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HOW CAN I HELP? INVESTIGATING THE ROLE OF SOCIAL SUPPORTS IN ACADEMIC
RESILIENCE AMONG UNDERGRADUATE STUDENTS

By

Grace M. Lady

Submitted in Partial Fulfillment
of the Requirements for
Graduation with Honors from the
South Carolina Honors College

May 2021

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Thesis Summary

The main goal of this senior thesis was to explore the role of social support in academic resilience among undergraduate students. Specifically, the goal was to investigate what social support students rely on and how students use social support through times of academic difficulty, particularly during the COVID-19 pandemic and through the transition to college. This thesis describes methods, results, and discussion of data collected from undergraduate students via questionnaire and interview on academic resilience and social support. Findings show that friends had the highest average score of all agents of support and students most frequently reported using social support for venting and informational support purposes. Most participants also reported that the transition to online learning due to COVID-19 placed a strain or change in their access to social support. The findings provide support for the relationship between social support and resilience. Further research is recommended to better understand how and why specific types of social support interactions affect students and their academic resilience.

Abstract

Academic resilience refers to a student's ability to emotionally and cognitively adapt to academic adversity, including transitions to new experiences like college. This ability to bounce back is an important characteristic for academic success (Robbins et al., 2018; Hodge et al., 2017). Within the literature, there is a need to understand more interpersonal influences, such as social support, on resilience. Therefore, this study aimed to investigate what social support students rely on and how students use social support through times of academic difficulty, particularly during the COVID-19 pandemic and the transition to college. Undergraduate students ($N = 189$) completed a questionnaire that included measures of academic resilience, social support, and self-reported academic achievement. Analysis of questionnaire data revealed a moderate to strong, positive relationship between social support and academic resilience ($r = 0.33$, $p < 0.001$) and friends had the highest mean score of all agents of support ($M = 3.56$, $SD = 1.26$). A subset of participants ($n = 9$) also completed a follow-up interview, and coding of these responses revealed that students most frequently reported using social support for venting and informational support purposes. Some participants who reported support from instructors/TAs noted that it helped to boost their academic motivation as well. Most participants also reported that the transition to online learning due to COVID-19 negatively impacted the number of interactions and quality of interactions with most agents of social support. These findings provide support for the relationship between social support and resilience and also underscore that further research is needed in order to better understand why specific types of social support interactions affect students and their academic resilience.

Keywords: academic resilience, social support, college students, COVID-19, online learning.

How can I help? Investigating the Role of Social Support

in Academic Resilience Among Undergraduate Students

In high school, students are heavily surrounded by a variety of peers as well as adults in their academic and personal lives (Hays & Oxley, 1986). However, college marks a unique development stage for many students in which they shift away from dependence from these adult social supports and form new peer networks (Arnett, 2000; Hays & Oxley, 1986; Oswald & Clark, 2003). Because of the important shifts in the nature of supports that college students are likely to experience, it is important to ask whether or not the type of social support reported by students has a relationship with their adaptation to higher education. (Larose & Boivin, 1998; Hays & Oxley, 1986). At the same time, students at the time of this research have faced unique challenges and stressors due to the COVID-19 pandemic, such as quickly changing academic environments and more physically-distanced learning conditions (Cao et al., 2020; Xiao et al., 2020; Shang et al., 2020). How college students navigate academic challenges and setbacks is critical to their success.

Academic resilience—or a student's ability to emotionally and cognitively adapt to academic adversity—is an important factor in college students' success and has been shown to significantly improve first-year retention rates, academic achievement, and engagement (Tudor & Spray, 2018; Robbins et al., 2018; Hodge et al., 2017). While positive links between social support and resilience are well documented (London et al., 2010; Wilks & Spivey, 2010; Taylor et al., 2013), there is little understanding of the nature of this relationship and what role social support play in overcoming academic challenges. Drawing on models of socially-shared regulation (Jarvela et al., 2019), as well as research from Johnson et al. (2015) describing "messengers" of resilience (i.e. social supports that offer encouragement) and "models" of

resilience (i.e. social supports that demonstrate *how* to overcome adversity), there is emerging evidence that impact varies between different agents of social support (e.g., friend, family, mentor) or different interactions with agents of social support (e.g. modeling, messages), and thus suggest a need for further research into how these factors relate to resilience.

The findings from this research will be valuable for universities seeking to improve their first-year experience programs and retention rates because specific agents of social support and interactions with social supports may be found to link to higher levels of academic resilience. This would help better inform first-year seminar courses, student programs and resources, and even academic advising to overall improve student success and retention. Universities, schools, and educators may also be able to better serve their students through the COVID-19 pandemic and aftermath with more insight into how students and their interactions with social supports may or may not be affected in the current climate. In the following sections, I will discuss challenges faced by college students during major transitions and changes, existing research and theory on academic resilience, and the potential role of social support in this response process.

A Time of Transition

Academically, the environments and expectations of high school and college differ greatly. Students are expected to apply their knowledge and use more advanced higher-order thinking skills in college, and a student's level of preparedness for this new challenge is often called "college readiness" (Venezia & Jaeger, 2013, p. 118). According to the 2019 National Assessment of Educational Progress (NAEP), which is often used to assess college readiness, only 25% of 12th grade students tested as "at or above NAEP Proficient" in math, 37% in reading, and 22% in science, thus reflecting a low level of academic preparedness for higher education (NAEP, 2020). This gap between high school academics and college academics is

thought to be the result of a system encouraging basic memorization and lower-level cognitive skills as opposed to fostering skills expected in college classrooms, such as problem solving and critical thinking (Venezia & Jaeger, 2013). These gaps in preparedness according to NAEP standards also demonstrate the shift in learning expectations from high school to college and that many students are not proficient in the skills expected of them when entering college. In addition to statistics on college readiness, many students themselves note changes in expectations academically, such as expectations that they take more responsibility for learning material outside of class and have more in-depth understanding of material to succeed in college courses (Appleby, 2006). According to data collected on over 165,000 high school students between 2011 and 2015, only 45% of students felt positively about their college and career readiness (Leal, 2015). Once in college, the most commonly reported difficulties of first-year students are time management, workload, and expectations from others, reflecting the changes in academic rigor and structure between high school and college (Brooker et al., 2017). Overall, learning environments and expectations change greatly during the high school to college transition and require adaptation from students in order to succeed.

Beyond academics, the social environment surrounding students also changes greatly from high school to college. Students have reported a perceived decrease in overall social support as well as increased feelings of being alone and anxiety during their transition to college (Larose & Boivin, 1998). This may be in part due to a major change of living environment, as students who reported increased security in their attachments to their families often reported decreased overall social support, and this relationship was only seen for students who reported having to leave their families to attend college (Larose & Boivin, 1998). However, students who live on campus and students who commute to campus both generally report increased peer

relationships and decreased informational and emotional support from relatives through their freshman year (Hays & Oxley, 1986). In terms of how relationships may relate to overall adaptation to college, larger network sizes and networks that have a higher number of peer relationships both are significantly related to better adaptation in terms of overall well-being (Hays & Oxley, 1986; Vinsel et al., 1980).

