Examining the Contributions of Coping Self-Efficacy and Help-Seeking Behaviour on Academic Performance

Rikka Yolynne Paular

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Rikka Yolynne Paular

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Supervisory Committee

Dr. Allyson Hadwin, Supervisor

Educational Psychology and Leadership, University of Victoria

Dr. Mariel Miller, Committee Member

Educational Psychology and Leadership, University of Victoria

Dr. Paweena Sukhawathanakul, Committee Member

Psychology, University of Victoria

Abstract

Self-regulated learning (SRL) has become an essential aspect of education, with a focus on improving students' skills and strategies to learn and perform effectively. The purpose of this study was to investigate the mediating role of instrumental help-seeking in the relationship between coping self-efficacy and academic performance from a SRL perspective. Participants (N=233) were enrolled in an elective educational psychology course at a Western Canadian University and completed weekly self-assessments related to SRL practices (e.g., coping self-efficacy, time management, help-seeking behaviours). Path analyses using structural equation modeling were used to examine the mediating role of instrumental help-seeking behaviour on the relationship between coping self-efficacy and academic performance. Findings revealed that coping self-efficacy was not significantly related to academic performance, and that instrumental help-seeking behaviour did not mediate this relationship. However, subsequent models showed that while coping self-efficacy may not directly impact students' GPA, it does influence their help-seeking behaviors. Specifically, the results demonstrated that students with low coping self-efficacy tend to avoid seeking help and perceive it as a threat. Notably, only executive help-seeking behavior had a negative association with GPA, suggesting that relying on others to solve the task may have a detrimental effect on academic performance. Overall, this study offered valuable insights into the role of coping self-efficacy and help-seeking behaviors in academic settings, emphasizing the need for further research to investigate the underlying factors contributing to the negative association between executive help-seeking and GPA.

Keywords: Coping self-efficacy; help-seeking behaviours; academic performance; self-regulated learning

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Dedication

Dedicated to my friend Sara Saadat, who helped encourage me to pursue my master's degree in the first place. Although she is no longer with us, she remains a constant source of inspiration and motivation to continue to purse my academic dreams.

Sara, we did it.

Introduction

Attending university can provide a platform for students to pursue their interests, develop invaluable skills, and enhance their employment prospects (Letkiewicz et al., 2014; Zhu et al., 2019). However, a recent report reveals that as many as 40% of students may be considering dropping out of university due to the stress level and the adverse impacts of the COVID-19 pandemic (e.g., rapid shift to online learning, social isolation, communication problems) on their university experience (Freire et al., 2020; Reid, 2022). Some of these challenges have affected students' motivation, engagement, and overall well-being. Therefore, additional research is needed to understand the different factors that can help students navigate these challenges, which are critical in developing interventions or support for students to succeed in university.

One way for students to succeed in university and minimize the degree to which challenges or stress interfere with their coursework is through their coping self-efficacy. Coping self-efficacy refers to a person's beliefs about their confidence and judgment regarding their ability to cope effectively when faced with problems or stressful situations (Chesney et al., 2006). Students who have high coping self-efficacy generally attribute their failures to low effort rather than low ability and are more likely to activate or practice self-regulated learning (Chesney et al., 2006; Folkman & Lazarus, 1980).

Self-regulated learning (SRL) refers to students' ability to understand and control their own cognition, motivation, behaviour, and learning environment (Pintrich & Zusho, 2007; Winne & Hadwin, 1998; Zimmerman, 2002). It is often described as a cyclical process involving planning goals, applying strategies, monitoring progress, and reflecting on outcomes (Zimmerman, 2002; Winne & Hadwin, 1998). SRL has emerged as a major theory in education because it promotes autonomous learning, which allows students to develop their own tools or

strategies to complete tasks (e.g., reading and writing) and overcome academic challenges (Paris & Paris, 2001; Hadwin et al., 2019; Thiede & Bruin, 2017). Thus, students who self-regulate generally experience increased motivation, perform better in school, and are more optimistic about their future.

Despite the growing body of research indicating how students with high coping self-efficacy predict active coping strategies (e.g., taking action to solve problems) and academic success, little is known about what other factors (e.g., social support and achievement goal orientations) may influence this relationship from a SRL perspective. According to Winne and Hadwin's (1998) model of SRL, coping self-efficacy functions as a condition that encompasses the resources available to students (e.g., beliefs and knowledge of tasks) that shape their actions in pursuit of their goals. However, it is not the sole factor influencing academic performance; how students act upon their beliefs is also crucial. These actions, referred to as products, are strategies students employ throughout the phases of SRL. For example, students with high coping self-efficacy are more likely to engage in various coping types of strategies such as help-seeking. In particular, instrumental (or adaptive) help-seeking, in which students only ask for the help they need to complete or solve a problem on their own (Karabenick & Newman, 2009). This type of help-seeking is commonly embraced by students with stronger mastery orientations, who prioritize understanding new skills. As a result, they tend to perform significantly better in school compared to those engaging in maladaptive types of help-seeking, such as help-seeking threat and help-seeking avoidance, which can impede their overall progress (Karabenick, 2004; Schenke et al., 2015). Based on these findings and connection through SRL, instrumental help-seeking provides a plausible explanation for why students attain better grades could be related to

their coping self-efficacy. If evidence is obtained, these findings could contribute greatly to theory and practice by increasing our understanding of the role of beliefs and strategies in SRL.

Literature Review

Coping self-efficacy

Coping is a multidimensional construct and measuring change in ways of coping is one of the most difficult areas in coping research (Chesney et al., 2006). Such changes are difficult to quantify using instruments that explicitly assess coping based on a specific stressful experience. Despite instructing participants to focus on one chronic event in these types of instruments, such events can still differ based on many factors (e.g., environmental), making comparisons of coping before and after intervention difficult to assess (Chesney et al., 2006). Therefore, coping self-efficacy is a construct that has been defined to gain a better understanding of changes in an individual's confidence regarding their ability to cope.

The coping self-efficacy measure developed by Chesney et al. (2006) and other coping instruments such as the Ways of Coping Questionnaires by Folkman and Lazarus (1985), provide evidence of convergent validity in examining how individuals cope. For instance, individuals who reported increased confidence in their ability to use solution-focused coping also indicated greater use of problem solving (e.g., increase planning and seeking advice) as a coping strategy (Chesney et al., 2006; Folkman & Lazarus, 1980; Freire et al., 2020). Conversely, individuals who were more confident in their abilities to manage unpleasant emotions and thoughts were more likely to use emotion-focused coping (e.g., venting or acceptance) (Chesney et al., 2006; Freire et al., 2020; Lazarus, 2006). These findings highlight the important role of coping self-efficacy in activating a particular coping strategy that match the level of the perceived ability of the individual in solving a situation. In other words, coping self-efficacy is an important prerequisite to changing one's coping behaviour, particularly when dealing with various challenges (Chesney et al., 2006). Therefore, having high coping self-efficacy seems to be

crucial for engaging in adaptive coping behaviours to handle stressors and, in turn, improve students' academic performance.

Coping self-efficacy has been demonstrated to be a significant predictor of academic success among college students (Barrows et al., 2013, Watson & Watson, 2016). Previous research shows problem-focused coping is the most often reported active coping method adopted by individuals with high coping self-efficacy (Carver et al., 1989; Shen, 2009; Hsieh et al. 2012). Problem-focused coping strategy takes a direct approach to solving a problem and as a result, individuals perform more effectively and have better control of their situation (Shen, 2009). For instance, a study by Li and Nishikawa (2012) found first year students with high coping self-efficacy beliefs were more likely to engage in active (problem-focused) coping strategies. Examples of active coping include planning, seeking help or clarification from professor outside of class, and participating in small group study sessions, all of which have been associated with academic success.

Although coping self-efficacy has traditionally been linked to one adaptive coping strategy (problem-focused), a recent study with university students by Freire et al. (2020) found that a combination of different adaptive coping strategies, such as planning, positive reappraisal, and seeking instrumental and emotional support, was related to higher general self-efficacy. These findings demonstrate how high coping self-efficacy can result in students being more balanced copers by showing flexibility in responding adaptively to the various stressors they experience. Furthermore, these findings highlight the need to explore the relationship between high coping self-efficacy and other types of adaptive coping strategies, particularly from the perspective of SRL.

The role of coping self-efficacy in self-regulated learning

All main models of SRL describe a cyclical process, consisting of different phases (Pintrich & Zusho, 2007; Winne & Hadwin, 1998; Zimmerman, 2002). For instance, Winne and Hadwin's (1998) model is a four recursively linked and weakly sequenced stages consisting of (a) task definition: student generate a perception about the task and resources available; (b) goals and plan: generate goals and plans to tackle the task; (c) enactment: the plan is carried out and (d) adaptation: student make appropriate changes on their methods in completing tasks which can influence their future learning tactics. The recursive cycle of this model highlights the importance of being metacognitively aware when students engage in their learning by knowing when to skip or revisit phases of the cycle when completing a task or goal (Winne & Hadwin, 1998).

