

Coping Strategies and Trauma-Related Distress of College Students During Covid-19

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Abstract

Present-day college students are particularly impacted by the disconcerting effects of Covid-19 because of their vulnerability towards mental health struggles. The current study identified coping strategies used by students in the United States and how those strategies are associated with trauma-related distress. Results showed acceptance, emotional processing, and social support were the most commonly used coping strategies. Furthermore, avoidance coping related to higher distress than more helpful approaches (e.g., humor). Demographic findings revealed that Black students used more religious coping than did White and Asian students. Additionally, older and upper-year students used substances to cope more than did other students, including those with higher grade point averages. Our discussion focuses on how the findings of the present study can be used to enhance student support, resiliency, academic performance, and retention.

Keywords

college students, Covid-19, coping, distress, student support

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By its unpredictability and uncontrollability, the Covid-19 pandemic has evoked significant fear and stress internationally. Stress and coping literature suggests people's perceived ability to control the outcome of an event influences the level of distress they experience, as well as the type of coping strategies they enact (e.g., Göral et al., 2006). Many individuals reported experiencing symptoms consistent with trauma-related distress in response to Covid-19, especially if they exhibited an intolerance of uncertainty (Rettie & Daniels, 2021). College students are particularly vulnerable to experiencing distress from the pandemic because they are already at a higher risk for experiencing mental health struggles. This is due to the unique stressors they face such as increased academic responsibilities (Jones et al., 2018; Prasath et al., 2021). Students have considered Covid-19 to be traumatic because of the novel addition of pandemic-related concerns such as a fear of infection, reduced access to peers, and disrupted learning environments (Son et al., 2020; Sukhawathanakul et al., 2022; Wathelet et al., 2021). The impacts of the pandemic have also negatively affected students' academic performance and future enrollment intentions (Sukhawathanakul et al., 2022; Thomas & Allen, 2021).

Research has indicated college students have used adaptive forms of coping during Covid-19 such as acceptance and social support, but also have used maladaptive coping such as substance use and disengagement (e.g., Okafor et al., 2022; Son et al., 2020; Wang et al., 2020). However, little research has been dedicated to understanding the coping strategies used among college students in the United States (U.S.), despite the vulnerability of this population during the pandemic. Are certain coping styles used more frequently than others? Are there demographic factors impacting the preference for certain coping styles? Due to the upsetting nature of Covid-19, is there a relationship between coping styles and trauma-related symptoms? The current study was designed to examine students' coping strategies, whether demographic variables influence these strategies, and how these strategies associate with trauma-related distress. The goal of our study is to identify (un)helpful coping styles used by college students to provide universities insight for assisting students with academic adjustment and resiliency under the ongoing, stressful conditions of Covid-19.

Coping with Uncontrollable, Stressful Events

Folkman (1984) defined *coping* as the cognitive and behavioral efforts to manage external and/or internal demands from a situation appraised as strenuous or surpassing one's resources. The coping literature highlights the importance of the *goodness of fit model* (e.g., Göral et al., 2006). This model evaluates a person's ability to be flexible in matching effective coping strategies with their own appraisal of resources needed for a stressful situation in order to appropriately diminish distress (Finkelstein-Fox et al., 2019). A major consideration when selecting an appropriate coping strategy is the appraised controllability of a situation (Göral et al., 2006).

Many studies have examined the relationship between the appraised controllability of a stressful event and the effectiveness of different coping strategies to manage that event (e.g., Rettie & Daniels, 2021). Brunet et al. (2012) found perceived loss of control can play an important role in the development and maintenance of posttraumatic stress disorder (PTSD) symptoms such as intrusive thoughts and negative affect, due to the perceived threat being more powerful, more imminent, and less possible to cope with. Researchers found the use of adaptive coping was related to decreased posttraumatic stress and increased posttraumatic growth, whereas maladaptive coping was associated with increased depressive symptoms and decreased posttraumatic growth (Hasselle et al., 2019). Therefore, adaptive coping is vital to psychological adjustment.