The departure to college for many students also often coincides with the entering of a new developmental phase called emerging adulthood (Arnett, 2000; Nelson & Barry, 2005). Emerging adulthood is characterized as an increase of independence and taking on the responsibilities of adulthood from ages 18-25 (Arnett, 2000). However, this phase is distinct from other phases in that individuals also have an abundance of options and possible life trajectories at this time (Arnett, 2000; Nelson & Barry, 2005; Murphy et al., 2010). Only having been defined in the last twenty years, this new developmental phase has emerged as major milestones begin to move later in life for many individuals, such as full financial independence, marriage, and having children (Arnett, 2000). Arnett (2000) notes that one of the major distinctions of emerging adulthood is identity development and evaluating occupation paths and career goals without major life roles defined yet. A good example of this students' exploration of many majors while in college in an effort to find a good fit for the student's strengths, preferences, and professional goals (Arnett, 2000; Nelson & Barry, 2005). This is unique from other stages of life, such as adolescence during high school, and marks an important shift in development. This stage, while heavily in college for many individuals, can also span post-graduation as students begin their careers (Murphy et al., 2010). Overall, the unique academic and social challenges faced during college years, at a new stage of psychological development, requires adaptation and adjustment.

At the time of this research, the COVID-19 pandemic has also introduced a new transition for many students – the transition to online learning. One of the key safety precautions implemented to mitigate the spread of the novel coronavirus is physical distancing, and as a result there have been wide-spread closures of institutions, including universities, which has greatly impacted the student experience and presented new challenges. A recent study on anxiety of students at a medical university in China have shown that roughly 25% of students have experienced mild to severe anxiety symptoms during the pandemic (Cao et al., 2020), showing that anxiety levels had significant positive relationships with worry about economic effects and impacts on academics (rather than just contracting the illness), and level of social support reported by students had a significant negative relationship with anxiety levels (Cao et al., 2020). Level of social support also has been found to have a positive relationship with sleep quality and negative relationship with anxiety for healthcare workers on the frontlines of COVID-19 treatment in China, demonstrating social support may be key specifically during the distress of COVID-19 (Ziao et al., 2020). In addition, emerging research suggests an overall negative effect on college students' mental health and academic experience in the United States since the beginning of COVID-19 (Son et al., 2020; Wang et al., 2020). These preliminary studies on the effects of COVID-19 on students and those in the medical field provide insight into not only how individuals are being affected during this time but also how social support may be important to those experiencing elevated stress. Overall, research into how social networks of students change and affect students during transition offer clues to how social support may be important to adaptation and resilience.

Academic Resilience and Theoretical Framework

Resilience generally focuses on the positive adaptation made in response to challenges and stress according to (Masten, 2000; Luthar, 2003; Martin & Marsh, 2009; Robbins et al., 2018). In the context of education, *academic* resilience refers to a student's ability to deal with the waves of positive and negative academic situations, including those they may experience on a day-to-day scale, and make subsequent adaptations (Tudor & Spray, 2018). For example, in response to receiving a failing college exam grade, a student with a high level of academic resilience may respond differently (cognitively, emotionally, and behaviorally) compared to a student with low academic resilience. While both students may experience negative emotions, the student with high resilience is more likely to cope appropriately with these emotions, think logically about why they may have received the grade they did, and investigate ways to improve their next grade by altering study habits or asking for academic assistance. Based on the previous example it may be unsurprising that research has demonstrated an important relationship between resilience and success: academic resilience and grit[1] are both important to first-year retention rates, academic achievement, and engagement in college (Robbins et al., 2018; Hodge et al., 2017). The link between academic resilience and achievement is present with minor variation across genders and a variety of other demographics, such as major and year in college (Allan et al., 2014; Ayala & Manzano, 2018; Wilks & Spivey, 2010). Because of this well-supported relationship between resilience and student success for a number of populations, researchers have begun to study resilience in relation to a multitude of areas within higher education, from overall student well-being to graduation rates.

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[1] While grit and resilience may seem synonymous, grit is different from resilience in that this characteristic is more related to an individual's perseverance and toughness (Hodge et al., 2017). In contrast, resilience is specifically how well an individual bounces back or recovers from a difficult situation and includes some form of adaptation.

There are a large number of factors expected to affect resilience. Whereas a large amount of research has been conducted on *intra*personal factors that affect resilience for college students (e.g., self-esteem, insecure attachments, etc.), less is known about the impact of *inter*personal factors on resilience (Robbins et al., 2018; Neely et al., 2009). One such interpersonal factor that has been shown to have a significant effect on students' resilience is social support. Some research has shown that social support may act as a moderator between stress and resilience, while other research shows social support mitigating the negative effects of poor academic performance (Wilks & Spivey, 2010; London et al., 2011). Social support has also been shown to be a predictor of sense of belongingness during the first year of college, overall student well-being, and academic self-efficacy (London et al., 2011; Neely et al., 2009, Friedlander et al., 2007; Altermatt, 2019). Collectively, this research points to social support being an important external factor for students' success throughout their academic careers, and the impacts of social support will be discussed in the coming sections. First, however, a better understanding of the theoretical frameworks surrounding resilience must be investigated in order to understand how and why social support may be important to resilience.

According to a recent resilience framework outlined by Skinner et al. (2020), a total of nine constructs within the study of motivational resilience may shed light on the how these constructs and subsequent skills or processes play a role or are employed within the entire process of "bouncing back." The authors use the term motivational resilience, yet their definitions overlap with current definitions of academic resilience and focus on the ability to students to cope with academic challenges (Skinner et al., 2020; Martin & Marsh, 2009; Robbins et al., 2018; Tudor & Spray, 2018). These nine areas identified by the authors are: academic resilience, mastery, helplessness, and mindsets, engagement/re-engagement, academic coping,

self-regulated learning, adaptive help-seeking, emotion regulation, and grit or productive

persistence (Skinner et al., 2020). These elements are expected to interact, and although strengths

in one area may compensate for weaker areas to some degree, no one element alone is expected

to fully account for resilience. Within this resilience framework, the primary areas of interest for

this particular study are *self-regulated learning, emotion regulation,* and *adaptive help-seeking*.

This is because they either inherently are interpersonal (i.e., adaptive help-seeking) or they are

areas that social support is thought to help strengthen (e.g., self-regulated learning, emotion

regulation).

Self-regulation and self-regulated learning are a collection of skills that the learner

employs in order to achieve a set goal; students must monitor their cognition and behaviors and

alter them appropriately and independently to arrive at their end goal (Skinner et al., 2020;

Gross, 2015; Durwin & Reese-Weber, 2017). This is closely related to emotion regulation, which

is when individuals must assess and potentially try to alter feelings and emotions that arise (e.g.,

reduce stress by changing the way they thinking about an event), which may affect overall self-

regulation (Skinner et al., 2020; Gross & John, 2003; Gross, 2015; Pekrun & Perry, 2014). Both

concepts suggest that in order to learn and adapt, the learner must first be able to manage

themselves (i.e., regulation of internal states). For example, students' abilities to control and

manage their emotions, motivations, and behaviors has been shown to positively correlate with

resilience after stressful events (Caston & Mauss, 2011). While the learner must *individually*

regulate themselves, social support may also play a role in this process and by helping the

individual to regulate effectively (Schunk & Zimmerman, 1997).

Notably, Schunk and Zimmerman (1997) outline that the basis of self-regulation first

comes from observation and imitation of others in their social-cognitive view of self-regulated

learning (Schunk & Zimmerman, 1997). While self-regulated learning and emotion regulation focus on the individual, adaptive help-seeking relies on interpersonal relationships. Within the motivational resilience framework, adaptive help-seeking is defined as "social transaction that involves costs and benefits and also depends on social skills and motivational resources" (Skinner et al., 2020, p. 294). Rather than a focus on strictly internal factors such as the ability to regulate one's emotions or behaviors, help-seeking requires the involvement of another individual and adds a socio-contextual layer (Skinner et al., 2020). Adaptive help-seeking has been shown to be "connected with higher levels of engagement, motivation, persistence, learning, and achievement" and can be an important skill in the resilience process since it can provide new problem-solving skills (Skinner et al. 2020, p. 294).