In addition to the different phases of SRL, Winne and Hadwin's (1998) model also hypothesized how subprocess occurs within each phases called COPES which stands for conditions, operations, products, standards, and evaluations. Conditions are elements the student perceives may have an impact on their task performance (Winne & Hadwin, 1998). There are two types of conditions a student may bring to a task or environment: (a) cognitive conditions: based on previous knowledge about the task, beliefs, dispositions, and motivation; and (b) task conditions: external to the person and include available resources, instructional cues, and time (Winne & Hadwin, 1998). In general, conditions influence both standards and the operations a student performs. Operations are the tactics or cognitive processes a student practice based on the information from their conditions (Winne & Hadwin, 1998). After forming a specific strategy, the student develops standards which are criteria students believes are optimal end state during the phase they are in (Winne & Hadwin, 1998). These standards include both something

measurable and beliefs. For example: in the task definition phase, a student develops task standards based on the exam guide provided to them as well as beliefs about how they can study on their own or how much time they need to allocate for prepping for their exam. Based on this example, conditions (values and beliefs) are the agency in activating strategies and overall influence the success (product) of solving or finishing a task. If there is a poor fit between the student's standards and products, the student will re-evaluate their conditions or standards and will result in applying different strategies.

Using the subprocess of COPES within each phase of SRL, it is evident how important coping self-efficacy contributes to completing a task successfully. Coping self-efficacy falls under the category conditions and facilitate all four weakly sequenced phases by setting the stage for an individual to practice SRL. As mentioned earlier, conditions not only influence student's standards but also the operation they execute in accomplishing their goals or tasks. For instance, time management, goal planning, and help-seeking are among the adaptive strategies and practices in SRL that have been found to be linked to academic success (Bahena-Olivares et al., 2022; Hadwin et al., 2022). In particular, coping self-efficacy is closely associated with help-seeking behaviours, with students who possess high levels of coping self-efficacy being more likely to seek help when faced with challenges or difficult tasks (Karabenick & Knapp, 1991). Thus, examining the relationship between coping self-efficacy and help-seeking behaviours is essential in gaining valuable insights into the factors that contribute to academic success within the SRL framework.

Help-seeking behaviour

Help-seeking is a type of strategy students use when faced with challenges, particularly with tasks that are too difficult and cannot be completed on their own (Karabenick & Newman,

2006). Help-seeking is an important developmental skill requiring behavioural, social, and cognitive competencies commonly employed by self-regulated learners (Karabenick & Gonida, 2018). Models of help-seeking typically involve eight stages determining how students cope with learning and academic challenges. In particular, Karabenick and Newman's (2009) model includes the following stages: (1) determining whether there is a problem; (2) determining if help is needed or wanted; (3) deciding whether to seek help; (4) selecting the type of help seeking; (5) selecting the source of help; (6) asking for help; (7) obtaining help; and (8) processing the help received. Although these steps are presented chronologically, in practice, the order of these steps may vary depending on such factors as automatic and controlled cognitive processing or available sources of help (Karabenick & Gonida, 2018; Karabenick & Newman, 2009).

Two main types of help-seeking are explained based on students' approaches or goals in learning. The first type of help-seeking is called executive (or expedient) help-seeking, which is when students ask for help with the intention of having the task solved for them (Karabenick & Newman, 2009). This type of help-seeking is often related to students who adopt a performance-approach and focus only on performing better than others. The second type is called instrumental (or adaptive) help-seeking, in which students only ask for the help they need to complete or solve a problem on their own (Karabenick & Newman, 2009). This type of help-seeking is typically adopted by students with stronger mastery orientations in which the focus is on understanding new skills (Karabenick & Newman, 2009).

Researchers have identified other types of help-seeking behaviours, such as help-seeking avoidance and help-seeking threat, that are not optimal or productive self-regulated learning practices. Help-seeking avoidance occurs when students are aware they need help but do not seek it, while help-seeking threat refers to students' perception of negative consequences

associated with seeking help. Both help-seeking behaviours are interrelated and can lead to disengagement from the learning process, hindering students' overall performance in school (Newman, 1998; Ryan et al., 2001; Karabenick, 2004).

Coping self-efficacy, instrumental help-seeking and academic outcomes

Most empirical studies have revealed that students who sought instrumental help-seeking performed better than those who used other forms of help-seeking. (Karabenick, 2004; Schneke et al., 2015). For example, Karabenick (2004) found that mastery-oriented college students (who focus on learning new skills) were more likely to seek instrumental help and, as a result, performed much better in class compared to students with a performance approach (focus on performing better than others) or performance-avoidance goals (avoid performing more poorly than others), who were more likely to avoid help-seeking. Similar results were found with middle and high school students (grades 7 to 11): when classroom goals were mastery-oriented, students used instrumental help-seeking more (particularly from their peers), which led to better academic outcomes (Schenke et al., 2015). These findings demonstrate the strong association between instrumental help-seeking and academic success. It also suggests instrumental help-seeking as one of the adaptive strategies that students with high coping self-efficacy employ, as instrumental help-seeking is predominantly adopted by students with strong SRL skills based on their strong mastery orientations and focus on learning and self-improvement (Karabenick & Newman, 2009; Kitsantas & Chow, 2007). Students with strong SRL skills have high self-efficacy beliefs about their academic competences and are less likely to associate asking for help with a lack of ability. Overall, the relationship between instrumental help-seeking and coping self-efficacy is plausible, not only based on both constructs being predictors of academic success but also based on their connection through a SRL perspective.

Additionally, help-seeking is occasionally considered a form of coping, as reflected in one of the most widely used scales, the Multidimensional Measure of Coping (Gonçalves et al., 2019; Skinner et al., 2013). Information seeking, such as seeking instrumental aid from a teacher to better understand the material, reflects elements of instrumental help-seeking on this scale under adaptive ways of coping, since the primary goal of turning to others in this context is to figure out how to learn more effectively. This association between help-seeking and coping is also found in other well-established coping scales, such as the Ways of Coping Questionnaires by Folkman and Lazarus (1985), as well as the Coping Self-Efficacy scale used in this study by Chesney et al. (2006), which includes help-seeking and social support as coping resources. Based on these scales, there is good reason to expect that instrumental help-seeking and coping are correlated and can predict academic outcomes.

Purpose of the current study and research questions

The purpose of this study is to examine the relationship between coping self-efficacy and help-seeking behaviour among undergraduate students in relation to their academic performance from a self-regulated learning (SRL) perspective. The study aims to provide valuable insights into how these variables interact and interplay in an academic setting, contributing significantly to educational practices. Specifically, the study seeks to explore whether instrumental help-seeking mediates the relationship between coping self-efficacy and academic performance. Based on past research and theory, instrumental help-seeking is expected to partially explain the relationship based on its similarities with coping self-efficacy in being positively associated with academic outcomes individually, as separate constructs and its overlap in SRL (Gaeta et al., 2021; Gonçalves et al., 2019; Karabenick & Newman, 2006; Skinner et al., 2013). As such, this study will investigate the following research questions:

Research Questions

1. Do students with higher levels of coping self-efficacy perform better academically (higher GPA)?

   H1. Higher levels of coping self-efficacy will be a positive predictor of GPA.

2. Does instrumental help-seeking behaviour mediate the influence of coping self-efficacy on academic success?

   H2a. Instrumental help-seeking will partially mediate the influence of coping-self efficacy on academic success (higher GPA)

   H2b. Higher levels of coping self-efficacy will positively predict instrumental help-seeking behaviour.

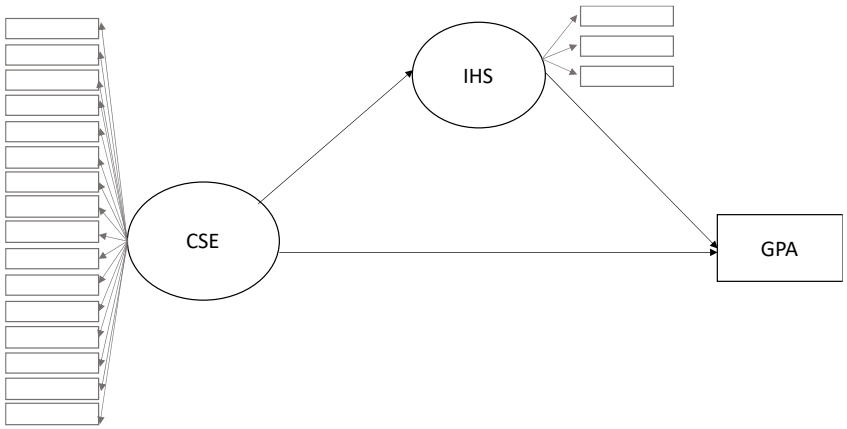
H2c. Higher levels of instrumental help-seeking behaviour will positively predict GPA.

