Coping Strategies, COVID-19 Anxiety and Lifestyle Behaviours:

Associations With Academic Burnout

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Abstract

The prevalence of academic burnout has increased in recent years, posing a threat to the mental and physical wellbeing of university students. Past research has identified associations between academic burnout, demographic factors, coping strategies and lifestyle behaviours, but never investigated these factors together. Additionally, a potential link between academic burnout and COVID-19 related anxiety has not been established yet. More information on risk factors and modifiable lifestyle factors is needed to prevent burnout and mental health problems in students. Therefore, the aim of this cross-sectional online survey study ($N = 159$) was to examine the associations between academic burnout, COVID-19 anxiety, coping strategies, lifestyle behaviours (diet, sleep, exercise) and demographic factors (gender, relationship status, financial budget) in undergraduate university students using the Maslach Burnout Inventory – Student Survey, the COVID-19 Anxiety Syndrome Scale, the Brief Coping Inventory and the Short Multidimensional Inventory Lifestyle Evaluation – Confinement. Principal component analysis of the Brief Coping Inventory revealed four factors: social, adaptive, maladaptive and disavowed coping. Hierarchical linear regression showed a negative association between restorative sleep and academic burnout and between social coping and academic burnout as well as a positive association between maladaptive coping and academic burnout. Moreover, students with above average scores on academic burnout used more maladaptive coping and had a worse diet and sleep quality compared to students with below average scores. The findings of this study can aid in making interventional efforts, such as on-campus initiatives supporting students in developing adaptive coping strategies and healthy lifestyle behaviours, more effective.

Keywords: academic burnout, COVID-19 anxiety, coping, lifestyle

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Associations With Academic Burnout

The COVID-19 pandemic has led to a rise in mental health problems and burnout symptoms in young adults, highlighting the vulnerability of particularly university students to feel overwhelmed by their study load and expectations (Frajerman et al., 2019; Madrigal & Blevins, 2021). With the switch to online lectures and the prohibition of (social) activities, such as grabbing a coffee, going to the gym, or reserving a study place on campus, many students report feeling even more overworked and ultimately burnt out than before (Chang et al., 2021; Gonzalez-Ramirez et al., 2021). Academic burnout can be defined as a combination of study-related exhaustion, feelings of inadequacy, indifference and cynicism in regards to one's academic life (Salanova et al., 2010). The term burnout was first used in the mid-1970s to describe a psychological condition created by chronic occupational stress (Maslach et al., 2001). Recently, the use of the term has been broadened and found to be relevant in almost all occupations and age groups, including university students (Schaufeli et al., 2002). Academic burnout has been shown to affect up to 71% of students, resulting in various mental health problems, such as depression and suicide risk (Baeza-Velasco et al., 2020; Bianchi & Schonfeld, 2016; Ishak et al., 2013). However, academic burnout does not only impact the affected person and their family, but embodies a societal burden as well, as the aftermath of burnout can often be seen in form of school drop-outs or long-term work absences (Bask & Salmela-Aro, 2013; Peterson et al., 2011). The continuous rise of mental health problems in students is an additional strain on the healthcare system and aiding in students' successful transitioning to work life is in the best interest of the schools, universities and the economic sector as well. Therefore, it is

important to investigate relevant risk factors in students who have developed or are developing academic burnout.

Past research shows that anxiety, coping styles, daily lifestyle behaviours and demographic factors have been separately associated with academic burnout. Anxiety symptoms have specifically been positively associated with the exhaustion and cynicism components of burnout (Ding et al., 2014). A literature review by Jehi et al. (2022) concluded that more students experienced anxiety in the past two years, which may be partly attributable to the additional fear of coronavirus since the start of the pandemic (Chang et al., 2021; Rogowska et al., 2021). COVID-19 anxiety is defined as maladaptively high levels of worry and concern for one's own health and the health of their loved ones, which might be expressed by choosing to stay isolated and frequently looking for symptoms of coronavirus in oneself and others (Vintila et al., 2022). This begs the question whether COVID-19 related anxiety has also contributed to the higher levels of student burnout that have been reported since the start of the pandemic, as no study has focused on academic burnout specifically (Salazar de Pablo et al., 2020).

COVID-19 related anxiety has been linked to the use of specific coping strategies, which have been related to burnout as well. For example, a study by Vintila et al. (2022) concluded that maladaptive coping strategies mediate the association between health-related anxiety and COVID-19 related anxiety. Moreover, Oti-Boadi et al. (2021) found that the use of positive coping strategies reduces the facilitating effect that fear of COVID-19 has on stress, depression and anxiety, while negative coping strategies led to increased levels on these outcomes. In addition, previous research has shown positive associations between maladaptive coping and burnout as well as a negative link between adaptive coping and burnout (Marôco et al., 2020; Vizoso et al., 2019). Specifically, positive coping strategies, such as social support, seem to exert

a protective effect on the development of burnout (Schraml et al., 2011; Tlili et al., 2020). Negative coping strategies, such as substance use, are often present in students and linked to more symptoms of academic burnout (Lee et al., 2020; Nteveros et al., 2020).

Other factors closely associated with academic burnout and coping are lifestyle behaviours such as diet (i.e. inadequate nutrient intake), exercise (i.e. insufficient physical activity) and sleep (i.e. the use of sleep medication). Specifically, insufficient sleep, unhealthy diets and limited physical activity have been linked to burnout in university students. Sleep problems have been associated with higher levels of academic burnout in numerous studies (Nteveros et al., 2020; Schraml et al., 2011). In addition, about one half of participants reported a change in sleeping behaviour due to the pandemic, with a significantly higher amount of people getting more sleep than having less sleep (Batool-Anwar et al., 2021). In this study, being a student was related to sleeping more, while negative beliefs and attitudes towards COVID-19 were associated with sleeping less. Similarly, Şimşir et al. (2021) reported a positive association between COVID-19 anxiety and insomnia, which has been found between burnout and insomnia as well (Armon et al., 2008). Next to sleep, insufficient exercise behaviour has been linked to the presence of burnout (Lee et al., 2020; Tong et al., 2021). For example, an article by Tlili et al. (2020) shows that physical activity is negatively related to the emotional exhaustion component of burnout in health science students. There is conflicting evidence as to how the COVID-19 pandemic has influenced exercise behaviour, as studies either report decreases, increases or non-significant changes (Baceviciene & Jankauskiene, 2021; Barkley et al., 2020; Brancaccio et al., 2021). However, Meira et al. (2020) have shown that high levels of physical activity were associated with less anxiety, while exercise has been reported to be a better coping strategy against stress compared to meditation for college students (Garett et al., 2017). Therefore, it can