Adaptive Coping. *Adaptive coping* consists of healthy cognitive and behavioral efforts enacted to manage stressful events, or event-related emotional distress, that brings about enduring changes (Skinner et al., 2003). Emotion-focused coping is often used to manage aversive emotional impacts associated with the overwhelming nature of uncontrollable events (Tedeschi & Calhoun, 1995). It can be divided into emotional processing (i.e., the active effort to understand and explore one's emotions) and emotional expression (i.e., interpersonal efforts such as venting to others and/or intrapersonal efforts such as journaling; Stanton et al., 2000). According to Hoyt et al. (2020), attention to, and expression of, emotions may facilitate healthy adjustment due to the release of both physiological and psychological tension caused by a stressful situation. In addition, acceptance and religion coping have both shown to be helpful during uncontrollable events (Okafor et al., 2022). Acceptance of the stressful situation allows individuals to engage in more critical thinking for how to deal with the event (Carver et al., 1989), and religion reinstates control by giving the event a higher meaning or by giving control of the situation to a higher power (Göral et al., 2006). Social support, which can influence individuals' coping behavior and emotion regulation, has been shown to lead to more positive mood and self-perceptions, as well as less pessimistic expectancies for the future following an uncontrollable, negative event (Marroquín et al., 2019).

Maladaptive Coping. *Maladaptive Coping* refers to the approaches to stressful situations that often lead to adverse consequences or higher distress later on (Folkman, 1984). Tedeschi and Calhoun (1995) stated when a situation is appraised as ambiguous or uncertain, individuals tend to use avoidant coping (i.e., denial and disengagement) to diminish intrusive ruminations or negative affect. While denial involves refuting the reality of an event, disengagement can happen mentally (i.e., distracting oneself from thinking about the stressor) and behaviorally (i.e., reducing attempts to address the stressor). Substance use can also be used as a form of avoidant coping to reduce stress. Although these coping strategies can be beneficial in alleviating short-term suffering, they often impede adaptive coping and lead to later distress (Carver et al., 1989). Further, although problem-focused coping (i.e., goal- or solution-oriented

tasks used to control or eliminate a stressor) can help in controllable events with tangible solutions, it can be ineffective for uncontrollable situations because one's efforts may be perceived as ineffective or unrealistic (Lopez-Vazquez & Marvan, 2003). Thus, it is important for research to understand how different populations (i.e., college students) have coped with the unpredictability of Covid-19 to identify avenues for healthy adjustment.

College Students Coping with Covid-19

Although college students have struggled with mental health distress before Covid-19 (Lipson et al., 2019), the pandemic seemed to amplify these hardships. With the onset of the pandemic, students have reported experiencing increased negative emotion, loneliness, anxiety, depression, and trauma-related distress (Prasath et al., 2021; Son et al., 2020; Wathelet et al., 2021). Further, students' pandemic-related fears have led to persistent anxieties about their health and their loved ones' health, to difficulty concentrating, to disruptions of sleep patterns, to loneliness, to hopelessness, and to increased academic concerns regarding performance and the move to online education (Aristovnik et al., 2020; Reyes-Portillo et al., 2022).

Amidst the move to virtual platforms, Reyes-Portillo et al. (2022) mentioned that instructors had very little training or preparation for online teaching, and students were left with limited face time with their peers and professors and with an uncertainty around their grades. Covid-19-related stress, as well as the lack of perceived peer and instructor support, seemed to have negatively contributed to student's future enrollment decisions (Thomas & Allen, 2021). Additionally, students who had higher academic concerns, along with financial, health, and interpersonal pandemic-related challenges, seemed to report higher trauma-related distress and lower self-reported grade point averages (GPAs) (Sukhawathanakul et al., 2022). González-Sanguino et al. (2020), who also assessed trauma-related distress, found that 75% of students from a Spanish university presented mild or moderate PTSD-related symptoms during the pandemic. In fact, trauma-related distress was higher than participants' reported level of anxiety, depression, and stress. Furthermore, higher levels of intrusion, avoidance, and overall distress were reported more by undergraduates than by masters and graduate students. However, neither Sukhawathanakul et al. (2022) nor González-Sanguino et al. (2020) investigated how students were coping with their trauma-related distress.

To adequately cope with Covid-19, recent literature found college students have relied on positive reevaluation and acceptance of their situation, on seeking social support, on engaging in religious activities, and on emotion-focused coping. (e.g., Okafor et al., 2022; Prasath et al., 2021) However, students have also reported using maladaptive coping (e.g., escapism, denial, substance use, disengagement) or being unaware of helpful coping strategies to enact (Patias et al., 2021; Son et al., 2020). With a sample of Chinese students, Ye et al. (2020) found social support and adaptive coping strategies mediated the relationship between pandemic-related

stressors and acute stress disorder (ASD; i.e., trauma-related symptoms occurring within 2–28 days following an upsetting experience).

