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American Journal of Qualitative Research
2024, Vol. 8 No. 4, pp. 1-23
<https://doi.org/10.29333/ajqr/15163>
AJQR. <http://www.ajqr.org>

AMERICAN
JOURNAL OF QUALITATIVE
RESEARCH

ISSN: 2576-2141

Exploring College-Aged Student Anxiety: Aggravating Factors and Coping Strategies

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ABSTRACT

Undergraduate college-aged students are increasingly experiencing anxiety. Yet, many struggle to cope effectively, resulting in poor school performance and compromised health and well-being. Our goal was to identify common anxiety-inducing and aggravating stressors, as well as preferred adaptive coping strategies, in this exploratory study to inform anxiety intervention development. A total of 19 undergraduate students (17 female and 2 male) were recruited. Students previously diagnosed or treated for anxiety by a clinician participated in a two-week, daily diary entry study. A total of 219 diary entries were transcribed and thematically analyzed for student reports of awareness variables and associated coping responses. Data were compared and triangulated.

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Framed by cognitive-behavioral approaches to anxiety and the transactional theory of stress and coping, we identified five primary categories of anxiety-inducing or aggravating stressors: academic time management and performance, communication anxiety, competing life stressors, others' presence and problems, and generalized uncertainty. In addition, we found that students primarily utilized adaptive coping strategies, employing a mix of intrapersonal (e.g., alone time, breaks, hobbies/music, and staying productive) and interpersonal techniques (e.g., hanging out with and talking with friends and family). Findings highlight common anxiety stressors and demonstrate preferred and efficacious coping strategies employed by students, providing valuable insight into best practices for student well-being interventions beyond a clinical setting to manage anxiety and improve student well-being.

KEYWORDS: Anxiety, undergraduate college-age students, coping

Many college students experience moderate to severe anxiety at some point during their college years (Lee et al., 2021). The Fall 2020 University of Michigan Healthy Minds Study of 36 colleges and universities showed that depression and/or anxiety was up 44% since the survey started in 2007 (Baeza Bickel, 2021). The COVID-19 pandemic only further exacerbated these growing trends in student experiences of mental health problems (Adams et al., 2022; Apker, 2022). Furthermore, of those students diagnosed with anxiety or depression, only 40% had received any mental health counseling/therapy in the past year (Baeza Bickel, 2021). In fact, many students with anxiety or depression have never used mental health services on or off campus (Lee et al., 2021).

Additionally, many college-aged students may have difficulty managing their health, including mental health, during this developmental period of emerging adulthood (Arnett, 2000; Regehr et al., 2013). A high number of college-aged students fail to engage in counseling services to improve their mental health which compounds the rise of anxiety and/or depression among college-aged students. Some common barriers to effective anxiety treatment include minimal and/or sustained use of mental health therapy/resources, access to or cost of treatments, as well as stigma and privacy concerns associated with mental health (Morena et al., 2024; Weissinger et al., 2022). Continued exploration of the contributory factors to this mental health epidemic among undergraduate college students is warranted, to establish effective and sustainable interventions (Pedrelli et al., 2015). A transdisciplinary landscape in which academic institutions and health practitioners collaborate to aid in effective interventions across academic and clinical realms may best support and equip students for better self-management of anxiety. This can be accomplished by examining common anxiety inducing stressors and effective coping techniques from an interdisciplinary approach. Such interventions could include helping students manage their anxiety during crisis moments, as well as offering improved resources and training to improve self-management of anxiety in general. It is important to understand what triggers anxiety among students, so that we know which types of stress-response interventions are most needed, and understand students preferred coping strategies to better inform prescriptive advice, resources, and training offered to students for interventions outside clinical settings.

Prevalence and Consequences of Anxiety

Anxiety is a broad biopsychosocial experience often involving emotional, physical, interpersonal, and social distress. While common understandings of state-level anxiety are often synonymous with “stress,” or “worry,” academic or clinical conceptualizations of anxiety distinguish between this kind of state-level anxious feeling and trait-level anxious tendencies

(Spielberger, et al., 1983). Trait-level anxiety is conceptualized as a mental health disorder when it is persistent and excessive enough to interfere with daily functioning. The American Psychological Association (APA, 2022) defines anxiety as primarily an emotional experience:

characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat (para. 2).

The National Institute of Mental Health (NIMH, 2022) identifies the three of the most common anxiety disorders as: generalized anxiety disorder (GAD) (i.e., excessive, persistent uncontrolled worry), panic disorders (PDs) (i.e., sudden waves of fear and discomfort with no clear danger or trigger) and social anxiety disorder (SAD) (i.e., fear of being watched or judged by others) (Anxiety & Depression Association of America (ADAA), 2022). According to the ADAA (2022), GAD affects 6.8 million adults, or 3.1% of the population, PD impacts 6 million adults, or 2.7% of the population, and SAD, the most common type, affects 15 million, or 7.1% of the adult population.

Anxiety among Young Adults and College-Age Students

In 2019, 20% of young adults had anxiety symptoms (Vahratian et al., 2020). A more recent study found that 48% of young adults (18–25 years) had mental health symptoms (e.g., anxiety and depression), indicating a rise in mental health issues. During COVID-19, among this age group, additional stressors mainly occurred due to job insecurity, loneliness, and social isolation (Adams et al., 2022). Additional causes of anxiety include medical conditions (e.g., heart disease or diabetes), trauma, drug or alcohol misuse, stress buildup, having relatives with anxiety, and more (Mayo Clinic, 2023).