be assumed that students who exercise more have a lower risk of developing burnout. In regards to dietary patterns, a potential link to academic burnout has not been studied yet, besides Kristanto et al. (2016) reporting a positive association with emotional eating. Moreover, other research has shown that burnt out students show a higher consumption of caffeine, alcohol and psychotropic medication (Nteveros et al., 2020; Talih et al., 2018). In addition, it has been confirmed that unhealthy dietary patterns, such as an increased intake of sugar and fat, are associated with increased stress levels (Michels et al., 2012). Several studies, including research by Coulthard et al. (2021), have reported changes in eating patterns at the start of the first lockdown in early 2020. Specifically, the authors found that being female and having higher COVID-19 anxiety was associated with an increased intake of unhealthy food. There has not been much research linking positive coping to healthier dietary practices, aside from Kelly et al. (2012) reporting certain positive coping strategies to be related to reduced binge eating. The COVID-19 pandemic and related governmental guidelines have influenced many of these daily lifestyle behaviours, such as the consumption of processed foods and daily exercise behaviour. As these habits have been linked to, among others, depression and cardiovascular disease, monitoring the relationship with student health and related factors such as burnout is crucial to prevent adverse health outcomes (Ferris et al., 2012; Lim et al., 2021).

Lastly, demographics factors, such as gender, relationship status and socioeconomic status have been linked to academic burnout. Research studies focusing on high-school students and undergraduates have identified higher scores on burnout and its subcomponents for female students (Tlili et al., 2020; Walburg, 2014). Moreover, gender is a clear predictor of quality of life and depression in medical students as shown by several meta-analyses (Pacheco et al., 2019; Solis & Lotufo-Neto, 2019). In addition to this, more females than males have shown higher

levels of distress and anxiety at the start of the pandemic as well as fear of COVID-19 (Naldi et al., 2021; Yalçın et al., 2022). However, Frajerman et al. (2019) reported no gender differences regarding burnout in medical students, which calls for further investigations of the effect of gender. Furthermore, gender is related to coping and lifestyle behaviours. For example, male students tend to use active coping strategies, humor and acceptance more, while female students use more emotional and instrumental support (Devonport & Lane, 2006; Ersan et al., 2018; Teixeira et al., 2021). This might be related to gender differences in regards to lifestyle behaviours, such as physical activity and dietary pattern (Boek et al., 2012; Wilson et al., 2020). For instance, women engage in less muscle-focused activities and informal exercise, and different gender preferences for what students find most important in their diet exist. In regards to relationship status, people who are single run a higher risk of developing burnout in comparison to those who are married or report being in a relationship (Maslach et al., 2001). This association has been found in studies including students as well (Dyrbye et al., 2014). With the importance of social distancing due to the coronavirus outbreak, the influence of relationship status and living situation on mental wellbeing has been highlighted. However, research focusing on student samples and academic burnout is lacking. Studies have shown a link between burnout and living situation and that those being single reported having the highest levels of perceived stress, depression and anxiety at the start of the pandemic (Naldi et al., 2021; Nkire et al., 2021). Since many students leave their hometown and even home country to pursue a degree, further investigating this demographic factor and distinguishing between short-distance and long-distance relationships might provide more insights into the contributing effect of relationship status on academic burnout. In addition to gender and relationship status, an additional daily stressor for students might be their perception of how much they feel restricted by their financial

budget. Tlili et al. (2020) reported that university students with a lower socio-economic status scored worse on all three dimensions of academic burnout compared to their counterparts with medium or high socioeconomic backgrounds, while Walburg (2014) found no relation to school burnout in adolescents. However, a low income or a lower socioeconomic status has been positively associated with anxiety symptoms, suggesting a relation between this demographic variable and COVID-19 related anxiety (Basheti et al., 2021; Rudenstine et al., 2020). As the evidence for clear associations between academic burnout, gender, relationship status and financial budget is limited, more research is needed to further clarify these links and provide a comprehensive picture of the relations between demographic factors and academic burnout.

In summary, many knowledge gaps remain in the literature on risk factors for academic burnout. Further exploration of the relationships between COVID-19 anxiety, lifestyle behaviours, coping strategies, demographic factors and academic burnout is needed in order to determine the importance of the risk and protective factors associated with this highly prevalent condition. For example, it is valuable to know more about the link between academic burnout and lifestyle behaviours, as these might differ from what the literature shows in non-student populations. In addition to an increased awareness of the consequences and early signs of academic burnout, online and on-campus initiatives to monitor academic stress as well as to support students in developing and maintaining healthy lifestyle and coping behaviours could be researched and provided. For example, a meta-analysis by Regehr et al. (2013) revealed the success of cognitive and behavioural interventions in reducing stress, anxiety and depression in students, but highlighted the need to make such programs accessible and suitable for everyone.

In conclusion, the goal of this study is to investigate the association between academic burnout, COVID-19 anxiety, coping strategies, lifestyle behaviours and several demographic

factors, specifically gender, relationship status and financial budget. The distinct hypotheses for these analyses can be found in Table 1. In a secondary analysis, the differences between students with high academic burnout and students with low academic burnout will be examined. Finally and as an exploratory analysis, the associations between the independent variables (COVID-19 anxiety, coping strategies, lifestyle behaviours and demographic factors) and the three subscales of academic burnout, namely exhaustion, efficacy and cynicism, will be analyzed. Since research on these subscales is lacking, this can aid in intervention development and provide more valuable insights into the relations with COVID-19 anxiety, coping strategies, lifestyle behaviours and demographic factors.

Method

Participants and Procedure

This cross-sectional survey study recruited students enrolled in the bachelor program in Psychology at Tilburg University, who received course credit for filling out the online survey. Participants gave their informed consent before being able to access the Qualtrics questionnaire. The data was processed anonymously and stored securely in accordance with the GDPR and the Dutch Code of Conduct for Scientific Integrity. The study was conducted after receiving the approval of the Ethics Review Board of Tilburg University and was preregistered in the open science framework.

