The Impact of Poly-Strengths Following Adversity: Assessing Resilience Portfolios of College Students

Alyson Faires

Radford University

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R.J. Riding-Malon — 6/10/2021

Dr. Ruth Riding-Malon
Dissertation Chair — Date

Pei-Chun Tsai — 6/10/2021

Dr. Pei-Chun Tsai
Committee Member — Date

6/10/2021

Dr. Jeffery Aspelmeier
Committee Member — Date

Abstract

College students experience high levels of stress and are increasingly reporting more severe psychological symptoms. Additionally, college students report exposure to adverse events that have the potential to impact their well-being. Research has focused on determining what protective factors are related to resilience following exposure to adversity. Little is known, however, regarding the role that the combination of strengths (poly-strengths) plays in resilience. Additionally, many studies focus on the reduction of negative outcomes rather than the presence of positive ones. The current study sought to examine the impact that poly-strengths have on measures of well-being following adversity among college students. It was hypothesized that the presence of poly-strengths would be correlated with increased levels of well-being, that poly-strengths would be able to predict variance in measures of well-being above and beyond that contributed by adversity and the individual strength measures, and that poly-strengths would moderate the relationship between adversity and well-being. Results from this study indicated that the presence of poly-strengths was correlated with increased levels of well-being. The results also indicated that poly-strengths is not a better predictor for well-being outcomes than individual strength measures, though poly-strengths does add variance above and beyond what is contributed by experience of adversity. Lastly, moderation analyses suggested that poly-strengths does not moderate the relationship between experience of adversity and well-being. The implications of these findings, limitations of this study, and future directions are discussed.

Key terms: resilience, college students, poly-strengths, well-being, adversity, pandemic

DEDICATION

For Keith, whose unconditional support, selflessness, and unwavering love created the environment in which all of this was possible. I love you more than you know.

For Steve, who always keeps me laughing and humble. You know not how much your life enriches mine.

For Mom, whose life has always been an inspiration to mine. You have been my biggest fan. Your love helped me to grow and has given me a continuous source of strength to draw upon.

For Dad, who is the foundation upon which all of this is built. Without your guidance, I would not be the person I am. Your friendship has shaped my life.

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CHAPTER ONE

Introduction

In a study that examined 26,181 students from 40 different colleges, 62.2% reported "overwhelming anxiety" within the last 12 months and 41.4% endorsed an item indicating they "felt so depressed it was difficult to function" at least once in the past year (American College Health Association, 2018). Furthermore, college students are experiencing higher psychological symptom severity than ever before (Benton et al., 2003; Xiao et al., 2017). While there are likely many factors contributing to increased distress levels, exposure to adverse life events (ranging from the death of a loved one to a sexual assault) has been related to distress symptoms in college students (Smyth et al., 2008). In light of the relationship between exposure to adverse events and distress, researchers have attempted to identify protective factors that promote well-being and cultivate resilience. Much of this research has focused on which individual strengths are related to well-being following adversity. To date, few studies have examined the relationship between the number and amount of strengths an individual possesses (termed poly-strengths) and the impact of this combination of strengths on well-being (Hamby et al., 2018). Understanding how poly-strengths are related to well-being following adversity would enhance treatment recommendations, lower distress, aid in symptom prevention strategies, and add to the literature aimed at better understanding the role strengths play in resilience and well-being.

College students represent an important group among whom to examine resilience for multiple reasons. First, college students are in a unique developmental period (often classified as emerging adulthood; Arnett, 2000) and resilience in this stage is infrequently examined in the literature. Second, college students experience stress related to developmental concerns (Arnett, 2000), finances (Eisenberg et al., 2007), and academic related issues (Flatt, 2013). Third, college

students are likely to endorse adverse experiences (Richmond et al., 2009). Information regarding factors that buffer against increased distress in the population could help promote resilience among this population.

Previous research has examined the resilience of college students (e.g., Jolley, 2017). Hamby et al. (2018), however, have criticized this type of research for two reasons. First, they argue resilience studies have focused too heavily on measuring the absence of negative outcomes (e.g., symptomology) rather than the presence of positive ones (e.g., well-being); this strategy ignores the finding that the majority of people function well following adversity (Masten, 2001). Second, they critique the literature on resilience for over-emphasizing the role of individual strengths and not attributing more importance to the collection of strengths an individual possesses.

Due to these critiques, the present study seeks to expand on the research of strengths that lead to positive outcomes. Specifically, this study will focus on the relationship between three categories of strengths related to resilience (i.e., interpersonal strengths, meaning-making, and self-regulation) identified by Grych et al. in the Resilience Portfolio Model (RPM; 2015) and measures of well-being. The expansion of this model of resilience into a novel sample population will allow for the examination of the RPM theory that posits that these three categories of protective factors are most important to resilience. The identification of the role of poly-strengths in a population of college students will help identify the importance of examining the combination of several strengths in individuals rather than continuing to examine their single strengths. This is of particular importance given that individual strengths may not be able to account for as much variance in measures of well-being as poly-strengths (Hamby et al., 2018). Additionally, the present study seeks to examine the relationship between poly-strengths and

well-being following exposure to adverse events in a college student population. This examination of an age group not frequently studied in the resilience research will expand the literature on the lifetime trajectory of resilience.

The Present Study

This study investigated the Resilience Portfolio Model (Hamby et al., 2018; Grych et al., 2015) in college students by examining the relationship between multiple psychological strengths and well-being. The hypotheses for the current study are the following:

H_1 = Poly-strengths will be positively correlated with scores on measures of well-being.

H_2 = Poly-strengths will account for more variance in measures of well-being than individual strengths. Poly-strengths will account for variance in well-being measures above and beyond that accounted for by individual strengths.

H_3 = Poly-strengths will moderate the relationship between adversity and measures of well-being.

Method

Participants

Participants were 262 students enrolled at a Southeastern university who were recruited using an online scheduling program (SONA). The students received credit as part of a course requirement or extra credit points in psychology classes for participation in the current study. Participants were predominately between the ages of 18 and 22 (94%), ranging from 18 to 47. The majority of participants were female (74.8%), white (62%), and freshman (53%).

Measures

Adversity

Financial Strain Index. The Financial Strain Index (Hamby et al., 2011) was used to measure financial adversity. This scale consists of five items on a 3-point Likert-type scale, where higher scores indicate more financial strain.

Juvenile Victimization Questionnaire, Screener Sum Version, Adult Retrospective Form – 2nd Revision. The Juvenile Victimization Questionnaire, Screener Sum Version, Adult Retrospective Form – 2nd Revision (JVQ-R2; Hamby et al., 2011) consists of 34 questions. The JVQ-R2 is a self-report measure that asks participants to think about events that occurred in their childhood (up until age 17). Participants can respond "yes" or "no" to each item.

Life Events Checklist for DSM-5. The Life Events Checklist for DSM-5 (LEC-5; Weathers et al., 2013) is a measure that examines exposure to potentially traumatic events over the course of the person's entire life. The scale contains 17 potentially traumatic events, which participants mark as "happened to me," "witnessed it," "learned about it," "part of my job," "not sure," or "doesn't apply."

Demographics. Participants were asked to respond to questions about their age, gender, race/ethnicity, major/minor, and class standing.

Strengths

Interpersonal strengths

Attachment: Maternal and Paternal. The Attachment - Maternal and Paternal scales were adapted from Furman and Buhrmester's (2009) Network of Relationships Inventory: Behavioral Systems Version by Hamby et al. (2015). The maternal and paternal questions are parallel forms consisting of six items each for a total of 12 items for both scales.

Social Support – Friends & Adults. The Social Support – Friends & Adults scale was adapted from Turner et al.'s (2010) adapted version of Zimet et al.'s (1998) Multidimensional Scale of Perceived Social Support by Hamby et al. (2015). This scale consists of six items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*).

Meaning-making

Optimism. The Optimism scale was adapted from Scheier et al.'s (1994) revised Life Orientation Test by Hamby et al. (2015). This measure consists of two items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*).

Purpose. The Purpose scale was adapted from Steger et al.'s (2006) Meaning of Life Questionnaire and Scheier et al.'s (1994) Life Orientation test by Hamby et al. (2015). This scale consists of three items on a four-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*).

Religious Meaning-Making. The Religious Meaning-Making scale was adapted from Amato's (1990) Helping Scale, Levin et al.'s (1996) Private Religious Practice Scale, Pargament et al.'s (1998) RSCOPE scale, and Putney and Middleton's (1961) Dimensions of Religious Ideologies scale by Hamby et al. (2015). This scale consists of eight items, seven of which are on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). The other question is answered either "*yes*" or "*no.*"

Self-regulation

Anger Management Scale. The Anger Management Scale was adapted from Stith and Hamby's (2002) Anger Management Scale by Hamby et al. (2013). This scale consists of five items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*).

Coping Scale. The Coping Scale was adapted from Holahan and Moos' (1987) Coping Strategies Scale and Spitzberg and Cupach's (2008) framework for assessing coping following stalking by Hamby et al. (2015). This scale consists of 13 items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*).

Emotional Awareness. The Emotional Awareness Scale was adapted from Gratz and Roemer's (2004) Difficulties in Emotional Regulation Scale by Hamby et al. (2015). This scale consists of two items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*).

Emotional Regulation. The Emotional Regulation scale was adapted from Gratz and Roemer's (2004) Difficulties in Emotional Regulation Scale by Hamby et al. (2015). This scale consists of four items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*).

Well-being

Satisfaction with Life Scale. The Satisfaction with Life Scale (SWLS; Diener et al., 1984) is a five-item, self-report measure that gauges an individual's satisfaction with his or her current life. Participants rate each item on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Physical Well-Being Scale. The Physical Well-Being Scale was adapted from the Healthy Days Measure (Centers for Disease Control and Prevention, 2000) by Hamby et al. (2015). This scale is a five-item, self-report measure that assesses broad measures of physical health over the 30 days prior to taking the assessment. Participants rank the occurrence of each item on a scale ranging from 1 (*every day*) to 6 (*0*).

Subjective Happiness Scale. The Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) is a four-item, self-report measure that captures happiness. Items are measures using a 7-point Likert-type scale, ranging from 1 (*less happy*) to 7 (*more happy*).

Procedure

The researcher obtained permission to conduct the research study from the institutional review board (IRB). Participants, who accessed the survey through their institution's Student Research Participation (SONA) website, completed the surveys online. The survey was created, and scores were recorded on Qualtrics, an online survey software center. In total, the battery consisted of 129 questions.

Recruitment. Students were offered credit in psychology courses for completion of research studies via SONA. In some classes, students may earn extra credit points for completion of research. In classes with a required research component, students were offered alternatives to participating in research studies (e.g., the opportunity to write research papers and earn course credit).

Informed consent. Participants reviewed an informed consent document at the start of the battery of instruments. Participants were informed of the nature of the study, the estimated length, and their ability to stop taking the survey at any point. Contact information for the researchers was provided. Additionally, at the bottom of each page and the end of the survey, participants were provided with the names of local mental health resources in the event that they experienced distress related to the content of the survey.

Analysis. Data was downloaded from Qualtrics to IBM SPSS Statistics 24 (SPSS). Data from participants who omitted 40% or more of the overall survey was excluded from analysis. Similarly, participants missing 44% of data on any particular measure were also excluded. Those

who completed the survey unusually quickly were also excluded. Lastly, data was inspected for inattentiveness in two ways. The participants' standard deviation for raw data was calculated to examine whether the variability was unusually low. Second, data was visually inspected to determine whether participants neglected to shift in response for negatively worded items (e.g., just answered in a straight line).

A composite score of poly-strength was created. This score consists of the total number of strengths the individual reported at above-average levels (0.5 standard deviations above the mean of all participants). Simple correlations were used to assess the first hypothesis, that poly-strengths will be related to increased scores on measures of well-being. Hierarchical multiple regression (HMR) was utilized to examine the second hypothesis regarding the amount of variance poly-strengths accounts for in measures of well-being. Particularly, HMR was used to assess whether poly-strengths accounts for variances in measures of well-being above and beyond that accounted for by individual strengths. Lastly, moderation analyses (HMR) were conducted to determine if poly-strengths moderates the relationship between adversity and each of the three measures of well-being.

Results

On average, participants endorsed experiencing 20 (M = 20.41, SD = 11.51) instances of adversity. Of the 262 participants, 259 (98.9%) endorsed at least one experience of adversity across the three measures. Regarding poly-strengths, the majority of the sample endorsed three or fewer individual strengths (56.1%) and one or fewer domain strengths (68.3%).

To test the first hypothesis, correlation analyses were conducted. First, correlations between the individual poly-strength variable and the three measures of well-being were evaluated. The poly-strengths composite based on the sum of individual strength types was

significantly and strongly positively correlated with satisfaction with life and subjective happiness, and it was significantly and moderately positively correlated with physical well-being. Second, the correlations with measures of well-being were conducted using the domain poly-strength variable. The poly-strength composite based on the sum of the strength domains was significantly and strongly positively correlated with satisfaction with life and subjective happiness as well as moderately correlated with physical well-being. These correlations are displayed in Table 1. Thus, the first hypothesis was supported.

Table 1

Correlations between Scores on Well-being Outcomes and Measures of Strength

		SWL	Physical Well-being	SHS	Adversity
Poly-strengths (Individual)	*r*	.53***	.38***	.59***	-.19***
	df	256	257	257	257
Poly-strengths (Domain)	*r*	.51***	.39***	.55***	-.21***
	df	256	257	257	257
Attachment Paternal	*r*	.35***	.22***	.33***	-.25**
	df	228	229	229	229
Attachment Maternal	*r*	.40***	.25***	.34***	-.13**
	df	253	253	253	253
Social Support	*r*	.41***	.24***	.42***	-.10
	df	256	257	257	257
Optimism	*r*	.42***	.32***	.50***	-.33***
	df	256	256	256	256
Coping	*r*	.30***	.25***	.41***	.06
	df	256	257	257	257
Anger Management	*r*	.22***	.33***	.34***	-.06
	df	256	257	257	257
Emotional Regulation	*r*	.30***	.27***	.39***	-.23***
	df	256	257	257	257
Purpose	*r*	.60***	.47***	.65***	-.17***
	df	257	257	257	257
Religious Meaning-Making	*r*	.31***	.19**	.24***	-.05
	df	255	256	256	256
Emotional Awareness	*r*	.21***	.10	.25***	-.01
	df	256	257	257	257
Self-Regulation Domain	*r*	.37***	.33***	.50***	-.10
	df	256	257	257	257
Meaning-Making Domain	*r*	.60***	.45***	.64***	-.26***

	df	256	257	257	257
Interpersonal Domain	*r*	.54***	.33***	.50***	-.22***
	df	256	257	257	257
Adversity	*r*	-.27***	-.20***	-.28***	-
	df	256	257	257	-

Note. * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. SWL = Satisfaction with Life; SHS = Subjective Happiness

To test the second hypothesis, HMR was used to analyze the variance that poly-strength variables accounted for in the measures of well-being beyond the variance accounted for by adversity and the individual measures of strengths. The regressions were all run twice, using both the poly-strength individual and the poly-strength domain variables. The total adversity score was entered first, then all 10 individual strengths were entered second, and, finally, poly-strengths was entered in the third step. Next, the second and third steps of the analysis were reversed with poly-strength entered second and all 10 strength scores entered third.

Counter to the second hypothesis, the poly-strength individual variable did not predict any additional variance above and beyond what adversity and individual measures of strengths accounted for within satisfaction with life, subjective happiness, or physical well-being (see Table 2 and Table 3). In both models, adversity predicted significant variance in measures of well-being. When adversity and the 10 strength measures were added in the first two blocks, the individual strength measures were able to predict significant variance in measures of well-being beyond what was accounted for by adversity.

The poly-strength individual variable did not predict significant variance within the subjective happiness scale, the satisfaction with life scale, or physical well-being scale. In the second model, adversity was entered first, followed by the poly-strength individual variable, with the 10 strength measures entered in the third and final block. The poly-strength individual variable was able to predict significant variance above what adversity predicted. Furthermore, the individual strength measures were able to predict significant variance above and beyond what

adversity and the poly-strength variables were able to. Results for the poly-strength domain variable were similar. When the poly-strength domain variable was added in the third block, it did not account for significant variance for satisfaction with life, subjective happiness, or physical well-being. When added second, the poly-strength domain variable accounted for significant variance above and beyond what adversity alone predicted in all three measures of well-being. When the 10 individual measures were added third, however, they added additional variance that was not accounted for by the poly-strength domain and adversity variables for each of the well-being measures: satisfaction with life, subjective happiness, and physical well-being.

Table 2

Hierarchical Regression Analyses Examining the Relative Contributions of Poly-strengths Individual Above and Beyond Individual Strengths and Adversity

		Model 1		Model 2		
Criterion Variable	Step 1 for all Models: Adversity R^2	Step 2: Add Individual Strengths R^2 Change	Step 3: Add Poly-Strengths R^2 Change	Step 2: Add Poly-Strengths R^2 Change	Step 3: Add Individual Strengths R^2 Change	Total Variance R^2
SWL	.08***	.42***	.001	.24***	.18***	.42***
Physical Wellbeing	.04***	.29***	.01	.12***	.17***	.29***
SHS	.07***	.50***	.01	.30***	.20***	.50***

Note. * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$; df Model 1: $R^2\Delta$ Step 1 = 1, 224, df $R^2\Delta$ Step 2 = 10, 214, df $R^2\Delta$ Step 3 = 1, 213; df Model 2: $R^2\Delta$ Step 1 = 1, 224, df $R^2\Delta$ Step 2 = 1, 223, df $R^2\Delta$ Step 3 = 10, 213. SWL = Satisfaction with Life; SHS = Subjective Happiness.

Table 3

Hierarchical Regression Analyses Examining the Relative Contributions of Poly-strengths Domain Above and Beyond Individual Strengths and Adversity

		Model 1		Model 2		
Criterion Variable	Step 1 for all Models:	Step 2: Add Individ	Step 3: Add Poly-Strengths R^2 Change	Step 2: Add Poly-Strengths R^2 Change	Step 3: Add Individual	Total Variance R^2

	Adversity R^2	Strengths R^2 Change		Strengths R^2 Change		
SWL	.08***	.42***	.001	.22***	.20***	.42***
Physical Wellbeing	.04***	.29***	.000	.14***	.15***	.29***
SHS	.07***	.50***	.000	.23***	.22***	.45***

Note. * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$; df Model 1: $R^2\Delta$ Step 1 = 1, 224, df $R^2\Delta$ Step 2 = 10, 214, df $R^2\Delta$ Step 3 = 1, 213; df Model 2: $R^2\Delta$ Step 1 = 1, 224, df $R^2\Delta$ Step 2 = 1, 223, df $R^2\Delta$ Step 3 = 10, 213**.** SWL = Satisfaction with Life; SHS = Subjective Happiness.