A specific subset of the young adult group affected by anxiety are undergraduate college-aged students who face specific stressors related to college-life. For some students, this is the first time they are away from home and the support of their family and friends, and they face new social challenges of college/university life in peer relationships, social pressures regarding drug/alcohol use, and romantic relationship break-ups (Worsley et al., 2021). Jones and colleagues (2016) found that academic distress, financial concerns, and access to family and peer support accounted for much of collegiate anxiety. Other common causes of anxiety for students include lack of preparation, style of their study, and lack of needed information (Kumari & Jain, 2014). Still others have noted that lack of sleep and uncertainty about the near future can contribute to anxiety among college-aged students (Meridian Psychiatric Partners, 2023). Moreover, “students with both decreased aptitude for academics and high levels of anxiety are more likely to have poor study skills and academic outcomes, placing them at an increased risk of failure,” (Bamber & Kraenzle Schneider, 2016, p. 2). Other health consequences of anxiety can include depression, suicide, substance abuse (McCarthy, 2019) and self-harm (Klonoff-Cohen, 2022). Stress reduction and/or student self-management of anxiety (i.e., coping) are often of primary concern in most anxiety-focused interventions seeking to improve individual health outcomes and other consequences of anxiety (Regehr et al., 2013).

Coping with Anxiety

“The ways or strategies that a person uses in dealing with stressful situations play an essential role in their physical and mental health,” (Ghaffari et al., 2021, p. 2). One way to

understand how undergraduate students deal with anxiety stressors is the transactional theory of stress and coping. This perspective highlights that coping is the process by which an individual assigns meaning to an event (e.g., an upcoming presentation), appraises it as stressful or not (i.e., something that may be harmful or threatening in some manner), and responds by attempting to manage their feelings (i.e., emotion-focused coping) and/or the perceived stressful stimuli (i.e., problem-focused coping) (Folkman, 1984; Folkman, 2011; Lazarus, 1966; Lazarus & Folkman, 1984). How individuals respond or cope is informed by their coping resources (e.g., self-efficacy, access, competence), situational variables (e.g., severity of issue, need for support), and individual differences (e.g., personality, age/maturity). Coping responses can vary as individuals seek to manage the problem in the long-term or as one attempts emotion regulation in the short-term. Coping approaches can run the gamut from adaptive, positively valenced, and helpful (e.g., acceptance, problem-solving, seeking social support, positive framing,) to maladaptive, passive, or unhelpful (e.g., suppression, avoidance, anger, self-blaming, negative thinking, rumination, substance-use) depending on perceived outcomes following its enactment (Lazarus & Folkman, 1984; Mortiz et al., 2016; Ghaffari et al., 2021). This perspective has been seen to be effective in managing stress and increasing social support regarding illness (Ghaffari et al., 2021).

Another way to reduce stressors frequently used in relation to anxiety is cognitive behavioral therapy (CBT). Regehr and colleagues (2013) conducted a meta-analysis of international interventions aimed at reducing university student stress and found that cognitive, behavioral, and mindfulness interventions were significantly effective for anxiety reduction. Their review is consistent with ample research that has touted CBT, rooted in psychosocial learning approaches and cognitive-behavioral therapy (CBT) principles, as very effective for mitigation of student depression, anxiety, and stress (Bledsoe et al., 2018; Hoffman et al., 2013). When students were taught to identify and change their false beliefs tied to their responses of stress-inducing stimuli, and were shown how to regulate physical stress through controlled breathing, muscle control, and meditation, their anxiety was notably mitigated.

However, recent theorizing about coping considers that coping is not a dichotomously valenced nor enacted behavior. In reality, individuals often employ *both* adaptive and maladaptive strategies, often simultaneously, to deal with stressors, and they don't always cope alone either. Additionally, sometimes what appears adaptive at the time, can serve to undermine health/well-being in the end. These more complex considerations of coping from a lifespan/developmental lens, including updated theorizing by Folkman (2011), emphasize that coping with external stressors (e.g., school work, deadlines) should not always focus on resolving negative emotions (e.g., fear of failing an exam), outcomes associated with that stressor/stimulus (i.e., not studying enough or getting a poor grade), nor even necessarily on resolving the health problem itself (i.e., anxiety). This is a critical point to note in terms of anxiety intervention foci and suggests interventionists might consider other approaches to anxiety mitigation. In fact, Wolf and Fisher (2023) and Fisher et al., 2022 suggest that contemporary coping conceptualizations should broadly address coping over time with chronic, long-term, and unresolvable stressors (i.e., college demands over multiple years), while managing one's health (in various positive/negative states) and include anticipatory coping for events or stressors that are likely to occur in the short term or future. Practically, less primary focus on the negative emotional management of anxiety, and more attention on the (often-simultaneous) exhibition and management of both positive and negative emotions, responses/strategies, and outcomes tied to anxiety might be fruitful for interventionists. Thus, taken together, we asked the following:

RQ1: What are the anxiety stressors among undergraduate college-age students?

RQ2: What are the mechanisms to cope with anxiety stressors among undergraduate college-age students?

Method

To explore these study goals, we employed a diary-entry method study to help articulate undergraduate college-age students' own words and personal experiences their stressors, struggles and coping strategies or responses in dealing with anxiety.

Recruitment and Participants

Upon Institutional Review Board (IRB) approval (#2021-0920), 20 diagnosed undergraduate students were recruited using a convenience sample and snowball sampling approach from a small private university located in the Northeastern United States. Inclusion criteria included: (1) students at least 18 years of age; (2) diagnosed and/or treated for anxiety by a medical professional; and (3) English-speaking. Researchers contacted professors and instructors at the university to advertise the study in their classes; however, extra credit was not provided by instructors. Students in classes were also encouraged to advertise the study with friends. Participants were recruited in early October 2021, with diary entries starting from October 18, 2021, to October 31, 2021. Interested participants were instructed to email the lead researcher to schedule a time to discuss the study and obtain written informed consent. During this time, demographic information was collected. Due to funding limitations, additional participants (more than 20) could not be recruited; that is, we were limited in our ability to collect data to a point where no new student experiences with anxiety were reported. Hence, the exploratory nature of this study.

A total of 19 participants completed the study; one participant dropped out of the study at the start of data collection. All the participants lived in the Northeast at the time of the study. Participants ranged in age from 18 to 22 years ($M = 19.45$; $SD = 1.19$) with almost all the participants self-identifying as female ($n = 17$; 85%); participants had the option to not indicate gender or write "other" ($n = 1$; 5%). Most of the participants self-identified as White ($n = 17$; 85%) and not of Hispanic/Latino, Spanish or Mexican origin ($n = 17$; 85%). Education levels varied, with four (20%) being Freshmen; six (30%) being Sophomores; six (30%) being Juniors; and 4 (20%) being Seniors. Participants were asked to self-report their anxiety diagnosis by a medical professional; fifteen (75%) reported having GAD, with six (30%) having SAD.