Measures

Academic Burnout

The Maslach Burnout Inventory-Student Survey (MBI-SS) was used to assess academic burnout (Schaufeli et al., 2002). In accordance with Schutte et al. (2000) and Nteveros et al. (2020), this self-report was applied in its 15 items version instead of with its 16 original

items. Therefore, the three subscales measuring exhaustion (EX), efficacy (EF) and cynicism

(CY) consisted of five, six and four items, respectively. All questions were answered on a 7-point

Likert scale ranging from 1 ("never") to 7 ("always"). Example items were *"I feel emotionally*

drained by my studies" and *"Studying or attending class is really a strain for me"*. Lower scores

on the EF subscale and higher scores on the subscales of CY and EX indicated higher academic

burnout. The MBI-SS has been translated into several languages and consistently showed good

construct validity, reliability coefficients of over 0.7 for each subscale as well as high clinical

specificity and sensitivity (Bonini Campos et al., 2011; Tlili et al., 2020; Wickramasinghe et al.,

2018).

COVID-19 Anxiety

COVID-19 related anxiety symptoms were measured using the COVID-19 Anxiety

Syndrome Scale (Nikčević & Spada, 2020). This scale was used to measure symptoms of

coronavirus-related anxiety within the past two weeks (Nikčević & Spada, 2020). It consisted of

nine items, six of which revolve around a perseveration factor and three avoidance items.

Examples were *"I have checked my family members and loved one for the signs of coronavirus"*

and *"I have avoided going out to public places (shops, parks) because of the fear of contracting*

coronavirus". Items were assessed on a 5-point Likert scale from 1 ("Not at all") to 5 ("Nearly

every day"), with higher total scores indicating a higher level of coronavirus-related anxiety. Due

to the recentness of the instrument, not many studies have reported on its psychometric

properties. High reliability coefficients and incremental validity as well as good distinctiveness

in regards to generalized anxiety have been found (Akbari et al., 2021).

Coping Strategies

The Brief Coping Inventory (BCI) was used to assess coping strategies (Carver, 1997).

This questionnaire consisted of 14 subscales comprised of two items each, bringing the total number of items to 28. All existing BCI subscales were used: (1) self-distraction, (2) active coping, (3) denial, (4) substance use, (5) use of emotional support, (6) use of instrumental support, (7) behavioral disengagement, (8) venting, (9) positive reframing, (10) planning, (11) humor, (12) acceptance, (13) religion, and (14) self-blame. Example items were *"I have been expressing my negative feelings"* and *"I've been turning to work or other activities to take my mind off things"*. Items were answered on a 4-point Likert scale ranging between 1 ("I haven't been doing this at all") and 4 ("I've been doing this a lot"), with higher scores indicating a more frequent usage of the respective coping style. In the literature, the Brief Coping Inventory has shown adequate reliability (García et al., 2018; Mohanraj et al., 2015). Many studies utilize the BCI by creating their own higher-order factors based on its subscales, such as maladaptive and adaptive coping strategies, but they tend to get slightly different results in regards to which subscales make up which overarching factors. Therefore, principal component analysis was conducted to justify the selection of second order factors from our sample. It was expected to obtain at least two higher-order factors, which were calculated by summing the specific subscales and used in further analyses.

Lifestyle Behaviors

Lifestyle behaviors were measured with the Short Multidimensional Inventory Lifestyle Evaluation-Confinement (SMILE-C), which was adapted from the original version of the SMILE to specifically assess daily behaviours in regards to the current COVID-19 pandemic (Balanzá-Martínez et al., 2021). The original SMILE is comprised of seven subscales: diet and nutrition, substance abuse, physical activity, stress management, restorative sleep, social support and environmental exposure. The SMILE-C only makes use of three of these seven domains (diet and

nutrition, physical activity, restorative sleep). There were five questions examining a

participant's diet and nutrition, one question focusing on exercise behaviour *("Do you exercise*

for at least 30 minutes daily or 150 minutes a week?") and four questions assessing restorative

sleep, bringing the total item number of the SMILE-C to 10. More example items were *"Do you*

maintain a regular sleep schedule?" and *"Do you eat healthy foods, such as fresh fruits, fresh*

vegetables, wholegrains, legumes, or nuts?". The items of the SMILE-C were administered with

a 4-point Likert scale ranging from 1 ("never") to 4 ("always"), with three of them being

reversely coded. The SMILE-C has shown internal consistencies of at least 0.75 and satisfactory

construct and convergent validity (Abdul Kadir et al., 2021; Balanzá-Martínez et al., 2021).

Demographics

Gender, relationship status and financial budget were assessed using the following

questions: *"What is your gender?"* with the answer possibilities being "male", "female", "non-

binary" and "don't want to say". *"What is your current relationship status?"* with the options

"single", "in a long-distance relationship", "in a short-distance relationship" and "don't want to

say". Here, long-distance relationships were defined as being more than 80 kilometers apart for

at least three days every week and not seeing one's partner on a daily basis (Anand et al., 2018;

Du Bois et al., 2016). Lastly, *"Do you feel like you have a very limited financial budget?"* was

asked as a 'yes or no' question.

Statistical Analysis

After obtaining the data, reversely coded items were recoded and the variables and

subscales were calculated according to the manuals of the questionnaires. Descriptives were

obtained after excluding participants with missing demographic values. Furthermore, adjustments

to the analysis, such as case exclusions, were made if only a very low percentage of participants

ended up in one category (i.e. less than 10 people identifying as male). Principal component analysis using oblique rotation was conducted to obtain second order factors comprising multiple BCI subscales. Before conducting further analyses, the data was checked for multicollinearity using the VIF. Non-normality was assessed by seeing whether the quotient of the reported skewness and the standard error was equal to or lower than 1.96. Log-transformations were conducted for the non-normally distributed variables. To test the primary hypotheses, hierarchical linear regression was used to predict academic burnout with the following independent variables: gender, relationship status, financial budget, lifestyle behaviours, coping strategies and COVID-19 anxiety. In the first step, the demographics (gender, relationship status, financial budget) were added. The second step introduced the separate lifestyle behaviours (sleep, diet and exercise) and the newly obtained coping styles. Lastly, COVID-19 anxiety was added in the third step. In regards to gender, relationship status and budget, males, singles and financially stable people served as the reference category. Moreover, t-tests and Pearson's Chi squared tests were conducted to compare differences in the independent variables among students with above and below average burnout scores. As an additional exploratory analysis, three identical hierarchical regression analyses were conducted using the individual subscales (exhaustion, cynicism and efficacy) as the respective dependent variables instead of the total burnout score. A significance level of .05 was applied for all analyses, which were performed using version 26 of IBM SPSS Statistics.

A priori power analysis via the program G*Power revealed that to obtain a power of .95 and an effect size of 0.15 a sample size of at least 166 is required. When investigating burnout in students and related constructs, at least small to medium effect sizes of .24 to .40 have been found in the literature, which served as the basis of this power analysis (Kim et al., 2021; Madigan & Curran, 2021). It has to be noted that this calculation was based on the assumption that two higher

order factors would be found when conducting the principal component analysis based on the subscales of the BCI. More predictors would require a higher sample size.