Socially Shared Regulation and Social support

As previously mentioned, positive relationships between social support and resilience are well documented (London et al., 2010; Wilks & Spivey, 2010; Taylor et al., 2013), yet there is little understanding of what role social support play in overcoming academic challenges and dealing with stress. The relationship between social support and stress management, a key part of dealing with academic adversity, may be explained by the impact shared regulation can have on learning (Jarvela et al., 2019). In contrast to self-regulated learning, which focuses on how each student manages their own "cognitions, motivations, behaviors, and emotions toward attending their goals," *socially shared regulation* moves beyond the individual to understand how students can work together to perform these actions (Jarvela et al., 2019). An example of this socially shared regulation may be one student assisting another student in how to prepare for an exam in a class that they are currently doing poorly: the succeeding student may assist the struggling student with regulating their frustration with the topic and scaffolding learning strategies to

overcome this obstacle[2] (Jarvela et al., 2019; Jarvenoja et al., 2017; Lobczowski 2020). Socially

shared regulation has received less attention in research but may help explain how students can

manage the effect of stressors on their thinking, motivation, emotion, and behavior through

shared efforts with their peers or other individuals. While lack of social support may not be the

only explanation for poor resilience, it has shown to have a significant relationship with

resilience and may be important to shared regulation. Combined with the importance of

cognitive-emotional regulation in learning, this warrants greater focus and research into social

support.

In terms of the effects of social support and socially shared regulation on the individual, a

group of authors have begun examining a new construct called the regulatory effectiveness of

support (RES) and have shown promising relationships between RES and self-regulation,

motivation, and performance (Zee et al., 2020). According to the study, RES describes how

"social support benefits recipients to the extent that it addresses their self-regulatory needs to

better understand their situation (truth) and to feel capable of managing their situation (control)"

(Zee et al., 2020, p. 1). Overall, because RES accounts for the regulatory needs of individuals,

this provides deeper insight for how socially shared regulation benefits individuals - it

specifically validates that social support fills a need for regulation. Further studies revealed that

the regulatory effectiveness of support can predict outcomes for individuals, such as mood

regulation, overall ratings of support effectiveness, and increased motivation to perform well on

a given task (e.g., giving a speech; Zee, 2020). In the final study of the series, analysis also

showed that "downstream" effects of the regulatory effectiveness of support can be seen in

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[2] This specific example is considered co-regulation, a category within the broader umbrella of socially shared regulation (Jarvela et al., 2019; Jarvenoja et al., 2017; Lobczowski 2020). There are other categories that fall under this umbrella (i.e. shared regulation), but for the purposes of this research, I will be focusing on socially shared regulation as a whole (Jarvela et al., 2019).

increased motivation predicting better performance on the task as well as preliminary evidence that higher RES positively affects physiological self-regulation (Zee et al., 2020). Overall, this research helps to explain how supports impact regulation via self-regulation and performance.

The types of strategies students employ to better their resilience also vary greatly, but students do identify the use of social support as a common resilience strategy to manage academic stress according to a study conducted by Webster and Hadwin in 2015. In the study, first-year students' resilience strategies were tracked through the coding of periodic journals completed in a first-year seminar class. Students reported using social support 8% of time, ranking in the top three of strategies used by students in this sample (Webster & Hadwin, 2015). However, the definition of social support in this study included a wide variety of interactions combined together, such as requesting help from a professor to studying with friends or talking to a roommate, which limits inferences that can be made about who students rely on most, how they utilize these supports, and what underlying mechanisms make this an effective resilience strategy (Webster & Hadwin, 2015). Since this 2015 study, additional research has been conducted to investigate how exactly interpersonal interactions may relate to co-regulation and socially shared regulation within group project settings but not necessarily to overall academic resilience (Jarvenoji et al., 2017; Lobczowski, 2020). Overall, social support seems to be a natural strategy for some students based on this research into resilience-boosting strategies, making it a meaningful variable to study further.

Within the relationship of social support and resilience, other research has shown significant positive effects on resilience specifically from social support from family and friends (Wilks & Spivey, 2010; Neely et al., 2009). Interestingly, resilience [or as described as the

authors as "ego-resilience" [3]] specifically has been shown to positively correlate with perceived

social support from friends but not family across multiple time points for first year students

(Taylor et al., 2013). More interestingly, this relationship between specific support from friends

but not family seems to match other findings that perceived support from friends is a predictor

for adjustment to college and academic self-efficacy, indicating that the agent of support is

important (Friedlander et al., 2007; Altermatt, 2019). However, these studies often only assess

perceived support rather than what that support looks like in the student's life. In addition, there

is also evidence for how different interactions with agents of social support may more strongly

affect students (Johnson et al., 2015). In this study conducted by Johnson et al. (2015),

researchers found that witnessing others exhibit resilience strategies and overcome obstacles

appears to have a stronger effect on students' resilience compared to receiving messages of

resilience. The researchers were trying to evaluate if *models,* who are individuals in the student's

life showing resilience and strategies to overcome difficulty, had a different effect compared to

messengers, who are individuals that share words of encouragement or verbal directions for

resilience with the student (Johnson et al., 2015). While both models and messengers were

significant predictors of student resilience, models of resilience showed a stronger relationship

than messengers (Johnson et al., 2015). Within this study, however, little information is given on

the type of model or messenger (e.g., friend, family, instructor) that the undergraduate

participants reported. Further investigation of the agent of social support students are relying on

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[3] The authors of this study describe ego resilience as a personality trait and assess levels of ego resilience via the Eisenberg et al.'s 2003 version of a Block & Block ego resiliency scale (Taylor et al., 2013). However, the definition of ego resilience given by Taylor et al. are essentially the same as our previous definitions of resilience within our research and thus we refer to them with the same name of simply resilience.

in college in coordination with students' interactions with these supports may help us better understand how and why social support impacts students' academic resilience.

The Present Study

Studies from the past ten years have highlighted that social support is an important resilience strategy (Webster & Hadwin, 2015; Zee et al., 2020), the people that students rely on as social support vary and appear to subsequently affect resilience (Wilks & Spivey, 2010; Neeley et al., 2009: Taylor et al., 2013; Friedlander et al., 2007; Altermatt, 2019), and how students interact with such supports affects resilience (Johnson et al., 2015). However, these factors have not been investigated together or in enough detail to fully uncover the mechanisms for why social support is effective for specifically college students. The *Academic Emotions Study* is a research project focused on investigating the relationships between emotion regulation, academic resilience, and achievement led by Dr. Melissa Duffy. The present study was conducted in coordination with this broader research project and provided a unique focus on the role of social supports in resilience. Specifically, this study added new research questions, survey questions, and interview questions to investigate the following questions and hypotheses:

1. What agents of social support do college students report using and what is the relationship between level of social support and level of academic resilience?

    H1: Students will report strongest relationships with friends and there will be a positive correlation between overall level of social support and total academic resilience score.

2. Does the overall social support change across year of study? Do specific agents of social support vary across year of study?

H2: Older students (juniors/seniors) will rely on support from friends and

instructors/teaching assistants (TAs) more than younger students, who will rely more on

family (freshmen/sophomores).

3. How do students use social support in order to cope with academic challenges and

    academic emotions?

4. How do challenges unique to the COVID-19 pandemic and transitions from high school

    to college impact college students' resilience strategies, particularly in terms of social

    support?