Procedures

Participants used an online diary entry system, Indeemo (www.indeemo.com) to write their diary entries. Indeemo is a downloadable app to phones that allows for text, picture with caption, and video diary entries. Used often in shopper experiences, Indeemo allows for capture of real-time experiences. Participants were instructed to submit a diary entry as many times as they wanted over the two-week period. The lead researcher prompted participants via email to submit their entries at the end of the first week and mid-week the second week; diary entry submissions were monitored daily for engagement with the study. Upon completion of data collection, participants were compensated with a \$50 Amazon, Visa or Target gift card and contacted via email by the lead researcher.

A total of 219 diary entries were submitted during the two-week period ($M = 10.90$; $SD = 6.06$). Most diary entries were in text format ($n = 200$; 91.7%), followed by 15 videos (7%) and three photos with captions (1%). Diary entries ranged from 4-515 words per entry. Based on Kenten (2010) and the McGill Illness Narrative Interview (MINI) (Groleau et al., 2006), a series of questions were provided to prompt participants' responses to capture their anxiety experiences.

The MINI is a semi-structured interview method for gathering symptom experiences and illness narratives (Groleau et al., 2006). The Kenten (2010) approach used solicited diaries to gather documented experiences by self-identified lesbians and gay men and emphasizes illness narratives. These questions were to help participants focus their diary entries on anxiety experiences and coping strategies used. We also asked these questions guided by the transactional theory of stress and coping (Lazarus & Folkman, 1984) to understand stress and coping mechanisms used. See Table 1 for question prompts.

Table 1

Anxiety Narrative Prompts

Thank you for agreeing to keep a diary. This two-week diary is specifically interested in your day-to-day experiences of your anxiety. As you write this diary, please keep in mind the places, sights, people and media you interacted with during the day. We are grateful that you are sharing your experiences with us.

If you are experiencing an anxiety episode and need to seek medical attention or other support beyond writing in this diary, please do so. Bryant University Counseling Services are available at bcs@bryant.edu and 401-232-6045.

Please contact Julie Volkman, PhD at jvolkman@bryant.edu or 401-232-6000 with any questions. Welcome to your daily diary task!

We would like you to revisit this task every evening, by looking back over your day and thinking of times, places or events where you became aware of your anxiety, in either a positive or negative way. This may have arisen through comments said to you, something you hear or see, a look from someone, your reaction to a news story, a song or an image. In completing your diary, please submit the following:

In either a photo with caption, a self-video or text note, please tell us:

Q1 The date

Q2 What happened to make you aware of your anxiety?

Q3 Where were you?

Q4 Who else was involved?

Q5 How did it make you feel?

Q6 How did it make you feel about where you were?

Q7 Did you mention this to anyone else, who and how did they react?

Q8 Did you visit any websites, listen to music or do anything to help you cope with your anxiety?

Please upload at least one response each evening by 11:59pm, but feel free to share as much as you wish with us :)

You can respond to the task using 1 or a combination of the below:

- Write an Indemo Note.
 - Record a 2-3 minute landscape Selfie Video.
 - Upload Photos with Captions.
-

Data Analysis

Inductive thematic analysis was managed using ATLAS.ti 23. The co-first author (BW; an expert in qualitative analysis) used a constant comparative method (CCM) to analyze open-ended diary entries (Charmaz, 2006; Corbin & Strauss, 2014; Creswell & Plano Clark, 2007; Glaser, 1965; Glaser & Strauss; 2017;). CCM includes immersing oneself in the data by reading all responses, using inductive (i.e., open/emergent) and/or deductive (i.e., closed/theoretically-driven) coding to identify patterns in responses, and assigning labels (i.e., codes), collapsing patterns into categories or themes, and identifying rich responses for the presentation of thematic findings. Analysis was sensitized by cognitive-behavioral framing of anxiety and the transactional model of stress and coping and response (Folkman, 1984; Lazarus, 1966). That is, emergent thematic analysis was informed by scholarship that emphasizes behavioral conditioning as a primary explanatory basis of and treatment for anxiety to identify psychosocial stressors and responsive coping behaviors identified by participants (Barlow et al., 2007). To increase rigor, the first co-author (JV) (trained by other co-first author, BW) analyzed a subset of data with a final codebook to validate findings (Morse et al., 2002). Analyses were compared and combined. Data analysis was completed upon analytic saturation; that is, at the point when no new categories/themes were identified upon multiple iterations of analyses (Tracy, 2020). To ensure confidentiality, exemplar quotes are identified by a number of the participant.

Results

Themes are presented in response to the two primary study goals: identification of anxiety inducing and aggravating stressors, and preferred coping strategies. Themes and thematic properties salient to each study goal are each summarized and supported with data exemplars.

Anxiety Inducing and Aggravating Stressors

These themes are responsive to study goal one and include a variety of major stressors, things that called students attention toward their anxiety, and intensifying variables. Student data cohered into five primary categories or themes of such factors. Themes are reported below in descending order based on prevalence among students and across dairy entries.