To test the third hypothesis that the relationship between adversity and measures of well-being would be moderated by poly-strengths, a multiple regression analysis was conducted. Multiple regressions were run for each of the three measures of well-being (satisfaction with life, physical well-being, and subjective happiness) as the dependent variables. In all analyses, the variables of adversity, poly-strength individual, and poly-strength domain were centered, and adversity x poly-strength interaction terms were created by multiplying the centered adversity score by the respective centered poly-strength scores. In each analysis, all 10 individual strengths were entered as covariates in the first step. Adversity and poly-strength were entered in the second step, and the adversity x poly-strength (interaction term) was entered as a predictor in the third step. Additionally, the regressions were run first using the centered poly-strength individual variable and then with the centered poly-strength domain variable.

For each measure of well-being, the 10 strength scales were able to predict significant variance. Adversity and the poly-strengths individual variable, entered in step two, were able to predict significant variance for satisfaction with life ($\Delta r^2 = .02$, $p = .03$) and subjective happiness ($\Delta r^2 = .01$, $p = .05$) but not for measures of physical well-being ($\Delta r^2 = .01$, $p = .12$). For the analyses with adversity and poly-strength domain entered in the second block, satisfaction with life was the only scale for which significant variance was predicted ($\Delta r^2 = .02$,

p = .03). Results from the interaction analyses of poly-strength and adversity were not significant. The poly-strength individual variable was not a significant moderator for the relationship between adversity and satisfaction with life, physical well-being, or subjective happiness (beta weights for these interactions ranged from -.18 to .39). The poly-strength domain also did not significantly moderate the relationship between adversity and satisfaction with life, physical well-being, or subjective happiness (beta weights for these interactions ranged from -.14 to .39).

Discussion

This study examined the Resilience Portfolio Model in a college student population. The importance of poly-strengths in connections to student well-being was examined. The ability of poly-strengths to predict well-being outcomes following adversity was analyzed. Poly-strengths were also assessed for their ability to moderate the relationship between experience of adversity and well-being.

Previous literature has suggested high levels of adversity in college students when adversity is measured broadly (Elliott et al., 2019). Given that the current study expanded the definition of adversity even further than previous college population studies (e.g., including financial adversity), it is unsurprising that an increased percentage of the current study (98.9%) endorsed experiences of adversity. This definition of adversity, as broad as it was, may have not captured adversity factors specific to the period in which the data was collected. Data collection for this study began in January 2020 and the majority of participant responses were captured following impacts of the COVID-19 pandemic. Hansan and Bao (2020) surveyed students and found that struggles with e-learning and fear of academic loss were the two largest stressors among the population. Additionally, students modified their coping mechanisms to fit within

COVID-19 restrictions (e.g., social distancing). One study found that over half of stress-reduction techniques 18–22-year-old participants were utilizing were activities that could be completed alone (e.g., listening to music, sleeping; Chaturvedi et al., 2021). Thus, the results of the current study are presented through the lens of understanding how the pandemic may have impacted the outcomes. Namely, the current study may not have captured the strengths most related to well-being during these unusual conditions.

Results indicated that there was a significant and strong correlation between poly-strengths (both domain and individual) and satisfaction with life and subjective happiness and a significant, moderate correlation with physical well-being. This indicates that as the number of above-average strengths goes up, so do scores on measures of well-being. This is consistent with findings in previous literature that suggested the presence of strengths would be related to increases on scores of well-being (Hamby et al., 2018) and supports the first hypothesis. Physical well-being was not as connected to well-being in the present study as it was in previous studies, which may be related to COVID-19 factors. Participants may have not identified with the wording in some questions due to pandemic conditions (e.g., being “full of energy”) as many were more sedentary during lockdown procedures (Chaturvedi et al., 2021).

The second hypothesis suggested that poly-strength would be able to predict variance better than exposure to adversity or scores on individual strength measures. Poly-strength variables were observed to account for significant variance in all three measures of well-being above what adversity contributed. Contrary to what was expected in the second hypothesis, poly-strength variables were not able to predict significant variance in measures of well-being above and beyond what the individual strength measures contributed. While it also may be that the Resilience Portfolio Model does not apply to the college population in the same way it does in a

community sample, considering the impact of COVID-19 may also help to explain this pattern of results. Most notably, measures utilized in this study may not have adequately captured what strengths students were utilizing. Perhaps the best example of this phenomena may be the conceptualization of social support. Measures in this study regarding social support examined participants' perceived support by others, including feeling as though there were others in their life who they could talk to or who they believed cared for them. Chaturvedi et al. (2021) found that students were basing their perception of social connections during the pandemic predominately on social media usage, which would not be captured by any of these three measures.

Lastly, the variables of poly-strength were examined for their ability to moderate the relationship between adversity and well-being. This hypothesis was not supported as there were no significant interaction term effects for any of the three measures of well-being. Important to note, however, were the differences observed between strengths most related to increases in measures of well-being in this sample compared to the sample collected by Hamby et al. (2015). Meaning-making scores were associated with well-being in the previous and the current studies, though self-regulation appeared less related to well-being among college students. Interpersonal strengths appeared to carry more significance in the current study than in the previous study.

Clinical Implications

First, this study highlights the importance of assessing for potentially traumatic events experienced by students. Utilizing a broad definition of adversity may help clinicians to capture experiences that may previously have been excluded from considerations. Therapists may be better able to conceptualize the experience of their client when they have adequate information about the client's past. However, resilience is the most common outcome following exposure to

adversity (Masten, 2001), and college students may represent a population that demonstrates increased resilience (Himelein, 1995). Thus, carefully assessing the functioning of the student is necessary so that clinicians do not assume a negative impact. In addition to assessing for exposure to potentially traumatic events, clinicians are encouraged to consider a client's resilience portfolio. This includes taking inventory of the strengths present for the client that may serve as protective factors. This study underlines the importance of identifying a broad array of strengths as helping to enhance a few individual strengths may be enough to increase the client's well-being. Moreover, counselors are encouraged to stay abreast of research identifying which factors may be most crucial for resilience in college student populations.

Further, counseling centers may want to engage in outreach initiatives that provide space for students to connect. Though counseling centers frequently offer group therapy sessions, which can be a positive environment in which to engage with other students who are experiencing similar difficulties, informal connection spaces may provide a way for students to engage with one another in a meaningful way without the stigma associated with attending counseling sessions.

These approaches may be altered given the current landscape with COVID-19 restrictions. College students have reported increased levels of isolation during the pandemic (Son et al., 2020) and have also endorsed experiencing "zoom fatigue," where they struggle to focus in online platforms (Peper et al., 2021). Further, campuses should consider how they are helping students engage in ways that feel meaningful and provide a sense of purpose as this is another group of strengths strongly connected to improved well-being.

Limitations and Directions for Future Research

The present study has several limitations that are worth noting. First, the utilization of a survey system at a university campus has drawbacks. Though this method is convenient and, in the present study, captured a sample representative of the campus' racial demographics, students were able to self-select for the study. Since the questionnaire asked about sensitive material, prior to choosing to participate, students were informed that the content may be distressing. It is possible that those who chose not to continue may have been qualitatively different than those who participated.

A second limitation is related to the measures used during the study. Though these measures were chosen specifically because they allowed for testing of the Resilience Portfolio Model, they were initially conceptualized for a community sample (Hamby et al., 2015) rather than a college population. The strengths that were chosen may not have related to college student well-being as well as they were to the original population of Appalachian participants. Additionally, some of the measures may not have captured the concepts as they were intended in previous literature reviews. To best identify what strengths may be most important to study in college student populations, it is recommended that subsequent research examine both the type and number of strengths associated with greater levels of well-being.

Further, it is recommended that future research assess the relationship between poly-strengths and the concept of thriving in a campus community. As examined in the study by Hamby et al. (2015), poly-strengths contributed unique variance to measures of well-being that were above average (i.e., thriving). This relationship may exist in the college student population also and may inform interventions aimed at increasing the likelihood of post-traumatic growth following potentially traumatic events.

Lastly, as the impact of COVID-19 on the present study cannot be understated, the study should be repeated when pandemic factors are less relevant (e.g., when social distancing mandates are lifted, when students return to all in-person classes) to identify the ability of the Resilience Portfolio Model to predict how poly-strengths impact well-being within this population. Given the impact of the pandemic, it feels premature to determine poly-strengths do not play a role among college students; though, as previously stated, it may be important to carefully examine which strengths are more relevant to this population and thus are included within the study.

References

American College Health Association. (2018). *American College Health Association-National College Health Assessment II: Reference Group Executive Summary Fall 2018*. American College Health Association.

Arnett, J. J. (2000). Emerging adulthood. *American Psychologist, 55*(5), 469-480. https://doi.org/10.1037/0003-066X.55.5.469

Benton, S. A., Robertson, J. M., Tseng, W., Newton, F. B., & Benton, S. L. (2003). Changes in counseling center client problems across 13 years. *Professional Psychology: Research and Practice, 34*(1), 66-72. https://doi.org/10.1037/0735-7028.34.1.66

Centers for Disease Control and Prevention (CDC). (2000). *Measuring healthy days: Population assessment of health-related quality of life.* http://www.cdc.gov/hrqol/pdfs/mhd.pdf

Chaturvedi, K., Vishwakarma, D. K., & Singh, N. (2021). COVID-19 and its impact on education, social life, and mental health of students: A survey. *Children and Youth Services Review, 121*. https://doi.org/10.1016/j.childyouth.2020.105866

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*(3), 542-575.

Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry*, *77*(4), 534-542. https://doi.org/10.1037/0002-9432.77.4.534

Flatt, A. K. (2013). A suffering generation: Six factors contributing to the mental health crisis in North American higher education. *College Quarterly*,*16*(1). http://collegequarterly.ca/2013-vol16-num01-winter/flatt.html

Furman, W., & Buhrmester, D. (2009). Methods and measures: The network of relationships inventory: Behavioral systems version. *International Journal of Behavioral Development, 33*, 470-478. https://doi.org/10.1177/0165025409342634

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment, 26* (1), 41-54. https://doi.org/0882-2689/04/0300-0041/0

Grych, J., Hamby, S., & Banyard, V. (2015). The resilience portfolio model: Understanding healthy adaptation in victims of violence. *Psychology of Violence, 5*(4), 343-354. http://dx.doi.org/10.1037/a0039671

Hamby, S., Grych, J., & Banyard, V. L. (2015). *Life Paths measurement packet: Finalized scales.* Life Paths Research Program.http://www.lifepathsresearch.org/strengths-measures/

Hamby, S., Grych, J., & Banyard, V. (2018). Resilience portfolios and poly-strengths: Identifying protective factors associated with thriving after adversity. *Psychology of Violence, 8*(2), 172-183. http://dx.doi.org/10.1037/vio0000135

Hamby, S., Turner, H. A., & Finkelhor, D. (2011). *Financial strain index*. Crimes Against Children Research Center. https://doi.org/10.13140/RG.2.1.2368.0161

Hansan, N., & Bao, Y. (2020). Impact of "e-learning crack-up" perception on psychological distress among college students during COVID-19 pandemic: A mediating role of "fear of academic year loss". *Children and Youth Services Review, 118*. https://doi.org/10.1016/j.childyouth.2020.105355

Himelein, M. J. (1995). Childhood sexual abuse and the academic adjustment of college women. *Child Abuse & Neglect, 19*(6), 761-764. https://doi.org/10.1016/0145-2134(95)00033-5

Holahan, C. J., & Moos, R. H. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology*, 52(5), 946-955.

Jolley, A. L. (2017). *The relationship between trauma exposure and college student adjustment: Factors of resilience as a mediator*. https://doi.org/10.25777/73GD-0T27

Levin, J. S., Markides, K. S., & Ray, L. A. (1996). Religious attendance and psychological well-being in Mexican Americans: A panel analysis of three-generations data. *The Gerontologist, 36*(4), 454-463.

Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validity. *Social Indicators Research, 46*, 137-155. https://escholarship.org/content/qt2185n8gb/qt2185n8gb.pdf

Masten, A. S. (2001). Ordinary magic. *American Psychologist, 56*(3), 227-238. https://doi.org/10.1037/0003-066X.56.3.227

Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, L. (1998). Patterns of positive and negative religious coping with major life stressors. *Journal for the Scientific Study of Religion, 37*, 711-725. https://www.jstor.org/stable/1388152

Peper, E., Wilson, V., Martin, M., Rosegard, E., & Harvey, R. (2021). Avoid Zoom fatigue, be present and learn. *NeuroRegulation, 8*(1), 47-56. https://doi.org/10.15540/nr.8.1.47

Putney, S., & Middleton, R. (1961). Dimensions and correlates of religious ideologies. *Social Forces, 39*(4), 285-290. https://www.jstor.org/stable/2573423

Richmond, J. M., Elliott, A. N., Pierce, T. W., Aspelmeier, J. E., & Alexander, A. A. (2009). Polyvictimization, childhood victimization, and psychological distress in college women. *Child Maltreatment, 14*(2), 127-147. https://doi.org/10.1177/1077559508326357

Scheier, M.F., Carver, C.S., & Bridges, M.W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*(6),1063-1078.

Smyth, J. M., Hockemeyer, J. R., Heron, K. E., Wonderlich, S. A., & Pennebaker, J. W. (2008). Prevalence, type, disclosure, and severity of adverse life events in college students. *Journal of American College Health, 57*(1), 69-76. https://doi.org/10.3200/JACH.57.1.69-76

Son, C., Hedge, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of Medical Internet Research, 22*(9), e21279. https://www.jmir.org/2020/9/e21279/

Spitzberg, B., & Cupach, W. (2008). *Managing unwanted pursuit.* In M. Motley (Ed.), *Studies in applied interpersonal communication* (pp. 3-25). Sage Publications, Inc. https://doi.org/10.4135/9781412990301.d3

Stith, S.M., & Hamby, S. (2002). The Anger Management Scale: Development and preliminary psychometric properties. *Violence and Victims, 17*, 383-402. https://connect.springerpub.com/content/sgrvv%3A%3A%3A17%3A%3A%3A4%3A%3A%3A383.full.pdf?implicit-login=true&sigma-token=ykrcxnF2dvcQAU9M2_e_2idBDzk7z7k6LJ_092ap9tw

Turner, H. A., Finkelhor, D., & Ormrod, R. (2010). Poly-victimization in a national sample of children and youth. *American Journal of Preventive Medicine, 38*(3), 323-330. https://doi.org/10.1016/j.amepre.2009.11.012

Weathers, F. W., Blake, D. D., Schnurr, P. P., Kaloupek, D. G., Marx, B. P., & Keane, T. M. (2013). *The Life Events Checklist for DSM-5 (LEC-5)*. Instrument available from the National Center for PTSD at www.ptsd.va.gov

Xiao, H., Carney, D. M., Youn, S. J., Janis, R. A., Castonguay, L. G., Hayes, J. A., & Locke, B. D. (2017). Are we in crisis? National mental health and treatment trends in college counseling centers. *Psychological Services, 14*(4), 407-415. http://dx.doi.org/10.1037/ser0000130

CHAPTER TWO

REVIEW OF THE LITERATURE

College Students

The focus of this section will be on outlining why college students are an important population to examine particularly when considering their exposure to adversity. Factors that make college students a unique group will be explored, including academic-related stressors and the current status of mental health on college populations. The literature reviewing the current academic-related stressors and mental health concerns of college students will be discussed. Additionally, developmental concerns and exposure to adversity among college students will be reviewed. Literature regarding exposure to potentially traumatic events and financial stress will be examined. Finally, hypotheses related to the current study will be provided.

College student mental health

In a study that examined 26,181 students from 40 different colleges, 62.2% reported "overwhelming anxiety" within the last 12 months and 41.4% endorsed an item indicating they "felt so depressed it was difficult to function" at least once in the past year (American College Health Association, 2018). In the same study, 31.9% of participants identified stress as a factor negatively impacting academic performance (American College Health Association, 2018). In a sample of 375 undergraduate college students, Beiter et al. (2015) found 11% of participants experienced severe to extremely severe levels of stress, 15% experienced severe to extremely severe levels of anxiety, and 11% experienced severe to extremely severe levels of depression on Lovibond and Lovibond's (2004) Depression, Anxiety, and Stress Scale. Furthermore, suicidal ideation prevalence rates are higher among college populations than the U.S. adult population (Hirsch et al., 2019).

The presenting concerns of students at college counseling centers has changed over the last 30 years (Benton et al., 2003; Center for Collegiate Mental Health, 2019; Xiao et al., 2017). Benton et al. (2003) identified that students were more likely to report complex challenges than have been seen at college counseling centers in previous generations. Students were more likely to endorse a combination of concerns than included both developmentally appropriate problems (e.g., relationship difficulties) and severe concerns (e.g., anxiety, suicidal ideation) than previous cohorts of students.

The annual report of the Center for Collegiate Mental Health (CCMH; 2019) displays statistics of students using campus mental health services and sheds light on current trends observed within college mental health centers. Researchers who examined CCMH reported data from 2010 to 2015 identified an increase in self-reported generalized anxiety, depression, social anxiety, family distress, and academic distress across the 5 years (Xiao et al., 2017). Reports of substance use were observed to decrease between 2010 to 2015 (Xiao et al., 2017). In the most recent CCMH report, the majority of students at college counseling centers reported being concerned about anxiety symptoms, with 61.8% of students in the 2018 school year identifying anxiety as a concern (CCMH, 2019). Additionally, clinicians at college counseling centers ranked anxiety as the most frequent primary concern of clients, occurring in 23.2% of cases seen (CCMH, 2019). Further data from the CCMH (2019) indicated that the number of students in counseling prior to admission to college has been rising for the last 3 years; in this most recent report, 54% of those utilizing college counseling centers had previous mental health treatment. Use of psychiatric medication has remained relatively stable over the last 8 years; as of 2019, 34% of students visiting college counseling centers take medication for mental health concerns (CCMH, 2019). Indeed, there has been both a call for reform and a development of new models

and treatment strategies to adapt to these changing presentations of the population (Brunner et al., 2014; Mowbray et al., 2006)

This distress is likely due to multiple factors. Previous research has identified multiple stressors for college students including coursework (Brougham et al., 2009; Groen et al., 2019; Jones et al., 2018), finances (Brougham et al., 2009; Jones et al., 2018), and relationships (Brougham et al., 2009; Groen et al., 2019; Jones et al., 2018). Many of these factors have been linked to increases in anxiety (Jones et al., 2018). Additionally, the presence of personal factors may increase the severity of symptoms experienced by students. In a study that found a relationship between stress and suicide, students who identified as lesbian, gay, bisexual, or transgender (LGBT) reported higher rates of suicidality and self-harm behaviors than their cis, heterosexual counterparts (Liu et al., 2018). Additionally, students who endorsed stigmatized views of mental health care experienced greater levels of stress and suicidality (Hirsch et al., 2019). Additional factors that exacerbate distress in college populations will be discussed next and include developmental concerns and exposure to adversity.