Research Design

This proposed study will test a path analysis using structural equation model (SEM) shown in Figure 1, in which coping self-efficacy will be the predictor variable, instrumental help-seeking will be the mediator variable, and student's fall semester GPA will be the outcome variable. Utilizing SEM in this study provides a robust and reliable method to examine pre-existing theory. It addresses common measurement errors, enhancing accuracy and precision in analyzing the relationships among variables which strengthens the validity of the study's findings (Raykov & Marcoulides, 2012). In addition to the SEM model, two measurement models will be conducted to ensure the reliability and validity of the scales used for measuring instrumental help-seeking and coping self-efficacy.

Figure 1

Proposed mediation model between coping self-efficacy, instrumental help-seeking, and student's GPA.



Note. CSE = coping self-efficacy; I-HS = Instrumental help-seeking; GPA= term GPA.

Methods

Participants

Data for this study were collected in Fall 2021 as part of a larger grant study titled *Promoting adaptive regulation using innovative technologies: Par-IT* (Hadwin, 2018). Participants were undergraduate students (*N= 233*) enrolled in an elective educational psychology course at a Western Canadian University. Of the participants, 52% identified as male and 48% as female, with a mean age of 19 (*SD* = 2.5). These students came from various faculties and disciplines, including Business, Education, Engineering, Sciences, and others (see Table 1). Notably, 75% of the students were in their first year of studies. As part of the course requirements, students completed questionnaires that were used in this study. However, students who did not provide consent at the beginning of the course were not included in the data analysis. Demographic data about ethnicity was not collected for this study.

Table 1

Students' degree program and year of study

Degree Program	Number of students	Year of study	Number of students
Bachelor of Arts	80	Year 1	175
Bachelor of Child and Youth Care	4	Year 2	40
Bachelor of Commerce	38	Year 3	13
Bachelor of Engineering	8	Year 4	5
Bachelor of Fine Arts	2	Total	**233**
Bachelor of Sciences	83		
Bachelor of Software Engineer	3		
Undecided	15		
Total	**233**		

Research Context

The research context was a twelve-week long elective learning-to-learn course in educational psychology offered at a Western Canadian university in the Fall of 2021. This course

taught students to become self-regulated learners. Building on Winne and Hadwin's (1998) model students were encouraged to plan and set goals, choose appropriate strategies, monitor progress, and reflect on their performance. The course consisted of both weekly lectures and lab components in which students applied concepts of SRL to their other courses. In addition to weekly labs, students completed weekly self-assessments related to SRL practices (e.g., beliefs about SRL, time management, procrastination, help-seeking behaviours, coping self-efficacy, etc.).

Measures

Coping Self-Efficacy (Predictor)

The coping self-efficacy scale (CSES) (Chesney et al., 2006) was used to measure the perceived general self-efficacy for coping with challenges and threat (see Appendix B). The measure consists of 25 items rated on a 5-point Likert scale ranging from 1 (*not confident*), to 5 (*completely confident*). The scale items consist of three subscales: (1) managing unpleasant emotions and thoughts, (2) using problem focused, and (3) getting support from family and friends. For this study, only items relating using problem focused coping and managing unpleasant emotions and thoughts were selected from the scale to avoid construct collinearity with the subscale getting support from family and friends with the help-seeking scale. Higher scores indicate higher levels of coping self-efficacy, and scores range from 0 to 125. The CSES has high internal consistency (alpha = .95), and strong construct validity as reported by Chesney et al.(2006).

Academic Performance (Outcome)

Registry data were gathered from institutional records. Fall semester GPA was reported on a 9-point scale (total course points/ total unit values).

Academic Help-Seeking Assessment (Mediator)

A self-report measure of academic help seeking adapted from (Karabenick, 2004) and (Han, 2014**)** was used to measure students' help-seeking tendencies (See Appendix C). The scale consisted of 15 items rated on a 5-point Likert scale ranging from 1 (*not at all true*), to 5 (*very true*). The scale items consisted of five subscales: (1) executive help-seeking, (2) instrumental help-seeking, (3) help-seeking avoidance, (4) help-seeking threat, and (5) formal versus informal help-seeking (e.g., asking help from professors vs. asking help from peers). For this study, only items relating using instrumental help-seeking were selected from the scale based on theory and previous research that identified it as being most closely related to coping self-efficacy in terms of active coping. The instrumental help-seeking subscale consists of 4 items (e.g., "If I need help in a class, I only want as much help as necessary to complete the work myself"). Based on Karabenick (2004) and Han's (2014) findings, the instrumental help-seeking subscale scores had the lowest reliability of the five subscales but still within acceptable range. Karabenick (2004) with (alpha = .60) and Han (2014) with (alpha = 0.67).

Procedure

We strive to decolonize educational psychology research by engaging in reciprocal research practices with learners. We prioritize collecting data that can be used by learners to reflect on and adapt their own learning practices in ways that honour their own goals for success, improvement or change. In week 10[1], coping self-efficacy and help-seeking behaviour measures

[1] Coping Self-Efficacy and Help-Seeking Behaviour scale was also administered early in week 4. However, for this study, we used data from week 10 to obtain a more accurate reflection of students' coping self-efficacy and help-seeking behaviour. By this point, students were fully engaged in their courses and had the opportunity to navigate any challenges that arose.

were collected and discussion that week focused on regulating emotions and mental health. Immediately after completing all measures, students were (a) given individualized reports summarizing subscale scores and (b) provided with a general description of what those subscale scores are theoretically posited to reveal about learning strengths and weaknesses (see Appendix A). Students were encouraged to consider, critique, interpret and discuss what those reports might mean for they and they strive toward their own goals for growth, change or academic success. Students engaged in this type of data-based self-study weekly over the semester across a wide array of topics and measures (e.g., academic challenges, time management, and motivation).

Analysis

First, descriptive statistics were computed (means, standard deviation (SD), skewness and kurtosis) for each item in the two scales to provide information about the distribution of the data. Psychometric acceptability values (+/-1 to +/-2) were used as criteria for both skewness and kurtosis, as outlined by George and Mallery (2010). Second, a confirmatory factor analysis (CFA) was conducted to confirm the factor structure of the academic help-seeking assessment. Since the academic help-seeking assessment used in this study is adopted from two different scales, it was important to run a CFA to test the model fit of the new developed scale. Third, a CFA was conducted on each of the coping self-efficacy subscales (managing unpleasant emotions and thoughts and problem-focused coping) to ensure internal consistency of each dimension. After, a higher-order CFA was conducted to test if the two subscales of coping self-efficacy loaded on the general measure of coping self-efficacy. Fourth, path analysis using structural equation model (SEM) was conducted to assess the predictive relationships among coping self-efficacy and academic outcome (GPA). Finally, the potential mediating role of

instrumental help-seeking and the significance of indirect effects were examined using a bootstrap process involving 1,000 samples and a 95% bias-corrected confidence interval.

All SEM models were analyzed based on their fit with the data using various fit criteria, including the chi-square goodness-of-fit test (Loehlin, 1998), the comparative fit index (CFI; Bentler, 1990) with values greater than .95 indicating good fit, the root mean square error of approximation (RMSEA; Steiger, 1990) with values less than .05 indicating good fit, and the ratio of chi-square to degrees of freedom (Bollen, 1989). The Mplus 8.8 program (Muthén & Muthén, 1998-2017) was used to test all measurement and structural equation models, and maximum likelihood (ML) estimation to handle missing data.

Results

Descriptive statistics and correlations

Descriptive statistics (see Appendix D) were computed, along with correlations among the variables (Table 2) and all the items within each latent variable (see Appendix F). The results revealed a high correlation between managing unpleasant emotions and thoughts (MUET) and problem-focused coping self-efficacy (PFC) (r = 0.82). Furthermore, instrumental help-seeking exhibited a small positive correlation with PFC, while showing a negative correlation with executive help-seeking. Notably, all three subscales of maladaptive help-seeking (executive help-seeking, help-seeking avoidance, and help-seeking threat) were found to be positively correlated with one another.