<h1 style="text-align:center">Results</h1>

Descriptive Statistics

Participants who did not give their gender or relationship status ($n = 4$) as well as non-binary participants ($n = 3$) were excluded from further analyses, as this number was too small to warrant the usage of this group for further analyses. This resulted in a final sample size of 159, where 13.2% ($n = 21$) of participants were male and 86.8% ($n = 138$) were female. Independent samples t-tests and chi-squared tests revealed no significant differences between included and excluded participants. The descriptives of all variables are reported in Table 2 and 3.

Principal Component Analysis

Principal component analysis of the coping strategies revealed four factors with an eigenvalue bigger than one. As some of the correlations between scales exceeded the threshold of .32 proposed by Tabachnick and Fidell (2005), an oblique rotation method (direct oblimin) was chosen. Factor 1 comprised the scales venting as well as emotional and instrumental support and therefore described 'social coping'. Factor 2 included scales measuring active coping, positive reframing, planning and acceptance. Therefore, it was classified as 'adaptive coping'. The scales of self-distraction, self-blame, humor and behavioural disengagement made up the third factor, which was characterized as 'maladaptive coping'. Factor 4 comprised the scales assessing religion and denial, resulting in the label 'disavowed coping'. The scale of substance use did not reach a loading of .4 on any of the factors and was therefore not taken into account in further analyses. All factor loadings are displayed in Table 4.

Statistical Assumptions

When checking the assumption of normality using the variables displayed in Table 3, it became apparent that non-normal data was present for COVID-19 anxiety, academic burnout, the cynicism subscale of academic burnout, factor 1 (social coping), factor 2 (adaptive coping) and factor 4 (disavowed coping). After performing log-transformations and inspecting the histograms of these variables, COVID-19 anxiety, factor 1, factor 2 and factor 4 remained non-normal. Thus, it was decided to use these non-normal variables as dichotomous ones. Based on their sum scores, the two new COVID-19 anxiety groups were comprised of students who could be classified as rarely to never experiencing COVID-19 anxiety ($n = 96$) and having experienced COVID-19 anxiety at least several days within the past two weeks ($n = 63$). Factor 1 (social coping) was dichotomized into a group using the respective coping strategies less than a medium amount ($n = 89$) and a group using them moderately to a lot ($n = 70$). Similarly, factor 2 (adaptive coping) was grouped into people using these coping strategies less than a medium amount ($n = 62$) and moderately to a lot ($n = 97$). Factor 4 (disavowed coping) was dichotomized into a group not using this coping strategy at all ($n = 63$) and a group using this coping strategy at least a bit ($n = 96$). Furthermore, no multicollinearity was detected, as none of the VIF values were above 1.42.

Associations With Academic Burnout

The results of the hierarchical regression with total academic burnout as outcome variable are displayed in table 5. None of the demographic variables showed a significant association with academic burnout when added in the first step and this model only explained 4.2% of the variance in the dependent variable. When adding the lifestyle behaviours and coping strategies in the second step, a significant negative association between sleep and academic burnout ($b = $ -

0.036, 95% CI [-0.065, -0.007]) was found, indicating that lower scores on restorative sleep were related to higher scores on academic burnout. Social coping was negatively associated with academic burnout (b = -0.029, 95% CI [-0.057, -0.002]), suggesting that a low use of social coping strategies (i.e. venting, emotional support) was related to higher scores on academic burnout. Moreover, a significant positive association between maladaptive coping and academic burnout (b = 0.049, 95% CI [0.025, 0.074]) was revealed, implying that students who use more maladaptive coping strategies (i.e. self-blame, self-distraction) scored higher on academic burnout. The addition of variables in this step was significant ($p < .001$) and the model explained 28.7% of the variance in academic burnout. Adding COVID-19 anxiety in the last step did not significantly increase the variance explained by all independent variables. Sleep remained negatively associated with academic burnout (b = -0.036, 95% CI [-0.065, -0.007]), social coping was still negatively associated with academic burnout (b = -0.029, 95% CI [-0.057, -0.001]) and maladaptive coping remained positively associated with academic burnout (b = 0.049, 95% CI [0.025, 0.074]).

Differences Between Students with Below and Above Average Academic Burnout

Independent samples t-tests (see Table 6) comparing students with below (n = 79) and above (n = 80) average academic burnout using the respective log-transformed variable (M = 0.6385) revealed significant differences in regards to diet ($t(157)$= 3.527, p = .001), sleep ($t(157)$= 4.730, $p < .001$) and maladaptive coping ($t(157)$= -3.221, p = .002). Therefore, the diet and sleep quality of students with above average academic burnout was worse compared to the one of students with below average academic burnout. In addition, participants with above average scores on academic burnout used maladaptive coping strategies more often than participants with below average academic burnout scores. Chi-square tests showed no significant

differences between students with below and above average academic burnout for gender,

relationship status, financial budget, COVID-19 anxiety, social, adaptive nor disavowed coping.

However, a significant effect was found for exercise behaviour ($\chi^2(3) = 9.967$; p = .019).

Associations with Academic Burnout Subscales: Exhaustion, Cynicism and Efficacy

Furthermore, hierarchical regression analyses with the subscales of academic burnout as

the dependent variables were conducted. First, associations with the subscale of exhaustion were

investigated (see Table 7). In the first step, demographic variables explained 8.5% of the

variance and gender was significantly associated with exhaustion ($b = 1.026$; 95% CI [0.432,

1.620]). This indicates that females were more likely to have higher scores on exhaustion. The

second step revealed a significant association with gender ($b = 0.815$; 95% CI [0.254, 1.376])

and a significant negative association with sleep ($b = -0.545$; 95% CI [-0.955, -0.136]).

Furthermore, exhaustion was positively associated with maladaptive coping ($b = 0.796$; 95% CI

[0.447, 1.145]). This model explained 30.8% of the variance in exhaustion. The results remained

the same when adding COVID-19 anxiety in the last step and no significant difference in the

amount of variance explained was detected.

All three steps were repeated using the cynicism subscale of the MBI-SS as the

dependent variable (see Table 8). Introducing the demographic factors did not reveal any

significant associations and only explained 2.4% of the variance. Adding lifestyle behaviours and

coping strategies to the model resulted in a positive association between maladaptive coping and

cynicism ($b = 0.084$; 95% CI [0.033, 0.135]), suggesting that a medium to high use of

maladaptive coping strategies was related to higher scores on cynicism. This model then

explained 13.5% of the variance in cynicism. In the last step, while not significantly changing the

amount of variance explained, social coping was negatively associated with academic burnout (b

= -0.060; 95% CI [-0.119, -0.001]) on top of the positive association found between maladaptive

coping and academic burnout.