Academic-related stressors

Jones et al. (2018) examined data sets from the CCMH including 101,027 students across the United States, Canada, and the United Kingdom to find academic distress to have the largest relationship with anxiety of all stressors. Smyth et al. (2008) studied the impact of adverse events on college student mental health and chose to include a category titled “a traumatic or upsetting academic upheaval” due to the number of students who identified academic stressors as pertinent issues.

Flatt (2013) identified stressors related to higher education that are unique to the millennial cohort (born between 1981 – 1996; Pew Research Center, 2019). First, the stress of

course demands reported by students may be related to increased pressure placed on these students. Pressure to perform well in school may come from multiple sources. A competitive economic market demands that students perform well in school to impress future employers as well as leads to student distress over the possibility of not getting work after graduation (Flatt, 2013). In addition, smaller average family size allows parents to devote more resources and attention to fewer children, which may result in high parental expectations of success and students may experience pressure to meet their parent's markers of achievement (Flatt, 2013). Second, adapting to academic demands at college may also stress students, particularly students who performed well in high school courses and are struggling to do well in college (Flatt, 2013).

Developmental concerns

The typical age of undergraduate students is 18-24 years old (The Hamilton Project, 2017). This time of life is marked by multiple, distinct developmental periods. To begin, research has shown that 75% of all diagnosable mental health conditions present by the time individuals reach their mid-20s (Kessler et al., 2007). This suggests that students in this age range may be experiencing mental health symptoms for the first time, may still be learning to effectively manage their symptoms, or may be struggling to meet their mental health needs in a new environment (e.g., the college campus).

Arnett (2000) introduced the concept of *emerging adulthood* to conceptualize the unique developmental period of late teens through mid-20s. This emerging adulthood stage has been researched within the last 30 years in industrialized nations. It is conceptualized as a stage that consists of much change and identity exploration (Arnett, 2000). Multiple factors contribute to the identification of emerging adulthood as a unique developmental period. First, emerging adults are described as delaying achievements that historically occurred during this age

(marriage, children, financial independence from family, etc.). Additionally, many individuals within this age range report “no” when asked if they feel they are adults (Arnett, 2000). Furthermore, this stage also includes continuing cognitive development, which leads to strengthened ability to critically think, plan, and consider their place in the world (Zarrett & Eccles, 2006). Most individuals end this stage having made life decisions (e.g., vocational, relationships) that have the power to impact the course of their lives (Arnett, 2000).

Work and romantic developments have been identified as salient during emerging adulthood (Roisman et al., 2004). Johns et al. (2013) examined the impact on well-being that same-sex attraction had among young women aged 18-24. They found that those who experienced same-sex attraction endorsed more depressive and anxiety symptoms, even if these women did not identify as lesbian, gay, or bisexual. Schwartz et al. (2005) recognized formation of identity as a key task during this stage and discussed the traits possessed by individuals who successfully navigated this transitional period. The researchers found that those with agentic personality traits (e.g., determined, assertive, active) were most related to other factors believed to be positive, such as higher self-esteem and life purpose, and that this held true across ethnic groups. Despite the exciting prospects of this age period, Shek and Wong (2011) discussed the importance of considering how stressful components of late adolescence transition with individuals into emerging adulthood. Particularly, higher rates of substance use, risky behavior, and difficulty mastering new skills and challenges required by adult life do not disappear when individuals transition into early stages of emerging adulthood. Though students often leave high school for college during this transition, they bring these stressors along with them (Shek & Wong, 2011).

Exposure to adversity

This section will examine the adversity experienced by college students. Adversity is typically defined in literature around trauma in childhood as any event that has the ability to challenge healthy development (Daniel, 2010). Working from a lifespan perspective, this study applies that definition to all ages. Terminology for adequately capturing these experiences will be discussed. The prevalence of adverse events among college student populations will be reviewed and the impact these events have been shown to have on students will be discussed.

Financial stress. Debt from education has been rising over recent years, with a current report of over 43% of young families (younger than age 40) reporting education debt (Bricker et al., 2017). One online-based study of 1,181 undergraduate students found that just over 14% reported that they were struggling financially (Eisenberg et al., 2007). These students who expressed financial concerns were more likely to endorse anxiety and depression symptoms on screener measures than their financially stable counterparts (Eisenberg et al., 2007).

Above and beyond concerns regarding paying for college, students are experiencing poverty that impacts their daily experiences. Food insecurity (FI), defined as inconsistency in the financial ability to obtain food (particularly healthy and safe food), is a growing concern on college campuses (Bruening et al., 2017; Soldavini et al., 2019). In an analysis of 17 studies examining food insecurity on college campuses, 42% of students were found to experience FI (32.9% in the nine articles that examined U.S. only institutions; Bruening et al., 2017). Three of the studies that assessed grade point average (GPA) found that students experiencing FI had lower GPAs (Bruening et al., 2017). Another three studies examined negative academic outcomes related to FI and found FI associated with experiences that ranged from reported struggles concentrating in class to higher withdrawal rates from classes and/or the university

(Bruening et al., 2017). Soldavini et al. (2019) found FI prevalence rates of 25.2% among a sample of 2,881 undergraduate students and an additional 22.3% who endorsed marginal food security (as opposed to students in the high food security category).

A study examining housing insecurity and homelessness conducted by Goldrick-Rab et al. (2018) included 43,000 students at 66 different community colleges and 4-year colleges spanning 20 states. Similar to FI, housing insecurity is defined as an inconsistent ability to pay rent, utilities, and/or a need to change residences frequently (Goldrick-Rab et al., 2018). Results from this study indicated that 46% of community college students and 36% of university students had experienced housing insecurity in the last year. Additionally, 12% of community college students and 9% of university students reported homelessness within the last year. Homeless students endorsed the experience of additional stressors, including getting less sleep than housing secure students and one-third of homeless students reported paying for their education through student loans (Goldrick-Rab et al., 2018). Financial stress is just one type of stress reported by college students, who endorse a wide range of adverse experiences including trauma, often in the form of potentially traumatic events.

Potentially traumatic events. Current research has moved away from descriptions of trauma experiences that assume all individuals will respond to the events in the same manner (Bonanno & Mancini, 2012). Instead, Bonanno and Mancini (2012) proposed that four distinct responses following an adverse event are possible: a) chronic dysfunction, b) delayed reactions, c) recovery, and d) psychological resilience. Those with chronic dysfunction experience severe levels of functional impairment. Individuals with delayed reactions begin with moderate levels of impairment but move to severe levels within a 2-year period. Those who are said to recover experience moderate to severe impairment but end with minimal impairment. Lastly, those who

are resilient never experience more than mild levels of impairment following the adverse event (Bonanno & Mancini, 2012). Thus, potentially traumatic event (PTE) is a term used to capture the experience of any event that may have resulted in functional impairment. For the purpose of this study, the terms potentially traumatic events and adverse experiences/events will be used interchangeably and in place of terms such as victimization and traumatic experience. The research on potentially traumatic events is relevant in the study of college student experiences.

Adverse life events, whether experienced in adulthood or childhood, may impact functioning among college students. In a study of 169 first-year college students, Arnekrans et al. (2018) found that multiple childhood adverse experiences were related to substance use. In a sample of 367 college students, Banyard and Cantor (2016) found that experiencing more adverse events was related to negative college adjustment in the personal-emotional domain. Interestingly, neither of these studies found statistically significant relationships between academic functioning and experience of adverse events. These results are not unexpected, however, as they are consistent with previous research (Himelein, 1995). Himelein (1995) argued that the students captured in college samples may be more resilient by nature, as being resilient has likely allowed them to continue attending college despite potentially traumatic experiences. In a longitudinal study completed by Duncan (2000), 210 college freshmen were followed throughout their 4-year college career. During the first semester of college, Duncan (2000) found that there was no statistically significant difference between the number of enrolled students who had experienced a PTE in childhood and those who had not. By the second semester, those who had reported either multiple PTEs from childhood or sexual assault during childhood were significantly less likely to still be enrolled than those who had not experienced any PTEs. Duncan (2000) found a significant negative relationship between posttraumatic stress

disorder (PTSD) symptoms during the second week of the first semester and the ability to remain enrolled all 4 years. Thus, studies that do not capture first semester students may not highlight the impact that adverse experiences can have on academic performance (Duncan, 2000).

Poly-victimization. College students are likely to endorse experiencing multiple potentially traumatic events. Research has indicated that students enter college with previous adverse experiences from childhood (Richmond et al., 2009). Researchers found that, of 321 female undergraduate participants, over 40% endorsed items on the Juvenile Victimization Questionnaire within five or more of the broad categories of victimization included on the measure (Richmond et al., 2009). These categories range from sexual victimization (e.g., flashing, rape) to property crime (e.g., robbery, vandalism of personal property). Experiencing adverse events, particularly the experience of multiple potentially traumatic events (often referred to as poly-victimization or cumulative trauma), has been connected to increased distress in both children and adults (Finkelhor et al., 2007; Follette et al., 1996). Additionally, exposure to multiple adverse events has been established as a better predictor of distress than a single incident, regardless of the severity of the single incident (Finkelhor et al., 2006; Richmond et al., 2009).

Research has also indicated that those who experience an adverse life event, both college students and individuals in the community, are more likely to experience subsequent PTEs (DeKeseredy et al., 2018; Follette et al., 1996). Felitti et al. (2019) examined the relationship between adverse childhood experiences (ACEs) and adult health outcomes. The study included 9,508 participants and assessed for the presence of ACEs within seven different categories: a) psychological abuse, b) physical abuse, c) sexual abuse, d) violence against mother, e) living with individuals who had substance use issues, f) living with individuals who had mental illness

or were suicidal, and g) living with individuals who had been incarcerated. A quarter of those who responded endorsed experiencing more than two of the above categories. The relationship between the number of categories individuals endorsed and health conditions as adults was found to be statistically significant. Health conditions for which individuals with greater ACEs were at increased risk included drug use, sexually transmitted disease, heart disease, cancer, and more.

This section has discussed college students and their status as a unique cohort. The current mental health concerns of college students were examined. The impact of academic-related stressors was reviewed. Developmental concerns of this group were identified. Lastly, stressful and potentially traumatic events (including financial burden and victimization) were presented and literature that studied the subsequent impact on students was considered. The following section will review relevant literature on the topic of resilience.

Resilience

The common definitions of resilience will be explored and reasoning for choosing one for this study will be explained. Different components that lead to resilience, commonly termed protective factors, strengths, and assets, will be reviewed. Research discussing the relationship between resilience and mental health will be reviewed. Next, studies that looked at resilience in college student populations will be discussed. Finally, the concept of poly-strengths will be explained and its relevance to the research on resilience.

Resilience defined. Definitions of resilience are numerous, stem from multiple disciplines, and can seem contradictory. Resilience has been studied since the 1800s and the concept has been examined in many ways (Tusaie & Dyer, 2004). On its website, the American Psychological Association (APA; 2019) currently defines resilience as the ability to "bounce back" following exposure to adverse events. Similarly, Carver (1998) described resilience as

equivalent to recovery following an adverse event and discussed thriving (e.g., performing better than previously). Carver (1998) only considered models where impairment was experienced following the adverse event. Comparatively, Bonanno (2004) described resilient individuals as those who maintain healthy functioning rather than those who overcome (i.e., "bounce back," "recover") from a period of reduced functioning, which is distinct from the definitions provided by both the APA (2019) and Carver (1998). Furthermore, resilience was originally studied as an exceptional occurrence before currently being reframed as the normal experience following adversity (Masten, 2001). Still, the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; American Psychiatric Association, 2013) estimated that the lifetime risk for developing PTSD is 8.7%, suggesting that the exploration of resilience is pertinent to mental health care.

Windle (2011) attempted to collapse definitions of resilience across multiple disciplines to create one unified description of the term. His examination led to the compilation of two salient features of resilience. First, the conceptualization of resilience as a process rather than a static quality emerged. This implies that resilience is not simply a trait possessed by individuals but rather a combination of internal and environmental factors. Furthermore, resilience is viewed as a fluid process that can change across the lifetime. Second, the process of resilience was noted to include three components: exposure to an adverse event, the presence of assets/strengths/resources that counteract the impact of the event, and an adaptive outcome, which may be the absence of negative symptoms or the maintenance of healthy functioning. Thus, by that definition, those who have impaired functioning (e.g., distress, psychopathology, etc.) following an adverse experience have not displayed resilience. Bonanno (2004) placed emphasis on examining healthy function to determine resilient individuals as opposed to simply

measuring the absence of pathology, as this helps define resilience as distinct from other possible pathways following adversity (i.e., recover). Therefore, resilience can be defined as a process, malleable across the lifespan that requires exposure to an adverse event, the presence of strengths and protective factors that counterbalance potential effects of the event, and an outcome of healthy functioning. The following section will discuss the strengths and protective factors that are believed to act as buffers against negative impacts of adverse events.

Factors implicated in resilience. Research examining the factors that aid in resilience has been plentiful. These factors have been conceptualized as personality traits of the individual, components of the person's environment, personal and social strengths the person possesses, and a balance between risk and protective factors (Archana et al., 2008). In an overview of the developments in resilience literature, Masten (2007) identified what she termed the "short list" of important strengths and protective factors that have been identified consistently for decades as important components of resilience. Her short list, while not all-inclusive, indicated that resilient individuals possessed strengths in areas ranging from attachment relationships with parents to community and cultural systems, and from emotional self-regulation skills to good physical health (Masten, 2007).

Researchers have attempted to isolate the presence and importance of each of the identified traits and have studied the factors in various ways. Waugh et al. (2011) studied the relationship of emotional flexibility and resilience in 41 participants. The researchers used self-report measures of resilience where participants responded to items indicating how they usually respond to adverse situations and compared that to the participants' ability to match emotional responses to quickly changing emotional stimuli in the lab (Waugh et al., 2011). They found that participants with higher self-reported resilience were able to be more flexible with emotions

expressed than those with lower resilience levels. Tugade and Fredrickson (2004) examined the relationship between emotional arousal and physiological resilience (including cardiovascular activity). The researchers induced negative mood by informing participants that they needed to prepare a speech impromptu that would be recorded and shown to peers for evaluation. Findings suggested that participants who reported experiencing positive emotions prior to being told about the speech had more cardiovascular resilience (i.e., heart rate lowered faster) when informed they would not actually be giving a speech. Still other investigations have focused on individual therapeutic orientations and their ability to produce resilience.

Thompson et al. (2011) reviewed relevant research to determine if components of Acceptance and Commitment Therapy (ACT), mindfulness and acceptance, are factors that contribute to resilience. They found that across the studies reviewed, mindfulness and acceptance are related to more resilience, and opposing traits, such as avoidance and emotionally detached coping strategies, resulted in more PTSD symptoms (Thompson et al., 2011). Another focus of research has been on examining factors associated with resilience in marginalized populations who have experienced potentially traumatic events, such as identifying factors that buffer against suicide in both lesbian, gay, and bisexual youth who have experienced victimization or sexual abuse (Rutter, 2008), and African-American women who experienced intimate partner violence (Meadows et al., 2005).

Resilience among college students. Previous research has examined the presence and impact of resilience on college student populations. College campuses have been described as a prime place for individuals to cultivate protective factors and strengths that are related to resilience due to the presence of increased stressors (Groen et al., 2019). Jolley (2017) examined an archival dataset of treatment-seeking students and resilience among them in relationship to

developmentally appropriate measures of well-being (e.g., college adjustment). This research found that these factors (i.e., familial/peer support, religion/spirituality, club involvement, and on-campus housing) accounted for a significant portion of the variance in college adjustment such that the presence of these factors predicted better college adjustment. More traditional measures of well-being following PTEs have also been assessed in college populations. Howell and Miller-Graff (2014) found, in a sample of college students who had experienced childhood victimization, similarly to factors identified by previous research in community samples, that the protective factors most associated with resilience were spirituality, increased emotional intelligence, and support from friends (e.g., Hamby et al., 2018).

Additionally, research has examined the association between resilience and achievement in school (i.e., GPA, time needed to complete credits) in a sample of college students with mental health concerns (Hartley, 2013). Hartley (2013) did not find achievement in school to be related to resilience but, as outlined in previous research, this result is not entirely surprising when considering the strengths that attending college suggests one possesses and the likelihood that those individuals significantly struggling leave college shortly after enrollment (Duncan, 2000; Himelein, 1995).

Resilience Portfolio Model. All of the possible ways to examine the strengths and protective factors that contribute to resilience can pose challenges to researchers. Difficulties arise when attempting to determine what the most important factors leading to resilience are as well as when deciding how to measure outcomes following PTEs. Grych et al. (2015) introduced the Resilience Portfolio Model (RPM) in an attempt to create some continuity for future research on resilience and related factors. The RPM is a theory of resilience that incorporated research from multiple fields and identified the most salient factors related to resilience within these

fields. Since the research on resilience has remained fragmented, studies examining resilience previously have only been able to focus on components of resilience rather than capturing a comprehensive picture. The current study will investigate resilience by using the RPM. Whereas it is believed that this project will help to create a more cohesive description of resilience, the RPM is also useful for resilience research in several additional ways. First, it provides a clearer framework on what strengths and protective factors are contributing most to resilience. From research on coping, resilience, positive psychology, posttraumatic growth, and adaptation to violence, the researchers identified three broad categories of strengths that capture elements that have repeatedly demonstrated a relationship with resilience: interpersonal strengths, meaning-making, and self-regulation. Second, the proposed model focuses on identifying strengths that are not merely the opposite end of the continuum of risks (Grych et al., 2015). For example, research such as that discussed above (i.e., Tugade and Fredrickson, 2004), which suggested positive emotions are associated with higher resilience, does not provide any additional information about how emotion is connected to resilience; neither does research that suggests negative emotions are associated with lower resilience. Indeed, knowing the impact positive and negative emotions have on resilience does not help explain why emotion is connected to resilience. Third, the model emphasizes the importance of studying resilience in relationship to positive functioning (the predominant outcome following PTEs) rather than studying the protective factors and strengths in relationship to negative outcomes, such as pathology and distress. Additionally, the authors wanted to examine factors that are malleable instead of static to enhance prevention and intervention efforts. Fourth, the RPM incorporates the relatively new construct of poly-strengths, which is captured through the distinct measurement package designed by the authors of the RPM.

The authors utilized well-established scales of strengths, adversity, and well-being and added measures they created or adapted to capture additional domains. The scales designed to assess strengths were modeled after previous work by one author of the RPM (Sherry Hamby, PhD) that were aimed at assessing victimization. Finkelhor et al. (2005) developed the Juvenile Victimization Questionnaire to collapse multiple types of victimization that were historically measured separately into one scale. This allowed for a comparison of the different types of victimization that was not previously possible as well as the creation of a summative variable called poly-victimization. Similarly, when creating the strength scales, Grych et al. (2015) created measures that assessed both the density and the diversity of strengths. The authors defined density as the number of strengths within each category and diversity as the number of different types of strengths. They argued that the density and the diversity of strengths are more important than specific characteristics. Thus, the creation of these scales would allow for previously distinct categories of strengths to be compared to one another and analyzed simultaneously. Additionally, in order to ensure that their model for resilience was as inclusive of various socioeconomic strata as possible, they adapted the measures to shorten scales and word items with simple vocabulary. These modifications resulted in scales that were more accessible for a larger demographic of participants with varied education and reading levels (all scales are at a sixth-grade reading level). Additionally, these altercations allowed for participants to take multiple scales that assessed constructs in one sitting without becoming fatigued. Asking participants about multiple areas of strengths contributes to the ability to create a variable of poly-strength.