Little research has explored how college students in the U.S. have coped with trauma-related distress caused by Covid-19. Wang et al. (2020) found less than half of U.S. students reported being able to cope effectively with Covid-19 and reported mostly using social support and technology to cope. Eden et al. (2020) found U.S. students who used media to cope with the pandemic, especially as an avoidant strategy, reported higher stress and anxiety. Lastly, Chu et al. (2022) found emotion-focused coping was associated with greater psychological growth, and less use of avoidant coping was related to less pandemic-related distress. However, those studies only assessed students' anxiety, depression, or overall stress levels. Research has yet to examine how coping styles associate with trauma-related distress within U.S. college students.

Present Study

Adaptive coping for Covid-19-related distress is vital for undergraduate students due to their increased vulnerability to mental health concerns. Recent literature has shown that the emergence of Covid-19 has increased students' level of trauma-related distress (e.g., intrusive thoughts about the pandemic; Sukhawathanakul et al., 2022; Wathélet et al., 2021). Although researchers have examined college students' coping strategies (e.g., Prasath et al., 2021; Wang et al., 2020), they have yet to provide an in-depth, descriptive analysis of the frequency of specific coping styles used and how those styles associate with trauma-related distress among U.S. students. Thus, the current study was designed to relate the types of coping strategies used by college students to their mental health outcomes, specifically PTSD related symptoms (i.e., intrusive thoughts, avoidant tendencies, hyperarousal).

Some studies outside of the U.S. have identified demographic variables that impact the use of coping strategies during Covid-19. For instance, research showed female students used more avoidance, acceptance, and social support than did male students (Baloch et al., 2021; Patias et al., 2021; Rogowska et al., 2020). However, other studies did not report findings on demographic variables (e.g., Prasath et al., 2021). The current study sought to identify demographic factors that may impact U.S. students' coping to better understand contextual factors that may influence our findings. Because of the methodological variability used to assess demographic variables and coping styles, the geographic diversity of student populations (e.g., Polish, Spanish, Chinese), and the lack of findings for U.S. students, we refrained from formulating specific hypotheses for demographic factors and specific coping styles.

To cope with Covid-19, students tend to utilize more acceptance, religion, social support, emotion-focused, and avoidant coping, (e.g., Chu et al., 2022; Okafor et al., 2022; Prasath et al., 2021; Son et al., 2020). Past research has found emotion-focused coping, acceptance, religion, and social support have yielded increased psychological adjustment and less distress, whereas avoidant coping has led to increased

distress (Carver et al., 1989; Chu et al., 2022; Hoyt et al., 2020; Prasath et al., 2021). Although individuals are less likely to use problem-focused coping with uncontrollable events, taking a more goal-oriented approach has still led to positive outcomes (Finkelstein-Fox et al., 2019). Humor was not a common coping strategy mentioned by students to cope with Covid-19 (e.g., Salman et al., 2020), but has been found to lead to psychological benefits (Eden et al., 2020). Taken together, the current study yielded the following hypotheses:

Hypothesis 1: Participants will report using more emotion-focused (i.e., emotional expression and emotional processing), social support, religion, acceptance, and avoidant-focused coping strategies (i.e., denial, substance use, and disengagement) than planning and acting (i.e., problem-focused coping) and humor.

Hypothesis 2: Emotion-focused coping, problem-focused coping, acceptance, social support, humor, and religion will be associated with less reported distress, whereas avoidant coping styles will be associated with higher levels of distress.

Methods

Participants

Undergraduates ($N=222$) in a large, ethnically diverse and minority-serving public university in Texas participated in a cross-sectional online survey during the last two weeks of April, 2020. The university is a four-year, R1 comprehensive university that offers courses at the undergraduate, masters, and doctoral level, as well as has many transfer, commuter, and first-generation students that make up the undergraduate population. In 2020, 41.5% of the undergraduate population reported first-generation status (Fact Sheet, 2020). During the last two weeks of April, 2020, Texas officials required stay-at-home orders for non-essential businesses and the governor announced schools would be closed for the remainder of the year. At the university level, classes had been completely remote for one month following spring break and students living on campus were asked to stay in their residence other than for essential purposes (e.g., groceries, visiting healthcare professionals, outdoor activities such as walking). The university was also offering pass/no pass options for students struggling with their grades.

