The Effects of Academic Stress on the Mental Health of College Students

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Introduction

Academic stress can be defined as a student's psychological state after continuous, imposed pressure from academic influences (Zhang et al., 2022). Stress at low levels can be beneficial, but an overwhelming amount of stress is suffocating and can lead to detrimental health effects. For college students, the common primary stressor is academic stressors. The American Psychological Association states that up to 87% of college students in the United States cite academics as their primary source of stress (Barbayannis et al., 2022). Because of this, the current student mental health crisis has never been worse. These stressors may take form in anything from academic expectations, grading, and workload (Barbayannis et al., 2022). During the 2020-2021 school year, one study found that, after surveying 373 campuses nationwide, over 60% of university students met the criteria to be diagnosed with at least one mental health problem (Lipson et al., 2022). In addition, three quarters of students are affected by moderate to severe psychological distress (American College Health Association, 2021). These numbers are not slowing down either, as according to the American Psychological Association, the number of students that have sought out mental health resources at their universities jumped 40% from 2009 to 2015, with these numbers continuing to rise (Abrams, 2022). Academic stress is also one of the leading causes in the mortality rate of university students. Every year, nationwide, 1,100 university students commit suicide, with nearly 24,000 students attempting it (Fernandez Rodriguez et al., 2013). One of the main factors for these suicide rates is the increasingly intense and competitive academic culture that has now become normalized in American universities. In addition to academic stress being one of the main causes of suicide for some college students, academic stress is also often a gateway for severe mental health conditions that contribute to this increased risk in mortality for college students. Anxiety and depression are both prevalent in college students, with 17% and 14% of students, respectively, reporting being diagnosed or treated for anxiety or depression in the 2016 National College Health Assessment (Asher et al., 2021), with these students often citing academic stress through attempting to maintain their grade point average and living up to their own expectations. Altogether, academic stress has been affecting the mental health of students for years and is only worsening. High levels of academic stress make it difficult for students to work effectively, and are also a main factor in the deterioration of student mental health.

The Healthy People 2030 behavior objective addresses and helps frame this issue as it outlines the need to increase the proportion of primary care visits where adolescents and adults are screened for depression. This applies to the effects of stress on college students as its effects are currently threatening the overall health of a demographic within the United States. Within this objective, the category that applies to the effects of stress and anxiety on the mental health of college students is increasing the proportion of children with mental health problems who get screened for treatment. Both of these objectives are important to address as they affect a population of 17.3 million students across the country (US Census, 2023). Without allocating more support and resources to this program, the problem of deteriorating mental health in university students in the United States will continue to spiral.

Theory

With the study of health behavior comes the integration of different theories that describe the trends for why people behave the way they do, and how people's attitudes can be changed in terms of what is considered appropriate behavior. Under the topic of the effects on stress and anxiety on the mental health of college students, two theories that can help describe trends in behavior that successfully reduce academic stress in college students are the self-determination theory and the expectancy value theory.

Self Determination Theory (SDT) is a theory that addresses academic stress as it distinguishes motivation into two separate components, self-motivation and motivation due to external pressures (Taylor et al., 2014). This allows SDT to apply to academic stress in college students as it breaks down different sources of motivation for students, which can also be sources of stress. One study utilizes the self-determination theory through investigating the role that different sources of stress take in a student's life (Paralkar & Knutson, 2021). The study investigates the ways in which students deal with stress through utilizing a population of 158 undergraduate students at a public university in the United States, to investigate their coping strategies for their academic sources of stress. Through their investigation, researchers determined that students with greater self-efficacy skills, or students with a greater ability to cope with academic stressors, are those that have a greater chance of achieving academic success (Paralkar & Knutson, 2021).