Poly-strengths. The concept of poly-strengths is derived from research on exposure to multiple adverse events (poly-victimization), particularly the impact that exposure to multiple

PTEs has on health and well-being (Grych et al., 2015). Similarly to the way poly-victimization is conceptualized as experiencing multiple adverse events that are expected to have a greater impact on the individual than a sole adverse experience, poly-strength research assumes that having more strengths will have a greater positive impact on resilience, which will be represented by higher scores on measures of well-being (Grych et al., 2015). In the RPM, strengths are considered to have a buffering effect on well-being following adversity. That is to say, strengths are expected to moderate the relationship between adversity and well-being. Therefore, it is assumed that the concept of poly-strengths would also act a moderator within this relationship, though studies have yet to examine this premise. Whereas the conceptualization of poly-strengths is relatively new, some previous research has begun to examine the importance of considering the additive effect of protective factors and strengths.

Schnell (2011) described the importance of both density and diversity of factors contributing to establishing meaningfulness in life. Schnell defined density as the number of sources that the individual obtains meaning from, and diversity as the number of different categories or sources from which individuals derive meaning. Schnell found that the level of meaningfulness people expressed increased significantly when both density and diversity increased, though the constructs were found to overlap.

In a study looking at the relationship between psychosocial protective factors in childhood, such as the presence of a supportive adult, and utilization of behavioral health services following adverse childhood experiences, Larkin et al. (2018) found that increased amounts of protective factors were related to lower behavioral health utilization. Lenzi et al. (2015) examined the importance of the amount of assets possessed by high school students in reducing the likelihood of experiencing various types of victimization, including physical

victimization. The researchers analyzed results of both the overall quantity of assets and the spread of assets across multiple domains (Lenzi et al., 2015). Asset domain types included belief-in-self, belief-in-others, emotional competence, and engaged living. Whereas overall quantity of assets had mixed results (such as decreasing the likelihood of some forms of victimization but not others), the number of different domains endorsed was related to lower likelihood of victimization: students endorsing assets in three of four domains were one and a half to two times less likely to be victimized; these are levels that reached statistical significance (Lenzi et al., 2015).

Research stemming from the Resilience Portfolio Model, with an emphasis on identifying the impact of poly-strengths on well-being, has also begun to surface. In a large study conducted with 2,565 adolescents and adults (mean age = 30 years old), Hamby et al. (2018) examined the role of poly-strengths in contributing to well-being outcomes that included subjective well-being, posttraumatic growth, and mental health symptoms following exposure to adverse events. Prior to utilization of the scales in the main study, the researchers assessed the validity of the scales in a pilot sample (Hamby et al., 2015). In both the main sample and the pilot study, exploratory factor analysis was performed to examine which strengths fit within each of the three domains. In the pilot study, researchers asked participants to have someone accompany them who was very familiar with them. The final pilot sample involved 104 pairs of participants, with one portion of the 104 answering the survey questions about themselves and the other half answering questions about the participant. The scales were then used in the main study of 2,565 individuals. Results indicated that protective factors were able to account for more variability among the measures of well-being (between 23-49%) than exposure to adverse events and demographics (1-19% combined), which stresses the importance of examining protective factors and strengths

present to determine well-being. Furthermore, poly-strengths was found to have unique contributions in variance to all three categories of well-being examined.

Gonzalez-Mendez et al. (2018) applied the RPM to Spanish adolescents; they used a portion of the measurements from earlier RPM studies. To capture strengths believed most important to this age range (all participants were between 14 and 18 years old), Gonzalez-Mendez and colleagues (2018) selected scales concerning anger management, coping, psychological endurance, emotional awareness, emotional regulation, social support, attachment to parents, purpose, and optimism. Borrowing the language from Schnell (2011), the researchers concluded that the density (defined here as the intensity of strength) and diversity of strengths (i.e., larger amount of strengths) went beyond mere resilience to predict post-traumatic growth in the adolescents. Gonzalez-Mendez et al. (2018) also examined the structure of the scales by conducting a confirmatory factor analysis to ensure that the strength measures clustered together as expected.

Protective factors and strengths in the Resilience Portfolio Model. The following section will discuss research that examined the relationship between the three categories of protective factors and strengths that constitutes the focus of the RPM as well as empirical evidence of their connection to well-being.

Interpersonal strengths. The RPM's first domain of protective factors incudes strengths in both relationships the individual has, and qualities of the person that helps him or her maintain these relationships (Grych et al., 2015; Hamby et al., 2018). Grych et al. (2015) included constructs such as attachment and social support in the measurements under this domain. In her overview of resilience literature, Masten (2007) discussed the well-established connection between attachment to significant others (friends, romantic interests, family, peers, care givers,

etc.) and resilience, citing years of research indicating that healthy attachment can be adaptive following adverse experiences. The connection of general social support to all aspects of health, including psychological well-being, has been established in the literature over nearly 40 years (Thoits, 2011). Many qualities that help maintain relationships also have established connections to well-being. For example, gratitude and forgiveness, two attributes likely to promote positive relationships, have been linked to satisfaction with life (Breen et al., 2010). Furthermore, social interactions have been linked to a reduction in PTSD symptoms within college student population (Frazier et al., 2011).

Meaning-making. Meaning-making is the second factor on which the RPM focuses. Individuals who have meaning-making strengths are defined as those who can identify positive aspects or outcomes in negative situations (Grych at al., 2015). In the measurement package designed by Grych and colleagues (2015), factors such as purpose, optimism, and religious meaning-making fall into this category. Purpose and optimism are considered important factors because the presence or absence of these strengths may alter an individual's overall worldview into which he/she is attempting to incorporate an adverse event.

Previous research has consistently associated greater well-being with the tendency to identify positive meaning in adverse situations (Lyubomirsky, 2001). Folkman (1997) found meaning-making to be a theme that emerged as underlying the coping strategies used by men caring for partners dying of HIV/AIDS to maintain positive psychological states throughout the caregiving and grief process. McCrae and Costa (1986) measured well-being and personality characteristics in a community-based sample of adults who had experienced an adverse event. The researchers found that a concept similar to meaning-making, "drawing strength from adversity," was one of the most effective coping skills for both categories of problem solving and

reducing distress (McCrae & Costa, 1986). Folkman and Moskowitz (2007) outlined five types of meaning-making that can occur following adversity: a) realigning priorities, b) adaptive goal processes, c) benefit finding, d) benefit reminding, and e) infusing ordinary events with meaning. Folkman and Moskowitz (2007) identified these categories through the studies they and others conducted with individuals who were caregiving for people at the end of life, or at end of life themselves, and from research of others who studied people with chronic illnesses. Realigning priorities involves identifying which are most meaningful, and which process can be automatic or take much deliberation. Adaptive goal processes are defined as altering goals to be more realistic or completely giving up previous goals in place of more attainable ones. Benefit finding involves the identification of positives that have arisen out of the PTE. Benefit reminding is when individuals remind themselves of the benefits they have previously identified. Lastly, infusing ordinary events with meaning is the ability to create positive affect from normal, commonly occurring moments, such as a visit with a friend or seeing a good movie.

Endorsing religious beliefs has not been as strongly associated with positive outcomes. Chen and Koenig (2006) completed a review of 11 empirical studies (some within college student populations) that examined the relationship between PTSD and religion/spirituality and found mixed results. Three of the 11 studies found an inverse relationship between the two; as scores on measures of PTSD decreased, scores on measures of religion/spirituality increased. Four studies found a positive relationship; as scores on measures of PTSD increased, so did endorsement of spiritual/religious beliefs. Of the four remaining studies, three found conflicting results and one found no significant relationship. In 2010, Mooney analyzed data from the National Longitudinal Survey of Freshman at elite higher education establishments regarding religiosity and academic achievement and college satisfaction. Those students who reported

attending more religious services and more strictly adhering to religious practices reported higher levels of both academic achievement and college satisfaction. In the large study conducted by Hamby et al. (2018) utilizing the religious meaning-making scale, the researchers found the relationship between religiosity and posttraumatic growth to be statistically significant. However, religious meaning-making was not significantly related to subjective well-being or mental health. In addition to interpersonal strengths and meaning-making, an individual's ability to self-regulate may also impact well-being.

Self-regulation. Self-regulation, a complex domain that incorporates strengths of emotional regulation, ethical behavior, and emotional awareness, is the third strengths factor in the RPM; these self-regulation variables are believed to relate to one's ability to cope with challenging emotions and control impulses (Hamby et al., 2018). Grych et al. (2015) included measurements for constructs such as anger management, coping, emotional awareness, and emotional regulation under this domain. Many studies examining resilience have identified components of self-regulation as important for healthy psychological functioning (Day & Kearney, 2016; Gotlib, 2011; Howell & Miller-Graff, 2014; Waugh et al., 2011). Moffitt et al. (2011) conducted a longitudinal study that followed 1,000 children from birth to 32 years of age. The researchers found that self-control, defined as the ability to control emotions, delay gratification, and regulate emotions, was related to physical health, substance use, financial stability, lack of illegal activity, and multiple other variables related to overall well-being of the individuals.

Measures of well-being

Physical well-being. The connection of one's physical health to psychological well-being has been well established in the literature. Chida and Steptoe (2008) conducted a meta-analysis

to review the relationship between positive psychological well-being and mortality rates. They found that both those who were healthy and those who had diseases at the start of studies had lower mortality rates if they had higher psychological well-being (Chida & Steptoe, 2008).

Satisfaction with life. Diener (1984) categorized life-satisfaction as one component of subjective well-being. This concept can be defined as one's determination that one's life is predominately positive (Diener, 1984). Since that time, the measure has been widely used and associated with multiple factors of mental health and has been used to predict likelihood of outcomes such as suicide (Pavot & Diener, 2008).

Subjective happiness. Within research, happiness is frequently a component used to capture the presence of subjective well-being; occasionally the two terms are synonymous (Diener et al., 1999; Seligman & Csikszentmihalyi, 2000). Happiness, as a type of positive affect, has been linked to other constructs of physical well-being (e.g., lower levels of pain; Cohen & Pressman, 2006) as well as components of psychological well-being, such as resilience following crisis (e.g., less depressive symptoms; Fredrickson et al., 2003).

Present Study

As outlined in the literature presented here, college students represent a distinct population who experience many stressors (Beiter et al., 2015; Benton et al., 2003; Groen et al., 2019; Jones et al., 2018). Research on processes that lead to healthy functioning following exposure to PTEs is therefore crucial to producing and sustaining well-being in a population so at-risk. Whereas previous research has focused on the absence of distress and/or pathology to determine resilience, the present study, using the RPM, will examine resilience defined as the continuation of healthy functioning. Since it is believed that most individuals exhibit resilience following PTEs (Masten, 2001), it is imperative that research examines the characteristics of

these individuals to help those who do not return to healthy functioning following adverse events.

Additionally, the RPM (Grych et al., 2015), which identified protective factors and strengths within three categories of interpersonal strengths, meaning-making, and self-regulation, has yet to be applied to the college student population. Indeed, each of the three categories identified by the RPM contains multiple strengths and resources that have been previously linked to positive well-being outcomes following adversity and may be relevant to understand resilience within the college student population. Furthermore, the concept of poly-strengths from the RPM (Grych et al., 2015) has not yet been examined among a college student population. This study will investigate the RPM as a resilience model in the college population (Grych et al., 2015).

Given these gaps in the research, the present study proposes the following research questions:

1) What role do individual strengths (e.g., self-regulation, meaning-making, and interpersonal strengths) play in the relationship between well-being and experiences of adversity in a college population?
2) How does the presence of poly-strengths impact the relationship between exposure to adversity and measures of well-being?

CHAPTER THREE

METHODOLOGY

Review of the study

As mentioned previously, there is a gap in the literature regarding the importance of poly-strengths in well-being for college students. Research has focused on the impact of single strengths rather than the cumulative effect of possessing multiple strengths. Additionally, research on factors contributing to resilience has often focused on the absence of negative outcomes rather than the presence of positive ones. The current study chose to address these areas by examining the Resilience Portfolio Model (RPM; Grych et al., 2015) as a resilience model in college students. The amount of variance in measures of well-being that can be accounted for by the presence of poly-strengths in individuals who have experienced adversity was examined. The current study is testing the RPM in a college student population to aid in the understanding of the construct of poly-strengths in resilience. The following hypotheses were examined:

H_1 = Poly-strengths will be positively correlated with scores on measures of well-being.

H_2 = Poly-strengths will account for more variance in measures of well-being than individual strengths. Poly-strengths will account for variance in well-being measures above and beyond that accounted for by individual strengths.

H_3 = Poly-strengths will moderate the relationship between adversity and measures of well-being.

Participants

Participants were students enrolled in psychology courses at a Southeastern university in the United States. Students were recruited via an online scheduling program (SONA).

Participants received either extra credit or course required research credit for completion of the survey. For those students for whom research is required, students were offered alternative ways to receive class points in lieu of participating in studies. A power analysis for interaction terms with a semi-partial correlation of .20 or higher was used to determine the necessary *n*. A sample size of 196 participants or higher was determined to be effective to achieve adequate power (1-β = .80). Participants were a convenience sample of 294 college students. Participants were removed from the study for incomplete responses (*n* = 26), completing the battery unusually quickly (*n* = 5), and for not having adequate variance on measures (*n* = 1). After the data was cleaned, the information provided by 262 participants remained and were included in analyses. Of these, 259 individuals endorsed at least one type of adversity.

Participants in this study ranged from 18 to 47 years old, with the majority of participants aged between 18 and 22 (94%; see Table 1 for demographic information). Participants were from a wide array of majors; the majority of students in the study (53%) were freshmen, with 18.7% identifying as sophomore, 18.3% as junior, and 9.9% as senior. The study was comprised of 74.8% female, 22.9% male, 4% transgender male, 1.5% nonbinary, 0.4% identified as "other," and an additional 0.4% identified as "human." The majority of participants (62%) identified as white, followed by Black (20.6%), biracial (8.0%), Latinx (4.6%), other (2.3%), Asian (1.5%), American Indian (0.8%), and Native Hawaiian (0.4%).

Table 1

Demographic Characteristics

n = 262

Variable	Frequency	Percent
Gender Identity		
Male	60	22.9%
Female	196	74.8%
Transgender Male	1	0.4%
Nonbinary	4	1.5%
Other	1	0.4%
Age (years old)		
18	103	39.3%
19	67	25.6%
20	35	13.4%
21	22	8.4%
22	19	7.3%
23	3	1.1%
24	1	0.4%
25	2	0.8%
26	4	1.5%
27	1	0.4%
28	1	0.4%
31	1	0.4%
35	1	0.4%
37	1	0.4%
47	1	0.4%
Race		

American Indian	2	0.8%
Asian	4	1.5%
Black	54	20.6%
Latinx	12	4.6%
Native Hawaiian	1	0.4%
White	162	61.8%
Other	6	2.3%
Biracial	21	8.0%
Major		
Sports Management	9	3.6%
Allied Health Science	11	4.6%
Anthropological Studies	1	0.4%
Anthropology	2	0.8%
Art Education	1	0.4%
Athletic Training	1	0.4%
Nursing	38	14.6%
Biology	21	8.5%
Biochemistry	1	0.4%
Business Management	1	0.4%
Chemistry	3	1.2%
Communication Sciences and Disorders	5	2.0%
Communications	4	1.5%
Computer Science and Technology	1	0.4%
Criminal Justice	25	9.5%
Cyber Security	1	0.4%

Table 1

Demographic Characteristics

n = 262

	2	0.8%
Dance	1	0.4%
Design	3	1.2%
Education	6	2.3%
Elementary Education	1	0.4%
Emergency Services – Critical Care	1	0.4%
English	1	0.4%
English Education	5	2.0%
Exercise and Health Science	2	0.8%
Fashion Design	1	0.4%
Geology	1	0.4%
Graphic Design	1	0.4%
History	12	4.7%
Double Major	1	0.4%
Graduated	5	2.0%
Interdisciplinary Studies	3	1.2%
Interior Design	1	0.4%
Major Exploration	1	0.4%
Marketing	1	0.4%
Media Studies	1	0.4%
Medical Laboratory Science	1	0.4%
Middle Education	1	0.4%
Music Education	5	1.9%
Music Therapy	5	2.0%
None/Undecided	1	0.4%
Nutrition and Dietetics	1	0.4%
	1	0.4%

Occupational Therapy	2	0.8%
Outdoor Recreational Leadership and Tourism	1	0.4%
Physical Therapy	1	0.4%
Physics	3	1.2%
Political Law	8	3.1%
Political Science	1	0.4%
Pre-nursing	33	12.6%
Production Technology	1	0.4%
Psychology	4	1.6%
Public Relations	13	5.0%
Recreational Therapy	1	0.4%
Social Work	2	0.8%
Sociology	1	0.4%
Special Education	1	0.4%
Sport Administration		
Surgical Tech		

Class Standing		
Freshman	139	53.1%
Sophomore	49	18.7%
Junior	48	18.3%
Senior	26	9.9%

Measures

Participants were asked to respond to 129 items across 15 measures, a demographics questionnaire, and questions used to assess attention throughout the battery. In the demographic questionnaire, participants were asked to respond to questions about their age, gender, race/ethnicity, major/minor, and class standing.

Adversity.

Financial Strain Index. The Financial Strain Index (Hamby et al., 2011) was used to measure financial adversity. The literature does not show that this scale has been used in a college student population. It was designed, however, to assess a broad range of economic strain that goes beyond just household income. The scale consists of five items on a 3-point Likert-type scale, where higher scores indicate more financial strain. Participants rated whether the items were "*very true,*" "*a little true*," or "*not true.*" An example item is "You don't have enough money to pay your regular bills." Internal consistencies were reported for the scale in both the pilot group (0.73) and the main sample (0.83). The scale is scored by calculating either the sum or the mean of all items, with higher scores indicating more financial strain.

Juvenile Victimization Questionnaire, Screener Sum Version, Adult Retrospective Form – 2nd Revision. The Juvenile Victimization Questionnaire, Screener Sum Version, Adult Retrospective Form – 2nd Revision (JVQ-R2; Hamby et al., 2011) consists of 34 questions. The JVQ-R2 is a self-report measure that asks participants to think about events that occurred in their childhood (up until age 17). Participants can respond "*yes*" or "*no*" to each item. An example item is "When you were a child, did anyone steal something from you and never give it back? Things like a backpack, money, watch, clothing, bike, stereo, or anything else?" The screener sum version was utilized as the full-length version includes follow-up questions that are not suitable for self-administration.