Academic Deadlines and Performances

The most common associated cause and intensifier of student anxiety pertained to students' time management of their academic schedule and workload. All students included at least one, but often multiple entries that highlighted their anxiety regarding time management of their schedule and tasks such as use of their time for studying or accomplishing projects (mostly school, but sometimes work), the amount of their workload, and their awareness of how little time they have to get things completed: "I feel like there isn't enough time in the day to get things done. It's already 2:41, and I've been up since 8 am, but it feels like it should only be 11:00 am" (P2). Most entries highlighted students' demanding workloads as anxiety inducing:

Today I was overwhelmed with all the projects that happened to be due this week all at the same time. I found myself not being able to get them all done. I was too focused on one and then would freak out about another. It was a very stressful night. (P4)

Furthermore, all but one student offered at least one diary narrative explaining how they worry about the quality of their work or academic performance, especially exams:

I woke up today feeling extremely anxious. I had an accounting exam that I didn't feel ready for so I was really worried about it. I hold a lot of value in how well I do in school so when I feel like I'm going to fail an exam it feels like I'm failing at life. (P8)

Two thematic properties regarding performance anxiety were apparent: first, students were anxious about their academic performance in terms of *academic scores* on exams, assignments, and overall class standing: "Very nervous and anxious today. Grades and midterms are really stressing me out. I'm constantly worrying today about my GPA and what classes to choose for next semester" (P16). Second, students also experienced anxiety about their classroom and/or collegiate team (e.g., athletic) or organizational (e.g., Greek life, student clubs) *behavioral performances* (enacted and anticipated) as illustrated by this student entry:

I had my hand raised to answer a question in class. While waiting to be called on my heart was beating really fast and I was like practicing what to say in my head. When the time came I tripped on my words for a second. But then I couldn't pay attention in class because I was busy overthinking that. [...] It's embarrassing, the whole thing. (P18)

Concerns about behavioral performances contained clear evidence of social comparisons of self to others. Students feared and worried about appearing less capable, less intelligent, less prepared, and so forth to their classmates, professors, roommates, friends, and family:

My next class is a discussion class with majority of the grade being participation. I have never raised my hand in this class. Even though he wants us to interpret readings in our own way, I get nervous that people with all turn and look at me and I'll somehow get the answer wrong. (P10)

One last observation of anxiety tied to deadlines and performance illustrated how students further experienced anxiety relative to campus environments including the general campus, classrooms, dorm rooms, dining halls, and such. Students report experiencing much of their anxiety on and around campus spaces. For many, academic work/workload and worry of performance are the cause of anxiety around campus spaces: "Also getting off campus helps me not be anxious. A lot of anxiety now comes from school so when I remove myself from the source it helps a lot." (P8)

Communicative Anxiety

This theme refers to student anxieties of actual and/or anticipated interactions with others (i.e., close partners as well as loose or even unknown social ties). These catalysts spanned relational and interaction contexts, but shared an underlying communicative element:

I'm making myself anxious today because I don't like confrontation. I need to talk to my suitemates and sort out some issues. My heart beats fast and I've been trying to avoid it but it's honestly making me feel worse. I'm so anxious I've been picking at my nails and fidgeting or zoning out so much. (P16)

Two properties of this theme were evident as students wrote of their anxiety spurred by: (a) various *interpersonal/relational interactions* (mostly interpersonal conflict, disclosures, confrontations); and many wrote about (b) *traditional public speaking or social performative events* (e.g., classroom presentations, meetings with professors, speaking at sorority event, meeting new people).

A majority of students (14 of 19 reported) experienced communication apprehension or anxiety as they wrote about interpersonal relationships with their friends, roommates, teammates, and classmates which often involved confrontations of sorts: “I was also thinking about a fight I got into with my roommate which also made me very anxious” (P6). Others noted how engaging with loose social ties in non-confrontational communication caused anxiety:

[...] I have been stressed to reach out to my teammates for help. I get anxiety when I try to tell someone what to do so if my groups don't talk to plan out the group project I tend to do the work all myself which stresses me out but is better than me having to talk. (P4)

In addition to these common stressors of communication, students' personal disclosures to others exacerbated their distress:

Today I came out to my suite as non-binary which obviously caused a lot of anxiety. I called everyone into the common room and it was really hard at first to talk. My breathing and heart beat was fast. The room around me started to spin but I did a good job calming myself down. I tried to remain positive which helped my anxiety. (P8)

The second property of this theme was clear as students (12 of 19 reported) wrote about their performative communication anxiety associated with their fear of speaking in front of others in traditional public speaking contexts or with those unknown or not well known to them, and in interactions with others who they perceived to be of higher status/power.

These accounts most closely aligned with traditional concepts of public speaking anxiety (PSA) or communication apprehension or anxiety (CA) (McCroskey, 1970) and SAD (Vilaplana-Perez et al., 2019). McCroskey (1970) first coined the term ~~CA communication apprehension~~, later used interchangeably with communication anxiety, as the broad term that refers to an individual's fear or anxiety associated with either real or anticipated communication with another person or persons. Psychologists tend to collapse CA into their broader conceptualization of social anxiety. For example, one student wrote: “I did have a little bit of anxiousness when talking to a new professor I haven't met before” (P3). Another commented:

Today I was most aware of my anxiety when giving a long presentation in a class and having to speak to a professor to ask a question after class. [...] Both instances made me feel really fidgety and vulnerable - I was hyper aware of everyone else's tones of voice and body language. Both instances also made me feel really awkward and uncomfortable in the rooms/situations.” (P12)

When describing CA, as was common with the aforementioned theme of time management and academic workload, students wrote of particular physical environments or events (e.g., parties, crowded spaces, social events) that were associated with their anticipatory anxiety when possibly having to interact with others in more social, less academic, contexts. For example, this student wrote:

Halloween. I wanted to go out. I even planned what to wear. But in the end I didn't go anywhere. I stayed in my room in my pjs. I've noticed that I feel anxious to leave my room when I know I might have to interact with others. My room is on the first floor right by the front door. I avoid coming outside when I know someone is in the living room or kitchen or the hallway. Idk [I don't know] it's just awkward. And I can hear people partying outside and I wish I could go. I wish I was extroverted enough to go. I wish I had someone to go with me. But also I imagine going there and being nervous around people the whole time. Being anxious to talk to

people even though I want to socialize and mingle. Not knowing what to say and then overthinking every interaction the next day. I think of all of that and I just decide nvm [nevermind] no thanks. (P18)

Like with the first theme, social comparative assessments of self to others and the influence of such assessments on student communicative behavior was observed. Students expressed much uncertainty and anxiety about how they might be perceived by others (i.e., professors, peers, friends, family, and loose social ties) based on their communicative skills and performances:

I mentioned my presentation related anxiety to one of my other classmates who assured me that my presentation was good and that I covered what I was supposed to—he really helped to talk me down because he realized I was starting to feel anxious and threatened. (P12)