Lastly, a hierarchical regression analysis with efficacy as the dependent variable was

performed (see Table 9). None of the demographics were significantly associated with efficacy

and this model only explained 1.7% of the variance of the dependent variable. In the second step,

a negative association between efficacy and restorative sleep was found (b = -0.326, 95% CI [-

0.614, -0.038]), meaning that less restorative sleep was associated with less efficacy. Moreover,

a negative association between social coping and efficacy was revealed (b = -0.369; 95% CI [-

0.648, -0.090]), suggesting that a lower than medium use of such coping strategies was related to

less efficacy. The negative association between efficacy and adaptive coping (b = -0.552, 95%

CI [-0.820, -0.284]) indicated that a less than average use of adaptive coping strategies (i.e.

active coping, positive reframing) was related to less efficacy. This model could explain 27.7%

of the variance of the dependent variable efficacy and the results remained the same after adding

COVID-19 anxiety in the last step.

Discussion

This study showed that academic burnout in university students was significantly

associated with demographic factors, lifestyle behaviours and coping strategies, but not with

COVID-19 anxiety. Specifically, academic burnout was associated with restorative sleep, social

coping and maladaptive coping. Its subscale of exhaustion was related to gender, restorative

sleep and maladaptive coping. Cynicism was associated with social coping and maladaptive

coping. In addition, efficacy showed negative relations with restorative sleep, social coping and

adaptive coping. Relationship status, financial budget, diet, exercise behaviour, disavowed

coping and COVID-19 anxiety did not show any significant associations with academic burnout

nor its subscales. However, comparing students with below and above average scores on academic burnout revealed significant group differences in regards to diet and exercise behaviour in addition to differences in regards to restorative sleep and maladaptive coping.

These results partly stand in contrast to previous research on academic burnout. As hypothesized, insufficient restorative sleep was associated with higher academic burnout. This confirms similar results found between sleep and academic burnout as well as academic stress in university and high-school students (Allen et al., 2020; Wolf & Rosenstock, 2017; Yan et al., 2018). However, none of the hypotheses in regards to the other lifestyle behaviours could be confirmed. For instance, multiple studies have shown associations between exercise behaviour and academic burnout, implying that insufficient physical activity is related to increased academic burnout (Baghurst & Kelley, 2014; Gerber et al., 2015; Janssen et al., 2020). This study was only able to confirm existing group differences in reported exercise behaviour between students with below and above average academic burnout. Similarly, students with above average scores on academic burnout reported a lower diet quality compared to students with below average academic burnout, but no significant associations were found between diet and academic burnout nor its subscales. Furthermore, gender was the only demographic factor showing a significant association (i.e. with exhaustion). Arguably, this points to a tendency of females to report higher exhaustion. However, in light of the conflicting evidence whether gender has an effect on academic burnout or its subscales, this one association only very weakly supports the hypothesis that females are more likely to experience academic burnout (Frajerman et al., 2019; Walburg, 2014). Moreover, maladaptive coping and academic burnout were positively related, as suggested by previous studies (Suldo et al., 2018; Vizoso et al., 2019). The reported findings corroborate research by Palupi and Findyartini (2019), who found similar

associations between maladaptive coping and the burnout subscales of exhaustion and cynicism. Vizoso et al. (2019) also found that adaptive coping strategies and academic burnout were negatively related, which was reflected by the negative associations found between efficacy and those using more adaptive coping strategies as well as between academic burnout, cynicism, efficacy and those using more social coping. In addition, this study aimed to confirm and replicate the transformation of different coping strategies into underlying factors proposed by Meyer (2001) or Cooper et al. (2008). Even though adaptive and maladaptive coping factors could be extracted in this sample, they were not made up of the same coping strategies and two additional factors comprising social and disavowed coping strategies were identified. Interestingly, substance use did not load on any of the four factors, even though it is usually associated with dysfunctional or maladaptive coping strategies. Surprisingly, venting was strongly associated with emotional and instrumental support, while it is usually deemed a dysfunctional or maladaptive coping strategy as well. Humor and religion are usually categorized as emotion-focused or adaptive coping strategies and not associated with maladaptive coping strategies as it has been found in this sample. Consequently, the results regarding higher-order factors comprising several coping strategies found in this study are hardly comparable to previous research.

Nevertheless, the findings of this study have several implications in regards to research on academic burnout, coping strategies and lifestyle behaviours. For example, the above described differences in coping strategies could point to discrepancies between this particular (student) sample and previously investigated (adult) samples. Students might see venting as a constructive and adaptive coping strategy when compared to older adults. In addition, most participants did not engage in any religious or spiritual coping, begging the question whether this

scale is informative for Western European samples of young adults and associated with positive outcomes and adaptive coping in this population group. For example, Noh et al. (2016) argued that religious coping comprises positive and negative aspects, which were both separately associated with academic burnout. Moreover, social coping was a distinct factor from adaptive coping, which highlights the importance of social relations and social support for university students. For instance, a meta-analysis by Kim et al. (2018) showed that social support, including support from teachers, parents and peers, is negatively associated with academic burnout. The fact that social coping has been related to academic burnout and its subscales cynicism and efficacy while adaptive coping was only associated with efficacy speaks for the impact of social coping strategies on the psychological well-being of students. Furthermore, sleep was the only lifestyle behaviour significantly associated with academic burnout. This implies the importance of restorative sleep in comparison to diet and exercise behaviour. Studies show that the diet quality of students is in general poor (Deshpande et al., 2009), which might explain the non-significant association. However, when comparing students with below and above average academic burnout, diet proved to be significantly better in students with below average scores. This shows that dietary patterns might not explain differences between students with similar scores on academic burnout, but differences between those being less or more burnt out than the average student. This possible explanation might apply to exercise behaviour as well, since this variable did not show any significant associations between academic burnout nor its components, but significant differences between students with below and above average academic burnout. Surprisingly, none of the primary hypotheses in regards to demographic factors could be confirmed. This might be due to the operationalization of students' perceived financial budget being quite different from more objective measures of socio-economic status. However, studies

reveal different results when investigating the relationship between socio-economic status and academic burnout. For example. Luo et al. (2016) found a positive association between the two, while Walburg (2014) did not find a significant association. Furthermore, relationship satisfaction might be a better predictor of academic burnout than relationship status. The interactions of effects that stress and dissatisfaction at university and in one's relationship could bring out have been called spill-over effects (Schaer et al., 2008). However, this has mainly been investigated in regards to job burnout. Oddly, gender was significantly associated with exhaustion but no other burnout measure. However, a possible reason for this result might be the underrepresentation of male students in this sample.