The current sample consisted of 181 women (81.5%) and 41 men (18.5%). Women were overrepresented in our sample compared to the gender breakdown of all undergraduates on campus in 2020 (i.e., 55% female and 45% male; Fact Sheet, 2020). Participants ranged in age from 18 to 34 years old ($M=20.5$, $SD=2.31$), which closely approximated the average age of all undergraduate students ($M=21.9$) in 2020. Students self-identified their ethnicity as 35.7% White, 23.8% Hispanic, 21.7% Black, 8.1% Asian, 1.7% Middle Eastern, 1.3% Jewish, 1.3% Multiethnic, and .9% American Indian. The ethnicity breakdown for our sample was representative of the

ethnicities of students on campus: 42.5% White, 25.5% Hispanic, 14.9% Black, 8.1% Asian, 1.24% American Indian, and 7.7% Other.

Regarding school features, 23.4% ($n = 52$) of the participants were in their first year of school, 25.2% ($n = 56$) were in their second year, 24.8% ($n = 55$) were in their third year, and 26.6% ($n = 59$) were in their fourth year. Twenty-three percent of participants ($n = 51$) reported they were transfer students, whereas 77% ($n = 171$) reported they were not. For major in school, a slight majority of the sample majored in psychology (53.0%; $n = 115$), whereas 18.4% ($n = 40$) reported majoring in other social sciences or natural sciences (e.g., biology), 14.3% ($n = 31$) in other liberal arts degrees (e.g., English), and 14.3% in applied disciplines (e.g., Applied Arts and Science; $n = 31$). Self-reported average GPA for the current sample was 3.25 ($SD = .588$). For living situation during the pandemic, 39.2% ($n = 87$) of participants reported living with their sibling, 20.7% ($n = 46$) with an “unrelated roommate”, 14.9% ($n = 33$) with their parents, 7.7% ($n = 17$) living alone, 5.9% ($n = 13$) with a spouse, 3.2% ($n = 7$) living in their dorm, and 8.4% ($n = 19$) reported living in other living arrangements.

Procedures

After receiving the university’s Institutional Review Board approval for the study, a convenience sample of student volunteers were collected. More specifically, the study was published on the university’s SONA system, a centralized site to gather data for research studies and award participation credits to undergraduate students. Hence, students who were currently enrolled in psychology courses volunteered to complete the survey questionnaires about the impacts of Covid-19, choosing it from among other studies soliciting participants. For introductory psychology courses, involvement in 10 h of SONA research studies is required, or an alternative assignment can be completed if students are unwilling or unable to participate in research (e.g., under 18 years old). Other courses offered through the psychology department may provide extra credit for research participation. Class sizes typically range from 120 to 161 students, with larger enrollment in the introductory courses. Participants read an informed consent notice and participated in the online survey, completing self-rated questionnaires regarding their demographics, coping styles, and mental struggles during the pandemic. Participants were compensated with course credit or extra credit from their psychology courses.

Measures

Demographics. Individuals were asked to provide the following information: age, race/ethnicity, gender, educational level, transfer status, major, GPA, and residents in household.

Coping Scale (COPE-EAC). The COPE (Carver et al., 1989) is a multidimensional coping inventory designed to assess different ways in which people respond to stress. It is

comprised of 10 subscales: Denial, Social Support, Planning and Acting, Religion, Humor, Substance Abuse, Acceptance, Mental/Behavioral Disengagement, Restraint, and Suppression of Competing Activities. The latter two subscales were omitted because they were deemed as ill-suited for a college population during Covid-19. A factor analysis indicated disengagement should be combined with the denial subscale ($a = .86$). Because many emotion-focused coping subscales are confounded with distress (Stanton et al., 1994), two unconfounded emotional approach coping subscales were added: Emotional Processing (8 items) and Emotional Expression (8 items) to create the COPE-EAC scale (Stanton et al., 2000). The COPE and COPE-EAC scale were validated with undergraduate students, and the COPE-EAC scale in particular was validated on students in introductory psychology courses. Both Carver et al. (1989) and Stanton et al. (2000) found appropriate convergent and discriminant validity for the subscales. Other studies have utilized the shortened version of the COPE scale (i.e., Brief COPE scale; Carver, 1997) to assess how college students in the U.S. have coped with the pandemic (Chu et al., 2022; Eden et al., 2020). Both studies reported acceptable internal reliabilities (Cronbach's $a > .70$) and face and content validity for the coping subscales, as well as found significant associations between coping subscales and distress outcome measures (e.g., anxiety).