Expectancy Value Theory (EVT) is the health related theory that states that students will put more effort into activities that they believe have value, and that they believe they will have

success in. In turn, this theory states that because of this, students will therefore have a greater likelihood of succeeding in whichever activity they are putting their time into (Cooper et al., 2017). One study utilized the expectancy value theory and related it to academic stress through applying this theory to the process of guiding college students towards accepting active learning as a technique of learning in and outside of the classroom, and avoiding greater amounts of academic stress through utilizing this study technique. This study approached assessing the effectiveness of active learning in dealing with academic stress through interviewing 25 first year biology students at a university in the United States (Cooper et al., 2017). The students partook in a 40 hour summer learning course, prior to their transition to college, during which they engaged in active learning lessons to assess whether these active learning techniques helped reduce the amount of academic stress experienced by the students (Cooper et al., 2017). At the conclusion of the experiment, through a self-regulated survey investigating the change in the students' learning behaviors, it was found that, overall, students had a greater sense of self-efficacy, and an increase in engagement in the classroom, both which are contributing factors to a lower sense of academic stress (Cooper et al., 2017).

Intrapersonal Factors

An intrapersonal factor is a mediating mechanism of an individual that defines their attitude, or how they choose to go about tasks (Pietromonaco & Collins, 2017). One article investigated certain intrapersonal factors, such as procrastination, perfectionism, and motivation, and how these traits have been proven to affect the level of stress and anxiety of college students (Montgomery et al., 2019). This study utilized a sample of 273 university students, aged 18 to 25, from a university in the midwest and compared their habits to their levels of stress at the university. To assess levels of procrastination, the study used the Tuckman Procrastination Scale (Tuckman, 1991), which is a self-reporting survey intending to measure the level in which each individual would be susceptible to procrastination, even if it meant exposing themselves to larger amounts of academic stress. Once the results from the Tuckman Procrastination Scale had been collected, the study also utilized the "Perceived Stress Scale" (PSS, Cohen et al., 1983), to determine the relationship between procrastination levels and stress levels within these students. The results of this study concluded that procrastination had a correlation with increased stress levels, due to how the lack of motivation for students prior to when they needed to complete a

task, led them to experience more stress than they otherwise would have if they had started their assignment early (Montgomery et al., 2019).

Interestingly, according to the study, the effects of procrastination on stress are similar to the effects of perfectionism on stress. To measure the levels of perfectionism for the students, the study utilized the "Almost Perfect Scale - Revised" (APS-R, Slaney et al., 1995) and the Perceived Stress Scale again to determine the relationship between the two interpersonal factors. The results were a surprising realization because perfectionism is often thought to have a more positive connotation than procrastination, even though they both generate large amounts of stress on college students (Montgomery et al., 2019). The study concluded that perfectionism also impacted motivation for college students in a similar way that procrastination did, as students did not want to submit assignments that were not their "best work", meaning this generated as much stress as not starting the assignment until later (Montgomery et al., 2019).

Both procrastination and perfectionism contrasts with motivation, however, as the study concluded that a lack of motivation is what leads to procrastination and perfectionism causing excess stress for college students in the first place (Montgomery et al., 2019). To measure the motivation levels for the students, the study utilized the "Academic Motivation Scale - College Version" (AMS-C, Vallerand et al., 1992). The study utilized feelings of motivation as another comparison between the different forms of academic stress, to determine which source of academic stress had a greater impact on the lack of motivation for students (Montgomery et al., 2019).

Interpersonal Factors

On the other hand, an interpersonal factor is a factor that examines how the interactions between individuals influence each other's behavior (Pietromonaco & Collins, 2017). Also, interpersonal factors can stem from any form of relationship, with sources of academic stress for students coming from relationships with loved ones, such as parents, to even relationships with academic peers. These interactions may vary in the amount of academic stress that they may cause the student, but no matter the relationship, they still generate an effect for the student.

One study investigated the former of these relationships, examining the role highly involved or "helicopter" parents play in the amount of academic stress placed on a student. This study surveyed 297 students at an unnamed, public, mid Atlantic university in the United States (Schiffrin et al., 2013). In collecting their results, the researchers had the university students take