Scores can be examined in two different manners. First, scores can be dichotomous; a response code of "1" indicates the participant endorsed at least one occurrence of that type of trauma or "0" indicates that the item was not endorsed. Second, a total score can be created that adds up the number of items a participant endorsed. This second score allows researchers to have

a score that indicates poly-victimization. The JVQ has been used in college populations (Richmond et al., 2009).

Life Events Checklist for DSM-5. The Life Events Checklist for DSM-5 (LEC-5; Weathers et al., 2013) is a measure that examines exposure to potentially traumatic events over the course of the person's entire life. The scale consists of two parts. The first part contains 17 potentially traumatic events, which participants mark as "*happened to me,*" "*witnessed it,*" "*learned about it,*" "*part of my job,*" "*not sure,*" or "*doesn't apply*." The measure does not produce a total score. Dichotomous variables can be created to examine the scores by assigning values of "1" for the LEC-5 for any participant who endorsed at least one item and a value of "0" to individuals who did not endorse any of the items.

Strengths.

Interpersonal strengths.

Attachment: Maternal and Paternal. Hamby et al. (2015) adapted the Attachment-Maternal and Paternal scales from two scales of Furman and Buhrmester's (2009) Network of Relationships Inventory: Behavioral Systems Version: Seek Safe Haven and Seek Secure Base. Furman and Buhrmester (2009) reported alpha coefficients of 0.92 on the maternal and 0.91 on the paternal versions of the Seek Safe Haven. Additionally, the researchers reported alpha coefficients of 0.79 on the maternal and 0.84 on the paternal versions of the Seek Secure Base scale. The maternal and paternal questions are parallel forms consisting of six items each for a total of 12 items. This scale was adapted to simplify wording and reduce items in order to include multiple constructs within the same study and avoid participant fatigue. Items are on a 4-point Likert-type scale from 1 (mostly true about me) to 4 (not true about me). Each scale has an answer option on the first question that states "I did not have a [mother or father] figure" and

allows the participant to move on to the next scale in the battery if they select it. Hamby et al. (2015) reported internal consistencies of 0.93 for the maternal form and 0.94 for the paternal form. An example question is “You seek out your mother (or mother figure) when you’re upset.” Scores can be calculated as either a sum or mean of all items, with higher scores indicating higher levels of attachment. To the knowledge of this author, this scale has not been used with a college population. In a study examining adolescents (aged 14-18 years), Gonzalez et al. (2018) chose this scale from an assortment created for the RPM as the researchers believed it was a concept important to this age range.

Social Support – Friends & Adults. Hamby et al. (2015) adapted the Social Support – Friends & Adults scale from Turner et al.’s (2010) adapted version of Zimet et al.’s (1988) Multidimensional Scale of Perceived Social Support. Previous studies found the MPSS had an overall Cronbach’s alpha ranging between .84 and .90 across three subject groups (Zimet et al., 1990). This scale was adapted to simplify wording and reduce items in order to include multiple constructs within the same study and avoid participant fatigue. This scale consists of six items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). Hamby et al. (2015) reported an internal consistency of 0.90. An example item includes “I can talk about my problems with friends.” Scores can be calculated as either a sum or mean of all items, with higher scores indicating higher levels of social support. There is no record of this scale being used with a college population. In a study examining adolescents (aged 14-18 years), Gonzalez et al. (2018) chose this scale from the assortment created for the RPM as the researchers believed it was a concept important to this age range.

Meaning-making.

Optimism. Hamby et al. (2015) adapted the Optimism scale from Scheier et al.'s (1994) revised Life Orientation Test. Scheier et al. (1994) reported an alpha of 0.78 for the full-scale of the Life Orientation Test. The scale was adapted to simplify wording and reduce items in order to include multiple constructs within the same study and avoid participant fatigue. This measure consists of two items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). Hamby et al. (2015) reported an internal consistency of 0.80. An example item is "If something can go wrong for me, it will." Both items are reversed scored. Scores can be either a sum or a mean of all of the items, where higher scores indicate higher levels of optimism. To the knowledge of this author, this scale has not been used with college population. In a study examining adolescents (aged 14-18 years), Gonzalez et al. (2018) chose this scale from the assortment created for the RPM as the researchers believed it was a concept important to this age range.

Purpose. Hamby et al. (2015) adapted the Purpose scale from two questions from Steger et al.'s (2006) Meaning of Life Questionnaire and one question from Scheier et al.'s (1994) Life Orientation test. Scheier et al. (1994) reported an alpha of 0.78 for the full-scale of the Life Orientation Test. Additionally, Steger et al. (2006) reported a full-scale alpha coefficient of 0.86 for the Meaning of Life Questionnaire. Hamby et al. (2015) adapted this scale to simplify wording and reduce items in order to include multiple constructs within the same study and avoid participant fatigue. Their scale consists of three items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). Hamby et al. (2015) reported an internal consistency of 0.82. An example item is "My life has a clear sense of purpose." The measure can be scored by calculating the sum or mean of all items, with higher scores indicating

higher levels of purpose. To the knowledge of this author, this scale has not been used with college population. In a study examining adolescents (aged 14-18 years), Gonzalez et al. (2018) chose this scale from the assortment created for the RPM as the researchers believed it was a concept important to this age range.

Religious meaning-making. Hamby et al. (2015) created the Religious Meaning-Making Scale with one item from Amato's (1990) Helping Scale, one item from Levin et al.'s (1996) Private Religious Practice Scale, two items from Pargament et al.'s (1998) RSCOPE scale, and three items from Putney and Middleton's (1961) Dimensions of Religious Ideologies scale. Alpha coefficients for Amato's (1990) Helping Scale were not available, though the scale had a test-retest reliability of 0.90. Levin et al.'s (1996) Private Religious Practice Scale only consists of one item that asks participants to indicate how often they attend religious services. The items from Pargament et al.'s (1998) RSCOPE scale were both from the Positive Subscale, which authors reported had an alpha coefficient of 0.90. The items used from Putney and Middleton's (1961) Dimensions of Religious Ideologies scale were from the Preoccupation subscale, which Joseph and DiDuca (2007) reported to have a coefficient alpha of 0.94. This scale was adapted to simplify wording and reduce the number of items in order to include multiple constructs within the same study and avoid participant fatigue. This scale consists of eight items, seven of which are on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). The other question is answered either "*yes*" or "*no.*" Hamby et al. (2015) reported an internal consistency of 0.87. Items are summed and higher scores indicate higher levels of religious meaning-making. An example question is "I often think about my faith or spiritual beliefs."

Self-regulation.

Anger Management Scale. The Anger Management Scale was adapted from Stith and Hamby's (2002) Anger Management Scale by Hamby et al. (2013). The adaptation simplified wording and reduced items in order to include multiple constructs within the same study and avoid participant fatigue. Previous versions of the Anger Management Scale (Stith & Hamby, 2002) were analyzed, including a 20-item measure with an internal consistency of 0.70 and a 12-item measure with an internal consistency of 0.51. This scale consists of five items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). Hamby et al. (2015) reported an internal consistency of 0.87. An example item is "I can usually tell when I am about to lose my temper." The measure can be scored by calculating the sum or mean of all items, with higher scores indicating more ability to control anger. To date the literature does not report the use of this scale with a college population. In a study examining adolescents (aged 14-18 years), Gonzalez et al. (2018) chose this scale from the assortment created for the RPM as the researchers believed it was a concept important to this age range.

Coping Scale. Hamby et al. (2015) adapted the Coping Scale from three items on Holahan and Moos' (1987) Coping Strategies Scale and six items on Spitzberg and Cupach's (2008) framework for assessing coping following stalking. The remainder of the items were created by Hamby et al. (2015). Items from the Coping Strategies Scale were from the Active-cognitive strategies subscale, which Holahan and Moos (1987) reported a coefficient alpha of 0.62. Amar and Alexy (2010) used the Spitzberg and Cupach (2008) framework for assessing coping following stalking in a population of college students and reported an internal consistency of 0.88. The adaptation simplified wording and reduced items in order to include multiple constructs within the same study and avoid participant fatigue. This scale consists of 13 items on

a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). Hamby et al. (2015) reported an internal consistency of 0.91. An example item is "When dealing with a problem, I make compromises." The measure can be scored by calculating the sum or mean of all items, with higher scores indicating higher levels of coping. To date, this scale has not been used with a college population. In a study examining adolescents (aged 14-18 years), Gonzalez et al. (2018) chose this scale from assortment created for the RPM as the researchers believed it was a concept important to this age range.

Emotional Awareness. Hamby et al. (2015) adapted the Emotional Awareness scale from Gratz and Roemer's (2004) Difficulties in Emotional Regulation Scale (DERS). The scale was adapted to simplify wording and reduce items in order to include multiple constructs within the same study and avoid participant fatigue. The items are from the Lack of Emotional Awareness Subscale of the DERS, which the researchers reported had an internal consistency of 0.80 (Grazt & Roemer, 2004). This scale consists of two items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). Hamby et al. (2015) reported an internal consistency of 0.82. An example item is "I am aware of my feelings." The measure can be scored by calculating the mean of the z-scores of all items, with higher scores indicating higher levels of emotional awareness. This scale has not been used with a college population. In a study examining adolescents (aged 14-18 years), Gonzalez et al. (2018) chose this scale from the assortment created for the RPM as the researchers believed it was a concept important to this age range.

Emotional Regulation. Hamby et al. (2015) simplified wording and reduced items from the Emotional Regulation scale by Gratz and Roemer's (2004) DERS in order to include multiple constructs within the same study and avoid participant fatigue. The scale includes two items

adapted from the Difficulties Engaging in Goal Directed Behavior Subscale, one from the Impulse Control Difficulties Subscale, and one from the Limited Access to Emotion Regulation Strategies Subscale of the DERS, which the researchers reported internal consistencies of 0.89, 0.86, and 0.88, respectively (Grazt & Roemer, 2004). The scale consists of four items on a 4-point Likert-type scale ranging from 1 (*mostly true about me*) to 4 (*not true about me*). Hamby et al. (2015) reported an internal consistency of 0.82. An example item is "When I'm upset, I feel out of control." Items are reverse scored and then can be scored by calculating the sum or mean of all items, with higher scores indicating better emotional regulation. To date, this scale has not been used with a college population. In a study examining adolescents (aged 14-18 years), Gonzalez et al. (2018) chose this scale from an assortment created for the RPM as the researchers believed it was a concept important to this age range.

Well-being.

Satisfaction with Life Scale. The Satisfaction with Life Scale (SWLS; Diener et al., 1985) is a five-item, self-report measure that gauges an individual's satisfaction with their current life. Participants rate each item on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). An example item is "In most ways my life is close to my ideal." The alpha has been reported as 0.87, with a 2-month test-retest reliability of 0.82. The scale is scored by summing all of the items, with higher scores indicating higher levels of satisfaction. Previous research has used the SWLS with college student populations (e.g., Schiffrin & Nelson, 2010).

Physical Well-Being Scale. The Physical Well-Being Scale was adapted from the Healthy Days Measure (Centers for Disease Control and Prevention, 2000) by Hamby et al. (2015). They simplified the original scale's wording and reduced items in order to include multiple constructs within the same study and avoid participant fatigue. Alpha coefficients for

the Healthy Days Measure were not reported. This scale is a five-item, self-report measure that assesses broad measures of physical health over the 30 days prior to taking the assessment. Participants rank the occurrence of each item on a scale ranging from 1 (*every day*) to 6 (*0*). A sample item is "During the past 30 days, how many days was your physical health, which includes physical illness and injury, not good?" Coefficient alphas of 0.74 in the pilot group and 0.81 in the main sample were obtained. Scores on this measure are obtained by summing each item (some are reversed scored), with higher scores indicating better physical health.

Subjective Happiness Scale. The Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999) is a four-item, self-report measure that captures happiness. Items are measured using a 7-point Likert-type scale. A sample item is "Compared with most of my peers, I consider myself" with responses ranging from 1 (*less happy*) to 7 (*more happy*). Coefficient alphas of 0.79 to 0.94 were obtained in previous research (Lyubomirsky & Lepper, 1999). The mean of the items is obtained (one item is reverse scored) and higher scores are interpreted as higher levels of happiness. Previous research has used the SHS with college student populations (e.g., Schiffrin & Nelson, 2010).

Procedure

The researcher obtained approval of the Institutional Review Board (IRB). The battery of surveys was entered into Qualtrics. Participants were able to access the questionnaire via a link to Qualtrics on SONA. Students were provided with informed consent regarding the content of the study and the voluntary nature of their participation. Contact information for the researcher was provided at both the beginning and the end of the battery. Due to the sensitive nature of some of the questions, contact information for University Counseling Services, a local crisis

hotline, and the National Crisis Hotline was included on the bottom of the screen throughout the survey.

Analysis

Participant data was downloaded from Qualtrics into IBM SPSS Statistics 24 (SPSS) and cleaned. Data of participants missing 44% of the battery or more were excluded. Additionally, participants who completed the survey in less than 5 minutes were excluded. Lastly, data was inspected for inattentiveness in two ways. Participants' standard deviation for raw data within each measure was calculated to examine whether the variability is unusually low. Second, data was visually inspected to determine whether participants neglected to shift in response for negatively worded items (e.g., just answered in a straight line).

Total scores were created for all of the measures of well-being. Total sum variables for the JVQ and the LEC-5 were created. A dichotomous variable for the Financial Strain Index was computed to determine whether or not an individual had experienced financial strain. These three variables were used to determine which individuals have experienced adversity previously and whose data would be included in the subsequent analyses. A participant's adversity score is a continuous variable that consists of the total number of items of adversity endorsed by the participant. A dichotomous adversity variable was created from this overall adversity score to determine whether a participant had experienced at least one type of adversity. All participants who endorse at least one experience of adversity were considered in the analyses.

Strength measures were scored by creating a z-score of each item on each of the 10 measures. This allowed for comparison across the measures. The z-scores for each measure were added to form the domain score. A score of poly-strength was created by totaling the number of strengths reported by a participant that are 0.5 standard deviation above the average of the

sample. This computation was done for each of the three domains as well as for each of the 10 individual scales. Poly-strengths were then examined as a continuous variable ranging from 0 to 3 at the domain level and from 0 to 10 at the subscale level. The following analyses were conducted twice, once for each way that poly-strengths has been calculated.

Hierarchical multiple regression (HMR) analyses were used to test the contribution of adversity, strengths, and poly-strengths to the prediction of variance in well-being measures. The first analyses consisted of simple correlations to test the first hypothesis (H1) that the presence of poly-strengths would be related to increased scores on measures of well-being. HMR was used to examine the second hypothesis (H2) by calculating the unique contribution of poly-strengths to the prediction of variance in the measures of well-being above and beyond individual strengths or exposure to adversity. HMR analyses were run in two directions. The regressions were all run twice, using both the poly-strength individual and the poly-strength domain variables. The total adversity score was entered first, then all 10 individual strengths were entered second, and finally, poly-strengths was entered in the third step. Next, the second and third steps of the analysis were reversed with poly-strength entered first and all 10 strength scores entered second.

Lastly, HMR was used to test the third hypothesis (H3) that poly-strengths would moderate the relationship between adversity and well-being outcomes. The first step in these analyses was to center the poly-strengths variable by subtracting the mean poly-strengths score from each of the participants' scores. Next, the adversity variable was centered by subtracting the mean of adversity from each of the participants' scores. Third, an interaction term of the centered poly-strengths score multiplied by the centered adversity score was created. Following the creation of these variables, HMR was run. In the first step, the individual strength variables were entered as covariates. In step two, the predictor variable of adversity and the poly-strengths

variable were entered. In step three, the interaction term of adversity by poly-strengths was entered. This analysis was repeated for each of the three well-being outcome variables. Next, the interaction variable was entered.

CHAPTER FOUR

RESULTS

This chapter reviews the results of statistical analyses performed to test the hypotheses of this study. The hypotheses tested were (1) poly-strengths would be related to measures of well-being, (2) poly-strengths would account for more variance in measures of well-being than individual strengths and account for variance above and beyond that accounted for by individual strengths, and (3) poly-strength variables would moderate the relationship between adversity and measures of well-being.

First, this chapter begins with data analysis that reviews the descriptive statistics of the variables. Second, the correlations between the variables of poly-strengths and well-being measures are explored. Third, the results from the hierarchical multiple regression analyses are presented to explore the variance accounted for and the unique contributions of poly-strengths to measures of well-being. Lastly, the relationship between the independent variable (i.e., adversity), the moderator (i.e., poly-strengths), and the dependent variables (i.e., well-being measures) will be examined.

Preliminary Data Analyses

The mean and standard deviation values for measures of adversity and the well-being measures are displayed in Table 2 and the values for measures of strength can been seen in Table 3. On average, participants endorsed experiencing 20 (M = 20.41, SD = 11.51) instances of adversity. Of the 262 participants, 259 (98.9%) endorsed at least one experience of adversity across the three measures. Table 4 depicts the frequency of poly-strengths in the sample. The majority of the sample endorsed three or fewer individual strengths (56.1%) and one or fewer domain strengths (68.3%).

Table 2

Mean Scores for Measures of Adversity and Well-Being

Variable	*M*	*SD*	Range	α
LEC-5	11.23	7.13	36	.89
JVQ	8.60	6.52	30	.90
Financial Strain	2.61	.47	2.00	.80
Adversity Total	20.41	11.51	62	.44
Satisfaction with Life	24.31	6.73	30	.89
Subjective Happiness	4.57	1.32	6	.80
Physical Well-being	0.00	.70	4.39	.73

Note. LEC-5 = Life Events Checklist; JVQ = Juvenile Victimization Questionnaire.