Table 2

The standardized correlation matrix among help-seeking behaviour and coping self-efficacy

	PFC	MUET	CSE	EHS	HSA	HST	IHS
PFC	1						
MUET	0.82***	1					
CSE	0.96***	0.95***	1				
EHS	-0.17**	-0.09	-0.14*	1			
HSA	-0.35***	-0.32***	-0.35***	0.60***	1		
HST	-0.29***	-0.31***	-0.31***	0.69***	0.80***	1	
IHS	0.17**	0.10	0.14*	-0.27***	-0.13*	-0.01	1

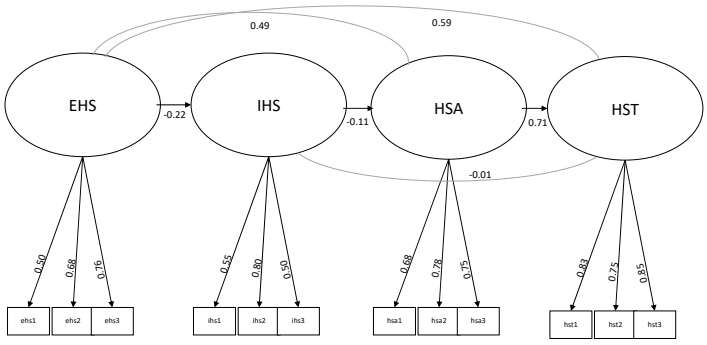
Note. N = 233. *** Correlation is significant at the 0.001 level. ** Correlation is significant at the 0.01 level. * Correlation is significant at the 0.05 level. PFC = problem-focused coping; MUET = managing unpleasant emotions and thoughts; CSE = coping self-efficacy; EHS = executive help-seeking; HSA = help-seeking avoidance; HST = help-seeking threat; IHS = Instrumental help-seeking.

Test of measurement model

Confirmatory factor analyses (CFAs) were conducted to evaluate the factor validity of the academic help-seeking and coping self-efficacy assessment. The initial CFA model for academic help-seeking showed that one instrumental help-seeking item (IHS4: If I were having trouble understanding the material in a course, I would ask someone who could help me understand the general ideas) had low loading (0.35), potentially due to poor wording and length of the item. Therefore, a four-factor model was run with only 12 items, dropping IHS4 item. The indices of the help-seeking model were acceptable, χ^2 (48, N = 233) = 99.64 p < .001 (TLI =.921, CFI = .943, RMSEA = .068, SRMR = .067). All factor loadings were statistically significant and substantial in magnitude, ranging from 0.50 to 0.85 (all p < .001) (see Appendix E).

Figure 2

CFA model for help-seeking behaviour assessment



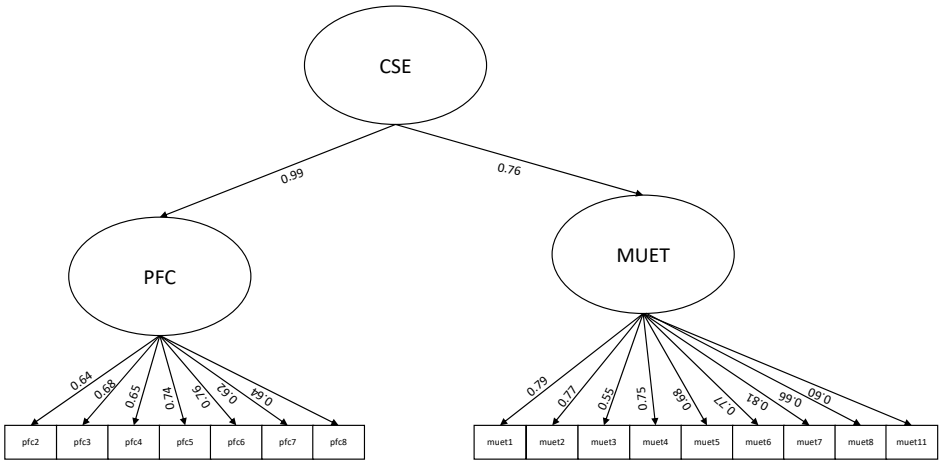
Note. N = 233. All factors significant at the 0.001 level. EHS = executive help-seeking; HSA = help-seeking avoidance; HST = help-seeking threat; IHS = Instrumental help-seeking.

Next, I evaluated the fit of the measurement model for the coping self-efficacy construct by taking into consideration the magnitude of the higher-order factor loadings. The CFA model was run with only 16 items after dropping items MUET9 (make unpleasant thoughts go away),

MUET10 (visualize a pleasant activity or place), MUET12 (stand your ground and fight for what you want), PFC1 (see things from the other person's point of view during a heated argument), and PFC9 (resist the impulse to act hastily when under pressure). This decision was made based on a qualitative analysis of the items (e.g., questions were too vague and poorly worded, leading to ambiguous and unclear answers) and modification fit indices. The coping-self efficacy model demonstrated an acceptable fit, χ^2 (102, N = 233) = 210.01, p < .001 (TLI =.930, CFI = .940, RMSEA = .067, SRMR = .054). Each of the first-order factors strongly loaded onto the second-order factor samples as follows: Problem-focused coping (PFC) with loadings statistically significant and ranging between 0.62 to 0.76 and managing unpleasant emotions and thoughts (MUET) with loadings statistically significant and ranging between 0.55 to 0.81 (see appendix E). These results indicate that coping self-efficacy is a valid and reliable construct, and that the observed items measuring PFC and MUET are consistent indicators of this latent variable, capturing the shared variance of these two sub-scales.

Figure 3

Higher order CFA model for coping self-efficacy assessment



Note. N = 233. All factors significant at the 0.001 level. PFC = problem-focused coping; MUET = managing unpleasant emotions and thoughts; CSE = coping self-efficacy.

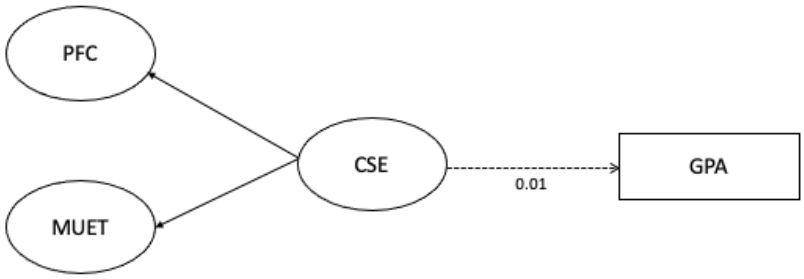
Structural equation modelling

Research Question 1: Do students with higher levels of coping self-efficacy perform better academically (higher GPA)?

To answer the first question, we specified the model to examine students' coping self-efficacy as a predictor of GPA (Figure 2). The indices of model fit were acceptable, χ^2 (117, N = 233) = 230.21, $p < .001$ (TLI =.926, CFI = .936, RMSEA = .064, SRMR = .052). Results showed that coping self-efficacy is not associated with GPA. ($ß = 0.01$, $p > .05$).

Figure 4

Direct path from coping self-efficacy to GPA



Note. Estimate is standardized. PFC = problem focused coping; MUET = managing unpleasant emotions and thoughts; CSE = coping self-efficacy; GPA= term GPA.

Research Question 2: Does instrumental help-seeking behaviour mediate the influence of coping self-efficacy on academic success?

According to Baron and Kenny's conventional mediation approach, the presence of a significant direct effect is a fundamental requirement to establish mediation (Baron & Kenny, 1986). Since the direct path from coping self-efficacy to GPA is non-significant, conducting a mediation analysis of instrumental help-seeking was not possible. Nonetheless, I still explored

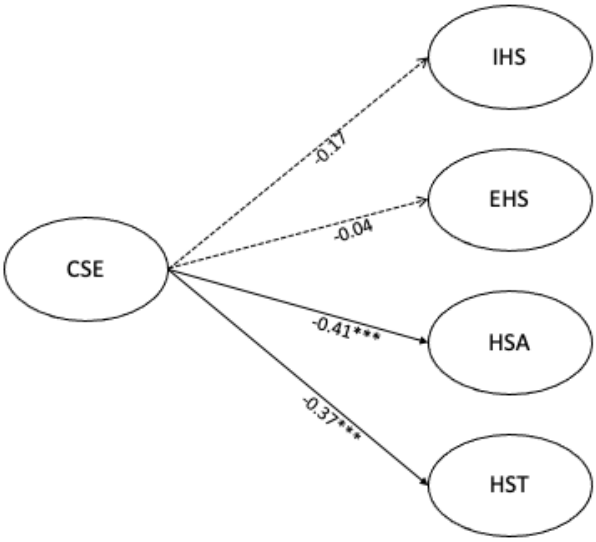
the relationship between coping self-efficacy and help-seeking since no previous studies had investigated coping self-efficacy as its own construct in relation to help-seeking behaviour. Prior studies have typically examined coping strategies and its two dimensions (PFC and MUET) separately.