an online survey in a university computer lab asking students about their mother's parenting behavior, with a researcher present in the room. The researchers chose to investigate solely the mother's role in the level of academic stress placed on a student because the study states that the mother is often the parent who is more involved in the child's life (Schiffrin et al., 2013). The researchers created the survey based off of research regarding twenty "helicopter" parent behaviors. In order to frame the study in an academic stress spotlight, many of the questions often involved academic situations, with participants needing to provide an answer for how stressed or overbearing this behavior from a parent was making this participant (Schiffrin et al., 2013). An example of one of these questions involving elements of academic anxiety is one of the survey questions asking about the extent to which parents nag a student in terms of academics, with the survey asking students how likely a parent is to nag the student about an academic issue, which the study states breaches a student's sense of independence through directly lowering their sense of self-autonomy, as nagging often makes students feel like their parents do not trust they will make the right decision, causing them stress (Schiffrin et al., 2013). For each of these questions, the researchers had students choose a value between 1-7 with 1 representing "strongly disagree" and 7 representing "strongly agree" to evaluate their mother's behavior (Schiffrin et al., 2013). After having the students take this survey, the researchers then had students take a 21 question "Basic Needs Satisfaction in General Scale" (BNSG-S) to assess how well students believed they lived and functioned on their own as a working adult. Researchers then also combined the BNSG-S survey along with another "Satisfaction with Life Scale" (SWLS) survey to evaluate their mother's helicopter parent score to determine whether there was a correlation between parent involvement, feeling of self-autonomy and overall satisfaction with life (Schiffrin et al., 2013). After collecting all forms of data from the population of students, the survey determined that for college students, often, the level of behavioral control imposed by helicopter parents on their students is development inhibiting, and often causes more harm than good (Schiffrin et al., 2013). The results of the study also directly indicate that higher levels of "helicopter" parenting play a role in higher rates of depression, anxiety, and an overall lesser satisfaction with life for the students being surveyed, indicating helicopter parenting can often serve as a source of academic stress.

     Another study investigated the correlation between relationships centered around competitiveness in the classroom amongst peers, and the academic stress that these relationships

provide students. This study surveyed over 40,000 undergraduate students across more than 70 different American universities with the goal of determining whether a more competitive academic atmosphere fosters more academic achievement, or academic stress (Posselt & Lipson, 2016). To conduct this study, the researchers first identified both an independent and dependent variable in order to compare the factors being investigated in this study. For this study, the independent variable was the presence of perceived competitiveness in academics between students at the university. Researchers were able to identify whether their independent variable of academic competitiveness was present in each student's survey responses by providing them with a "Healthy Minds Study" (HMS) survey. The HMS survey allowed researchers to determine whether a culture of academic competitiveness existed at the university of the student being analyzed as the survey asked specific questions such as "how would you rate the overall competitiveness between students in your class", with the student participants picking from a scale with statements ranging from "very uncompetitive" to "very competitive" (Posselt & Lipson, 2016), to describe their situation. The participants' answers were then compared to the dependent variable of anxiety and depression levels experienced by the participants. The anxiety and depression levels of the students were measured utilizing the "Patient Health Questionnaire-9" (PHQ-9) (Posselt & Lipson, 2016). The PHQ survey was completed throughout a period of two weeks by the participants, and was stated as having the ability to measure increased anxious or depressive symptoms from the past four weeks. The purpose of having multiple variables and an elongated testing period was to determine whether the independent variable, the presence of academic competitiveness at the university, had an impact on the participants' general anxiety and depression levels, or, academic stress. From this experiment, the results were overwhelmingly conclusive. There exists a clear correlation between the level of academic competitiveness at a university and the amount of stress the university's students experience (Posselt & Lipson, 2016). Researchers found that, out of students who recognized their universities to have an overwhelmingly academically competitive environment, these students, on average, score 69% higher odds for scoring for anxiety symptoms and 37% higher odds for scoring for depressive symptoms, showing a clear relationship between academic competitiveness experienced in university and greater academic stress (Posselt & Lipson, 2016).

Organizational, Community, Environment, and Policy Factors

Stress is nothing new for college students. Stress is normal when transitioning into different social lives, living in an unfamiliar situation, and taking on a new level of academic challenges, but stress can become excessive. Organizational, community, environment, and policy factors are all factors that contribute to this development of excessive stress in college students. Research suggests that changing even one of these factors can be incredibly beneficial for students. One study concluded that a majority of college students, at 53.5%, reported that their stress was "high" or "extreme" (American College of Health Association, 2015). Another study concluded that the rate of college students with a prevalence of anxiety or depression for over a year was between 15% to 30% (Hunt & Eisenberg, 2010; Ibrahim et al., 2013), compared to the general adult population's statistics being between 7% to 18% (Kessler et al., 2005). With over 30% of students in 2015 stating that stress interferes with their academic performance, and this being a 2.2% increase from data from 2000 (American College of Health Association, 2015), this issue needs to be addressed.