Accordingly, several strengths and limitations of this study have to be noted. The current study's strengths were the use of validated questionnaires and the inclusion of explorative analyses involving the subscales of academic burnout, which have been neglected in the literature. However, one of several limitations is that the non-normal distributions obtained for three of the coping factors as well as for COVID-19 anxiety did not make it feasible to conduct the statistical analyses as planned. While the use of dichotomized variables made it possible to include all variables, valuable information about these constructs has been lost. Another limitation is that at the time of data collection, the Dutch government had lifted all COVID-19 restrictions for almost a month. This very likely influenced the scores on the COVID-19 anxiety scale, as previous studies have repeatedly shown average to high scores of COVID-19 related anxiety and stress in student populations and their relation to mental health outcomes during the COVID-19 pandemic (Koelen et al., 2021; Kuru Alici & Ozturk Copur, 2021). In this study, very few participants still experienced COVID-19 anxiety and few people engaged in disavowed coping, which may explain the non-normal distributions of these variables. Moreover, the sample

only comprised psychology students who were absolving their bachelor at Tilburg University in the Netherlands at the time the study was conducted. All variables were measured using an online self-report questionnaire and there was a considerable gender imbalance, as 86.8% of participants were female, potentially resulting in a non-representative male subsample and low power to find gender differences. Additionally, the internal consistency of the diet subscale of the SMILE-C was quite poor. Further inspection revealed very low correlations between items and item deletion would not have sufficiently improved the respective Cronbach's alpha. Most other questionnaires and subscales showed acceptable to high internal consistencies. A final point is the obtained sample size. The proposed sample size of 166 was based on a power analysis, which was conducted with the expectation of obtaining two higher-order factors for the coping strategies. This sample size was initially achieved, but some participants had to be excluded and four components were extracted in the principal component analysis, reducing the final sample size to 159. Unfortunately, it was not possible to recruit more participants due to time constraints. The above-listed limitations partly restrict the generalizability, reliability and power of the results.

Thus, future research should further study the associations found in this sample and focus on the practical implementation of burnout-reducing measures and strategies. For instance, investigating the association between diet and academic burnout using longitudinal designs and biological measures might reveal different results than cross-sectional studies. A study by Metlaine et al. (2018) found a link between cholesterol, hemoglobin, various inflammatory markers and burnout. As these are directly linked to adjustable lifestyle factors, future research should consider subjective and objective accounts of health behaviours and replicate such findings in student samples. The need to replicate existing studies applies to the coping strategies

and three burnout components as well. Age-related differences in the use of coping strategies as well as in regards to burnout symptoms over time have been found. For example, older adults used less active coping and more avoidant coping in comparison to middle-aged adults (Aarts et al., 2015). Additionally, age displayed distinct linear and non-linear relationships with burnout and its subcomponents and these significantly differed by gender (Marchand et al., 2018). Consequently, future research should verify how younger adults cope with hardships in their lives and which burnout dimensions are most prevalent for specific demographic groups. This might help in enhancing effective coping strategies, such as social support, by highlighting the school's and teacher's impact and responsibility in providing a supportive environment (Collins et al., 2010; Shih, 2015). Likewise, if exhaustion is the most prevalent burnout dimension for students as found in this study, then mindfulness and cognitive behavioural approaches are the most promising strategies to reduce this outcome (Iancu et al., 2018). Furthermore, only a minority of studies specifically focus on the predictors and consequences of academic burnout in master and PhD students and even less aim to understand its associated factors in vocational students (Gerber et al., 2015). One should not neglect these population groups nor expect the same relations with burnout as have been found in undergraduates or working adults. For example, a study by Seiffge-Krenke et al. (2013) showed that students scored higher on internalizing but lower on externalizing problems compared to apprentices, unemployed or employed young adults. Since internalizing and externalizing problems are directly related to coping and lifestyle behaviours, future research should clarify the differences and similarities in burnout and associated risk factors in separate samples of university students and young adults (Inguglia et al., 2020; Moreno-Manso et al., 2021; Shimizu et al., 2020). Similarly, in the current study no distinction was made between Dutch and international students. As previous research

has shown that international students show, for example, higher rates of depression and self-reported stress levels (Acharya et al., 2018), future research could focus specifically on the additional hardships that internationals experience during their studies and how to optimally provide support. On top of this, it is important to promote healthy lifestyle behaviours and effectively deal with health problems students might be experiencing. For example, a study by Armon et al. (2008) showed that while insomnia predicted burnout at a later timepoint, burnout in turn predicted the presence of insomnia 18 months later. It is therefore crucial to bring vicious cycles like these to a halt and to pinpoint the students that are engaging in or vulnerable to develop patterns of unhealthy lifestyle behaviours. For instance, a randomized controlled trial by Vanajan et al. (2020) aimed at reducing burnout by focussing on stress management, relaxation and physical acitivity showed that dietary quality and habits significantly predicted the primary outcome when controlling for demographic factors. Different interventions to improve students' exercise, diet and sleeping habits have already been studied and should be tailored to provide individualized support (Maselli et al., 2018; Schroeter et al., 2021; Wang, 2021). The challenge will be to widely implement these approaches and programs and to ensure high adherence rates in order to see significant changes in burnout and stress-related outcomes.

In conclusion, this study underlines the importance of coping strategies and lifestyle behaviours in potentially reducing academic burnout. Specifically, the impact of social support and restorative sleep on the wellbeing of students has been highlighted (Kim et al., 2018; Pacheco et al., 2017). Partly in contrast to existing literature, demographic factors, COVID-19 anxiety, diet and exercise behaviour did not prove to be as relevant for academic burnout and its subcomponents. Future efforts in the field should focus on effective interventions supporting students at risk of developing burnout and related mental health issues. Particularly approaches

improving sleep quality, facilitating social support and decreasing maladaptive coping strategies should be effective and accessible to students. The alarming increase of burnout and mental health problems in students in recent years has to be continuously monitored and taken serious in order to warrant a successful transitioning to work life, as this ultimately will not only benefit the students, but the healthcare system and economic sector as well.