Competing Life Stressors

Student anxiety was not always primarily tied to academic demands or interactions, but often resulted from competing life stressors such as work, unexpected life events (e.g., a death, car breakdown, health disruptions), financial concerns, and even environmental conditions or historical events (e.g., weather, COVID-19 pandemic). The following entries exemplify the significance of this theme (15 of 20 students reported): “My nana’s wake was yesterday. I had a midterm that night as well that I kind of dug myself a hole into having to take. I was anxious all day” (P5). Another student wrote of the impact that weather has on their anxiety: “It’s like turned to a downpouring outside, which is not fun, not cool. I don’t like when it’s not nice outside.” (P19). A student noted how their physical health exacerbated existing anxiety:

It’s weird because while I am stressed about the exams I am more anxious about how being on my period will affect me throughout the week. Being on my period usually makes me have more negative patterns of thinking and less productive. (P7)

A final example highlights how multiple competing stressors contributed to student anxiety:

I experienced a panic attack because my room could have possibly been flooded by a pipe that burst in my hall. I was scared. My parents divorced last year, and I don’t have a home anymore. I took everything I own here. Plus, I am not as rich as other people here. I could not afford anything new. On top of worrying about my stuff, I did have drinks out in my room. I didn’t want anyone to find them. It was the first time ever I had drinks in my room. [...] I was hysterical. (P13)

On whole, we noted that this theme encapsulated a wide variety of non-academic stressors that were typically framed by students as things that complicated or supplanted students’ primary academic tasks/goals at hand.

Others’ Presence and Problems

Data in this fourth theme included anxiety stressors connected to the presence of others, their noise, distracting behaviors or interruptions, and the power that other’s problems or disclosures had on a student’s own anxiety. Students’ need for independent space and time, quiet study/work settings, and less involvement in others’ problems was evident. Sometimes the fact that others were around during anxious moments only further exacerbated a student’s anxiety: “Being in a class full of people where you have to pay attention while having a panic attack is draining. All I wanted to do was leave” (P17). More often, students emphasized the need for solitary space:

Still very irritable...my roommate is Facetiming her sister downstairs right now while I'm doing homework and she is sooo loud and I can't focus. I've been having a really hard time focusing lately. And everything is making mad. Little comments and chirps my roommates say have been making me so mad. (P2)

Last, students' concern for others and other people's problems contributed to their personal anxiety: "My mom hasn't been able to visit for a while and being her only kid I know it's stressing her out a lot which is kinda stressing me out. I just don't know how to help her feel better" (P15). Students appeared to have difficulty prioritizing their needs before others at times or not over-empathizing with others.

The Uncertainty of Not Knowing

The final theme that induced or enhanced student anxiety included a general uncertainty and worry stemming from decision-making, unknown outcomes (often of schoolwork), the future, new people/places/experiences, and even potential manifestations of anxiety:

Today I experienced an anxiety attack when thinking about my parents and home sickness. I was in my room pacing and stressing about how much I miss my family as well as how scared I am for the future of my life. Is the major I choose the right one for me? These are some of the questions I was asking myself. (P3)

Students recalled anxiety as they wrote about situations in which they "felt out of control" or when they lacked certainty about their performances:

This morning I had work from 11-1. I work downstairs in the chance wellness center where I am responsible for helping people find athletic offices check out equipment and control the facility. I usually just sit there saying hello to people as they pass by and doing something every once in a while. Today there were a rush of people coming to ask me questions. I had to learn how to check out certain equipment right there on the spot which always gives me bad anxiety doing something without practicing before. I felt out of control in this situation. (P4)

What united these narratives was student worry about things they cannot control, things they do not know with complete clarity, what may or may not occur, and their worry about worrying of all of these things. Data here illustrated all of the ways that students were clearly engaged in uncertainty reduction as a broader coping approach (expanded below in discussion of coping strategies) as they identified uncertainty-related catalysts for their anxiety (Berger & Calabrese, 1975).

Preferred Coping Strategies

Students' entries about coping with their anxiety reflected a predominance of positive techniques they employed in order to reduce and manage their anxiety; they framed these techniques as adaptive strategies. Two primary categories or themes were apparent in student coping approaches; they are reported in descending order based on prevalence among students and across all diary entries. First, students typically employed *intrapersonal strategies* of coping which included independent coping behaviors that were emotion-focused and/or problem-solving approaches. Next, students utilized *interpersonal strategies* involving seeking social support and/or relying on social interaction as a preventative and/or intervening relief or reprieve from anxiety.

Intrapersonal Strategies

Most students attempted to mitigate their anxiety first using independent emotion-focused techniques to calm themselves, reframe their thinking/feelings, and address the root causes of their anxiety. Alone time was important to students' understanding of and processing of their anxiety. This included taking breaks, being in their room alone, being quiet, and engaging independently in enjoyable hobbies or distractions (e.g., listening to music, social media use, TV). The following exemplars highlight students' positive use of these techniques: "All of my roommates went out last night, I stayed in and watched TV. I am very happy with the decision I made" (P2). Another student wrote: "I liked being in my room because I was able to just think and do my thing in the comfort of my room" (P11), and a third added: "I listened to music, did some light cleaning, and watched some YouTube to calm myself down" (P17). Last, one student aptly summarized the need for alone time in coping with anxiety in writing:

I would say through this social isolation I've definitely kind of realized I need some alone time. My anxiety has been high 'cause I haven't had time to work through things by myself because there's always been people around. I've always been very extroverted, but at the same time I'm very introverted and I need once my social battery runs out, I really just need to be alone and spend some time by myself to work through these issues or my mental well-being. (P9)

Students also often mentioned accomplishing tasks and actively attending to their physical manifestations of anxiety through behavioral techniques like breathing/visualization practices, attending to eating/drinking to alleviate physical symptoms or stressors of anxiety, accomplishing their schoolwork or tasks, leaving spaces that were stressful, and taking their medications. One student wrote, "To help me cope with it I made multiple lists so that I could visualize everything and then I wrote it down in my planner in an organized way" (P14). Another added:

