives all the events and outcomes which comprise their lives, not just support resources. Therefore, it is likely that the relationship between LOC and psychological well-being in this sample would be affected by other factors which were not assessed in this study. Two prevalent factors which impact locus of control are gender and living arrangements. Previous studies have found that women are more likely to identify with an external LOC (Parson & Schnieder, 1974; Serin et al., 2010). Given that a large majority of our sample was female, it reasons that the LOC scores may have overrepresented an external LOC and given the prevalence of mental health concerns among university students, the present

findings are not surprising. Regarding living arrangements, Serin et al (2010) found that students who lived away from their families were also more likely to identify with an external LOC, and many students from our sample lived away from home, possibly further skewing the LOC scores.

Another limitation of the study which may have contributed to the lack of mediation by locus of control is the fact that all the questions about support and resources were specific to external resources and perceptions of internal resources were not assessed. This could have led students to focus primarily on the external resources in their lives when answering the questions about locus of control. Future studies could expand on these questions by including questions about internal coping mechanisms and how the individual supports themselves in times of hardship.

Furthermore, the present study relied solely on self-report measures to assess each variable. Self-report studies are subject to invalid responses based on the possibility of socially desirable responding or malingering. Future studies may benefit from incorporating a variety of measures to assess constructs of interest, such as observational data to assess stability of support systems and resources or physiological measures to assess psychological distress.

As one of the first studies to assess stability of social support and both availability and stability of campus resources as predictors of student well-being, the present findings highlight the importance of considering both constructs as predictors of students' mental health. Given that stability of support was found to be at least partially separate from availability of support, it is important for social circles and support systems to prioritize consistency of support, rather than focusing solely on the amount of

support available. Further, given the importance of campus resources as demonstrated in the present study, it would be beneficial for universities to ensure their resources are well advertised and known across the student body in addition to being consistently available.

As students navigate through the confusion and difficulties of university, it is essential that each individual feels supported. As demonstrated in the current study, both the availability and stability of social resources, as well as the availability of campus resources, are integral factors in students' psychological well-being. Using the findings of the present study as the foundation for future research, as well as resource organization and prioritization, it is possible to further the general understanding of students' support needs while helping to ensure a positive university experience both academically and socially.

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Appendix A

Perceived Social Support and Stability of Social Support

The Multidimensional Survey of Perceived Social Support (Zimet et al., 1988)

Directions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the “1” if you **Very Strongly Disagree**

Circle the “2” if you **Strongly Disagree**

Circle the “3” if you **Mildly Disagree**

Circle the “4” if you are **Neutral**

Circle the “5” if you **Mildly Agree**

Circle the “6” if you **Strongly Agree**

Circle the “7” if you **Very Strongly Agree**

		1	2	3	4	5	6	7
1.	There is a special person who is around when I am in need.							
2.	There is a special person with whom I can share joys and sorrows.							
3.	My family really tries to help me.							
4.	I get the emotional help and support I need from my family.							
5.	I have a special person who is a real source of comfort to me.							
6.	My friends really try to help me.							
7.	I can count on my friends when things go wrong.							
8.	I can talk about my problems with my family.							

9.	I have friends with whom I can share my joys and sorrows.							
10.	There is a special person in my life who cares about my feelings.							
11.	My family is willing to help me make decisions.							
12.	I can talk about my problems with my friends.							

Participants will be given the same items as the Multidimensional Survey of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) to assess perceived stability of social support. Instead of answering how much they agree with each statement, participants will indicate how consistent they perceive the resources to have been in the last term on a 5-point Likert scale where one is equal to never consistent and five is equal to always consistent.

Appendix B

Perceived Campus Resources Availability and Stability

Directions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the “1” if you **Very Strongly Disagree**

Circle the “2” if you **Strongly Disagree**

Circle the “3” if you **Mildly Disagree**

Circle the “4” if you are **Neutral**

Circle the “5” if you **Mildly Agree**

Circle the “6” if you **Strongly Agree**

Circle the “7” if you **Very Strongly Agree**

		1	2	3	4	5	6	7
1.	There is a resource on campus that I can go to when I am in need.							
2.	There is a resource on campus that will celebrate my accomplishments.							
3.	There are campus resources that will try to help me.							
4.	I can get the emotional help and support I need from resources on campus.							
5.	There is a resource on campus where I can go to receive comfort.							
6.	When things go wrong, there is a resource on campus that I can count on.							
7.	There is a campus resource I can go to where I can talk about my problems.							