Given that Question 3 and 4 were more exploratory and involved qualitative approaches,

there were no specific hypotheses for these research questions. Previous research has not yet

studied the variables in question together or in such detail, and answers to these questions are

key to understanding why social support affects resilience. These questions offered a unique

focus on the social aspect of resilience through major transitions.

This research employed a mixed-methods design using survey and interview data.

Qualitative interview responses shed light on student interactions with social support beyond just

an indication that social support is present as well as how social support may affect the process

of building resilience. In addition to these interview responses, the quantitative data from

surveys in combination with this coding allowed for analysis of social support, how students use

social support, and students' levels of academic resilience. Participants' Academic Resilience

Scale scores were used to quantify overall resilience and specific aspects of resilience such as

help seeking (Cassidy, 2016). Likert scale ratings of social support gave quantitative data on the

level of support that students have for different agents of support. Previous research involving

social support has measured social support using perceived social support scales (e.g. Wilks &

Spivey, 2010; Taylor et al., 2013; Friedlander et al., 2007; Altermatt, 2019) or coding recorded interpersonal interactions via self-report journals for descriptions of social support (e.g. Jarvenoji et al., 2017; Webster & Hadwin, 2015). Johnson et al. (2015) asked participants to complete Likert scale ratings regarding influential supports in their lives, as well as open-ended questions that allowed participants to describe interactions and their relationships with these individuals (2015). The current study's sequential explanatory mixed-methods design (Creswell & Creswell, 2018; Green et al., 2014) adopted a similar approach. This project is distinct from previous research in that it also included questions about challenges unique to the COVID-19 pandemic and asked questions about transition from high school to college. Overall, this research offers valuable insight into how a specific external factor may be able to benefit resilience for college students in their transition from high school to higher education, throughout their years in college, and to unique online learning circumstances.

Methods

Participants

A total of 189 undergraduate students from two southeastern universities in the United States participated in the questionnaire portion of the study. The mean age of participants was 19.3 years ($SD = 1.55$ years). In terms of gender, 83% identified as women, 15% as men, and the remaining 2% identified as another identity or preferred not to say. In terms of race and ethnicity, 75% identified as White, 15% as Black, 3% as Asian, 2% as Hispanic or Latinx, and 0.5% as American Indian or Alaskan Native. A total of 5.3% of the sample reported multiple racial or ethnic identities. The majority of survey participants were first-year students, with 49% reporting that they were freshman. 21% sophomores, 16% juniors, and 14% seniors. Additional demographic statistics can be seen in Table 1. A subset of these participants from one of the two

participating universities ($N = 9$) also participated in a follow-up interview. The majority of the

interview participants were juniors ($n = 6$), and one of each of the following: freshman,

sophomore, and senior. Survey participants were recruited through email advertisements in

undergraduate classes, as well as social media platforms for undergraduate students (e.g.,

Facebook and GroupMe app). Participants who completed the online questionnaire and met

inclusion criteria were entered into a draw for a chance to win one of two $50 gift cards, as well

extra credit (for classes that offered this). Participants who completed the interview portion of

the study were compensated with a $10 gift card.

Research Design

The study used a sequential-explanatory mixed methods design, which is defined by

collecting quantitative data in the first phase followed by qualitative data in a subsequent second

phase, which is typically informed by quantitative results (Creswell & Creswell, 2018). The

questionnaire, which was administered first, contained primarily quantitative measures with

some open-ended questions. This was followed by a qualitative interview conducted as a follow-

up to ask students further questions about the nature of academic challenges and use of resilience

strategies and social support based on their questionnaire responses. This design was selected

due to the ability for qualitative interview responses to explain students' quantitative data, such

as elaboration on the strength ratings of social support.

Measures

The following variables from the questionnaire were included: academic-resilience

response, use of social support, self-reported academic achievement, Covid-19 impact on

academics, and demographic information (e.g., age, gender, race-ethnicity, parents' level of

education, year in university, major). Optional open-ended questions were also included to

provide further information about social support, COVID-19 impact, and academic challenges. At the beginning of the questionnaire, participants were prompted to recall a recent and memorable academic setback in which they received a lower grade than they hoped for on a test. Participants were asked to describe their thoughts and feelings and what happened in the incident. Measures for key variables used in this study are described below. Measures were adapted to prompt participants to respond to the event they described at the beginning of the questionnaire.

Academic Resilience Scale (ARS-30). The Academic Resilience Scale or ARS-30 (Cassidy, 2016) is a 30-item questionnaire designed to measure the process of academic resilience. The ARS-30 measures three components of resilience: perseverance; reflecting and adaptive-help-seeking; negative affect and emotional response (Cassidy, 2016).[1] Participants reported their use of adaptive and maladaptive cognitive-behavioral responses for the academic setback, using a 5-point Likert scale. Sample items include: "I worked harder", "I used past successes to help motivate me" (Cassidy, 2016). Previous research (Cassidy, 2016) has demonstrated a high level of internal consistency (Cronbach's alpha = .90). For this study, scores across all items were summed to create a total academic resilience score.

 Social support Questions. Degree of social support in the student's life was measured using a 5-point Likert scale ranging from 1 (very weak) to 5 (very strong). Level of social support was rated for each of the sources/agents of support: family, friends, instructors/teaching assistants, significant others, and mentors. The categories for social support were based on mainly on the Multidimensional Scale of Perceived Social Support (MSPSS) and subsequent versions (Gregory et al., 1988; Mana et al., 2020). The category of mentor was added to assess if students were relying on skilled or experienced peers more than other academic supports or in a significant way

considering the prevalence of such mentorship programs at one of the universities. The option

"not applicable" was also included for any categories that did not apply. Social support was

examined individually for each agent of support and summed across all agents of support to

create a total social support score. An open-ended question also asked participants to describe the

type of support they received.

Covid-19 Impact. An adapted version of the Coronavirus Impact Scale (Stoddard & Kaufman,

2020) was administered via an online survey to assess the impact on students' lives, including

routines, access to social support, family discord, stress, and academic performance using Likert

ratings. The survey also included an open-ended question about the impact of COVID-19 on

academics and social support.

Academic achievement. Students were asked to report their current GPA, as well as performance

on a recent test and course.

Procedures

The questionnaire was administered via a secure, online platform (SurveyMonkey).

Participants indicated on the questionnaire whether they were interested in participating in a

follow-up interview. In the interview portion, participants were asked questions regarding their

response to academic challenges and setbacks (e.g., emotions and regulation strategies). In

addition to the interview questions planned for the Academic Emotions Study, social support

questions were added to the interview protocol to better understand how students used social

support, what their relationships with these agents of social support are, and how these may have

changed during the transition to college academic life and online learning. For example,

participants were asked how they interact with the agents of social support that they indicated

having on the survey (see Appendix A for complete list of questions). Follow-up questions were

asked to better determine how students utilize social support (e.g., you mentioned working with a friend, how do you work with a friend to tackle a problem?) and how specifically social support may have been affected by COVID-19 (e.g., have you noticed your relationships with these types of social support change through the COVID-19 pandemic?). The interviews lasted approximately 20-40 minutes. Interviews were conducted through secure Zoom calls, a video chat platform that allows for password protected calls and recordings, in order to protect the health and safety of participants through the COVID-19 pandemic. Zoom was also selected because it has been shown to be an effective and highly satisfactory platform for remote, virtual interviews (Archibald et al., 2019). Survey data were analyzed with correlational analysis with R to test for relationships between emotion regulation strategies, social support, and resilience. A MANOVA was conducted via SPSS to test differences in levels of overall social support, as well as individual agents of support across year of study.