Table 3

Mean Scores for Measures of Strength

Variable	*M*	*SD*	Range	α
Unstandardized				
Social Support	3.42	.65	3.00	.82
Optimism	2.66	.85	3.00	.76
Coping	2.90	.56	2.55	.81
Anger Management	3.38	.58	3.00	.63
Emotional Regulation	2.33	.89	3.00	.85
Purpose	3.02	.88	3.00	.86
Emotional Awareness	3.43	.72	3.00	.79
Standardized				
Attachment Paternal	.03	.83	2.67	.92
Attachment Maternal	.01	.84	2.89	.92
Social Support	.000	.75	3.55	.85
Optimism	.000	.90	3.17	.76
Coping	.000	.60	2.79	.85
Anger Management	.000	.71	3.76	.75
Emotional Regulation	.000	.83	2.81	.85
Purpose	-.001	.88	3.18	.85
Religious Meaning Making	.000	.77	2.95	.90
Emotional Awareness	.000	.91	3.83	.79
Domains				
Self-Regulation	.000	.52	2.71	.61
Meaning-Making	.001	.63	3.04	.59
Interpersonal	.01	.57	2.48	.47

Table 4

Frequencies of Poly-strengths Individual and Domain

Variable	Frequency	Percent	*M*	*SD*	α
Poly-strength Individual			3.54	2.42	.71
0	24	9.2%			
1	36	13.7%			
2	43	16.4%			
3	44	16.8%			
4	24	9.2%			
5	30	11.5%			
6	27	10.3%			
7	14	5.3%			
8	14	5.3%			
9	4	1.5%			
10	2	0.8%			
Poly-strength Domain			1.03	1.03	.54
1	74	28.2%			
2	53	20.2%			
3	30	11.5%			

Correlation Analyses

To test the first hypothesis, correlation analyses were conducted (see Table 5). First, correlations between the individual poly-strength variable and the three measures of well-being were evaluated. The poly-strengths composite based on the sum of individual strength types was significantly and strongly positively correlated with satisfaction with life and subjective

happiness, and it was significantly and moderately positively correlated with physical well-being. Second, the correlations with measures of well-being were conducted using the domain poly-strength variable. The poly-strength composite based on the sum of the strength domains was significantly and strongly positively correlated with satisfaction with life and subjective happiness as well as moderately correlated with physical well-being. Thus, the first hypothesis was supported. Additionally, adversity had a moderate, negative correlation with all three measures of well-being.

The poly-strength individual and domain variables, the strengths of attachment paternal and maternal, optimism, emotional regulation, and purpose, as well as the meaning-making domain and interpersonal domain were correlated with adversity negatively and the effect sizes ranged between small to moderate. Satisfaction with life and the subjective happiness were significantly and positively correlated with each of the 10 strengths, with effect sizes ranging from moderate to large. The meaning-making domain, interpersonal domain, and purpose scale were the only measures associated with stronger correlations to satisfaction with life and the subjective happiness scale than the poly-strength variables. Physical well-being was not significantly correlated with emotional awareness but was significantly and positively correlated with all remaining strengths variable and the three domain strength variables. The effect sizes seen for the correlations with physical well-being were generally smaller than those recorded for the other measures of well-being and ranged small to moderate. The three domain strengths were also significantly correlated with measures of well-being, with effect sizes ranging from moderate to large.

Table 5

Correlations between Scores on Well-being Outcomes and Measures of Strength

		SWL	Physical Well-being	SHS	Adversity
Poly-strengths (Individual)	*r*	.53***	.38***	.59***	-.19***
	df	256	257	257	257
Poly-strengths (Domain)	*r*	.51***	.39***	.55***	-.21***
	df	256	257	257	257
Attachment Paternal	*r*	.35***	.22***	.33***	-.25**
	df	228	229	229	229
Attachment Maternal	*r*	.40***	.25***	.34***	-.13**
	df	253	253	253	253
Social Support	*r*	.41***	.24***	.42***	-.10
	df	256	257	257	257
Optimism	*r*	.42***	.32***	.50***	-.33***
	df	256	256	256	256
Coping	*r*	.30***	.25***	.41***	.06
	df	256	257	257	257
Anger Management	*r*	.22***	.33***	.34***	-.06
	df	256	257	257	257

Emotional Regulation	*r*	.30***	.27***	.39***	-.23***
	df	256	257	257	257
Purpose	*r*	.60***	.47***	.65***	-.17***
	df	257	257	257	257
Religious Meaning-Making	*r*	.31***	.19**	.24***	-.05
	df	255	256	256	256
Emotional Awareness	*r*	.21***	.10	.25***	-.01
	df	256	257	257	257
Self-Regulation Domain	*r*	.37***	.33***	.50***	-.10
	df	256	257	257	257
Meaning-Making Domain	*r*	.60***	.45***	.64***	-.26***
	df	256	257	257	257
Interpersonal Domain	*r*	.54***	.33***	.50***	-.22***
	df	256	257	257	257
Adversity	*r*	-.27***	-.20***	-.28***	-
	df	256	257	257	-

Note. * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. SWL = Satisfaction with Life; SHS = Subjective Happiness

Hierarchical Multiple Regression

To test the second hypothesis, hierarchical multiple regression (HMR) was used to analyze the variance that poly-strength variables accounted for in the measures of well-being beyond the variance accounted for by adversity and the individual measures of strengths. The regressions were all run twice, using both the poly-strength individual and the poly-strength domain variables. The total adversity score was entered first, then all 10 individual strengths were entered second, and finally, poly-strengths was entered in the third step. Next, the second and third steps of the analysis were reversed with poly-strength entered second and all 10 strength scores entered third.

Counter to the second hypothesis, the poly-strength individual variable did not predict any additional variance above and beyond what adversity and individual measures of strengths accounted for within satisfaction with life, subjective happiness, or physical well-being (see Table 6). In both models, adversity predicted significant variance in measures of well-being. When adversity and the 10 strength measures were added in the first two blocks, the individual strength measures were able to predict significant variance in measures of well-being beyond what was accounted for by adversity. The poly-strength individual variable did not predict significant variance within the subjective happiness scale, the satisfaction with life scale, or physical well-being scale. In the second model, adversity was entered first, followed by the poly-strength individual variable, with the 10 strength measures entered in the third and final block. The poly-strength individual variable was able to predict significant variance above what adversity predicted. Furthermore, the individual strength measures were able to predict significant variance above and beyond what adversity and the poly-strength variables were able to. Results for the poly-strength domain variable were similar (see Table 7). When the poly-

strength domain variable was added in the third block, it did not account for significant variance for satisfaction with life, subjective happiness, or physical well-being. When added second, the poly-strength domain variable accounted for significant variance above and beyond what adversity alone predicted in all three measures of well-being. When the 10 individual measures were added third, however, they added additional variance that was not accounted for by the poly-strength domain and adversity variables for each of the well-being measures: satisfaction with life, subjective happiness, and physical well-being.

Table 6

Hierarchical Regression Analyses Examining the Relative Contributions of Poly-strengths Individual Above and Beyond Individual Strengths and Adversity

		Model 1		Model 2		
	Step 1 for all Models:	Step 2: Add Individual	Step 3: Add Poly-	Step 2: Add Poly-	Step 3: Add Individual	
Criterion Variable	Adversity R^2	Strengths R^2 Change	Strengths R^2 Change	Strengths R^2 Change	Strengths R^2 Change	Total Variance R^2
SWL	.08***	.42***	.001	.24***	.18***	.42***
Physical Wellbeing	.04***	.29***	.01	.12***	.17***	.29***
SHS	.07***	.50***	.01	.30***	.20***	.50***

Note.* = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$; df Model 1: $R^2\Delta$ Step 1 = 1, 224, df $R^2\Delta$ Step 2 = 10, 214, df $R^2\Delta$ Step 3 = 1, 213; df Model 2: $R^2\Delta$ Step 1 = 1, 224, df $R^2\Delta$ Step 2 = 1, 223, df $R^2\Delta$ Step 3 = 10, 213. SWL = Satisfaction with Life; SHS = Subjective Happiness.

Table 7

Hierarchical Regression Analyses Examining the Relative Contributions of Poly-strengths Domain Above and Beyond Individual Strengths and Adversity

		Model 1		Model 2		
	Step 1 for all Models:	Step 2: Add Individ	Step 3: Add Poly-	Step 2: Add Poly-	Step 3: Add Individual	Total
Criterion Variable	Adversity R^2	Strengths R^2 Change	Strengths R^2 Change	Strengths R^2 Change	Strengths R^2 Change	Variance R^2
SWL	.08***	.42***	.001	.22***	.20***	.42***
Physical Wellbeing	.04***	.29***	.000	.14***	.15***	.29***
SHS	.07***	.50***	.000	.23***	.22***	.45***

Note.* = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$; df Model 1: $R^2\Delta$ Step 1 = 1, 224, df $R^2\Delta$ Step 2 = 10, 214, df $R^2\Delta$ Step 3 = 1, 213; df Model 2: $R^2\Delta$ Step 1 = 1, 224, df $R^2\Delta$ Step 2 = 1, 223, df $R^2\Delta$ Step 3 = 10, 213**.** SWL = Satisfaction with Life; SHS = Subjective Happiness.

Test of Moderation

To test the third hypothesis that the relationship between adversity and measures of well-being would be moderated by poly-strengths, a multiple regression analysis was conducted. Multiple regressions were run for each of the three measures of well-being (satisfaction with life,

physical well-being, and subjective happiness) as the dependent variables. In all analyses, the variables of adversity, poly-strength individual, and poly-strength domain were centered and adversity x poly-strength interaction terms were created by multiplying the centered adversity score by the respective centered poly-strength scores. In each analysis, all 10 individual strengths were entered as covariates in the first step. Adversity and poly-strength were entered in the second step, and the adversity x poly-strength (interaction term) was entered as a predictor in the third step. Additionally, the regressions were run first using the centered poly-strength individual variable and then with the centered poly-strength domain variable. The results for each measure of well-being and the ploy-strength individual and poly-strength domain variables are depicted in Tables 8-13. For each measure of well-being, the 10 strength scales were able to predict significant variance. Adversity and the poly-strengths individual variable, entered in step two, were able to predict significant variance for satisfaction with life and subjective happiness but not for measures of physical well-being. For the analyses with adversity and poly-strength domain entered in the second block, satisfaction with life was the only scale for which significant variance was predicted. Results from the interaction analyses of poly-strength and adversity were not significant. The poly-strength individual variable was not a significant moderator for the relationship between adversity and satisfaction with life, physical well-being, or subjective happiness. Poly-strength domain also did not significantly moderate the relationship between adversity and satisfaction with life, physical well-being, or subjective happiness.

Table 8

Analyses Examining the Ability of the Poly-strengths Individual Variable to Moderate the Strength of Relationships between Adversity Measures and the Subjective Happiness Scale

	$R^2\Delta$	*b* (SE)	β	t	Zero Order Correlation	Semipartial Correlation
Step 1	.56***					
Attachment Paternal		.15 (.08)	.01	1.81*	.34	.12
Attachment Maternal		-.03 (.09)	-.02	-0.30	.37	-.02
Social Support		.31 (.10)	.17	3.20**	.44	.22
Optimism		.31 (.09)	.17	3.05**	.48	.21
Coping		.34 (.13)	.16	2.65**	.45	.18
Anger Management		.07 (.11)	.01	0.67	.35	.05
Emotional Regulation		.17 (.09)	.11	1.86*	.41	.13
Purpose		.58 (.09)	.39	6.36***	.65	.40
Religious Meaning-Making		-.01 (.09)	-.01	-0.13	.24	-.01
Emotional Awareness		.02 (.08)	.02	0.29	.26	.02
Step 2	.01*					
Adversity		-.02 (.01)	-.12	-2.48*	-.26	-.17
Poly-Strengths Ind.		-.03 (.05)	-.05	-0.53	.58	-.04
Step 3	.00					
Adversity Poly-Strengths Ind. Interaction		.00 (.00)	.022	0.47	-.06	.03

Note. * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. df $R^2\Delta$ Step 1 = 10, 215, df $R^2\Delta$ Step 2 = 2, 213, df $R^2\Delta$ Step 3 = 1, 212.
[a] Coefficients for simple slopes represented with standardized regression coefficients.

Table 9

Analyses Examining the Ability of the Poly-strengths Individual Variable to Moderate the Strength of Relationships between Adversity Measures and the Satisfaction with Life Scale

	$R^2\Delta$	*b* (SE)	β	t	Zero Order Correlation	Semipartial Correlation
Step 1	.48***					
Attachment Paternal		1.14 (.47)	.13	2.42*	.35	.16
Attachment Maternal		.55 (.51)	.07	1.08	.41	.07
Social Support		1.55 (.55)	.17	2.82**	.42	.19
Optimism		1.23 (.49)	.16	2.59**	.43	.18
Coping		.50 (.74)	.04	0.67	.32	.05
Anger Management		-.13 (.62)	-.01	-0.21	.25	-.01
Emotional Regulation		.31 (.52)	.04	0.60	.32	.04
Purpose		2.96 (.52)	.38	5.65***	.61	.36
Religious Meaning-Making		.95 (.55)	.10	1.78†	.31	.12
Emotional Awareness		.15 (.45)	.02	0.33	.22	.02
Step 2	.02*					
Adversity		-.09 (.04)	-.14	-2.65**	-.28	-.18
Poly Strengths		-.20 (.30)	-.07	-0.67	.53	-.05
Step 3	.00					
Adversity Poly-Strengths Interaction		.00 (.01)	.01	0.26	-.05	.02

Note. † = $p \leq .10$, * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. df $R^2\Delta$ Step 1 = 10, 215, df $R^2\Delta$ Step 2 = 2, 213, df $R^2\Delta$ Step 3 = 1, 212.

[a] Coefficients for simple slopes represented with standardized regression coefficients.

Table 10

Analyses Examining the Ability of the Poly-strengths Individual Variable to Moderate the Strength of Relationships between Adversity Measures and the Physical Well-being Scale

	$R^2\Delta$	*b* (SE)	β	t	Zero Order Correlation	Semipartial Correlation
Step 1	.32***					
Attachment Paternal		.06 (.05)	.07	1.13	.22	.08
Attachment Maternal		.02 (.06)	.02	0.35	.27	.02
Social Support		.07 (.06)	.07	1.09	.24	.07
Optimism		.12 (.04)	.15	2.12*	.35	.14
Coping		.12 (.09)	.10	1.37	.30	.09
Anger Management		.21 (.07)	.21	2.93**	.35	.20
Emotional Regulation		.06 (.06)	.07	1.00	.30	.07
Purpose		.27 (.06)	.34	4.46***	.49	.29
Religious Meaning-Making		.04 (.06)	.04	0.59	.18	.04
Emotional Awareness		-.09 (.05)	-.11	-1.70†	.07	-.12
Step 2	.01					
Adversity		-.01 (.00)	-.08	-1.34	-.19	-.09
Poly Strengths		-.05 (.03)	-.18	-1.44	.38	-.10
Step 3	.00					
Adversity Poly-Strengths Interaction		.00 (.00)	-.01	-0.10	-.07	-.01

Note. † = $p \leq .10$, * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. df $R^2\Delta$ Step 1 = 10, 215, df $R^2\Delta$ Step 2 = 2, 213, df $R^2\Delta$ Step 3 = 1, 212.

[a] Coefficients for simple slopes represented with standardized regression coefficients.

Table 11

Analyses Examining the Ability of the Poly-strengths Domain Variable to Moderate the Strength of Relationships between Adversity Measures and the Subjective Happiness Scale

	$R^2\Delta$	*b* (SE)	β	t	Zero Order Correlation	Semipartial Correlation
Step 1	.56***					
Attachment Paternal		.14 (.08)	.09	1.69†	.34	.12
Attachment Maternal		-.04 (.09)	-.02	-0.40	.37	-.03
Social Support		.30 (.09)	.17	3.16**	.44	.21
Optimism		.26 (.09)	.17	3.03**	.48	.20
Coping		.34 (.13)	.10	2.66**	.45	.18
Anger Management		.07 (.11)	.03	0.61	.35	.04
Emotional Regulation		.15 (.09)	.10	1.72†	.41	.12
Purpose		.58 (.09)	.39	6.23***	.65	.40
Religious Meaning-Making		-.03 (.09)	-.02	-0.30	.24	-.02
Emotional Awareness		.02 (.08)	.01	0.21	.26	.01
Step 2	.01†					
Adversity		-.02 (.01)	-.12	-2.44*	-.26	-.17
Poly Strengths		-.02 (.11)	-.02	-0.18	.57	-.01
Step 3	.00					
Adversity Poly-Strengths Interaction		.01 (.01)	.04	0.85	-.04	.06

Note. † = $p \leq .10$, * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. df $R^2\Delta$ Step 1 = 10, 215, df $R^2\Delta$ Step 2 = 2, 213, df $R^2\Delta$ Step 3 = 1, 212.

[a] Coefficients for simple slopes represented with standardized regression coefficients.

Table 12

Analyses Examining the Ability of the Poly-strengths Domain Variable to Moderate the Strength of Relationships between Adversity Measures and the Satisfaction with Life Scale

	$R^2\Delta$	*b* (SE)	β	t	Zero Order Correlation	Semipartial Correlation
Step 1	.48***					
Attachment Paternal		1.11 (.48)	.13	2.34*	.35	.16
Attachment Maternal		.53 (.51)	.06	1.05	.41	.07
Social Support		1.50 (.54)	.16	2.81**	.42	.19
Optimism		1.25 (.49)	.15	2.55*	.43	.17
Coping		.39 (.72)	.03	0.54	.32	.04
Anger Management		-.19 (.61)	-.02	-0.30	.25	-.02
Emotional Regulation		.26 (.51)	.03	0.51	.32	.04
Purpose		2.94 (.53)	.37	5.60***	.61	.36
Religious Meaning-Making		.87 (.51)	.10	1.71†	.31	.12
Emotional Awareness		.11 (.44)	.01	0.24	.22	.02
Step 2	.02*					
Adversity		-.09 (.03)	-.14	-2.63**	-.28	-.18
Poly Strengths		-.28 (.60)	-.04	-0.48	.52	-.03
Step 3	.00					
Adversity Poly-Strengths Interaction		.00 (.03)	.00	0.08	-.04	.01

Note. † = $p \leq .10$, * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. df $R^2\Delta$ Step 1 = 10, 215, df $R^2\Delta$ Step 2 = 2, 213, df $R^2\Delta$ Step 3 = 1, 212.

[a] Coefficients for simple slopes represented with standardized regression coefficients.

Table 13

Analyses Examining the Ability of the Poly-strengths Domain Variable to Moderate the Strength of Relationships between Adversity Measures and the Physical Well-being Scale

	$R^2\Delta$	*b* (SE)	β	t	Zero Order Correlation	Semipartial Correlation
Step 1	.32***					
Attachment Paternal		.04 (.06)	.05	0.74	.22	.05
Attachment Maternal		.01 (.06)	.01	0.08	.27	.01
Social Support		.04 (.06)	.05	0.71	.24	.05
Optimism		.10 (.06)	.13	1.78†	.35	.12
Coping		.08 (.08)	.07	0.95	.30	.07
Anger Management		.18 (.07)	.18	2.55**	.35	.17
Emotional Regulation		.03 (.06)	.04	0.52	.30	.04
Purpose		.26 (.06)	.33	4.23***	.49	.28
Religious Meaning-Making		.00 (.06)	.00	-0.01	.18	.00
Emotional Awareness		-.11 (.05)	-.14	-2.10*	.07	-.14
Step 2	.01					
Adversity		.01 (.00)	-.08	-1.23	-.19	-.09
Poly Strengths		.03 (.07)	-.01	-0.05	.41	.00
Step 3	.00					
Adversity		.00	-.02	-0.29	-.08	-.02
Poly-Strengths Interaction		(.00)				

Note. † = $p \leq .10$, * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. df $R^2\Delta$ Step 1 = 10, 215, df $R^2\Delta$ Step 2 = 2, 213, df $R^2\Delta$ Step 3 = 1, 212.