I was in my bedroom during all of this, which made me a bit less stressed because it's a comfortable place for me. I didn't talk to anyone about how I was feeling. I just allowed myself to listen to music, light a candle, and make my way through assignments at my own pace. (P5)

We observed positive, adaptive coping based on students' own appraisals and framing of their emotional and behavioral responses. Positive coping was evident when compared to the much fewer reports of negative coping approaches in which students indicated their failures to take breaks, breathe, and accomplish tasks on deadline; thus, students were clear in what strategies worked for them and which ones they knew only served to enhance or prolong anxiety. Negative coping was typically portrayed by students as failures to enact positive coping techniques successfully and without use of any maladaptive coping:

1:00AM I've been trying to piece my life back together. So I went on my Google calendar to allocate time to study for the FM exam I plan on taking this Dec. I was supposed to be studying for it all along but I procrastinated on it. But yeah I did that and just started thinking about how close the exam date is. I still have to register for it before the end of Oct. and it's this massive monster that I must slay. And I just don't know how all I know is that it's so scary and Big. And instead of facing it head on I just keep putting it off because it's nerve wracking to even think about for more than 15 seconds at a time because I just. Seize up. From the thought of it. And then I give up and go to bed. Which is what I'm going to do now. How pathetic lol. (P18)

Interpersonal Techniques

The second most common category of coping strategies included social and communicative techniques that students employed in both preventative and intervening fashions to avoid or mitigate their anxiety. First, students' time to simply "hang out" with their friends, roommates, and romantic partners was an important approach to preserve their well-being. Social time often served as a reward and/or a reviving technique for accomplishing tasks and effectively mitigating anxiety through the accomplishment of work. Students highlighted the pleasurable aspect of social leisure time as a major technique for reduction of their stress in general, evident in these entries: "My friends were with me most of the day I felt good to have those people around me I felt good about where I was. I thought I belonged, I didn't mention anything to anyone about my anxiety" (P3); and another student added,

This weekend has been pretty good so far but I have been having really bad anxiety about all the work I have this week due Monday and Tuesday. I have a lot to do but I also like to hangout with friends to relax over the weekend to help my mental health. (P4)

Commonly, students noted that taking breaks from schoolwork or demands to spend time with friends or family functioned adaptively as an intervening approach to lessen their anxiety in the moment; that is, they opted to spend time with others as a way to reinvigorate themselves for a return to their schoolwork/deadlines and reduce their psychological distress. One student wrote:

I've discussed it with my therapist in the past and she tells me that I need to allow myself to have days where I just focus on myself and take a break from doing so much work; so, that's what I did. I just allowed myself to be happy with my friends and [not] worry about school on Sunday. (P5)

In addition to simply hanging out with close relational others, students expressed adaptive coping when they recognized the need to and/or sought out others for explicit talk to address anxiety inducing issues or discuss/share their experiences of anxiety. The following entries emphasize the importance of others to cope with anxiety jointly and in seeking social support: "I went for a drive to clear my head and stay in bed, but nothing has helped until I get myself to talk" (P16); and another student wrote, "My friend helped me make a clear plan of action and that really helped. Knowing that I have someone who can talk me down from irrational insecurities is always really nice. We watched TV and got Starbucks afterwards to calm down a bit" (P15).

Students indicated only a slight preference for social/communicative interactions with peers (i.e., friends, roommates, or romantic partners) versus family members. When students did seek out family members for support and conversation, two trends were apparent: first, a handful of students indicated a need or desire to "go home" both for interpersonal contact with family/friends as well as separation from their associated stressful school environments:

"I decided it was best to get off campus and reset my mindset. I went home for the day and I feel relieved." (P16), and another wrote, "I took a nap when I got home and went back out to see my family which helped me cope a lot. Overall these days have been tough but I'm lucky to have a strong support system!" (P5).

In a second trend, about half of the students (9 of 19 reported) mentioned talking with their mothers specifically for social support as indicated by these entries: "I was in my mom's office and I started crying. With school, I cry at least once a week about something...no lie. My mom was in her office with me so she calmed me down a bit" (P5), another student wrote:

I called my mom to tell her about it and she told me to take a deep breath and to step away for a bit and calm down before finding a better plan of

action. She really helped me to calm down and I was able to complete the assignment after that phone call.” (P12)

Students did not always indicate what specific type(s) of social support they sought from family members and friends, but generally indicated their need to talk with someone close to them about their stressors and/or their anxiety:

I felt better after having someone to talk to. It was easier to get my thoughts and anxiety out if I talk to someone I know well I felt after that I was in a good spot. My anxiety was gone I felt I did well on the test. I listened to music and talked with my mother in order to relieve my stress.” (P3)

A few students did write about talking with looser social ties about their anxiety. Some students disclosed to classmates, group partners, professors and even strangers, that they were experiencing anxiety (usually tied to academic work):

I talked to my roommates who also are taking micro and discussed what they are doing about their groups. [...] We had a good talk and we decided to meet to begin the project. I hope we can get it done as a group so I do not have to stress myself out more. (P4)

Last, a couple of students mentioned meeting with their therapist or counselor to seek treatment; although such narratives were mixed in terms of students’ appraisals of their efficacy, indicating that not all talk with therapists was viewed as helpful:

Yesterday, I went to see a counselor for the first time this semester. I was describing to him my less than enjoyable experience in public school [...] and he said that sounds traumatic and it almost seems like you’re experiencing PTSD. Then he changed the conversation to try to break me from my thoughts. But he never circled back or returned to that statement. [...] And it makes me anxious to be sitting here with very loose ends about a possibly jarring diagnosis because he gave no details, no closure, no explanation for what made him say that. And I’ve wondered about that all day. (P7)

In comparing student accounts of adaptive vs. maladaptive interpersonal coping approaches, it was apparent that students self-appraised talking with others as adaptive by both the frequency and content of reports. There were far fewer entries overall to indicate negative coping on behalf of students; however, the most common reports of maladaptive coping (either intrapersonal or interpersonal) indicated a failure to reach out to others for support and/or to talk about one’s anxiety with others. Students’ lack of communication with others served to prolong or enhance their anxiety:

And there’s no one I feel comfortable going to for support because they also have very busy weeks. It just makes me feel very alone because I don’t know who to talk to about my problems and I feel like I have no time to even give myself a break. (P7)

Discussion and Implications

The purpose of this study was to understand the catalysts or stressors of anxiety among undergraduate college-aged students and identify their preferred coping strategies to deal with anxiety in an effort to inform effective anxiety-focused interventions. Our results revealed five primary categories of anxiety-inducing stressors, many of which were skill-based and experientially located, and illustrated that students employ several primarily adaptive responses to cope with their anxiety in both intrapersonal and interpersonal ways. Our findings are consistent

with the transactional theory of stress and coping, as well as with anxiety intervention literature in highlighting stress-response mechanisms common to the experience of anxiety (Gudykunst, 2005; Lazarus & Folkman, 1984; Prince, 2021).