Coding

Codes for the interviews were developed to identify agents of support that students rely on, as well as how exactly students use social support to regulate academic emotions in order to better understand how socially shared and co-regulation affect resilience. In terms of the *type* of social support, responses were coded for motivational support, venting support, informational support, and esteem support as well as the agent of support the student interacted with (Mazer & Thompson, 2011). These codes for type of social support interaction were based on the Student Academic Support Scale (SASS) (Mazer & Thompson, 2011). By coding responses for terms that indicate *how* students are using social support in their process of building resilience as well as *who* they rely or do not rely on, future directions for research will be identified. An additional

research team member blind coded a subset of the interviews ($n = 4$ transcripts) using the same coding scheme as the primary researcher; 85.6% of codes were consistent between coders.

<div align="center">

Results

</div>

Quantitative Results (Questionnaire)

Descriptive statistics for the level of social support per agent of support reported by participants are listed below in Table 2. Social support from friends had the highest mean score ($M = 3.56$, $SD = 1.26$), indicating that in terms of academics, students report their strongest social support group to be friends, peers, roommates. Support from family and significant others were also strong, with mean scores of 3.31 ($SD = 1.46$) and 3.11 ($SD = 1.56$) respectively. Students most frequently reported "N/A" for the social support categories mentors and significant others ($n = 57$, $n = 89$ respectively). No students reported "N/A" for friends, only 4 students reported "N/A" for family, and 10 students reported "N/A" for instructors/TA's (teaching assistants). In addition, there was a significant correlation between total social support score and total resilience score, $r\,(187) = 0.33$ ($p < 0.001$), indicating a moderate, positive relationship between social support and overall academic resilience. The coefficient of determination was 0.11, demonstrating that about 11% of the variance in resilience score was accounted for by total social support. Figure 1 depicts a scatterplot of these variables as well as a linear regression model. A correlation matrix is presented below in Table 3 for additional relationships between specific resilience sub-scales (emotion, perseverance, help-seeking) and agents of social support.

In addition to analysis on the relationship between resilience and social support, we conducted analysis on the variation of social support across year of study. Tables 4-8 list the mean scores and standard deviations of total social support, instructor social support, family

social support, friend social support, and mentor social support per year of study. There was not

a great deal of variation in means across year of study, with the exception of family support

decreasing slightly as students age (Table 6). A MANOVA was conducted to test for differences

in overall social support, as well as agents of social support across year of study. No significant

effect of year of study was found for overall social support ($p > .05$); therefore, follow-up

univariate analyses were not examined on individual agents of support. Although, descriptive

statistics reveal that from second to third year of study, there is a slight decrease in overall

support (from $M = 13.23$, $SD = 3.92$ to $M = 11.65$, $SD = 4.98$), as well as specific agents of

support (e.g., friends, family, instructors), and a slight increase in the fourth year of study (from

$M = 11.65$, $SD = 4.98$ to $M = 12.59$, $SD = 4.03$). Even though these differences were not

statistically significant, these trends may warrant further study around junior-level students.

Qualitative Results (Interview)

The coding scheme and sample quotations are shown in Table 9. Participant responses

revealed a variety of themes around how students most commonly use their agents of social

support in times of academic difficulty. Participants reported online learning and receiving a

poor grade most commonly when asked to describe an academic difficulty ($n = 4$, $n = 6$

respectively). Overall, venting support was the most noted support given across all participants

and types of social support ($n = 9$). Informational support was also noted by all participants but

for fewer types of social support. For example, one participant described how they talked on the

phone with their father multiple times a week "to complain" and describe challenges that they

were facing (Participant 03). This use of venting to express frustration, complaints, or

disappointment was consistent across participants but some participants did appear to get fixated

on these emotions once they shared with social supports. While not necessarily prompted, some

students noted when describing these venting interactions that it "felt good" to express how they were feeling and "not hold it in" (Participant 01). It was very common for venting to be done with family and friends specifically, and some students noted that they felt a sense of comradery or greater understanding when they were able to vent about shared problems or courses with other students. For example, one participant mentioned, "I feel like my friends tend to just understand it more because they're also going through it" (Participant 05).

A form of support not anticipated but noted was relying on social support (namely friends) as some kind of distraction (e.g., release from emotion by focusing on another activity). Examples included going to get coffee and talking about other topics or doing an activity together. Distraction was often noted in coordination with venting; one participant alluded that doing another activity with a friend after venting allowed them to refocus from the negative academic experience: "She kind of just grounded me about it. … She just reassured me a lot. And then we went out and got coffee. We just talked about like life and like fun stuff" (Participant 05). However, other students' accounts of venting with subsequent distraction appeared to be more of an avoidance strategy: "When we're talking about our bad grades, once we get one, we're like, okay, 'let's go drink.' And that's kind of what we do" (Participant 06).

In addition to these relationships with friends and family, participants who reported stronger relationships with instructors/TAs on the survey tended to note that these supports provided motivational and esteem support on top of informational support. For instance, after describing building a more personal relationship with a professor and how this professor did "wellness checks" throughout the semester, one participant noted that "it kept me more positive and kept me pushing to keep going, kept me motivated for that class, especially to want to do the work versus a class that if they didn't talk to me, then I wouldn't have the energy or like drive to

keep doing it" (Participant 01). When prompted, these participants said this kind of support with

instructors/TAs made classes this past semester easier/more enjoyable or made students

motivated to do the work.

Struggles with esteem and academic self-efficacy after experiencing an academic

challenge were noted for 5 of 9 participants. In particular, 3 of those 5 individuals noted having a

difficult course while transitioning to college life and this being the first major academic setback

they had ever encountered (e.g., getting a C as a course grade for the first time while a

freshman). Many considered themselves "good students" or "A students" through high school .

Because of the limited number of freshmen students in the interview portion of the study, further

data about how first year students build or change their social networks could not be gathered in

interviews.

Regarding the effects of COVID-19, participants generally noted a shrinking of their

social circles and overall decrease in number of social interactions due to COVID-19.

Participants noted trends such as seeing a large variety of friends less often; participants instead

spent more time with fewer people ($n = 7$). For some of those participants, they also noted

decreased quality of interactions with their social supports ($n = 4$). Students proposed that this

was due to most interactions being limited to virtual platforms rather than in-person interactions,

and that this sometimes hurt the quality of interaction. They also noted having to rely much more

heavily on virtual interactions, like FaceTime, to connect with their social supports in the midst

of COVID-19. Many students noted feeling more isolated or that typical strategies such as

reaching out to peers for help were not options because they did not physically see other students

in their classes like they typically did before COVID-19. However, a few participants mentioned

that creating GroupMe's and Snap Chat groups with peers improved their virtual learning

experience once they were able to create these online learning communities. Overall, though, multiple participants noted it was generally more difficult to connect with professors and peers and build quality relationships with these people because of COVID-19. This consequently made it more difficult to receive adequate support. Only one participant noted that support from professors was more accessible and the ability to do work with peers was easier because of virtual learning options.