[a] Coefficients for simple slopes represented with standardized regression coefficients.

CHAPTER FIVE

DISCUSSION

In this chapter, a discussion surrounding the results and outcomes of the three hypotheses is provided. The chapter begins with reviewing the general findings associated with the preliminary analyses and moves into a discussion of the results related to each of the hypotheses. These results are connected to the previously discussed literature and possible explanations of the findings in this study. Following this analysis, clinical implications, limitations, and future directions are discussed. Finally, a summary and conclusion are provided.

General Findings

Previous literature has suggested high levels of adversity in college students when adversity is measured broadly (Elliott et al., 2019). These various types of adversity have been connected to reduced psychological well-being in students (Banyard & Cantor, 2016; Finkelhor et al., 2007). Protective factors that increase the possibility of psychological resilience as an outcome following potentially traumatic events (PTEs) have been identified (Masten, 2007). Additionally, research has suggested that a combination of protective factors and, particularly, having above-average levels of these factors may result in higher levels of well-being following exposure to PTEs (Grych et al., 2015). Thus, the current study focused on exploring the relationship between well-being following adversity and the presence of poly-strengths among college students.

Elliott et al. (2019) reported that 92% of women and 95% of men endorsed at least one type of adversity. Given that the current study expanded the definition of adversity, it is unsurprising that an increased percentage of people endorsed adversity (98.9% of the sample). Multiple factors help to explain why college students may be endorsing such high levels of

exposure to adversity. First, they are in a unique environment that inherently contains additional stressors, such as academic stress, which has been highly correlated to the experience of anxiety (Jones et al., 2018). Additionally, college students are often in the stage of emerging adulthood (Arnett, 2000), which exposes them to multiple developmental stressors, such as increased responsibility, budding romantic relationships, and vocational decisions. College students are often subject to high levels of debt, which can impact well-being and result in financial strain (Eisenberg et al., 2007). Lastly, college students report high levels of repeat exposure to adverse events (often titled poly-victimization; Richmond et al., 2009). Exposure to adversity has been connected to an increased likelihood of experiencing additional adversity and has also been correlated with increases in behaviors that may be associated with risk-taking, such as substance use (Arnekrans et al., 2018).

Unique to the timeframe when this data was collected is the impact of the COVID-19 pandemic. Collection for this study began in January 2020, prior to classes being disrupted by the pandemic. The majority of the data was collected after the pandemic was impacting students. Approximately half of responses occurred after March in the Spring 2020 semester, when students were unable to return to the university following spring break, and the remainder occurred in the Fall 2020 semester, at which time the United States had been practicing social distancing and other public health initiatives for around 6 months. The potential impact of the timing of the data collection for the current study on the results cannot be ignored. The pandemic was related to increases in distress reported by college students, including symptoms related to stress and anxiety (Son et al., 2020). This distress was related to multiple factors, ranging from worry about health in self and loved ones to interrupted sleep patterns, to reduced ability to spend time with family and friends (Son et al., 2020). To cope with this stress, students adopted

new strategies and altered the way they interact with each other and the world. It is possible that this change in stress and availability of coping mechanisms shifted the way in which strengths were related to well-being. Students may have been utilizing protective factors not captured by the measures in this study (e.g., spending time in nature) or the included strengths may have been altered so drastically by the pandemic that they did not have the same benefit on student health (e.g., social support and interactions with others) because some, or even the majority of students, were not able to use them. It is the opinion of this author that changes in the distress and subsequent changes in coping mechanisms utilized are the primary reason that the predictions generated by using the Resilience Portfolio Model did not actualize. Specific ways that the pandemic may have interfered with the results are discussed below.

Hypothesis 1

Due to previous literature supporting the relationship between protective factors (strengths) and increased well-being following exposure to PTEs, it was hypothesized that greater levels of well-being would be correlated with poly-strengths (the number of strengths at above-average levels). Results indicated that there was a significant and strong correlation between poly-strengths (both domain and individual) and satisfaction with life and subjective happiness, and a significant, moderate correlation with physical well-being. This indicates that as the number of above-average strengths goes up, so do scores on measures of well-being. This is consistent with findings in previous literature that suggested the presence of strengths would be related to increases on scores of well-being (Hamby et al., 2018). Interestingly, physical well-being was not found to be as strongly correlated with poly-strengths as the other well-being measures. Additionally, physical well-being was the only well-being measure that did not significantly correlate with all 10 strengths individually (no significant correlation with the

emotional awareness scale). Physical health has been significantly linked to mental health in previous studies, with greater scores on measures of psychological well-being typically related to higher levels of physical well-being (e.g., Chida & Steptoe, 2008; Thoits, 2011). This may be related to the nature of physical well-being assessed in this study compared to previous research.

This study utilized a subjective measure of physical health that asked participants to assess how well they had felt recently in a variety of manners (e.g., how many days the person felt they were "full of energy," how many days did pain impede their activities). Previous studies have examined more concrete measures of physical health that may be outside the scope of individual awareness and thus difficult to accurately endorse on a self-report measure (e.g., cardiovascular health, mortality rate). Thus, it may be said that subjective physical well-being does not correlate as strongly with psychological well-being as objective measures of health might.

Another explanation is that the pandemic so curtailed the subjective well-being of the study's participants that they were not able to feel "full of energy." Chaturvedi et al. (2021) examined the impact of the COVID-19 pandemic on students, including the change in their physical activity levels. Students not only reported decreased levels of activity, but distress related to how they were spending their time. Further, 37% of the 1,182 participants reported unintentional weight gain. Additionally, the wording of this measure may have impacted responses. Zacher and Rudolph (2021) reported a decrease in endorsement of what they described as "high activation" emotions (e.g., "enthused") in a study of subjective well-being during the pandemic. The authors speculated that people's inclination to endorse highly positive language may be decreased due to the pandemic. This may apply to terms included within

measures in the current study (e.g., “full of energy” rather than “have enough energy”) and may have impacted how likely participants were to describe themselves in this manner.

The meaning-making domain and purpose scale were observed in this study to be more strongly correlated with all three measures of well-being than were the measures of poly-strength. Previous research also noted that the purpose scale was highly correlated with measures of well-being, more so than other individual strengths (Hamby et al., 2015). Additionally, the interpersonal domain was correlated more strongly with satisfaction with life than were either the poly-strength individual or poly-strength domain variables. The results are consistent with previous research that identified factors measured by these domains, such as social support and spirituality as important in student adjustment and well-being (e.g., Howell & Miller-Graff, 2014; Jolley, 2017). This suggests that the mere presence of strength in these domains may be more important than having above-average levels of the strength present.

Hypothesis 2

Previous research has suggested that the accumulation of exposure to adversity (i.e., poly-victimization) may result in a distinct state associated with reduced psychological well-being (Finkelhor et al., 2007; Follette et al., 1996). Grych et al. (2015) proposed that a similar state may exist for individuals who possess a combination of strengths (i.e., poly-strength) in that these folks would express higher levels of psychological well-being. This study sought to examine the ability of poly-strengths to predict variance in measures of well-being and the second hypothesis suggested that poly-strength would be able to predict variance better than exposure to adversity or scores on individual strength measures. Poly-strength variables were able to account for significant variance in all three measures of well-being above what adversity contributed. This is consistent with previous findings (Hamby et al., 2015) and suggests that the

presence of above-average levels of strengths is a better predictor of well-being than exposure to adversity.

Contrary to what was expected in the second hypothesis, poly-strength variables were not able to predict significant variance in measures of well-being above and beyond what the individual strength measures contributed. While this did not align with the hypothesis, there may be multiple explanations for these results. First, it is possible that the concept of poly-strengths may be more important when examining post-traumatic growth than resilience. Hamby et al. (2015) found significant results when they examined the relationship between poly-strengths and "thriving." They defined thriving as the presence of above-average scores on measures of well-being (matching the way the poly-strength variable is created). That is to say, higher scores on individual strengths may be more connected to increased scores on measures of well-being, and above-average scores on strength measures may be more connected to above-average scores on measures of well-being.

Alternatively, these results may suggest that the concept of poly-strength is not relevant within this population. College students as a cohort have been described as particularly resilient (Himelein, 1995). The barriers that individuals face when applying to college may create a sample of people who are distinct from those in the general population as those who are unable to overcome the barriers are filtered out. Hamby et al. (2015) did not report the percentage of their sample who were identified as having poly-strengths for comparison but a notable percentage of participants in this study endorsed strengths at above-average levels (44% endorsed more than three individual poly-strengths and 32% endorsed more than one poly-strength domain). The students included in this study may not derive any additional benefit from having above-average levels of strength.

Additionally, individual strengths were able to predict significant variance beyond what was accounted for by poly-strengths. While this was not a main interest in this study, it is consistent with previous research. Hamby et al. (2015) found that multiple individual strengths were associated with increased well-being above and beyond what was accounted for by both poly-strength variables and adversity. This may be representative of the importance of certain individual strengths in that their mere presence may be enough to receive the health benefits associated with them.

Again, considering the impacts of COVID-19 may help to understand these results. First and foremost, it is possible that coping strategies during the pandemic were distinct from those identified in previous research. The measures utilized within this study may not have adequately captured what strengths students were utilizing. Perhaps the best example of this phenomena may be the conceptualization of social support. Measures in this study regarding social support examined participants' perceived support by others, including feeling as though there were others in their life who they could talk to or who they believed cared for them. Important to highlight, the entire interpersonal dimension measured in this study consisted solely of one measure of general social support (other than parents) and two measures of parental attachment. Chaturvedi et al. (2021) found that students were basing their perception of social connections during the pandemic predominately on social media usage, which would not be captured by any of these three measures. Further, the researchers asked students to identify what activities they were performing to reduce stress. The coping mechanisms indicated by students aged 18-22 mostly comprised of activities they could perform alone. The majority of students (59%) identified listening to music (23%), watching web series (13%), sleeping (9%), social media (9%), and reading (5%) as their stress-relieving activities of choice. Similar to this, Brodeur et al.

(2021) reviewed changes in Google search terms before and during the pandemic and found a significant increase in people searching to alleviate boredom. None of the strength measures within this study analyze how people are spending their time, which may have been a significant variable associated with well-being during the pandemic.

Furthermore, Hansan and Bao (2020) conducted a survey and found that difficulties with e-learning and fear of academic loss were the two most prominent stressors among students during the pandemic. It is likely the strengths measured within this study did not capture the mechanisms students are using to overcome these challenges. In fact, it is possible that threat appraisal, defined as the belief that one has the resources needed to overcome a challenge, may be a critical factor associated with post-pandemic well-being (Zacher & Rudolph, 2021). While strengths were assessed in the current study, participants' subjective ratings of their strengths (e.g., do they believe they possess strong resources) were not captured.

Hypothesis 3

This study attempted to expand the existing research on the connection between poly-strengths and well-being by examining poly-strengths' ability to moderate the relationship between adversity and well-being. It was proposed that the presence of above-average strengths may explain the relationship between adversity and well-being measures. Whereas this hypothesis was not supported (as there were no significant interaction term effects for any of the three measures of well-being), findings from these analyses are relevant to the research as a whole. In particular, these analyses helped to highlight which strengths were most associated with measures of well-being within the sample. Notably, there was a difference observed between which strengths were most related to increases in measures of well-being in this sample compared to the sample collected by Hamby et al. (2015).

The previous research identified self-regulation and meaning-making components as most related to increased well-being and found that no interpersonal strengths were individually related to increases in well-being (Hamby et al., 2015). Consistent with these findings, meaning-making strength (particularly purpose) scores were observed to be significantly associated with increased well-being scores in the current study. Additionally, self-regulation traits that were important in the previous study (e.g., emotional awareness) were less often connected to well-being in the current study. Further, in the current study, interpersonal strengths were related to increased well-being, particularly social support. Thus, it is possible that identifying the strengths most crucial to this particular population may change the pattern of results and allow poly-strengths to moderate the relationship between well-being and adversity. Additional interpersonal measures that were not included in this study may prove useful as they may better capture the factors at play in building resilience in college students. For example, it has long been established that mentorship relationships (a type of interpersonal connection not measured within the Resilience Portfolio Model) have been impactful for student retention and other positive components of the student experience (Nagda et al., 1998).

Clinical Implications

First, this study highlights the importance of assessing for potentially traumatic events experienced by students. Utilizing a broad definition of adversity may help clinicians to capture experiences that may previously have been excluded from considerations. Therapists may be better able to conceptualize the experience of their client when they have adequate information about the client's past. Many college counseling centers utilize materials from the Center for Collegiate Mental Health (CCMH) to screen students during receipt of counseling services. The CCMH Student Data Set (SDS) is one such form that assesses for past experiences. Trauma is

included as a category and there is a possibility for students to respond that they experienced an event that caused “intense fear, helplessness, or horror” (CCMH, 2020). Although this is useful for capturing events that the students are able to identify as traumatic, many of the measures of adversity utilized in this study (e.g., financial strain, having a backpack stolen) would likely not elicit endorsements from students. Ideally, the CCMH could produce an updated version that also questions whether students have been impacted by additional stressors. Furthermore, especially since the SDS is customizable and institutions may remove questions at their discretion, it may ultimately fall to clinicians to capture these experiences either at intake or during the initial counseling sessions. Additionally, whereas the consideration of the impact that past exposure to adversity may have on students is crucial, it is also important to keep in mind the different ways that students may function following these events. Resilience is the most common outcome following exposure to adversity (Masten, 2001) and college students may represent a population that demonstrates increased resilience (Himelein, 1995). Thus, carefully assessing the functioning of the student is necessary so that clinicians do not assume a negative impact.

In addition to assessing for exposure to PTEs, clinicians are encouraged to consider a client’s resilience portfolio. This includes taking inventory of the strengths present for the client that may serve as protective factors. This study underlines the importance of identifying a broad array of strengths as helping to enhance a few individual strengths may be enough to increase the client’s well-being. Moreover, counselors are encouraged to stay abreast of research identifying which factors may be most crucial for resilience in college student populations. As the results of this study suggest, identifying the most important factors can be crucial in understanding well-being and, potentially, few strengths are needed if those identified as most important are

cultivated. Lastly, college campuses are encouraged to develop programs that aid students in cultivating and enhancing strengths. These programs should seek to help students build a sense of community and interpersonal connections on campus given the importance of social support in college student well-being (e.g., Frazier et al., 2011; Miller-Graff, 2014).

Further, counseling centers may want to engage in outreach initiatives that provide space for students to connect. Though counseling centers frequently offer group therapy sessions, which can be a positive environment in which to engage with other students who are experiencing similar difficulties, informal connection spaces may provide a way for students to engage with one another in a meaningful way without the stigma associated with attending counseling sessions. These outreach spaces can range in format, from opportunities to join together casually, such as an opportunity to meet some of the staff over a meal or shared game experience to talking spaces designed with a certain topic at the center (e.g., racial connection and healing spaces). Campuses at large may want to encourage the different colleges to host events that help students understand the real-world impact they can have through given majors. Counseling centers are encouraged to design outreach initiatives that help foster a sense of purpose and optimism among students, such as teaching gratitude practices and connecting with aspects of spirituality. Especially important may be when these outreach initiatives are employed. In light of findings that suggest students who have experienced PTEs are less likely to be enrolled by their second semester (Duncan, 2000), paying special attention to first semester freshman may result in the most beneficial interventions.

These approaches may be altered given the current landscape with COVID-19 restrictions. College students have reported increased levels of isolation during the pandemic (Son et al., 2020) and have also endorsed experiencing “zoom fatigue,” where they struggle to

focus in online platforms (Peper et al., 2021). Further, campuses should consider how they are helping students engage in ways that feel meaningful and provide a sense of purpose as this is another group of strengths strongly connected to improved well-being.

Limitations and Directions for Future Research

The present study has several limitations that are worth noting. First, the utilization of a survey system at a university campus has drawbacks. Though this method is convenient and, in the present study, captured a sample representative of the campus' racial demographics, students were able to self-select for the study. Since the questionnaire asked about sensitive material, prior to choosing to participate, students were informed that the content may be distressing. It is possible that those who chose not to continue may have been qualitatively different than those who participated. Further, as with any self-response survey, the responses represent how the individual perceives their own strengths and may not accurately represent the presence of strengths in their life. For example, self-report of a positive relationship with a parental figure does not necessarily indicate that a healthy relationship is present. Lastly, as the study provided credits required for psychology courses in which the students were enrolled, participants came from specific majors that often require psychology credits. Thus, the students were predominately in majors associated with social sciences and helping professions, and the sample was comprised mostly of students identifying as female.

A second limitation is related to the measures used during the study. Though these measures were chosen specifically because they allowed for testing of the Resilience Portfolio Model, they were conceptualized for a community sample rather than a college population. The strengths that were chosen may not have related to college student well-being as well as they were to the original population of Appalachian participants. Additionally, some of the measures

may not have captured the concepts as they were intended in previous literature reviews. For example, the physical well-being scale measures subjective interpretations of health, such as how many days the person noted they were feeling in good health. Many previous studies have conceptualized physical health in an objective sense, such as mortality rates, cardiovascular health, blood pressure, or other factors that someone may not be able to subjectively note. It is therefore suggested that future research design portfolio measures that better capture previous research on college-aged populations. The Resilience Portfolio Model requires short measures be utilized so that participants can be surveyed for a variety of strengths in one response session. Researchers are encouraged to design scales that measure concepts such as mentorship attachment, connection to campus community, and other college-specific surveys that could more fully assess the college student experience. Additionally, research that includes objective measures of health (e.g., takes blood pressure, follows participants longitudinally to assess mortality rates) is encouraged to determine the impact of strength portfolios on physical health.

To best identify what strengths may be most important to study in college student populations, it is recommended that subsequent research examine both the type and number of strengths associated with greater levels of well-being. Identifying if certain domains of strength (e.g., interpersonal, meaning-making) are more strongly related to well-being outcomes in college students may help inform clinical practice and provide clarity as to what to focus on for outreach and interventions. Further, it may be important to determine if there is a certain number of individual strengths associated with greater well-being. This may provide a guideline that allows clinicians to quickly assess for need to enhance a client's strengths portfolio to increase the likelihood of a client experiencing resilience following PTEs.

Further, it is recommended that future research assess the relationship between poly-strengths and the concept of thriving in a campus community. As examined in the study by Hamby et al. (2015), poly-strengths contributed unique variance to measures of well-being that were above average (i.e., thriving). This relationship may exist in the college student population also and may inform interventions aimed at increasing the likelihood of post-traumatic growth following PTEs. With the knowledge that so many college students have been exposed to PTEs, understanding what makes them thrive and how to help them flourish in the face of adversity could potentially be impactful to individuals and to campuses at large. Ultimately, interventions that are designed to increase student well-being are likely to produce more successful academic outcomes, as well as increase student retention. It may also reduce the number of students utilizing counseling centers, as students who have additional protective factors may need less support following PTEs. It may be useful in future research to perform comparison analyses between first semester freshman and students at other levels, given the findings of Duncan (2000) and the reduction of enrollment among students who have increased exposure to PTEs after that first semester.