The current study used the nine subscales, all consisting of appropriate reliability scores. Subscales included: (1) Denial (8 items; $a = .86$; e.g., "I refuse to believe it has happened"), (2) Social Support (5 items; $a = .81$; e.g., "I try to get emotional support from friends or relatives"), (3) Planning and Acting (3 items; $a = .82$; e.g., "I think hard about what steps to take"), (4) Religion (4 items; $a = .94$; e.g., "I seek God's help"), (5) Humor (4 items; $a = .94$; e.g., "I kid around about it"), (6) Substance Use (4 items; $a = .94$; e.g., "I use alcohol or drugs to help me get through it"), (7) Acceptance (4 items; $a = .77$; e.g., "I get used to the idea that it happened"), (8) Emotional Processing (8 items; $a = .93$; e.g., "I work on understanding my feelings"), and (9) Emotional Expression (8 items; $a = .94$; e.g., "I get my feelings out in the open"). The standard COPE instructions were modified to specify coping with Covid-19. Responses were rated on a four-point Likert scale (1 = *I haven't done this at all*, 4 = *I have done this a lot*).

Impact of Event Scale-Revised (IES-R scale). The IES-R is a 22-item self-report measure that assesses perceived distress from traumatic events (Weiss & Marmar, 1996). The original IES was developed to parallel the Diagnostic and Statistical Manual for Mental Disorders, fourth edition (DSM-IV) criteria for PTSD; the revised version was created to assess hyperarousal symptoms of PTSD by adding six items related to hyperarousal. Items correspond directly to 14 of the 17 DSM-IV criteria for PTSD. Past literature has found the scale has appropriate reliability, validity, and diagnostic utility for undergraduate students who have been exposed to traumatic or stressful events (Adkins et al., 2008; King et al., 2009). Furthermore, some researchers have utilized the IES-R to assess pandemic-related distress for college students outside of the U.S. (e.g., Liao et al., 2021; Xie et al., 2020). While Liao et al. (2021) used cut

off IES-R scores to assess PTSD symptoms, Xie et al. (2020) used the IES-R for examining subjective distress and found appropriate reliability and validity, with a Cronbach's α of .89 and a split-half reliability of .93.

The IES-R consists of three subscales, all with appropriate reliability: Intrusion (8 items; $\alpha = .87$; e.g., "I thought about it when I didn't mean to"), Avoidance (8 items; $\alpha = .84$; e.g., "I stayed away from reminders about it"), and Hyperarousal (6 items; $\alpha = .80$; e.g., "I felt irritable and angry"). Items for each subscale are summed and averaged. An IES average score is computed by summing the three subscales. Instructions were modified to state Covid-19 as the traumatic event of interest. The IES-R items are rated on a 5-point Likert Scale (0 = *not at all*, 4 = *extremely*).

Analytic Strategy

Data were analyzed using IBM SPSS Statistics 26. Before analysis testing, normality testing determined all variables were approximately normally distributed without outliers. First, exploratory analyses were conducted to examine demographic factors (i.e., gender, ethnicity, age, year in school, GPA, living situation, transfer status) and their impact on participants' selection of coping strategies. Analyses of variance (ANOVAs) were used to explore coping, ethnicity and years in school, independent samples t-tests were utilized to compare coping with gender (men and women) and transfer status (transfer and non-transfer), and Pearson correlations were used to assess the relationships between coping, age, and GPA. Because multiple (i.e., 18) independent samples t-tests were performed to assess the association between the 9 COPE-EAC subscales and (1) gender and (2) transfer status, Bonferroni's adjusted alpha of .003 (.05/18) was utilized. To test hypothesis one, M s and SD s were first examined for each coping style. Then, paired samples t-tests and effect sizes were analyzed to determine if certain coping styles were used significantly more than other styles among students. To test hypothesis two, Pearson r and Fisher z analyzes were conducted to assess whether the COPE-EAC subscales correlated with the IES overall average or its subscales. These correlations were examined to determine whether certain approaches were more (un)healthy than others for managing distress.