Organizational changes for colleges and universities can help reduce these levels of stress. One popular organizational change that has overtaken many universities within the past few decades has been the shift towards a greater focus on the mental health of their students. Universities have made this shift through dedicating more attention to their mental health programs and incorporating more anti-stress activities throughout campus. One study examined the difference in the measurement of university student stress levels before, during, and after completing a 4 week "Introduction to Mindfulness" program via the same trained, experienced professional (Miller et al., 2021). Prior to completing their training, to evaluate their stress levels, the students completed a 30 minute baseline survey using the *Perceived Stress Scale* (PSS) (Miller et al., 2021). Students then went on to complete 4 more 15 minute weekly surveys during the duration of the training, and concluded with a final survey two weeks after the training had finalized (Miller et al., 2021). All surveys provided to the students measured their stress levels through the PSS scale. Researchers used a latent, linear growth model (LGM) to track their results. Student participants started with an average stress value of 19.31 units, which had a weekly decrease of 1.913 units, showing an obvious correlation between mindfulness training and lowered stress levels (Miller et al., 2021).

Another way in which universities can help lower stress levels of their students is through choosing to address community factors which may be affecting the mental health of their

students. Increased, university sponsored, mental health counseling resources are one way in which the university can utilize the community for lowering the stress levels of college students. With more resources dedicated to addressing the producers of anxiety and other mental health issues for students, student mental health will benefit tremendously. One study directly investigated the correlation between mental health counseling for college students and the GPA of these students (Kivlighan et al., 2021). This study approached looking at mental health on the scale of student productivity and motivation levels, as opposed to overall happiness levels. In approaching this topic, researchers used a population of 1,231 students who utilized 49 different therapists across different university counseling centers (Kivlighan et al., 2021). This study found the correlation that when students utilized the counseling resources and reported greatly reduced stress levels, then their GPAs would increase by an average of 0.02 per semester (Kivlighan et al., 2021), thus, showing the effectiveness of counseling resources in terms of students' academic success.

Universities can also choose to address the mental health issues of their students through investing resources into their environment. College is an incredibly stressful time for students in general as students are subject to the task of dealing with separation from their families, increased academic stress, and newfound independence. The combination of these factors is often overwhelming, and can have serious impacts on the mental health of these students. A main factor that often can influence the effects of stress in a positive way is the environment in which the stress is being experienced. Recently, it has been discovered that there is a positive relationship in an attractive, natural campus and the amount of academic stress that the students experience daily. An attractive campus has been found to increase attention levels and lower the effects of stress during and after stressful academic experiences (Li & Sullivan, 2015). One study chose to investigate the correlation between the perceived greenness levels at home and at university and how these levels are able to positively affect mental health by helping reduce stress. This study measured greenness levels between the different campuses that were evaluated through utilizing the Normalized Difference Vegetation Index (NDVI) (Gulwadi et al., 2018). The study then applied the greenness levels of the four campuses investigated based on the NDVI scale to the mental health levels of students through utilizing two different scales to investigate the role that campus greenness had on students' overall stress levels and quality of life (Gulwadi et al., 2018). The quality of life scale that was used in this study was an

abbreviated version of the World Health Organization's Quality of Life Scale (WHOQOL-BREF). This scale was then combined with the Perceived Restoration Scale (PRS) to gauge the students' levels of academic stress and how easily higher levels of stress were to overcome (Gulwadi et al., 2018). From this study, it was concluded that nature experiences are helpful in reducing stress levels, mental fatigue, while increasing attention levels (Gulwadi et al., 2018).