I specified the model to examine the relationship between students' coping self-efficacy and the four dimensions of help-seeking behaviour. The model fit indices were acceptable: χ^2 (338, N = 233) = 511.44, $p < .001$ (TLI =.929, CFI = .936, RMSEA = .047, SRMR = .056). The results showed that coping self-efficacy had a negative association with help-seeking avoidance (ß = -0.41, $p < .001$) and help-seeking threat (ß = -0.37, $p < .001$). These findings suggest that individuals with greater confidence in their coping abilities are less likely to exhibit avoidance behaviours when faced with challenges and are more likely to perceive seeking help as a less threatening and more viable option.

However, within the framework of this model, coping self-efficacy did not show a significant association with the other two dimensions of help-seeking behaviour: instrumental help-seeking and executive help-seeking (see Figure 3). This implies that, in the context of the variables examined in this study, coping self-efficacy may not be the primary driving factor influencing individuals' engagement in these specific types of help-seeking behaviours. In other words, coping self-efficacy appears to have a more direct impact on certain dimensions of help-seeking behaviour, namely help-seeking avoidance and help-seeking threat.

Figure 5

Direct path from coping self-efficacy to 4 dimensions of help-seeking behaviour

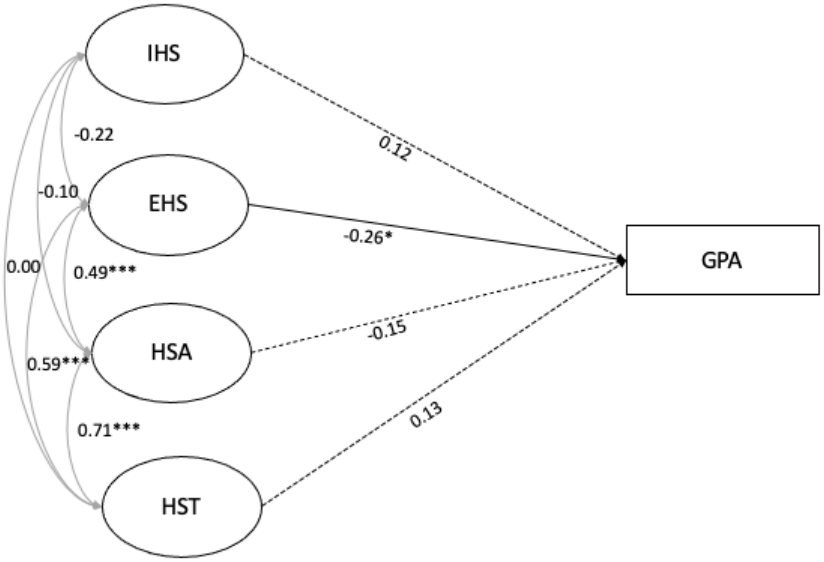


Note. *** significant at the 0.001 level. Estimates are standardized. CSE = coping self-efficacy; IHS = instrumental help-seeking; EHS = executive help-seeking; HSA = help-seeking avoidance; HST = help-seeking threat. For simplicity, correlation error terms are not shown in this model.

In addition to exploring the relationship between coping self-efficacy and help-seeking behaviour, I also investigated the association between GPA and the four dimensions of help-seeking behavior in another model (Figure 4). The fit of this model was acceptable, with χ^2 (56, N = 233) = 109.46, p < .001 (TLI =.919, CFI = .942, RMSEA = .064, SRMR = .064). The results showed a negative correlation between executive help-seeking and GPA (ß = -0.26, p < .05).This indicates that students who rely on executive help-seeking (seeking assistance with the expectation of having the task solved for them), tend to have lower GPAs compared to those who do not engage in this specific type of help-seeking. This further implies that an excessive dependence on quick solutions from others may not be the most effective approach for achieving academic success, as it can hinder the development of a deeper understanding and mastery of the subject or topic.

Figure 6

Direct path from the 4 dimensions of help-seeking behaviour to GPA



Note. *** significant at the 0.001.* significant at the 0.05 level. Estimates are standardized. IHS = instrumental help-seeking; EHS = executive help-seeking; HSA = help-seeking avoidance; HST = help-seeking threat; GPA = term GPA.

Discussion

This study aimed to investigate the relationship between coping self-efficacy, instrumental help-seeking behavior, and academic performance among undergraduate students, from a SRL perspective. Contrary to the hypotheses, the findings revealed that coping self-efficacy was not predictive of academic performance, and instrumental help-seeking behaviour did not mediate this association. However, the subsequent models that examined the independent relationships between coping self-efficacy and different dimensions of help-seeking behavior yielded interesting results. Specifically, executive help-seeking behaviour was found to have a negative association with GPA, indicating that students who seek help with the intention of having the task solved for them tend to have lower academic performance. Additionally, coping self-efficacy was negatively associated with both help-seeking avoidance and help-seeking threat, implying that individuals with higher coping self-efficacy levels were less likely to avoid seeking help and less likely to perceive help-seeking as threatening.

Overall, these findings suggest that while coping self-efficacy may not directly predict academic performance, it may be related to certain types of help-seeking behaviours that can positively or negatively affect students' academic outcomes. Additionally, the study confirmed the validity of the coping self-efficacy scale, which includes two dimensions: problem-focused coping and managing emotions and thoughts. The higher-order confirmatory factor analysis showed that this tool can measure coping self-efficacy as a global construct, which differs from previous research that typically analyzed coping self-efficacy by its two distinct dimensions.

Coping self-efficacy as a predictor of academic performance

Findings revealed no significant relationship between coping self-efficacy and academic performance, which is inconsistent with previous studies reporting positive links between coping

self-efficacy and students' academic performance (Barrows et al., 2013, Watson & Watson, 2016). Previous studies have shown that students with high coping self-efficacy are more likely to adapt well to academic demands, experience less stress, and view academic challenges as opportunities rather than threats (Watson & Watson, 2016). One possible explanation for this discrepancy is the use of a higher-order factor model that combined the two dimensions of coping self-efficacy (problem-focused coping and managing unpleasant emotions and thoughts) in the present study. Although this approach aimed to develop coping self-efficacy as a global construct to capture individuals as balanced copers, this approach may have overlooked the distinct contributions of each dimension to academic outcomes.

Additionally, the coping self-efficacy scale used in this study was originally designed to assess an individual's perceived ability to cope effectively with life challenges, primarily in the context of intervention research for individuals with chronic illnesses (Chesney et al., 2006). As a result, some items on the scale may be too ambiguous to directly apply to an academic context (e.g., item PFC3: sort out what can be changed and what cannot be changed). Indeed, beliefs about self-efficacy are not necessarily a general disposition that applies uniformly across all areas of life. An individual who demonstrates high self-efficacy in one specific domain, such as academics, may not necessarily exhibit high self-efficacy in other domains (Chesney et al., 2006).

To capture students' coping abilities more accurately, it is crucial to utilize a coping self-efficacy scale specifically tailored to the academic setting. For instance, a more appropriate question to assess coping self-efficacy in this context could be, "When facing academic stressors, how often do you feel confident in leaving multiple options open instead of limiting yourself to one solution or approach?" This question is more relevant to the academic environment than the

one used in this study, PFC6: "Leave options open when things get stressful." Additionally, it is important to note that most studies examining coping and academic performance include measures of general self-efficacy alongside coping strategies, which primarily focus on the actions or responses individuals take to alleviate stress or solve problems (Gonçalves et al., 2019; MacCann et al., 2012). Therefore, to ensure more robust and comparable findings, it is crucial to employ consistent measures when assessing coping self-efficacy in an academic setting across different studies.

Another potential explanation for the findings is that GPA is a complex construct that is influenced by numerous factors, such as the types and number of courses taken and the grading criteria used by each professor (York et al., 2015). As a result, GPA may not accurately reflect students' overall academic performance. To address this limitation, future studies could use academic challenges as an outcome variable as they provide a more direct measure of a student's ability to cope with academic stressors and obstacles, rather than relying solely on GPA as the measure of academic success. Previous research has shown that academic challenges can serve as a predictor of GPA and mediate the impact of COVID-19 distress on GPA (Sukhawathanakul et al., 2022). Given this evidence, it is possible that challenges may be more sensitive to variations in coping self-efficacy levels. This is consistent with existing theory that suggests students with higher coping self-efficacy are better equipped to handle and navigate challenges compared to those with lower levels of coping self-efficacy (Chesney et al., 2006; Zimmerman, 2000).