8.	There is a resource on campus where I can go that has someone who will care about my feelings.							
9.	There is a resource on campus that is willing to help me make decisions.							

The same items used to measure Perceived Campus Resource Availability will be used to measure the stability of campus resources. However, participants will be asked to indicate their perceived stability/consistency of the resources over the past term on a 5-point Likert scale with one being equal to never consistent and five being equal to always consistent.

Appendix C

Locus of Control Questionnaire

Perceived Constraints Scale (Lachman & Weaver, 1998)

Study 1

1. Other people determine most of what I can and cannot do.
2. There is little I can do to change many of the important things in my life.
3. I often feel helpless in dealing with the problems of life.
4. What happens in my life is often beyond my control.

Study 2

1. There are many things that interfere with what I want to do.

Study 3

1. I have little control over the things that happen to me.
2. There is really no way I can solve all the problems I have.
3. I sometimes feel I am being pushed around in my life.

Respondents indicated the extent to which each of those statements described them using a 4-point scale in Study 1 (1 = *a lot*, 4 = *not at all/never*), a 5-point scale in Study 2 (1 = *agree/yes strongly*, 5 = *disagree/no strongly*), and a 7-point scale in Study 3 (1 = *strongly agree*, 7 = *strongly disagree*).

Perceived Mastery Scale (Lachman and Weaver, 1998)

Study 1

1. I can do just about anything I really set my mind to.
2. When I really want to do something, I usually find a way to succeed at it.

Study 2

1. Whether or not I am able to get what I want is in my own hands.

Study 3

1. What happens to me in the future mostly depends on me.

Note. Respondents indicated the extent to which each of those statements described them using a 4-point scale in Study 1 (1 = *a lot*, 4 = *not at all/never*), a 5-point scale in

Study 2 (1 = *agree/yes strongly*, 5 = *disagree/no strongly*), and a 7-point scale in Study 3 (1 = *strongly agree*, 7 = *strongly disagree*).

Appendix D

Psychological Distress

Perceived Stress Scale – Revised (Wickrama et al., 2013)

Psychological competency

1. How often have you felt that you were effectively coping with important changes that were occurring in your life?
2. How often have you felt confident about your ability to handle your personal problems?
3. How often have you felt things were going your way?
4. How often have you been able to control the irritations in your life?
5. How often have you been able to control the way you spend your time?

Note. Item responses range from never (0) to very often (4), and higher scores indicate greater psychological competency.

Psychological vulnerability

1. How often have you been upset because of something that happened unexpectedly?
2. How often have you felt you were unable to control the important things in your life?
3. How often have you felt nervous and stressed?
4. How often have you found that you could not cope with all the things that you had to do?
5. How often have you been angered because of things that happened outside of your control?
6. How often have you found yourself thinking about things that you have to accomplish?
7. How often have you felt difficulties were piling up so high that you could not overcome them?

Note. Responses range from never (0) to very often (4), and higher scores indicate greater psychological vulnerability.

The Beck Anxiety Inventory (Beck et al., 1988)

- | | |
|---------------------------------|----------------------------|
| ___ Numbness or tingling | ___ Hands trembling |
| ___ Feeling hot | ___ Shaky |
| ___ Wobbliness in legs | ___ Fear of losing control |
| ___ Unable to relax | ___ Difficulty breathing |
| ___ Fear of the worst happening | ___ Fear of dying |
| ___ Dizzy or lightheaded | ___ Scared |
| ___ Heart pounding or racing | |

____ Indigestion or discomfort in abdomen
____ Unsteady
____ Terrified
____ Nervous

____ Feelings of choking
____ Faint
____ Face flushed
____ Sweating (not due to heat)

Note. The respondent is asked to rate how much he or she has been bothered by each symptom over the past week on a 4-point scale ranging from 0 (*Not at all*) to 3 (*Severely—I could barely stand it*).