Discussion

The findings of this study provide insights into the nature and role of social support in students' response to academic challenges. Hypothesis 1 proposed that students would report strongest relationships with friends and there will be a positive correlation between overall level of social support and total academic resilience score. Supporting this hypothesis, results demonstrated that there was a positive relationship between overall social support and academic resilience; students reporting higher levels of academic resilience strategies also reported more social support overall. Students also reported the strongest relationships with friends and family. This is consistent with previous research on students' social networks in college (Hays & Oxley, 1986). Results did not show a significant difference between year of study and overall level of social support, which is consistent with findings in previous research. Hypothesis 2 proposed that older students (juniors/seniors) would rely on support from friends and instructors/TA's more than younger students; however, there was no significant difference in specific agents of social support. This does not reflect previous research that has shown an increased reliance on friends rather than family as students transition to college and does not support Hypothesis 2 (Hays & Oxley, 1986). However, this could be because of the timing of this research during the COVID-19 pandemic, as well as the age of previous research. Since research (Hays & Oxley, 1986) about

students moving away from family as a primary support in college is over thirty years old, this trend may not be applicable anymore, particularly since emerging adulthood as surfaced as a distinct developmental stage (Arnett, 2000; Nelson & Barry, 2005; Murphy et al., 2010). It is also worth noting that additional support agents were added in this study (e.g., instructors/TAs, mentors, significant others), whereas previous research had not included these agents of support (only included family and friends). This research showed that all agents of support had a mean level between 2.3 to 3.8 on a scale of 1 (no support) to 5 (very strong).

When discussing support from instructors in interviews, students noted that motivational and informational support coming specifically from professors, teaching assistants, and academic mentors helped create positive feelings about academics and their ability to do well in the future in addition to increased motivation to complete academic work. This reflects previous research on the importance of perceived teacher support in K-12 classroom settings on motivation and supports that this relationship is important in higher education settings as well (Goodenow, 1993; Wentzel, 1997; Wentzel 1998; Deci, Koestner & Ryan, 1999).

Qualitative interviews provided greater understanding into *how* students interact with agents of support. Venting was by far the most noted strategy, with every interview participant mentioning venting to at least one agent of support. Venting is typically defined as a sharing of thoughts and feelings, and the venting hypothesis states that the goal of such sharing is to achieve some level of emotional release and improvement (Kennedy-Moore & Watson, 2001; Parlamis, 2012; Nils & Rime, 2012). It is natural to assume that venting would improve emotional regulation. However, when students were asked how they would wish to improve their response to academic challenges, many of them noted difficulty with emotion regulation despite widely reported use of venting. This calls into question what effect, if any, venting had on

students. Other research has shown that venting is only beneficial in certain contexts – for example, one literature review suggests that expression of emotional distress is constructive for the individual only when they express negative emotions within a comfortable and strong relationship, in addition to the expression of positive emotions, and when the individual is seeking insight or adaptation in addition to expression (Kennedy-Moore & Watson, 2001). Another study goes further to say that "the popular view that putting an emotion into words dissolves it is thus unsubstantiated" due to results only supporting the adaptiveness of venting in addition to specific socio-cognitive strategies (e.g., reframing, empathy; Nils & Rime, 2012, p. 697). This potential less adaptive form of venting by students implores more education and training on not only how to best utilize venting but also how best to help someone as they vent, as research suggests that using particular skills is important to make venting effective. This connects to the previously mentioned regulatory effectiveness of support construct described by Zee et al. (2020) as well, which specifically notes that social support can help students "to better understand their situation (truth) and to feel capable of managing their situation (control)" (p. 1). By employing skills known to help make venting more effective, such as reframing, social support can help individuals both express and process how they are feeling but also feel in control of those feelings and their situation. The results of the current research help to clarify how students are currently using their supports and how the regulatory effectiveness of such support may be improved. Particularly in the context of instructors, teaching assistants, advisors, and mentors, this is a great area of opportunity to assist college students in bettering their emotion regulation since basic expression of negative thoughts and feels is already a natural strategy.

Informational support was also a very common interaction with agents of support for students. These interactions seemed to do two things: (1) provide direct solutions or relief to academic problems such as not understanding subject material and (2) reflect previous research on "models" of resilience and socially shared regulation. While venting, motivational, and esteem support most commonly were verbal forms of support, the informational support described by participants included more action and behavioral strategies, such as assessing test taking strategies with a professor or studying with a more knowledgeable peer. For many students, this provided direct assistance to the academic issue that was causing them distress and acted as a model of resilience. Students were able to not only hear instructions on how to be resilient but they were also able to act or see how their peers reacted to difficulty. Per Johnson et al.'s Models and Messengers study (2015), while messengers of resilience are helpful, they are not as helpful as viewing others' resilience strategies. The authors propose that this is because models may be "longer lasting in their influence" compared to messages that students may already be able to tell themselves (Johnson et al., 2015, p. 880). They also suggest that witnessing individuals that share characteristics with the student face and overcome adversity may influence the student's self-efficacy and thus help with resilience (Johnson et al., 2015). While students did not commonly note conscious observation of others' resilience strategies, they did note how being around other learners or working with agents of social support aided their ability to adapt. Interactions providing informational support may fall into a category of social support that is particularly helpful for building resilience. In addition, the fact that the informational support described by students involved more viewing of others and physically doing things relates to socially shared regulation strategies, which specifically describes working together in order to regulate emotions, motivations, cognitions, and behaviors (Jarvela et al.,

2019). Because both "models" of resilience and socially shared regulation inherently involve

viewing and doing with others, which was most described in informational support interactions

by interview participants, this indicates that informational support in combination with other

interactions with agents of support may be important to building resilience and overcoming

challenges for students. This also bolsters previous research demonstrating that different types of

interactions with social support may affect students' processes of building resilience differently.

When discussing COVID-19 and the transition to online learning, there was a clear

decrease in number and quality of interactions for students according to interviews. Students

described greater difficulty in not only connecting with instructors but also with classmates,

which seemed to contribute to feelings of loneliness, frustration, and decreased motivation. This

is consistent with recent research findings that 86% of a student sample in the United States

reported a decreased in interactions and well as significant negative impacts on overall mental

health due to the pandemic (Son et al., 2020; Wang et al., 2020). Some students noted that one of

their more common strategies when facing difficulty in a class is to discuss the difficulty with

classmates, seek help from one another, and study together. However, because of COVID-19 and

lack of face-to-face interactions, they were not able to implement these previously used

strategies. Emerging research into the effects of COVID-19 on students support these findings

and suggest that the transition to online learning for college students has caused a great

disruption in their ability to manage academic difficulty and implement resilience strategies for a

significant portion of students (Son et al., 2020; Wang et al., 2020; Aucejo et al, 2020). While

the negative impact on students in this sample is fairly consistent across all participants, some

research has shown that effects of COVID-19 on students have varied significantly (Aucejo et

al., 2020). For example, 25% of another sample reported decreasing their time spent on

schoolwork by at least four hours while 25% of the same sample reported increasing their time spend on schoolwork by at least four hours (Aucejo et al, 2020). Only one interview participant in the current study noted finding interactions with professors and peers more accessible and easier. However, this may warrant further research into the effects of COVID-19 on students' academic experience since more variability may be found with a greater and more diverse sample.

Unrelated to COVID-19, interesting trends around adjustment to college life and academics began to emerge in interview responses. For participants who noted an academic challenge in their first year, many of these participants mentioned that the difficulty was one that they had not faced in high school, and thus they were not equipped with strategies to overcome such difficulty. They had to overcome the challenges of not just new and more difficult subject matter but also finding and building resilience strategies. This is important in that this may indicate a specific area of emphasis for first-year student programs: learning specific resilience strategies and how to overcome obstacles they may not have faced before. Per previous discussion, some of these strategies may be how to reach out to a professor and best utilize their support. In addition to a need to find resilience strategies when transitioning to college, the same students also occasionally mentioned a negative effect on their academic self-efficacy and confidence in themselves as a student because they had not experienced such difficulty before. This could again indicate an important area of investigation for further study: are students with potential to succeed dropping out due to feelings of doubt/confidence in academic abilities? This is an important distinction because these students may be easily helped with scaffolding of resilience strategies and additional emotional and esteem support.