I also suspected that the null relations observed in this study were partly influenced by the context in which the data was collected. The data collection took place during the first semester when students returned to campus following the outbreak of COVID-19. During this

time, most of the courses remained online or in blended learning formats, which have the components of both traditional face-to-face learning and online (Hrastinski, 2019). As a result, it is reasonable to assume that students faced additional challenges beyond their academic responsibilities, such as adjusting to social isolation, loneliness, and health concerns from the pandemic (Fruehwirth et al., 2021; Zhu et al., 2021). In other words, students at that time were confronted with various external challenges that could have indirectly affected their academic performance already. Moreover, our study was the first to investigate the relationship between coping self-efficacy and academic performance in this type of learning context, and our findings offer preliminary evidence and a nuanced understanding of the association between these two variables. Furthermore, our results are supported by prior studies on online learning that indicate students are generally more prone to feeling isolated and experiencing lower levels of engagement in this kind of learning environment, which can ultimately have a negative impact on their academic performance (Atchley et al., 2013; Song et al., 2004; Wang et al., 2019).

Help-seeking behaviour as predictor of academic performance

Since it was not possible to conduct a mediation analysis of instrumental help-seeking due to the null relationship between coping self-efficacy and academic performance, attention was turned to exploring the relationship between the four dimensions of help-seeking behaviour and academic outcomes. The aim was to replicate previous research by examining whether certain types of help-seeking (instrumental help-seeking, executive help-seeking, help-seeking avoidance, and help-seeking threat) can lead to better academic performance. The results indicate a negative association between executive help-seeking and GPA, which aligns with previous research showing that seeking help with the intention of obtaining ready-made solutions from others is linked to poorer academic performance compared to instrumental help-seeking (Finney

et al., 2018; Fong et al., 2023). Notably, the negative association between executive help-seeking and GPA observed in this study was above and beyond the shared covariance among all forms of help-seeking behavior. In other words, even after considering the influence of other forms of help-seeking behaviors, executive help-seeking still had a specific and distinct impact on GPA.

To gain a deeper understanding of the complex dynamics among coping self-efficacy, the different dimensions of help-seeking behavior, and academic performance, future research should incorporate Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM is particularly suitable because it focuses on estimating the relationships between latent constructs and observed variables, rather than the covariance structure among observed variables. This method allows for capturing relationships even when there is high covariance among the observed variables.

Furthermore, contrary to initial predictions, instrumental help-seeking did not predict academic performance in this study. Again, one possible reason for this discrepancy could be the COVID-19 context in which the study was conducted which may have (a) restricted opportunities for help-seeking, and (b) affected grading practices that contribute to GPA. Previous research investigating the relationship between instrumental help-seeking and academic performance has been conducted in traditional face-to-face learning environments prior to COVID-19 restrictions. In those contexts, students may have greater opportunities to seek help from their instructors and peers (Karabenick, 2004; Schenke et al., 2015). This idea is further supported by the findings of Cheng et al. (2013), which indicate that students in online learning prefer to seek information online rather than ask questions directly.

Coping self-efficacy and help-seeking behaviour

Lastly, the relationship between coping self-efficacy and help-seeking behaviours was investigated, which offers preliminary evidence for future research. Notably, no prior study has investigated coping self-efficacy as its own construct in relation to help-seeking behaviour. The findings revealed that student's coping self-efficacy is negatively associated with help-seeking threat and help-seeking avoidance. In other words, students with higher levels of coping self-efficacy were less likely to avoid seeking help when faced with challenges. These findings are in support of Ryan and Pintrich's study (1997) that found students with low self-efficacy were less likely to seek help because they fear others will judge their need for help as a lack of ability. This is further supported by Freire et al.'s (2020) findings that general self-efficacy is linked to different adaptive coping strategies, including seeking instrumental and emotional support.

In sum, this study makes a meaningful contribution to the existing literature by providing a nuanced understanding of how coping self-efficacy, as a global construct, relates to help-seeking behavior. Moreover, it offers valuable practical implications for instructors and institutions to supporting students' well-being. Based on these findings, educators can implement targeted interventions and support programs aimed at improving help-seeking behaviors among students, fostering a campus culture where seeking help is seen as a positive and adaptive behavior. This, in turn, fosters resilience and effective coping and help-seeking strategies.

Furthermore, this approach addresses the stigma and perceived judgment associated with seeking assistance, which is particularly significant considering the relationship highlighted in our findings, where high coping self-efficacy leads to lower help-seeking threat and avoidance. Moreover, our research reinforces the importance of developing these interventions and support

programs, as it reveals the negative impact of a maladaptive type of help-seeking, specifically executive help-seeking, on students' academic performance.

Limitations

The present study has several limitations that should be taken into consideration. As mentioned earlier, the pandemic context in which the study was conducted may have influenced the results. The data for this study were collected during the 2021 Fall term, which was the first semester that students were back on campus since the outbreak of COVID-19. As a result of the pandemic and restrictions in place, most of the courses remained asynchronously online or moved into a blended learning structure. Thus, students' help-seeking behaviours and coping self-efficacy may be impacted by the lack of social interactions with their peers when compared to a fully in-person course setting.

The second limitation of this study is the lack of control over the contextual factors and individual psychological aspects influencing students' help-seeking behavior. Help-seeking is not solely influenced by external factors but can also be significantly affected by internal factors, including mental health and emotional well-being. Individuals facing challenges such as depression, anxiety, and other emotional struggles may exhibit reduced willingness to seek help or encounter additional barriers in doing so (Hunt & Eisenberg, 2010). Furthermore, students' prior knowledge and past experiences with seeking help play a crucial role in shaping their attitudes and approaches towards seeking assistance (Dong et al., 2020).

Help-seeking is also inherently context-dependent, and individuals may seek assistance differently based on various situational factors, such as the context, environment, and the nature of the task (Karabenick & Gonida, 2018). Additionally, the concept of just-in-time support highlights the significance of timely assistance and discussions about help-seeking strategies, including when, from whom, and how to seek help. Therefore, it is important to acknowledge

that the findings and conclusions drawn from this study may be influenced by contextual factors beyond our control.

To address the limitations related to contextual and psychological factors, future research should focus on delving deeper into understanding how these variables interact and impact students' willingness and ability to seek help effectively. Examining the role of depression and anxiety in the decision-making process of seeking help, as well as considering the influence of prior knowledge and experiences on help-seeking behaviors, could offer valuable insights. Additionally, researchers should consider employing mixed-method approaches, combining quantitative analysis with qualitative data to gain a more comprehensive understanding of the complexities involved in students' help-seeking experiences.

Third, the help-seeking scale used in this study was adopted from two different scales. While the indices of the help-seeking model were deemed acceptable, each subscale had a limited number of items which can potentially impact the overall reliability and validity of the measure. Notably, the instrumental help-seeking subscale has consistently been reported to exhibit lower reliability than the other subscales (Karabenick, 2004; Han, 2014). This is a particular concern as it is the only subscale that assesses an adaptive help-seeking behaviour. Therefore, it is imperative to develop and build a more comprehensive scale that can measure this type of help-seeking more accurately.

Another limitation of this study is the absence of data collected with temporal precedence, making it challenging to establish the direction of causation. Some argue that collecting students' assessments of coping self-efficacy and help-seeking behavior at the same time point hinders definitive conclusions about the true cause-and-effect relationship (MacKinnon, 2008). However, others advocate for a more lenient approach regarding temporal

precedence, suggesting that certain psychological constructs may operate in a bidirectional or reciprocal manner, rather than following a strict unidirectional causality (Pajares & Usher, 2008). In the context of coping self-efficacy and help-seeking behavior, it is plausible that these variables may mutually influence each other over time, creating a dynamic interplay where higher coping self-efficacy leads to increased help-seeking, and in turn, seeking help reinforces and enhances coping self-efficacy. Despite this perspective, it is essential to acknowledge that the lack of temporal precedence data does present a significant limitation in drawing definitive causal inferences. Future research employing longitudinal designs or experimental manipulations could offer valuable insights into the complex associations between coping self-efficacy and help-seeking behavior, providing a more nuanced understanding of their relationship.

Lastly, it is important to note that relying solely on self-reports from the students in this study may have limited the reliability of the measurements. Self-reports are prone to response biases, as students may provide answers they believe the researchers want to hear, rather than expressing their true beliefs. This issue is particularly significant since the data was collected from a learning-to-learn course, where social desirability may have influenced students to present themselves as actively practicing the skills and strategies taught in the course. However, it is crucial to acknowledge that the context of this data collection also presents a different perspective. The course could have also fostered a genuine interest and investment from the students in utilizing the course content to improve their study strategies and self-regulation.

To address the potential limitations mentioned earlier, future studies should consider replicating the findings in a post-pandemic context. Additionally, developing a more robust measurement tool and complementing it with qualitative data on students' help-seeking behavior

and coping self-efficacy would provide a more comprehensive understanding of how these factors influence their performance in the course.