Results

Descriptive Analyzes

Descriptive analyses for the COPE-EAC subscales, the IES overall average, and the IES subscales are shown in Table 1.

Demographic differences in reported coping strategies were assessed. Using the Bonferroni's adjusted alpha of .003, gender was not associated significantly with any coping strategy. A one-way ANOVA showed ethnicity impacted the use of religion coping, $F(7, 213) = 3.45$; $p = .002$. Post hoc analyses, using the Scheffé post hoc criterion for significance, indicated the average use of religion was significantly

Table 1. Descriptive Statistics for the COPE-EAC Subscales, IES-R Average, and IES-R Subscales (N = 222).

	M	SD	Skew	Kurtosis
COPE-EAC Subscales				
Acceptance	2.79	.67	-.10	-.45
Emotional Processing	2.71	.77	-.08	-.73
Social Support	2.60	.75	.03	-.65
Religion	2.34	1.09	.14	-1.43
Emotional Expression	2.27	.72	.50	-.02
Humor	2.26	.92	.25	-.89
Planning and Acting	2.25	.75	.57	-.03
Denial/Disengagement	1.62	.59	1.26	1.58
Substance Abuse	1.52	.75	1.34	.72
IES-R Scales and Subscales				
Intrusion	2.18	.74	.19	-.64
Avoidance	2.13	.71	.42	-.38
Hyperarousal	2.16	.74	.33	-.51
Average Score	2.14	.67	.34	-.37

higher with Black participants ($M = 2.90$, $SD = .95$) than with White ($M = 2.17$, $SD = 1.05$; $p = .036$) and Asian ($M = 1.84$, $SD = 1.06$; $p = .053$) participants. A one-way ANOVA also revealed year in school impacted the frequency of substance use coping ($F(3, 217) = 3.21$; $p = .024$), in that senior students ($M = 1.76$, $SD = .85$) reported more substance use coping than freshman students ($M = 1.34$, $SD = .612$; $p = .035$). Exploratory correlations found age was positively correlated with substance use ($r = .159$, $p = .018$), whereas substance use was negatively correlated with GPA ($r = -.152$, $p = .027$). There were no significant differences in coping depending on students' living situation (e.g., living alone, with parents) or transfer status.

Tests of Hypotheses

Hypothesis 1: Participants will report using more emotion-focused (i.e., emotional expression and processing), social support, religion, acceptance, and avoidant-focused coping strategies (i.e., denial, substance use, and disengagement) than planning and acting and humor. Table 1 arranged each coping style in descending order from most to least reported. Contrary to our hypothesis, avoidant-focused coping styles were the least used approaches. Emotion-focused, social support, religion, and acceptance coping were combined and averaged into a "common coping styles" variable. Planning and acting and humor were combined and averaged into an "uncommon coping styles" variable. As expected, paired t tests showed common coping strategies ($M = 2.54$, $SD = .566$) were used more than uncommon coping styles ($M = 2.01$, $SD = .546$),

Table 2. Paired *t* Tests Results Comparing Acceptance, Emotional Processing, and Social Support with Other COPE-EAC Subscales.

COPE-EAC Subscales	Acceptance		Emotional Processing		Social Support	
	<i>t</i>	Cohen's <i>d</i>	<i>t</i>	Cohen's <i>d</i>	<i>t</i>	Cohen's <i>d</i>
Religion	5.64	.49	4.88	.39	3.30	.28
Emotional Expression	10.23	.75	10.02	.57	7.09	.44
Humor	8.21	.66	5.88	.53	4.61	.41
Planning and Acting	11.42	.76	9.39	.59	6.16	.46
Denial/Disengagement	20.14	1.86	18.20	1.58	17.61	1.46
Substance Abuse	19.45	1.79	17.45	1.55	16.59	1.44

Note. All paired *t* tests had *p* values of >.001.

$t(220) = 13.96, p < .001, d = .953$. As seen in Table 2, acceptance, emotional processing, and social support were used significantly more than other coping styles.