One of the clearest limitations on this study is the small sample size of interviews and lack of diverse years of study and genders in the sample. Only one male participated in the interviews, and six of the nine interview participants were juniors. Survey results provided useful quantitative information about resilience and social support, but further qualitative analysis with more interviews would be beneficial to evaluate the emerging trends around how different forms of social support are affecting students. There are also limitations on how much can be inferred from interview responses because not all participants elaborated on how supports affected them as much as others; the interview protocol in future studies needs to prompt participants more on how specific supports and interactions made them think and feel. Similarly, questionnaires asked students to self-report their use of resilience strategies and social support but there may be some discrepancy between what students recall doing and what they actually do in practice. In addition, more quantitative analysis of supports using the SASS scale would be beneficial to quantify interactions with supports and allow for hypothesis testing on interactions with social support and academic resilience (Mazer & Thompson, 2011).

A key direction for future research includes additional surveys on agents of support, interactions with support, and academic resilience in order to confirm the trends and findings of this initial research. In addition, conducting more interviews would be extremely valuable in better understanding how social support can help students specifically during their first year of college. Nevertheless, this research provides meaningful insights into the importance of a variety of social supports previously understudied and how these supports are valuable to student resilience and success.

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TABLES & FIGURES

Table 1

Demographics of Survey Participants

Characteristic	*n*	%
Year of Study		
Freshman	92	48.7
Sophomore	39	20.6
Junior	31	16.4
Senior	27	14.3
Gender		
Another identity	1	0.5
Male	29	15.3
Female	157	83.1
Prefer not to say	2	1.1
Race & Ethnicity		
Black	28	14.9
White	141	75.0
Asian	5	2.7
American Indian/Alaskan Native	1	0.5
Hispanic/Latinx	3	1.6
Multiple Racial/Ethnic Identities	10	5.3
Field of Study		
Other	86	45.5
Natural Sciences	28	14.8
Social Sciences	36	19.0
Humanities	9	4.8
Business	16	8.5
Art or Music	10	5.3
Technology or Engineering	4	2.1

Note: $N = 189$. Participants were on average 19.3 years ($SD = 1.55$ years).

Table 2

Strength of Support Per Agent of Support

Agent of Support	*M*	*SD*	Maximum	Minimum	# of NA's
Friend	3.56	1.26	5	1	0
Family	3.31	1.46	5	1	4
Significant Other	3.11	1.56	5	1	89
Instructor/TA	2.80	1.34	5	1	10
Mentor	2.41	1.37	5	1	57

Table 3

Correlation Matrix (n = 189)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Total Resilience (ARS) Score	98.79	16.62	-									
2. Total Social Support Score	12.80	4.57	.33**	-								
3. Perseverance – ARS Sub-score	48.72	6.83	.84**	.28**	-							
4. Help-Seeking – ARS Sub-score	30.40	6.54	.81**	.36**	.70**	-						
5. Emotion Regulation – ARS Sub-score	16.58	5.82	.64**	.12	.24**	.20*	-					
6. Instructor Social Support	2.80	1.26	.36**	.52**	.30**	.34**	.21*	-				
7. Mentor Social Support	2.41	1.37	.26*	.72**	.19	.29**	.15	.48**	-			
8. Family Social Support	3.31	1.46	.24**	.60**	.24*	.23*	.20	.19	.33**	-		
9. Friend Social Support	3.56	1.26	.26**	.59**	.26**	.36**	-.004	.21*	.40**	.46**	-	
10. GPA	3.43	.59	.23*	.07	.22*	.12	.19*	.07	.03	.14	.07	-

*p < .01, **p < .001

Table 4

Total Social Support per Year of Study

Year of Study	M	SD
1	13.07	4.84
2	13.23	3.92
3	11.65	4.98
4	12.59	4.03

Table 5

Instructor Social Support per Year of Study

Year of Study	M	SD
1	2.92	1.33
2	2.81	1.37
3	2.96	1.32
4	2.31	1.23

Table 6

Family Social Support per Year of Study

Year of Study	M	SD
1	3.46	1.48
2	3.61	1.29
3	2.79	1.25
4	2.96	1.48

Table 7

Friend Social Support per Year of Study

Year of Study	M	SD
1	3.49	1.29
2	3.69	1.26
3	3.39	1.15
4	3.81	1.27

Table 8

Mentor Social Support per Year of Study

| Year of Study	M	SD
1	2.43	1.42
2	2.46	1.33
3	2.20	1.32
4	2.51	1.41

Table 9

Academic Emotions Study Coding Scheme & Sample Quotations

Higher-Order Code	Sub-Code	Definition	Sample Quotations
Academic Challenge	Online Learning ($n = 4$)	Difficulty with having to learn more independently, teach oneself more material, changes to course structure or grading because course was shifted to an online model, etc.	"It was me teaching myself the whole time. And I wasn't brought up that way. I'm a learner that needs to see. And so that was really difficult for a teacher to just give me a PowerPoint, learn this, take a test." (Participant 01).
	Poor Grade ($n = 6$)	Receiving a grade lower than expected on exam(s) or assignment(s)	"I didn't do great on this exam that I had busted my butt to study for. It was the middle of the semester, and I was just swamped the million things." (Participant 05).
	Personal Health ($n = 2$)	Coping with the symptoms of COVID-19 or other illness while trying to learn online.	"I had COVID ... She doesn't post anything online if you miss a class or anything. She just does the online textbook stuff and it has like videos and stuff. I don't know why, but those don't really click for me." (Participant 04).
	Difficulty in Major ($n = 1$)	Extreme difficulty with subject matter of major, not enjoying major, and/or in the process of changing majors.	"I was originally computer science. It was not for me; extremely difficult. ... I really felt that for, at least for the computer science program, if you didn't come to the University with prior knowledge on coding, you stood no chance, because everyone I know that came without computer science backgrounds, every single person switched majors." (Participant 06).

	Work-Life Balance ($n = 2$)	Challenges with balancing academics and other demands in life.	"I was here on the general scholarships, so I needed a 3.0 ... And a whole bunch of personal family things happened within the three weeks that I was taking three courses and ended up not getting the grades that I was supposed to get had to file for a hardship withdrawal." (Participant 06).
	Other ($n = 1$)	Challenges that did not fit other codes.	"The biggest academic, like setback, I guess that I've had was I was taking a calculus class last year, like at a community college. And I had a really awful professor. And so it made it really hard to learn." (Participant 02).
Agent of Social Support	Family (n = 8)	Support from a family member such as talking on the phone, texting about challenge, discussing strategies to overcome obstacles, etc.	"My mom is always just like... I talked to her all the time. So she's just always there for like, especially even, this isn't academic related." (Participant 04).
	Friend ($n = 9$)	Support from a peer such as talking or texting about challenges in the student's life, discussing strategies to overcome obstacles, etc.	"And then if I'm ever questioning anything, we'll do zoom calls or whatever or text and try to figure out what the problem is or what a solution is. And it's very helpful." (Participant 09).
	Instructor/TA ($n = 7$)	Support from a professor or teaching assistant such as utilizing office hours, discussing challenges the student may be facing, etc.	"I went and talked to my professor to go over the exam and just talked about it and looked over what I did wrong and how I could change how I take her exams" (Participant 05).