Below, we highlight several conclusions salient to academic institutions and health clinicians interested in student anxiety interventions to complement and extend current approaches that also consider effective practices to mitigate barriers to anxiety diagnosis and treatment. We assert that development of transdisciplinary anxiety interventions with integrated communicative and academic/life skills components may be highly effective in yielding increased student self-efficacy in the mitigation and self-management of anxiety. Furthermore, such interventions may be highly cost effective and resource sustainable with increased capacity to reduce college student anxiety for the broader undergraduate population in non-clinical capacities. Suggested intervention practices attend to common barriers in anxiety treatment among college students (e.g., access to care, costs, stigma, privacy concerns, self-identification of anxiety symptoms, etc.) and could be delivered for free in academic curriculum and be embedded in existing campus resources (e.g., student life education regarding typical life stage/college-related stressors) to all students (Morena et al., 2024; Weissinger et al., 2022). Our conclusions are consistent with recommendations from the American Council on Education (ACE) in suggesting that students would benefit from universities' adoption of more skills-based training to address mental health concerns (Abelson et al., 2023). While there continues to be an increasing call for clinical support and resources on campuses, students exhibit broad reluctance to utilize diagnostic and treatment resources, and with consistency (yAyyad et al., 2023; Hubbard et al., 2018; Marsh & Wilcoxon, 2015). Our findings point to much needed alternatives for the approach and delivery of anxiety interventions.

First, when examining the most common anxiety inducing stressors among students, anxiety is clearly both an emotional experience (traditionally aligned with a psychological perspective) and a communicative experience (aligns with lifecycle/communicative perspective). Students would be well served by interventions that are multimodal and include a collective focus on skill development in time management and work/life balance, communication and interpersonal relational education and training, and CBT/mindfulness therapy. These recommendations are not necessarily new and have been posited in the past (Allen & Bourhis, 1996) and yet still, most anxiety interventions negate communicative and life skill development and/or do not prioritize it in line with psych-emotional self-management strategies. While CBT is considered a gold standard in behavioral treatment for evidenced reasons, students clearly need assistance with some concrete skills as well including: (1) time management with an emphasis on achieving healthy work/life balance, and (2) communication skill development linked interpersonal interactions and formal, professional public speaking. Students' primary method to cope with their anxiety was to create space/time for alone time, when they often engage in hobbies and activities that soothed them and were pleasurable. Helping them learn how to schedule and prioritize time for non-academic pursuits is needed and healthy and may decrease their anxiety. Research elsewhere has asserted time-management training is a primary need for college-students' high functioning (Lincoln et al., 2004; Wolters et al., 2021).

Students also have needs in developing communicative skill sets, both interpersonal/relational skills with focus on relational development, conflict management, and professional communication, as well as with traditional public speaking skills. Much of the anxiety among our participants derived from communicative contexts and relational situations. The two most dominant anxiety inducing stressors included academic-related factors, tied in large part to communicative performances within academic contexts (e.g., giving presentations, talking in class) and secondarily, regarded broader communicative or social anxiety that cut across several interpersonal relational contexts (e.g., relational conflicts, talking with faculty). Students need

reassurances that their lack of experience and skills in adult interpersonal relationship formation, formal and professional interactions, and public speaking are to be expected and typical of their life stage. Students' repeated exposures and practice with all of the aforementioned communicative domains points to non-clinical intervention opportunities to teach students how to identify and develop those skills and coping responses specific to CA, and mitigation of anxiety more generally. Research has demonstrated that exposure interventions are efficacious in the treatment of student anxiety (Zaboski et al., 2019). Interventions focused beyond CBT strategies, but on communicative experience and skill development could enhance student and young adult well-being at earlier stages of life by equipping them with knowledge and skills of best practices in things like interpersonal conflict management, professional communication, support seeking, fostering positive social networks, and performative communication. Arguably, deficits in communication skills and relational experiences may more correctly be causes of anxiety, rather than symptoms of anxiety. Communication scholars should not be surprised by these findings and are positioned to offer courses, informational campus resources, and even short training for students. Interventions from this lens, framed as academic or life skills development, are productive in reducing common barriers to anxiety treatment (e.g., access to healthcare, stigma, cost, etc.) and may potentially be more cost and resource effective for academic institutions. CA skills interventions delivered through non-clinical avenues in academic contexts via curricular, student life training, and other means have great potential for reaching the wider college student audience and effectively equipping all students with enhanced skills and better self-management to reduce anxiety stressors and increase self-efficacy of student responses to anxiety.

Second, contrary to past research (Mahmoud et al., 2015; Singh et al., 2021), students in our study coped in primarily positive (adaptive) ways and not maladaptive ways. This is consistent with prior research finding the transactional model of stress and coping resulted in positive and adaptative strategies for illness (Ghaffari et al., 2021). Furthermore, coping responses deal with problem-solving and emotion-based coping (Lazarus & Folkman, 1984). Of note, an explanation could be that students in this study were already seeing therapists and engaging in cognitive behavioral therapeutic methods. Thus, they could have been aware of adaptive coping strategies ahead of this study and been employing them. We see this as a positive implication rather than a limitation of the study, as it suggests that if students are taught CBT-related adaptative coping strategies, they will use them. However, most of the adaptative coping strategies were intrapersonal (CBT/mindfulness/alone/hobbies) and less interpersonal (CA/public speaking skills/time management). Findings such as these imply if students were perhaps taught adaptative coping strategies prior to the study, it was probably CBT-focused and not CA-focused, as students reported more skill-deficit origins of anxiety. Among the fewer reports of maladaptive coping, students' entries pointed to interpersonal skill deficits such as failure or resistance to talk with others, disclose their anxiety, and/or seek help from others. Thus, again, students could benefit from interventions that integrate a variety of interpersonal/relational communication skills (i.e., talking to others, seeking support, conflict management, and public speaking).