Conclusion

Overall, this study provides valuable contributions to both theory and practice, particularly in enhancing our understanding of the association between coping self-efficacy and help-seeking behaviours through a self-regulated learning perspective in an academic setting. Although a mediation analysis could not be conducted, the study lays the foundation for future research that evaluates all four dimensions of help-seeking and explores whether they mediate the relationship between student's coping self-efficacy and academic performance. Coping self-efficacy may impact academic performance by reducing maladaptive help-seeking behaviours (executive help-seeking, avoidance help-seeking, and help-seeking threat) instead of increasing instrumental help-seeking, as initially hypothesized. However, the limited sample size and insufficient statistical power prevented testing of this conceptual model.

Another possibility is that coping self-efficacy could moderate the relationship between instrumental help-seeking and GPA, rather than help-seeking acting as a mediator as initially hypothesized. This implies that students may not necessarily require high coping self-efficacy to engage in instrumental help-seeking, but the association between instrumental help-seeking and GPA could vary based on their level of coping self-efficacy.

Additionally, it would be beneficial for future studies to explore the diverse patterns and combinations of help-seeking behaviors employed by students. By identifying distinct groups or profiles based on students' responses to multiple help-seeking factors, researchers can gain a more comprehensive understanding of the range of strategies used by undergraduate students to seek help in an academic context. This approach would provide valuable insights into the diverse ways students navigate their academic challenges and access support. Moreover, the study also encourages further exploration of the associations between various SRL strategies and practices,

such as time management and help-seeking. Future studies could also focus on academic challenges as outcomes and expand upon the current findings regarding the predictive relationship between academic challenges and GPA (Hadwin et al., 2022 AERA). Specifically, investigating the impact of motivational challenges is crucial, as prior research has consistently demonstrated that self-efficacy serves as a highly effective predictor of students' motivation and learning outcomes (Zimmerman, 2000).

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%20Student%20Wellbeing%20Report&utm_medium=email&_hsmi=223706450&_hsenc=p2ANqtz--SoY5XhI8D1nkm4d-1GTOGKXj8ywl8Ig0WML3smM-VOpnbgOVBpsxyDsAKl8kbSMz6wyFaIRDlQYF6lr315Wf8ksvf-w&utm_content=223706450&utm_source=hs_automation.

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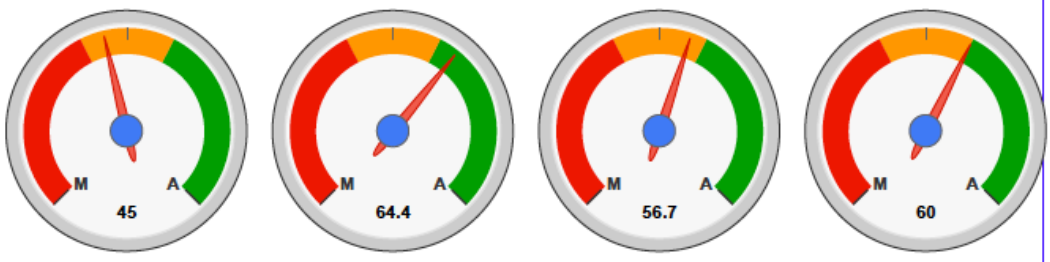
Appendix A: Individualized Summary Report

Stress Mindset & Coping Self-Efficacy Report



Stress Mindset | **Problem-Focused Coping** | **Managing Unpleasant Emotions & Thought** | **Getting Support**

Interpreting your Stress Mindset & Coping Self-Efficacy Report report

- **M**: Maladaptive; **A**: Adaptive
- **RED ZONE** means this factor requires attention;
- **ORANGE ZONE** means this factor may need some attention;
- **GREEN ZONE** means what you are currently doing is ok for now.

Detailed information about how interpret and use your personalized reports to choose strategies will be provided in the *Learning Community Meeting this week*.

Mental Health and Wellbeing Self-assessment
Your responses indicate that you have had moderate mental health for the past month.
Having moderate mental health for the past month indicates you are functioning satisfactorily in terms of your social, psychological, and/or emotional well-being. Moderate mental health is the most common type of mental health. Try to think about how self-regulating your learning at university affects your mental health as it is normal for our mental health to change from time to time. Also, think about what strategies you can use if you notice your emotional, social, and/or psychological well-being needs some attention to ensure you are aware of your mental health at university.

Academic Help-seeking self-assessment		
scale	*Your score (out of 5)*	*Description*
Executive help-seeking	1	Refers to a style of help seeking where the help seeker's "intention is to have someone else solve a problem or attain a goal on their behalf.
Instrumental help-seeking	3	Refers to a style of help seeking where help requested is limited to only the amount and type that is needed to allow the learner to solve the problem or attain the goal in question for themselves.
Help-Seeking Avoidance	2	Refers to instances when students know that they need help but do not seek it.
Help-Seeking Threat	1.7	Refers to the help seeker's perceptions of the negative consequences of seeking help. Such misbeliefs can prevent students from seeking he due to concerns that the negative outcomes of seeking help may outweigh the benefits.

Appendix B: Coping Self- Efficacy Items

Instruction: When things aren't going well for you, or when you're having problems, how confident or certain are you that you can do the following:

Factors	Items
Managing unpleasant emotions and thoughts	**MUET1**: Keep from getting down in the dumps **MUET2**: Talk positively to yourself **MUET3**: Develop new hobbies or recreations **MUET4:** Take your mind off unpleasant thoughts **MUET5**: Look for something good in a negative situation **MUET6**: Keep from feeling sad **MUET7**: Stop yourself from being upset by unpleasant thoughts **MUET8**: Do something positive for yourself when you are feeling discouraged **MUET9**: Make unpleasant thoughts go away **MUET10**: Visualize a pleasant activity or place **MUET11**: Keep yourself from feeling lonely **MUET12**: Stand your ground and fight for what you want
Problem focused coping	**PFC1**: See things from the other person's point of view during a heated argument **PFC2**: Try other solutions to your problems if your first solutions don't work **PFC3:** Sort out what can be changed, and what cannot be changed **PFC4:** Find solutions to your most difficult problems **PFC5:** Break an upsetting problem down into smaller parts **PFC6:** Leave options open when things get stressful **PFC7:** Make a plan of action and follow it when confronted with a problem. **PFC8:** Think about one part of the problem at a time **PFC9:** Resist the impulse to act hastily when under pressure
Getting support	**GS1**: Get emotional support from community organizations or resources **GS2**: Make new friends **GS3**: Get friends to help you with the things you need **GS4**: Get emotional support from friends and family

Response scale: Not confident = 1, Slightly confident = 2, Moderately confident = 3, Very confident = 4, Completely confident = 5

Appendix C: Help-Seeking Behaviour Items

Instruction: Read each statement and choose a response that is typical of you.

Factors	Items
Executive help-seeking	**EHS1:** If I ask another student for help on something I do not understand, I want to be given the answer rather than an explanation of how to find the answer myself. **EHS2:** The purpose of asking somebody for help in a course would be to succeed without having to work as hard. **EHS3**: Getting help in a course would be a way of avoiding doing some of the work.
Instrumental help-seeking	**IHS1**: If I ask other students for help with something I do not understand, I want them to help me find the answer myself and not give the answer to me. **IHS2**: When I ask an instructor for help, I want the instructor to give me hints or clues rather than the answer. **IHS3**: If I need help in a class, I only want as much help as necessary to complete the work myself. **IHS4**: If I were having trouble understanding the material in a course, I would ask someone who could help me understand the general ideas.
Help-seeking avoidance	**HSA1**: When I cannot do a homework problem, I skip it rather than ask anyone for help. **HSA2**: Even when I think the work in my class is too hard to do on my own, I will not ask for help. **HSA3**: If I didn't understand something in a course I would guess rather than ask someone for assistance.
Help-seeking threat	**HST1**: I would feel like a failure if I needed help in a course. **HST2**: I would not want anyone to find out that I needed help in a course. **HST3**: Getting help in a course would be an admission that I am just not smart enough to do the work on my own.
Formal versus informal seeking	**FVIH1**: Getting help would be one of the first things I would do if I were having trouble in a course. **FVIH2**: I would prefer asking another student for help in a course rather than the instructor.