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Table 1

Hypotheses for the Primary Research Question

	Variable Category	Variable	Hypothesis
1	Demographics	Gender	Females are more likely to experience academic burnout compared to males.
2		Relationship status	Being single or in a long-distance relationship increases the likelihood of experiencing academic burnout compared to being in a relationship, with singles having the greatest risk.
3		Financial budget	Students with a limited budget are more likely to experience academic burnout, compared to the ones who do not have to worry about money.
4	Lifestyle behaviours	Sleep	Unhealthy sleeping habits are positively associated with academic burnout.
5		Diet	Unhealthy diet habits are positively associated with academic burnout.
6		Exercise	Insufficient exercise behaviour is positively associated with academic burnout.
7	Coping	Negative or maladaptive strategies	Students who tend to use maladaptive or negative coping strategies are more likely to experience academic burnout as compared with students who make less use of these coping strategies.
8		Positive or adaptive strategies	Students who use more adaptive or positive coping strategies are less likely to experience academic burnout as compared with students who make less use of these coping strategies.
9	COVID-19 anxiety		Higher levels of COVID-19 anxiety are positively associated with academic burnout.

Table 2

Frequency Distributions of the Categorical Variables

Variable	Categories	*n*	%
Gender	Male	21	13.2
	Female	138	86.8
Relationship status	Single	98	61.6
	Close-distance relationship	45	28.3
	Long-distance relationship	16	10.1
Financial budget	Not perceived as limited	97	61.0
	Perceived as limited	62	39.0
Exercise	Never	25	15.7
	Seldom	52	32.7
	Often	45	28.3
	Always	37	23.3

Note. N = 159.

Table 3

Descriptive Statistics and Internal Consistencies of the Continuous Variables

Variable	*M*	*SD*	Min	Max	Range	Skewness	Kurtosis	Cronbach's alpha
Academic burnout	3.45	0.93	1.73	6.40	4.67	0.43	-0.06	.88
Exhaustion	4.11	1.32	1.20	7.00	5.80	-0.03	-0.58	.87
Efficacy (R)	3.33	0.91	1.00	6.00	5.00	0.34	-0.05	.78
Cynicism	2.79	1.52	1.00	6.75	5.75	0.64	-0.48	.90
COVID-19 anxiety	1.98	0.90	1.00	4.78	3.78	0.93	0.12	.92
Sleep	2.96	0.50	1.25	4.00	2.75	-0.32	0.06	.59
Diet	2.74	0.39	1.80	3.80	2.00	-0.17	-0.01	.32
Factor 1	2.71	0.67	1.00	3.83	2.83	-0.44	-0.61	.83
Factor 2	3.02	0.51	1.13	4.00	2.88	-0.74	1.14	.78
Factor 3	2.57	0.59	1.25	3.88	2.63	-0.04	-0.56	.77
Factor 4	1.45	0.55	1.00	3.25	2.25	1.35	1.03	.64

Note. N = 159. Reverse-scored variables are denoted with an (R).

[a] Variable made up of one item.

Table 4

Principal Component Analysis of the Brief Coping Inventory

	Component			
	1 (Social Coping)	2 (Adaptive Coping)	3 (Maladaptive Coping)	4 (Disavowed Coping)
Self-distraction			.59	
Active Coping		-.70		
Denial				.68
Substance Use				
Emotional Support	.90			
Behavioural Disengagement			.54	.41
Venting	.62			
Instrumental Support	.91			
Positive Reframing		-.79		
Self-blame			.69	
Planning		-.74		
Humor			.77	
Acceptance		-.55		
Religion				.71

Note. N = 159. The extraction method was principal component analysis with an oblique

(Oblimin with Kaiser Normalization) rotation. Only factor loadings above .40 are shown.

Table 5

Hierarchical Linear Regression Results with Academic Burnout [a] as Outcome Variable

Variable	*B*	*SE*	95% CI	*p*
Step 1				
Gender	.035	.021	[-0.007, 0.077]	.104
Relationship Status	-.010	.011	[-0.031, 0.011]	.367
Financial Budget	.028	.015	[-0.001, 0.57]	.055
Step 2				
Gender	.026	.020	[-0.013, 0.066]	.188
Relationship status	.002	.010	[-0.018, 0.022]	.842
Financial budget	.024	.013	[-0.003, 0.050]	.079
Sleep	-.036	.015	[-0.065, -0.007]	**.015**
Diet	-.013	.020	[-0.052, 0.025]	.492
Exercise	-.008	.007	[-0.021, 0.006]	.265
Social Coping [b]	-.029	.014	[-0.057, -0.002]	**.038**
Adaptive Coping [b]	-.026	.014	[-0.052, 0.001]	.058
Maladaptive Coping	.049	.012	[0.025, 0.074]	**.000**
Disavowed Coping [b]	.008	.014	[-0.019, 0.035]	.552
Step 3				
Gender	.026	.020	[-0.013, 0.066]	.190
Relationship status	.002	.010	[-0.018, 0.022]	.874
Financial budget	.024	.014	[-0.003, 0.051]	.079
Sleep	-.036	.015	[-0.065, -0.007]	**.014**
Diet	-.013	.020	[-0.052, 0.025]	.500

Variable	*B*	*SE*	95% CI	*p*
Exercise	-.008	.007	[-0.021, 0.006]	.267
Social Coping [b]	-.029	.014	[-0.057, -0.001]	**.044**
Adaptive Coping [b]	-.025	.014	[-0.052, 0.002]	.068
Maladaptive Coping	.049	.012	[0.025, 0.074]	**.000**
Disavowed Coping [b]	.008	.014	[-0.019, 0.036]	.546
COVID-19 anxiety [b]	-.006	.013	[-0.032, 0.020]	.648

Note. N = 159. CI = confidence interval. *p* values significant at < .05 are in bold.

[a] Log-transformed variable.

[b] Dichotomized variable.

Table 6

t Test Results Comparing Below and Above Average Academic Burnout [a] in Regards to Diet,

Sleep and Maladaptive Coping

Variable	Below Average Burnout		Above Average Burnout		$t(157)$	p
	M	*SD*	*M*	*SD*		
Diet	2.85	0.35	2.64	0.39	3.527	**.001**
Sleep	3.14	0.44	2.79	0.49	4.730	**.000**
Maladaptive Coping	2.43	0.54	2.72	0.60	-3.221	**.002**

Note. $N = 159$. *p* values significant at $< .05$ are in bold.

[a] Log-transformed variable.