Third, some additional observations of our findings suggest that students may be aided by better clarity about grades, performative feedback, and course standing, as it could help ease uncertainty around performance issues. Institutions can ensure access to ample traditional academic resources for strong course performances (i.e., tutoring, access to writing and speaking centers, access to TAs/professors, etc.) to further reduce student anxiety. Also, we noted that much of the anxiety reported by students was spurred by feeling out of control, unsure of their actions, and worried about future outcomes. Skills-based coping strategies focusing on time management and conversational speaking (such as with TAs/professors) could help these students reduce their anxiety. Better communication skills interpersonally could only assist in helping students have

fewer experiences of uncertainty and subsequent anxiety and better learn to manage uncertainty. For students with SAD, such skills training could lead to less social isolation and better interpersonal relationships overall.

Additionally, students' diaries suggest we need to do better at conveying what is "normal" during the college experience to help them manage and/or reduce anxiety and uncertainty. Students' diaries suggest that they may have certain expectations of college life, and current experiences are not what they anticipated. Such discrepancy could be causing their uncertainty and subsequent anxiety. More needs to be done by academic institutions to prepare students for college life and what is considered the typical experience. Thus, students could have better knowledge of "what's to come" for them in college. Many institutions focus on freshmen acclimation to college life, but our students' diaries suggest they need this help later in their academic careers. For instance, additional training and skills-based interventions aimed at sophomores and juniors could assist them in reducing the experience of uncertainty of what may happen in the future.

In sum, the diary entries offer insights into having anxiety interventions that integrate communicative and academic/life skills development that can be framed and delivered through non-clinical avenues. Such interventions may also effectively address barriers to anxiety treatment and self-management of anxiety. They may result in increased student self-efficacy to respond to anxiety stressors. Students' experiences offer a clear opportunity to address skills deficits through exposure approaches and skills development in ways that may be more palatable, accessible, and sustainable for all students.

Limitations and Future Suggestions

We were pleased at the level of depth afforded by the diary entry method via Indeemo, which allows participants to enter thoughts, pictures, and videos via their smartphone for this exploratory study. Diary entry methods allow for more expression than an interview or questionnaire and a chance for participants to expand on thoughts, feelings, and attitudes. This also allowed for expressions "in their own words" and at their own time/pace; thus, diary entries could be considered more authentic. Some participants did comment it would be nice to use their laptop or computer as well, which is a limitation in the modality used. Some participants also contacted the lead researcher [JV] to comment they started to incorporate diary entries into their lives after the study was completed and shared this information with their therapist.

The study was also limited to college-age students at a particular type of institution and in a specific regional area of the US, which led to a focus on school and academic-related triggers. Anxiety occurs in the young adult population generally, which may include college-age and non-college-age populations. It would be important to compare how anxiety stressors differ between young adults in college and not in college, as well as how anxiety functions differently for various types of college students across the country. Anxiety triggers for young adults not in college could be vastly different (i.e., work, paying bills, etc.). We are confident that findings highlight several important factors to consider in behavioral interventions for this population, and data was collected to thematic saturation (that is, the point at which no new information or experiences are noted); we do acknowledge a larger, wider-ranging sample of college students would further strengthen intervention suggestions offered here. Future research should try to examine these differences to fully understand the prevalence of anxiety and coping strategies within the young adult population broadly. While sampling skewness toward female participants limits the generalizability of the findings from a positivistic lens, our sampling is consistent with methodological goals in exploratory qualitative research (Carminati, 2018). Furthermore, our data are consistent with recent meta-analysis research demonstrating a higher global prevalence of anxiety among undergraduate

female students (Tan et al., 2023). Still, future research should focus on the inclusion of more varied student perspectives across sex, gender, and other cultural demographics, as well as additional sampling techniques to assess what other anxiety stressors may be salient for continued intervention design.

Some other specific limitations also offer opportunities for future research. First, we asked participants to complete the diary entries mid-way through the Fall semester. The timing of the study meant that participants were writing entries during the height of mid-term exams. As a result, a significant contextual factor influenced the different triggers of anxiety for this study. Furthermore, the diary entry process occurred during the COVID-19 pandemic; students at the university locale were just re-engaging in full-time, in-person classes. The stress of returning to classes in person may have been another contextual influence on these participants.

Also, our study, while exploratory, did suggest several aspects of future research. For example, there is a need for continued research and theoretical frameworks that address both the emotional and behavioral aspects of anxiety and how to delineate better between anxiety and CA. It is clear that students are experiencing both aspects of anxiety and need to have interventions tailored to both approaches. Interventions and theories addressing only the emotional aspects of anxiety are missing the opportunity to address the behavioral or communicative aspects related to anxiety. Students' diary entries show a clear need for both approaches as they struggle to cope with their anxiety in adaptive ways.

Conclusion

Anxiety represents a concern for understanding college-aged students, as the number of students diagnosed increases over the years. This study sought to understand the experiences of college-aged students on their anxiety stressors, and what coping strategies they employ to manage their anxiety. Diary entries revealed several different stressors in their lives, and multiple ways to handle anxiety. Participant responses suggest the need to continue to think of interventions for undergraduate college-aged students to manage their anxiety and provide them with the skills to cope effectively.

Funding Acknowledgment

This work was supported by funding from Bryant University's Center for Health and Behavioral Sciences.

Disclosure statement

The authors confirm that there are no relevant financial or non-financial competing interests to report.

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J. E. VOLKMAN, B. M. WOLF, C. R. MORSE, E. BROWNING, A. HIGH, H. P. LACEY, J. TRUNZO & W. SAMTER

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