Response scale: Not at all true = 1, A little true = 2, Somewhat true = 3, Fairly true = 4, Very true = 5

Appendix D: Descriptive Statistics

Descriptive Statistics for All Items

	M	Variance	*SD*	Skewness	Kurtosis	Median
PFC2	3.442	0.813	0.902	-0.248	-0.073	3.000
PFC3	3.395	0.943	0.971	-0.406	-0.269	4.000
PFC4	3.133	0.896	0.947	-0.146	-0.105	3.000
PFC5	3.219	0.841	0.917	-0.178	-0.168	3.000
PFC6	3.159	0.872	0.934	-0.257	-0.058	3.000
PFC7	3.193	1.083	1.041	-0.209	-0.604	3.000
PFC8	3.030	1.085	1.042	-0.060	-0.675	3.000
MUET1	2.880	1.059	1.029	-0.018	-0.616	3.000
MUET2	2.966	1.415	1.190	-0.056	-0.864	3.000
MUET3	2.914	1.486	1.219	0.221	-1.032	3.000
MUET4	2.884	1.278	1.130	0.104	-0.812	3.000
MUET5	3.189	1.192	1.092	-0.181	-0.523	3.000
MUET6	2.734	1.234	1.111	0.200	-0.743	3.000
MUET7	2.747	1.176	1.084	0.212	-0.560	3.000
MUET8	3.382	1.069	1.034	-0.347	-0.367	3.000
MUET11	2.871	1.365	1.168	0.074	-0.890	3.000
EHS1	1.957	1.037	1.018	1.013	0.426	2.000
EHS2	1.682	0.809	0.899	1.304	1.042	1.000
EHS3	1.807	1.057	1.028	1.127	0.318	1.000
IHS1	3.648	1.224	1.106	-0.738	-0.115	4.000
IHS2	3.446	1.208	1.099	-0.484	-0.503	4.000
IHS3	3.451	1.260	1.122	-0.423	-0.545	4.000
HSA1	2.283	1.079	1.039	0.587	-0.218	2.000

	M	Variance	*SD*	Skewness	Kurtosis	Median
HSA2	2.142	1.195	1.093	0.743	-0.253	2.000
HSA3	2.232	1.054	1.027	0.621	-0.181	2.000
HST1	1.785	1.070	1.034	1.345	1.126	1.000
HST2	2.004	1.257	1.121	0.959	0.028	2.000
HST3	1.845	1.152	1.073	1.247	0.846	1.000

Note. N = 233.

that can be remedied with an integrated approach. Additional detail will follow in the subsequent sections.

Appendix E: Standardized Factor Loadings for Each Item in the Model

Model	Factor	Est.	S. E	Est./S.E.	P
CSE	**PFC2**	.64	.04	15.70	< .001
	PFC3	.68	.05	14.15	< .001
	PFC4	.65	.05	13.89	< .001
	PFC5	.74	.04	18.60	< .001
	PFC6	.76	.03	22.43	< .001
	PFC7	.62	.05	12.67	< .001
	PFC8	.64	.05	13.57	< .001
	MUET1	.79	.03	26.86	< .001
	MUET2	.77	.04	17.96	< .001
	MUET3	.55	.05	10.77	< .001
	MUET4	.75	.04	21.51	< .001
	MUET5	.68	.04	16.62	< .001
	MUET6	.77	.04	19.49	< .001
	MUET7	.81	.03	25.02	< .001
	MUET8	.66	.05	13.23	< .001
	MUET11	.60	.05	12.91	< .001
HS	**EHS1**	.50	.06	8.04	< .001
	EHS2	.68	.05	12.66	< .001
	EHS3	.76	.05	14.72	< .001
	IHS1	.55	.07	7.66	< .001
	IHS2	.80	.09	9.14	< .001
	IHS3	.50	.07	6.53	< .001
	HSA1	.68	.05	15.24	< .001
	HSA2	.78	.04	19.73	< .001
	HSA3	.75	.04	18.16	< .001
	HST1	.83	.03	28.61	< .001
	HST2	.75	.04	21.15	< .001
	HST3	.85	.03	31.30	< .001

Appendix F: Correlation Matrix Latent Variables

Correlation matrix of all the items within each latent variable

	MUET1	MUET2	MUET3	MUET4	MUET5	MUET6	MUET7	MUET8	MEUT11	PFC2	PFC3	PFC4	PFC5	PFC6	PFC7	PFC8	EHS1	EHS2	EHS3	IHS1	IHS2	IHS3	HSA1	HSA2	HSA3	HST1	HST2	HST3
MUET1	1																											
MUET2	0.68	1																										
MUET3	0.396	0.344	1																									
MUET4	0.527	0.524	0.469	1																								
MUET5	0.471	0.511	0.431	0.567	1																							
MUET6	0.61	0.617	0.411	0.567	0.533	1																						
MUET7	0.654	0.642	0.389	0.652	0.508	0.649	1																					
MUET8	0.487	0.478	0.441	0.556	0.522	0.462	0.519	1																				
MUET11	0.441	0.407	0.426	0.499	0.399	0.522	0.462	0.364	1																			
PFC2	0.478	0.378	0.347	0.362	0.482	0.387	0.439	0.413	0.315	1																		
PFC3	0.52	0.517	0.304	0.409	0.383	0.4	0.454	0.388	0.257	0.413	1																	
PFC4	0.514	0.393	0.367	0.271	0.354	0.307	0.376	0.312	0.299	0.409	0.419	1																
PFC5	0.419	0.369	0.22	0.281	0.302	0.323	0.354	0.256	0.239	0.428	0.535	0.515	1															
PFC6	0.493	0.399	0.325	0.404	0.43	0.339	0.413	0.417	0.294	0.472	0.508	0.491	0.601	1														
PFC7	0.427	0.356	0.29	0.333	0.281	0.316	0.325	0.322	0.289	0.403	0.379	0.41	0.505	0.468	1													
PFC8	0.456	0.396	0.232	0.429	0.489	0.445	0.44	0.44	0.345	0.411	0.396	0.366	0.487	0.476	0.383	1												
EHS1	0.073	-0.026	0.094	0.003	0.023	-0.063	0.041	-0.025	0.046	0.021	-0.048	0.006	0.019	0.052	-0.102	-0.076	1											
EHS2	-0.046	-0.038	0.061	-0.024	-0.083	-0.05	0.045	-0.022	0.01	-0.033	-0.087	-0.001	-0.129	-0.057	-0.141	-0.049	0.313	1										
EHS3	0.059	0.061	0.093	-0.004	-0.113	0.008	0.11	-0.1	-0.028	-0.047	-0.031	-0.057	-0.142	-0.057	-0.158	-0.111	0.382	0.518	1									
IHS1	-0.011	0.01	0.118	0.074	0.019	0.074	0.047	0.073	0.104	0.126	0.029	0.082	0.012	0.058	0.089	0.117	-0.261	-0.013	-0.052	1								
IHS2	0.044	0.13	0.022	0.076	0.076	0.069	0.124	0.054	0.088	0.165	0.128	0.1	0.15	0.065	0.176	0.149	-0.274	-0.03	-0.133	0.44	1							
IHS3	-0.035	-0.03	-0.006	-0.06	0.001	-0.024	0.027	-0.015	0.025	0.091	0.081	0.045	0.083	0.005	0.098	0.077	-0.182	-0.011	-0.055	0.249	0.383	1						
HSA1	-0.185	-0.121	-0.035	-0.104	-0.123	-0.128	-0.123	-0.153	-0.115	-0.23	-0.188	-0.2	-0.2	-0.254	-0.209	-0.194	0.133	0.303	0.236	-0.059	-0.137	0.104	1					
HSA2	-0.225	-0.237	-0.142	-0.209	-0.173	-0.206	-0.176	-0.234	-0.271	-0.225	-0.247	-0.184	-0.215	-0.165	-0.247	-0.158	0.137	0.268	0.185	-0.019	-0.028	0.175	0.551	1				
HSA3	-0.189	-0.243	-0.104	-0.202	-0.2	-0.247	-0.152	-0.225	-0.201	-0.217	-0.191	-0.244	-0.209	-0.146	-0.243	-0.207	0.285	0.326	0.299	-0.117	-0.153	0.021	0.514	0.568	1			
HST1	-0.226	-0.219	-0.124	-0.219	-0.226	-0.266	-0.205	-0.293	-0.215	-0.188	-0.159	-0.107	-0.154	-0.169	-0.173	-0.133	0.187	0.323	0.344	0.002	-0.033	0.187	0.352	0.475	0.427	1		
HST2	-0.215	-0.27	-0.066	-0.155	-0.176	-0.175	-0.168	-0.168	-0.18	-0.125	-0.175	-0.134	-0.176	-0.111	-0.074	-0.125	0.128	0.231	0.258	0.067	-0.019	0.2	0.353	0.532	0.435	0.622	1	
HST3	-0.219	-0.246	-0.092	-0.238	-0.224	-0.258	-0.166	-0.256	-0.249	-0.156	-0.18	-0.14	-0.21	-0.16	-0.196	-0.153	0.245	0.416	0.444	-0.057	-0.076	0.136	0.347	0.458	0.449	0.709	0.628	1