Hypothesis 2: Emotion-focused coping, problem-focused coping, acceptance, social support, humor, and religion will be associated with less reported distress, whereas avoidant coping styles will be associated with higher levels of distress. This hypothesis was tested by multiple bivariate analyses to identify significant relationships between coping strategies and measures of distress (i.e., intrusive thoughts, avoidance, hyperarousal, and IES average score). Emotion-focused, problem-focused, acceptance, social support, humor, and religion coping were combined and averaged into a “helpful coping strategies” variable. Avoidant coping styles (i.e., denial, disengagement, and substance use) were combined and averaged into a “less helpful coping styles” variable. Helpful coping strategies were found to be significantly related to average IES scores ($r = .289, p < .001$), hyperarousal ($r = .242, p < .001$), intrusive thoughts ($r = .29, p < .001$), and avoidance ($r = .284, p < .001$). Similarly, less helpful coping styles were significantly related to average IES scores ($r = .461, p < .001$), hyperarousal ($r = .452, p < .001$), intrusive thoughts ($r = .460, p < .001$), and avoidance ($r = .383, p < .001$). However, Fisher *z* tests showed participants’ use of unhelpful coping strategies was related significantly more to intrusive thoughts ($z = 2.0, p = .023$), hyperarousal ($z = 2.52, p = .006$), and average IES scores ($z = 2.10, p = .019$) than the associations for participants who used more helpful strategies.

Discussion

The present study explored how college students in the U.S. coped with the early stages of Covid-19 during April 2020, and how their coping strategies related to reported trauma-related distress. Consistent with past findings about coping with uncontrollable events (e.g., Finkelstein-Fox et al., 2019), participants utilized the coping strategies of acceptance, emotional processing, emotional expression, religion,

and social support more than humor and planning and acting. Acceptance, emotional processing, and social support were the most endorsed coping styles, which aligns with recent pandemic-related studies (Baloch et al., 2021; Chu et al., 2022; Prasath et al., 2021). Contrary to Son et al.'s (2020) findings that students tended to use denial and disengagement to cope with Covid-19, avoidant-focused coping styles were the least reported by participants. This may be due to our study taking place in the early stages of the pandemic, right before students' exam week, and to the direct effects of Covid-19 on student education (e.g., moving to online formats). It is possible students may have utilized strategies such as disengagement later on since coping often changes through the course of responding to a stressor (Folkman & Lazarus, 1985).

Our exploratory analyses of demographic variables and coping revealed Black students used more religious coping than did White and Asian students. Kawakami et al. (2020) suggested Black individuals commonly use religion to cope in stressful situations due to the significant role that churches play in Black culture. In addition, our results showed older and upper-year students used substances to cope more than other students, which may be due to possible age differences and being of legal age to drink. Further, the higher students' GPA was, the less likely they endorsed substance use coping. Students with higher school performance may be more hesitant to compromise their academic standing by engaging in alcohol or drug use.

Regarding the relationship between coping and distress, all coping strategies were related to more reported trauma-related distress. Although this contrasted with our hypothesis, because the current study is a cross-sectional design, the findings lack directionality and higher distress may promote the use of more coping. Additionally, participants' coping strategies may have not yet been effective in reducing distress due to the timing of our study and the ongoing impacts of Covid-19 plus the oncoming examinations. Importantly, less helpful coping strategies (i.e., avoidant-focused and substance use) were associated with higher levels of intrusive thoughts, hypervigilance, and overall distress than were more helpful coping strategies (i.e., emotion-focused, problem-focused, acceptance, social support, humor, religion). Consistent with past literature on the consequences of avoidant coping strategies (Carver et al., 1989), as students refrain from coping with the trauma of Covid-19, they may experience poorer mental health outcomes later on.

Limitations and Future Directions

First, we acknowledge that our sample is predominantly women, which limits the gender generalizability of our findings, although the multiethnic sample is a strength. Women may utilize different styles of coping than men (e.g., seeking social support), and thus future studies may need to evaluate how male students chose to cope with Covid-19. Our sample was taken from one university in Texas, which also impacts generalizability. Other states and universities may have reacted to the pandemic and students' welfare in different ways, which may have prompted students to engage in different coping styles and have different levels of distress. Future studies should recruit college students from other universities to compare differences in coping at a

university level. Additionally, because the university population consists of many first-generation students, future studies should assess the coping resources and adjustment to Covid-19 from first-generation college students. Lastly, because our study relies on self-report measures, scores may be affected by response or interpretation biases. Because self-report instruments measure explicit traits individuals see, or wish to see in themselves, future research should consider introducing qualitative measures to assess students' spontaneous recall of coping strategies.