Table 7

Hierarchical Linear Regression Results with Exhaustion as Outcome Variable

Variable	*B*	*SE*	95% CI	*p*
Step 1				
Gender	1.026	0.301	[0.432, 1.620]	**.001**
Relationship Status	0.035	0.152	[-0.265, 0.334]	.820
Financial Budget	0.311	0.208	[-0.099, 0.721]	.136
Step 2				
Gender	0.815	0.284	[0.254, 1.376]	**.005**
Relationship status	0.218	0.143	[-0.065, 0.500]	.130
Financial budget	0.192	0.192	[-0.187, 0.572]	.318
Sleep	-0.545	0.207	[-0.955, -0.136]	**.009**
Diet	-0.143	0.279	[-0.695, 0.408]	.608
Exercise	-0.078	0.097	[-0.270, 0.113]	.420
Social Coping [a]	-0.031	0.201	[-0.428, 0.366]	.878
Adaptive coping [a]	0.019	0.193	[-0.361, 0.400]	.920
Maladaptive coping	0.796	0.177	[0.447, 1.145]	**.000**
Disavowed Coping [a]	0.096	0.196	[-0.292, 0.484]	.625
Step 3				
Gender	0.812	0.283	[0.167, 1.297]	**.005**
Relationship status	0.203	0.143	[-0.112, 0.460]	.158
Financial budget	0.195	0.192	[-0.180, 0.589]	.311
Sleep	-0.558	0.207	[-0.989, -0.152]	**.008**
Diet	-0.137	0.279	[-0.727, 0.370]	.625

Variable	*B*	*SE*	95% CI	*p*
Exercise	-0.078	0.097	[-0.243, 0.148]	.423
Social Coping [a]	-0.006	0.202	[-0.189, 0.580]	.977
Adaptive Coping [a]	0.046	0.194	[2.041, 8.038]	.812
Maladaptive Coping	0.795	0.176	[-0.065, 0.319]	**.000**
Disavowed Coping [a]	0.102	0.196	[-0.181, 0.594]	.604
COVID-19 anxiety [a]	-0.219	0.188	[-0.538, 0.215]	.247

Note. $N = 159$. CI = confidence interval. *p* values significant at $< .05$ are in bold.

[a] Dichotomized variable.

Table 8

Hierarchical Linear Regression Results with Cynicism [b] as Outcome Variable

Variable	B	SE	95% CI	p
Step 1				
Gender	0.010	0.041	[-0.071, 0.091]	.809
Relationship Status	-0.022	0.021	[-0.063, 0.019]	.291
Financial Budget	0.047	0.028	[-0.009, 0.103]	.096
Step 2				
Gender	0.011	0.042	[-0.072, 0.094]	.793
Relationship status	-0.052	0.021	[-0.042, 0.041]	.997
Financial budget	0.050	0.028	[-0.006, 0.106]	.077
Sleep	-0.024	0.030	[-0.085, 0.036]	.424
Diet	0.009	0.041	[-0.072, 0.090]	.825
Exercise	-0.007	0.014	[-0.035, 0.021]	.629
Social Coping [a]	-0.059	0.030	[-0.117, 0.000]	.050
Adaptive Coping [a]	-0.025	0.028	[-0.081, 0.031]	.377
Maladaptive Coping	0.084	0.026	[0.033, 0.135]	**.002**
Disavowed Coping [a]	0.023	0.029	[-0.034, 0.080]	.433
Step 3				
Gender	0.011	0.042	[-0.072, 0.094]	.792
Relationship status	0.001	0.021	[-0.041, 0.042]	.980
Financial budget	0.050	0.028	[-0.006, 0.106]	.079
Sleep	-0.024	0.031	[-0.084, 0.037]	.437
Diet	0.009	0.041	[-0.073, 0.090]	.831

Variable	*B*	*SE*	95% CI	*p*
Exercise	-0.007	0.014	[-0.035, 0.021]	.629
Social Coping [a]	-0.060	0.030	[-0.119, -0.001]	**.048**
Adaptive Coping [a]	-0.026	0.029	[-0.083, 1.100]	.360
Maladaptive Coping	0.084	0.026	[0.032, 0.030]	**.002**
Disavowed Coping [a]	0.022	0.029	[-0.035, 0.080]	.440
COVID-19 anxiety [a]	0.009	0.028	[-0.046, 0.064]	.741

Note. $N = 159$. CI = confidence interval. *p* values significant at $< .05$ are in bold.

[a] Dichotomized variable.

[b] Log-transformed variable.

Table 9

Hierarchical Linear Regression Results with Efficacy as Outcome Variable

Variable	*B*	*SE*	95% CI	*p*
Step 1				
Gender	-0.057	.214	[-0.480, 0.367]	.792
Relationship Status	-0.102	.108	[-0.316, 0.111]	.346
Financial Budget	0.198	.148	[-0.095, 0.490]	.184
Step 2				
Gender	-0.122	0.200	[-0.517, 0.272]	.541
Relationship status	-0.081	0.101	[-0.280, 0.117]	.421
Financial budget	0.161	0.135	[-0.106, 0.428]	.235
Sleep	-0.326	0.146	[-0.614, -0.038]	**.027**
Diet	-0.207	0.196	[-0.595, 0.180]	.292
Exercise	-0.107	0.068	[-0.241, 0.028]	.119
Social Coping [a]	-0.369	0.141	[-0.648, -0.090]	**.010**
Adaptive Coping [a]	-0.552	0.136	[-0.820, -0.284]	**.000**
Maladaptive Coping	0.115	0.124	[-0.130, 0.361]	.354
Disavowed Coping [a]	0.014	0.138	[-0.258, 0.287]	.917
Step 3				
Gender	-0.123	0.200	[-0.518, 0.273]	.541
Relationship status	-0.084	0.101	[-0.284, 0.116]	.409
Financial budget	0.162	0.136	[-0.106, 0.430]	.235
Sleep	-0.328	0.146	[-0.618, -0.039]	**.026**
Diet	-0.206	0.197	[-0.595, 0.183]	.297

Variable	*B*	*SE*	95% CI	*p*
Exercise	-0.107	0.068	[-0.242, 0.028]	.120
Social Coping [a]	-0.364	0.143	[-0.646, -0.083]	**.012**
Adaptive coping [a]	-0.547	0.137	[-0.818, -0.277]	**.000**
Maladaptive Coping	0.115	0.125	[-0.131, 0.361]	.356
Disavowed Coping [a]	0.016	0.139	[-0.258, 0.289]	.911
COVID-19 anxiety [a]	-0.04	0.13	[-0.30, 0.22]	.755

Note. $N = 159$. CI = confidence interval. *p* values significant at < .05 are in bold.

[a] Dichotomized variable.