Another factor that may influence the amount of academic stress affecting college students across campuses in the United States are the policies that affect how universities approach the mental health of their students. One way in which policies of universities can often contribute to the academic stress of their students is through not having a clear definition of student well-being amongst themselves (Travia et al. 2020). One study investigated this topic after analyzing the different factors at universities across the United States that are attempting to influence student well-being (Travia et al., 2020). For this study, researchers gathered information from 9 different universities across the United States with researchers collecting data through Zoom interviews with "key informants", or policy makers for the universities. Many of the key informants were senior human resource officers or directors of the university's health promotion programs. The interviewees were asked questions regarding their thoughts on the effects of university implemented programs on the mental health of the university's students, with many of the questions asking about how the policymakers believed their policies directly affected the mental health of students. Based on the results of these interviews, the study was able to determine that between universities, there was no clear definition of student well-being, and that often, these universities could not seem to form a consensus definition of student well-being amongst themselves (Travia et al., 2020). Therefore, since these institutions were unable to provide a consensus definition of student well-being, then the mental health needs of their students are not being met (Travia et al., 2020). To further this idea, this study also investigated specific structures that may affect the academic stress levels of students at these universities such as the structure of the university's academic calendars. With their academic calendars, universities may often inadvertently overload their students on midterms and finals weeks, causing students a greater deal of stress than necessary (Travia et al., 2020). Through their interviews with university policymakers, the study was also able to conclude that since these universities are unaware of a consensus definition of student well-being, that they may

often be unintentionally overloading students with work due to the structure of their academic calendars, causing students large amounts of academic stress, and affecting their mental health (Travia et al., 2020).

Suggestions for Intervention

When discussing the topic of the effects of academic stress on the mental health of college students, there have been many strategies that have successfully limited the amount of academic stress these students face that need to be recognized. Something that is often overlooked, however, is the role that small university-implemented programs can have that benefit the stress levels of a large student population.

One increasingly popular university-implemented program that has been shown to reduce stress amongst college students in the United States has been the addition of dog-assisted therapy sessions offered on campus throughout the year, or even just during specifically stressful academic times of the year. One study investigated the benefits of such university-implemented programming through leading an animal based therapy trial to a population of one hundred and twenty seven undergraduate students the weekend before their finals. To determine results, the researchers had students take a short, three question survey assessing their current stress levels two weeks prior to participating in the animal based therapy. Once the day of the trials had come, the students then were allowed to interact with the animals for however long they would like, before taking their finals within the next week (Trammell, 2017). After finishing their finals, the students then were asked to complete another short survey, asking about their stress levels during the week of finals, as well as how their interactions with the animals made them feel and whether they impacted their stress levels. Conclusively, based on the results of the surveys, students experienced a consistent small decrease in stress levels, as well as an average score on their final exam that was significantly higher, at 5.5 points, than those who did not participate in the program (Trammell, 2017), showing an obvious improvement in stress levels from a university-implemented program. For this program, since it is a relatively easy one to implement for universities across the board, counseling and mental health services should look into providing more of these opportunities for their students on a consistent basis throughout the academic year, rather than waiting until academic stress has reached a point of becoming overwhelming. Providing these services throughout the year will allow students to better manage their workload, levels of stress, and overall levels of independence (Peel et al., 2023).

Another popular university-implemented program that has been shown to reduce stress amongst college students in the United States has been the addition of different mindfulness exercises offered by university counseling departments. One study, conducted at a private mid-Atlantic university in the United States examined the relationship between university-sponsored mindfulness activities and increased academic performance. This study had a population of thirty four undergraduate and graduate students who participated in different mindfulness workshops that practiced different forms of meditation and psychoeducational content (Hindman et al., 2014). The researchers had participants attend 6 hour-long weekly sessions throughout a period of 7 weeks. Prior to and after the experiment, participants submitted questionnaires regarding the "Five Facets of Mindfulness", "Mindfulness Attention Awareness Scale", and "Depression, Anxiety, and Stress Scale" to determine whether the mindfulness activities helped foster a decrease in the academic stress and anxiety levels for the students (Hindman et al., 2014). Similar to the experiment involving pet-related therapy, these results were all consistent, with the mindfulness program showing to reduce academic stress in university students (Hindman et al., 2014). This factor should be targeted as a continued factor for intervention because it has been shown to be successful, while also serving as a low cost, easy to implement resource for different universities to implement regularly across their campus. This resource is a little more difficult to include, however, than that of animal based therapy, as it requires multiple sessions of training and a trained professional.

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