	Mentor (*n* = 4)	Support from a figure that is somewhat between a friend and academic support; examples include a faculty mentor that the student often seeks advice from, an upperclassman that is a role model for the student.	"I would say my boss as an RM. He's a very strong mentor for me. … He's absolutely wonderful. And he's very strong on helping me like focus on reflection and growing as a person and as a professional. And I've really appreciated that." (Participant 09).
	Significant Other (*n* = 4)	Support from a partner such as talking or texting about challenges in the student's life, strategies to overcome obstacles, etc.	"He has high anxiety too. So he knows how it feels. So he's just kind of like a nice like thing and he just knows the right things to say" (Participant 04).
Interaction with Social Support	Informational Support (*n* = 9)	Explained how to solve a specific problem, clarified how to do an assignment, helped complete an assignment, helped gain a clearer understanding of class materials, helped get a better grade on an assignment. (Mazer & Thompson, 2011).	"I met up with this one guy who's in my business fraternity because he's in the class. And he like, you know, it was a way to help him study to kind of explain stuff to me. And I try to study through that" (Participant 04).
	Motivational Support (*n* = 8)	Encouraged studying, Helped with staying focused on schoolwork, Made sure student got to class or turned assignments in on time (Mazer & Thompson, 2011).	"My mom will always text all of us individually, morning of just like, small little prayer and words of support. And she's been doing this since high school, but it really is something that's nice, and just very helpful. And it kind of helped me to see like, 'Hey, you know what, no matter what, I'll get through exam. And I'll be fine. And it's good.'" (Participant 09).
	Venting Support (*n* = 9)	Listened to student vent about frustrations with a class or teacher, listened to student share feelings	"They're mostly more for my just talking it out, not keeping the anger inside, like I mentioned with the

		and thoughts on an assignment (Mazer & Thompson, 2011).	small group and then, my boyfriend and I, he's really supportive when we had tests and stuff if I would stress about it, he just calmed me down." (Participant 01).
	Esteem Support ($n = 5$)	Helped raise confidence about school, Made student feel better about school, Enhance self-esteem through academic support (Mazer & Thompson, 2011).	"I felt that shift this semester of me going from being like, super nervous, my first day of clinical with this new instructor to being like, Oh, cool. Like, I wonder what I'm going to get into this week, and not being afraid to go into a room and talk to a patient. " (Participant 03).
Impact of COVID-19 on Social support	Positive ($n = 1$)	Improved strength of relationships or quality of interactions, increased number of interactions	"It definitely made me closer with my friends who I have been in nursing with and with my roommates just by like, convenience." (Participant 03).
	Negative ($n = 9$)	Decreased strength of relationships or quality of interactions, decreased number of interactions	"I like to talk to people who, like, aren't in my major, you know, to see people in my sorority, and it's definitely like, cut down on who I've seen this semester, because there's that added pressure of like, God forbid, that I'm the person who brings like, COVID into a hospital. ... of course, people are there for me through text and FaceTime and whatever, but it's like, there are only so many hours, you can like, stare at a screen." (Participant 03).

Figure 1

Social Support and Resilience
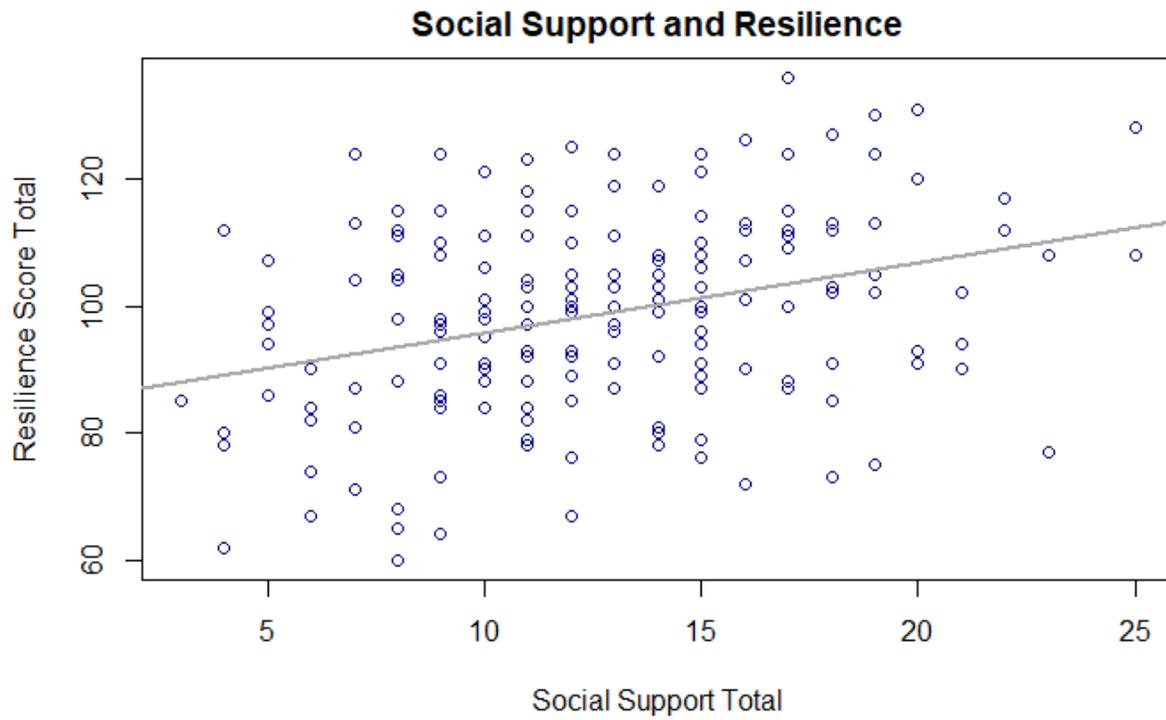
Scatterplot of Total Social Support Score and Total Academic Resilience Score

Note: Linear regression analysis demonstrated that there is an increase of 0.65 to 1.6 resilience points for each point increase of social support with a 95% confidence interval.

APPENDIX A
Interview Guide & Questions

We are conducting this study because we are interested in how students respond to academic challenges and setbacks. There is no right or wrong answer; we are simply interested in better understanding students' experience and perspectives.

1. To start off, can you tell me about any major academic challenges or setbacks you've experienced in college? It could be a challenge you experience frequently during your studies or a more recent academic setback.
- What in particular do you find challenging about this situation?
- Has this impacted your grades or more of your experience or both?

2. How does this type of situation make you feel or think?
- Any positive or negative feelings in particular?
- Do you think this has had an impact on your confidence in your abilities as a student?

3. How do you respond to this type of challenge?
- How did you deal with these feelings? Did you use any strategies? Can you describe these?
- Do you find this approach works for you – is it helpful?
- Do you find anything challenging about dealing with this type of situation?

4. I noticed on the survey that you reported a high level of support from [insert social support group such as family/friends]. Can you tell me more about the type of support they provided? Can you describe an example? [*Repeat for frequently used social support*].

5. Has Covid-19 impacted your academics or these social support in any way?
- In what way has it impacted your academic experience?
- Have you noticed changes in **how** you interact with social support during the transition to online learning compared to before the pandemic? If yes, how is it different?
- How have you responded to these changes?

6. How do you feel generally about your ability to manage academic challenges or setbacks?
- Are there any aspects you would like to improve in terms of how you respond?
- Is there anything else I should know about how you respond to these types of experiences?
- When you hear the word "resilience", what comes to mind? Do you think of yourself as a resilient learner? Why/why not?

*Note: the interview is an iterative process and semi-structured (aligned with a qualitative research approach), so some questions were adapted based on responses.