Another limitation is that, due to the cross-sectional design of our study, we are not able to identify the directionality of coping and distress correlations. Therefore, future research should collect longitudinal data to determine whether certain coping styles predict lower or higher levels of distress over time. To expand on our cross-sectional study, researchers should analyze the effects of coping and distress over the span of Covid-19 to see how associations between distress and use of specific coping strategies have evolved over time. Additionally, it may be helpful for researchers to identify how secondary appraisals (e.g., perceived power during the pandemic) relate to the type of coping chosen by students. Lastly, because the pandemic brought about a variety of stressors for students (e.g., fear of infection, lack of peer interaction, move to online classes), future research should identify which coping styles are helpful for which stressors.

Implications

Our findings provide helpful suggestions for university officials. First, identifying the types and use of various coping styles can provide professors and campus officials a more in-depth understanding of how students are choosing to deal with the pandemic. Our participants utilized acceptance, emotional processing, and social support the most. Our results indicate students were inclined to use healthier forms of coping, which can help with adjusting to the pandemic, with academic success, and with student retention. To support its students, we encourage universities to offer resources, such as mental health and wellness services, to allow students to think through and express their feelings when experiencing hardships. Providing students access to mental health services can also give counselors the opportunity to offer psychoeducation on healthy forms of coping for uncontrollable events, especially to students who may have lower levels of insight and of emotional development. Regarding social support, Thomas and Allen (2021) urged the importance of supportive faculty and peer relationships to enhance academic performance, resiliency, and enrollment, as well as to provide students with more access to emotional, practical, and academic support.

Our demographic findings suggest college administrators and faculty should consider gender, ethnicity, student's year in school, and age when offering support and assistance to students. For example, because Black students are more likely to use religion to cope with Covid-19, collaborating with students on ways to use religious activities to approach pandemic-related stress, or providing resources to religious groups on camps, could be useful. Further, identifying students' living situation would be helpful when discussing how residents, or lack thereof, within the household may influence

coping strategies and distress. Being aware of sociodemographic factors that might impact coping allows universities to be aware of the unique problems faced by different students that could lead to higher dropout or contribute to barriers that impede students from succeeding in college or graduating (Davis et al., 2021).

Lastly, our study demonstrates coping was associated with trauma-related symptoms, including intrusive thoughts, avoidance, and hyperarousal. Exposure to traumatic events can lead to the risk of developing PTSD, which has been associated with poor academic performance and student dropout, especially for students earlier in their college career (Cusack et al., 2019). According to Davidson (2017), because processing prolonged stress or trauma can be emotionally and physically taxing and time-consuming, students may have trouble focusing on school, attending class, neglecting school obligations, and isolating themselves from others. Additionally, educators might misinterpret students' survival skills as maladaptive behavior. This raises the importance of college faculty receiving training on trauma-informed practices (e.g., facilitating safety, trustworthiness, empowerment, and de-escalation techniques in the classroom) to understand how trauma exposure impacts academic performance and success (Davidson, 2017). Additionally, von Keyserlingk et al. (2022) suggested it would be helpful for universities to provide students with resources to increase their self-regulation and time-management skills to cope with pandemic-related stressors. Providing these forms of support can strengthen student's resiliency and their intent to persist with their education.

Conclusion

Our findings extend the literature on coping used by undergraduate students during Covid-19. Specifically, our data indicate that students utilized more acceptance, emotional processing, and social support to deal with the early traumatic effects of the pandemic. Our findings suggest coping styles can vary by year in school, age, and ethnicity. Coping was positively associated with traumatic-related distress. Therefore, students' experience of the pandemic may lead to more trauma-related distress initially than previously recognized and may require more use of healthy coping strategies. Although Covid-19 cases have declined, vaccinations have been distributed, businesses are reopening to the public, and schools are beginning to be in-person again in the U.S., the aftermath of the pandemic on mental health could be enduring. Therefore, there is an ongoing need to address the impact of Covid-19 on students' mental health and academic engagement. We hope our data assists university officials in understanding how students have coped with pandemic-related distress, to inform the distribution of campus resources and the potential training opportunities for faculty while students re-acclimate to traditional college settings and persist with their college careers.


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