Finally, it may be well to remember that the pandemic overshadowed the period when this data was collected. Because of its enormous negative impact on so many aspects of life across the United States, and the way safety measures to protect individuals and college campuses changed the usual college students' coping mechanisms, data on well-being collected during this study may need to be compared with similar data collected after the pandemic to gain a better understanding of how much these study results reflect the unique pandemic conditions. The study should be repeated when pandemic factors are less relevant (e.g., when social distancing mandates are lifted, when students return to all in-person classes) to identify the

ability of the Resilience Portfolio Model to predict how poly-strengths impact well-being within this population. Given the impact of the pandemic, it feels premature to determine poly-strengths do not play a role among college student well-being; though, as previously stated, it may be important to carefully examine which strengths are more relevant to this population and thus are included within the study.

Conclusion

This chapter has provided an in-depth discussion of the findings of this study and explanations for the results. The results of the hypothesis were reviewed, followed by a discussion of clinical implications, limitations, and future directions. The current study has added to the literature by examining the role of poly-strengths in well-being outcomes following exposure to adversity in a college population. Results have indicated that poly-strengths are related to increased well-being scores, though the presence of above-average strengths may not be the most important factor in determining college student health. Clinicians and researchers are encouraged to consider which factors may be most protective for college students following PTEs and to explore ways to enhance these factors. Finally, readers are cautioned to consider these results within the context of the pandemic occurring during data collection.

References

Age Distribution of Undergraduate Students, by Type of Institution. (n.d.). http://www.hamiltonproject.org/charts/age_distribution_of_undergraduate_students_by_type_of_institution

Amar, A. F., & Alexy, E. M. (2010). Coping with stalking. *Issues in Mental Health Nursing, 31*(1), 8-14. https://doi.org/10.3109/01612840903225602

Amato, P. R. (1990). Personality and social network involvement as predictors of helping behavior in everyday life. *Social Psychology Quarterly*, *53,* 31-43. https://www.jstor.org/stable/2786867?seq=1&cid=pdf-reference#references_tab_contents

American College Health Association. (2018). *American College Health Association-National College Health Assessment II: Reference Group Executive Summary Fall 2018*. American College Health Association.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.

Archana, Parkash, V., & Kumar, U. (2017). Resilient personalities: An amalgamation of protective factors. In U. Kumar (Ed.), *The Routledge international handbook of psychosocial resilience* (pp. 91-103). Routledge/Taylor & Francis Group.

Arnekrans, A. K., Calmes, S. A., Laux, J. M., Roseman, C. P., Piazza, N. J., Reynolds, J. L., Harmening, D., & Scott, H. L. (2018). College students' experiences of childhood developmental traumatic stress: Resilience, first-year academic performance, and substance use. *Journal of College Counseling, 21*(1), 2-14. https://doi.org/10.1002/jocc.12083

Arnett, J. J. (2000). Emerging adulthood. *American Psychologist, 55*(5), 469-480. https://doi.org/10.1037/0003-066X.55.5.469

Banyard, V. L., & Cantor, E. N. (2004). Adjustment to college among trauma survivors: An exploratory study of resilience. *Journal of College Student Development, 45*(2), 207-221. https://doi.org/10.1353/csd.2004.0017

Banyard, V., Hamby, S., & Grych, J. (2017). Health effects of adverse childhood events: Identifying promising protective factors at the intersection of mental and physical well-being. *Child Abuse & Neglect, 65*, 88-98. http://dx.doi.org/10.1016/j.chiabu.2017.01.011

Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2014). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of Affective Disorders, 173*, 90-96. http://dx.doi.org/10.1016/j.jad.2014.10.054

Benton, S. A., Robertson, J. M., Tseng, W., Newton, F. B., & Benton, S. L. (2003). Changes in counseling center client problems across 13 years. *Professional Psychology: Research and Practice, 34*(1), 66-72. https://doi.org/10.1037/0735-7028.34.1.66

Bonanno, G. A. (2004). Loss, trauma, and human resilience. *American Psychologist, 59*(1), 20-28. https://doi.org/10.1037/0003-066X.59.1.20

Bonanno, G. A., & Mancini, A. D. (2012). Beyond resilience and PTSD: Mapping the heterogeneity of responses to potential trauma. *Psychological Trauma: Theory, Research, Practice, and Policy, 4*(1), 74-83. https://doi.org/10.1037/a0017829

Breen, W. E., Kashdan, T. B., Lenser, M. L., & Fincham, F. D. (2010). Gratitude and forgiveness: Convergence and divergence on self-report and informant

ratings. *Personality and Individual Differences, 49*(8), 932-937. https://doi.org/10.1016/j.paid.2010.07.033

Bricker, J., Dettling, L. J., Henriques, A., Hsu, J. W., Moore, K. B., Sabelhaus, J., Thompson, J., & Windle, R. A. (2014, Sep. 1). Changes in U.S. family finances from 2010 to 2013: Evidence from the survey of consumer finances. *Federal Reserve Bulletin.* https://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf

Brodeur, A., Clark, A. E., Fleche, S., & Powdthavee, N. (2021). COVID-19, lockdowns and well-being: Evidence from Google trends. *Journal of Public Economics, 193.* https://doi.org/10.1016/j.jpubeco.2020.104346

Brougham, R., Zail, C., Mendoza, C., & Miller, J. (2009). Stress, sex differences, and coping strategies among college students. *Current Psychology, 28*(2), 85-97. https://doi.org/10.1007/s12144-009-9047-0

Bruening, M., Argo, K., Payne-Sturges, D., & Laska, M. N. (2017). The struggle is real: A systematic review of food insecurity on postsecondary education campuses. *Journal of the Academy of Nutrition and Dietetics, 117*(11), 1767-1791. http://dx.doi.org/10.1016/j.jand.2017.05.022

Brunner, J. L., Wallace, D. L., Reymann, L. S., Sellers, J., & McCabe, A. G. (2014). College counseling today: Contemporary students and how counseling centers meet their needs. *Journal of College Student Psychotherapy, 28*(4), 257-324. https://doi.org/10.1080/87568225.2014.948770

Carver, C. S. (1998). Resilience and thriving: Issues, models, and linkages. *Journal of Social Issues, 54*(2), 245-266. https://doi.org/10.1111/j.1540-4560.1998.tb01217.x

Center for Collegiate Mental Health. (2020, July). *Standardized Data Set* (The Pennsylvania State University, 1-33).

Center for Collegiate Mental Health. (2019, January). *2018 Annual Report* (Publication No. STA 19-180).

Centers for Disease Control and Prevention (CDC). (2000). *Measuring healthy days: Population assessment of health-related quality of life.* http://www.cdc.gov/hrqol/pdfs/mhd.pdf

Chaturvedi, K., Vishwakarma, D. K., & Singh, N. (2021). COVID-19 and its impact on education, social life, and mental health of students: A survey. *Children and Youth Services Review, 121*. https://doi.org/10.1016/j.childyouth.2020.105866

Chen, Y. Y., & Koenig, H. G. (2006). Traumatic stress and religion: Is there a relationship? A review of empirical findings. *Journal of Religion and Health, 45*(3), 371-381. https://doi.org/10.1007/s10943-006-9040-y

Chida, Y., & Steptoe, A. (2008). Positive psychological well-being and mortality: A quantitative review of prospective observational studies. *Psychosomatic Medicine,70*(7), 741-756. doi:10.1097/psy.0b013e31818105ba

Cohen, S. & Pressman, S. D. (2006). Positive affect and health. *Current Directions in Psychological Science, 15*(3), 122-125. https://doi.org/10.1111/j.0963-7214.2006.00420.x

Daniel, B. (2010). Concepts of adversity, risk, vulnerability and resilience: A discussion in the context of the 'Child protection system.' *Social Policy and Society, 9*(2), 231-241. https://doi.org/10.1017/S1474746409990364

Day, T., & Kearney, C. A. (2016). Resilience variables and posttraumatic symptoms among maltreated youth. *Journal of Aggression, Maltreatment & Trauma, 25*(9), 991-1005. http://dx.doi.org/10.1080/10926771.2016.1236358

DeKeseredy, W. S., Schwartz, M. D., Nolan, J., Mastron, N., & Hall-Sanchez, A. (2018). Polyvictimization and the continuum of sexual abuse at a college campus: Does negative peer support increase the likelihood of multiple victimizations? *The British Journal of Criminology, 59*(2), 276-295. https://doi.org/10.1093/bjc/azy036

Diener, E. (1984). Subjective well-being. *Psychological Bulletin,95*(3), 542-575.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective wellbeing. *Psychological Bulletin, 125*(2), 276-302. https://doi.org/10.1037/0033-2909.125.2.276

Dimock, M. (2019, January 17). Defining generations: Where Millennials end and Generation Z begins. http://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/

Duncan, R. D. (2000). Childhood maltreatment and college drop-out rates. *Journal of Interpersonal Violence,15*(9), 987-995. https://doi.org/10.1177/088626000015009005

Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry, 77*(4), 534-542. https://doi.org/10.1037/0002-9432.77.4.534

Elliott, A. N., Faires, A., Turk, R. K., Wagner, L., Pomeroy, B. M., Pierce, T. W., Aspelmeier, J. E. (2019). Polyvictimization, psychological distress, and trauma symptoms in college men and women. *Journal of College Counseling, 22,* 138-151. https://doi.org/10.1002/jocc.12126

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2006). Poly-victimization: A neglected

component in child victimization. *Child Abuse & Neglect, 31*(1), 7-26. https://doi.org/10.1016/j.chiabu.2006.06.008

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Polyvictimization and trauma in a national longitudinal cohort. *Development and Psychopathology, 19*(1), 149-166. https://doi.org/10.1017/S0954579407070083

Flatt, A. K. (2013). A suffering generation: Six factors contributing to the mental health crisis in North American higher education. *College Quarterly,16*(1). http://collegequarterly.ca/2013-vol16-num01-winter/flatt.html

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, W., Koss, M. P., Marks, J. S. (2019). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ACE) study. *American Journal of Preventive Medicine, 56*(6), 774-786. https://doi.org/10.1016/j.amepre.2019.04.001

Folkman, S. (1997). Positive psychological states and coping with severe stress. *Social Science & Medicine, 45*(8), 1207-1221. https://doi.org/10.1016/S0277-9536(97)00040-3

Folkman, S., & Moskowitz, J. T. (2007). Positive affect and meaning-focused coping during significant psychological stress. *The Scope of Social Psychology: Theory and Applications,* 193-208. https://doi.org/10.4324/9780203965245

Follette, V. M., Polusny, M. A., Bechtle, A. E., & Naugle, A. E. (1996). Cumulative trauma: The impact of child sexual abuse, adult sexual assault, and spouse abuse. *Journal of Traumatic Stress, 9*(1), 25-35. https://doi.org/10.1002/jts.2490090104

Frazier, P. A., Gavian, M., Hirai, R., Park, C., Tennen, H., Tomich, P., & Tashiro, T. (2011). Prospective predictors of posttraumatic stress disorder symptoms: Direct and mediated

relations. *Psychological Trauma: Theory, Research, Practice, and Policy, 3*(1), 27-36. https://doi.org/10.1037/a0019894

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology, 84*(2), 365-376. https://doi.org/10.1037/0022-3514.84.2.365

Furman, W., & Buhrmester, D. (2009). Methods and measures: The network of relationships inventory: Behavioral systems version. *International Journal of Behavioral Development, 33*, 470-478. https://doi.org/10.1177/0165025409342634

Goldrick-Rab, S., Richardson, J., Schneider, J., Hernandez, A., & Cady, C. (2018). *Still hungry and homeless in college.* https://hope4college.com/wpcontent/uploads/2018/09/Wisconsin-HOPE-Lab-Still-Hungry-and-Homeless.pdf

Gonzalez-Mendez, R., Ramírez-Santana, G., & Hamby, S. (2018). Analyzing Spanish adolescents through the lens of the resilience portfolio model. *Journal of Interpersonal Violence, 36*(9-10), 1-18. https://doi.org/10.1177/0886260518790600

Goodman, L., Corcoran, C., Turner, K., Yuan, N., & Green, B. (1998). Assessing traumatic event exposure: General issues and preliminary findings for the Stressful Life Events Screening Questionnaire. *Journal of Traumatic Stress, 11*(3), 521-542. https://doi.org/10.1023/A:1024456713321

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in

Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment, 26* (1), 41-54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Gray, M. J., Litz, B. T., Hsu, J. L., & Lombardo, T. W. (2004). Psychometric properties of the Life Events Checklist. *Assessment, 11*(4), 330-338. https://doi.org/10.1177/1073191104269954

Groen, C., Simmons, D. R., & Turner, M. (2019). Developing resilience: Experiencing and managing stress in a US undergraduate construction program. *Journal of Professional Issues in Engineering Education and Practice, 145*(2), 4019002. https://doi.org/10.1061/(ASCE)EI.1943-5541.0000407

Grych, J., Hamby, S., & Banyard, V. (2015). The resilience portfolio model: Understanding healthy adaptation in victims of violence. *Psychology of Violence, 5*(4), 343-354. http://dx.doi.org/10.1037/a0039671

Hamby, S., Grych, J., & Banyard, V. L. (2015). *Life Paths measurement packet: Finalized scales.* Life Paths Research Program.http://www.lifepathsresearch.org/strengths-measures/

Hamby, S., Grych, J., & Banyard, V. (2018). Resilience portfolios and poly-strengths: Identifying protective factors associated with thriving after adversity. *Psychology of Violence, 8*(2), 172-183. http://dx.doi.org/10.1037/vio0000135

Hamby, S., Stith, S. M., Grych, J., & Banyard, V. L. (2013). Life Paths Research measurement packet. Life Paths Research Program. https://doi.org/ 10.13140/RG.2.1.3318.2884

Hamby, S., Turner, H. A., & Finkelhor, D. (2011). Financial strain index. Durham, NH: Crimes Against Children Research Center. https://doi.org/10.13140/RG.2.1.2368.0161 https://www.lifepathsresearch.org/wp-content/uploads/Financial-Strain.pdf

Hansan, N., & Bao, Y. (2020). Impact of "e-learning crack-up" perception on psychological distress among college students during COVID-19 pandemic: A mediating role of "fear of academic year loss." *Children and Youth Services Review, 118*. https://doi.org/10.1016/j.childyouth.2020.105355

Hartley, M. T. (2013). Investigating the relationship of resilience to academic persistence in college students with mental health issues. *Rehabilitation Counseling Bulletin, 56* (4), 240-250. https://doi.org/10.1177/0034355213480527

Himelein, M. J. (1995). Childhood sexual abuse and the academic adjustment of college women. *Child Abuse & Neglect, 19*(6), 761-764. https://doi.org/10.1016/0145-2134(95)00033-5

Hirsch, J. K., Rabon, J. K., Reynolds, E. E., Barton, A. L., & Chang, E. C. (2017). Perceived stress and suicidal behaviors in college students: Conditional indirect effects of depressive symptoms and mental health stigma. *Stigma and Health, 4*(1), 98-106. http://dx.doi.org/10.1037/sah0000125

Holahan, C. J., & Moos, R. H. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology*, *52*(5), 946-955.

Howell, K. H., & Miller-Graff, L. E. (2014). Protective factors associated with resilient functioning in young adulthood after childhood exposure to violence. *Child Abuse & Neglect, 38*(12), 1985-1994. http://dx.doi.org/10.1016/j.chiabu.2014.10.010

Johns, M., Zimmerman, M., & Bauermeister, J. (2013). Sexual attraction, sexual identity, and psychosocial wellbeing in a national sample of young women during emerging adulthood. *Journal of Youth and Adolescence, 42*(1), 82-95. https://doi.org/10.1007/s10964-012-9795-2

Jolley, A. L. (2017). *The relationship between trauma exposure and college student adjustment: Factors of resilience as a mediator*. https://doi.org/10.25777/73GD-0T27

Jones, P. J., Park, S. Y., & Lefevor, G. T. (2018). Contemporary college student anxiety: The role of academic distress, financial stress, and support. *Journal of College Counseling, 21*(3), 252-264. https://doi.org/10.1002/jocc.12107

Joseph, S., & DiDuca, D. (2007). The dimensions of religiosity scale: 20-item self-report measure of religious preoccupation, guidance, conviction, and emotional involvement. *Mental Health, Religion & Culture, 10*(6), 603-608. https://doi.org/10.1080/13674670601050295

Kessler, R., Amminger, G., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Üstün, T. (2007). Age of onset of mental disorders: A review of recent literature. *Current Opinion in Psychiatry, 20*(4), 359-364. https://doi.org/10.1097/YCO.0b013e32816ebc8c

Larkin, H., Lee, E., Esaki, N., DeMasi, M., Trifoso, S., Briar-Lawson, K., Dean, E., Weldon, P., Park, J., Bowen, L., Benson, D., Cortese, A., Gettman, W. T., Hathaway, T., Hulihan, T., LaFrenier, A., MacFarland, N., Marcal, S. D., Oberlander, H., . . . Yusko, J. A. (2018). The effects of protective factors and adverse childhood experiences on behavioral health services use: Findings from a population-based sample. *Social Work in Health Care, 57*(7), 548-562. https://doi.org/10.1080/00981389.2018.1471016

Lenzi, M., Furlong, M. J., Dowdy, E., Sharkey, J., Gini, G., & AltoÃ¨, G. (2015). The quantity and variety across domains of psychological and social assets associated with school victimization. *Psychology of Violence, 5*(4), 411-421. http://dx.doi.org/10.1037/a0039696

Levin, J. S., Markides, K. S., & Ray, L. A. (1996). Religious attendance and psychological well-being in Mexican Americans: A panel analysis of three-generations data. *The Gerontologist, 36*(4), 454-463.

Liu, C. H., Stevens, C., Wong, S. H. M., Yasui, M., & Chen, J. A. (2019). The prevalence and predictors of mental health diagnoses and suicide among U.S. college students: Implications for addressing disparities in service use. *Depression and Anxiety, 36*(1), 8-17. https://doi.org/10.1002/da.22830

Locke, B. D., Bieschke, K. J., Castonguay, L. G., & Hayes, J. A. (2012). The center for collegiate mental health: Studying college student mental health through an innovative research infrastructure that brings science and practice together. *Harvard Review of Psychiatry, 20*(4), 233-245. https://doi.org/10.3109/10673229.2012.712837

Lovibond, S.H., & Lovibond, P. F. (2004). *Manual for the Depression Anxiety Stress Scales* (2nd ed.). Psychology Foundation, Sydney.

Lyubomirsky, S. & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validity. *Social Indicators Research, 46*, 137-155. https://escholarship.org/content/qt2185n8gb/qt2185n8gb.pdf

Masten, A. S. (2001). Ordinary magic. *American Psychologist, 56*(3), 227-238. https://doi.org/10.1037/0003-066X.56.3.227

Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology, 19*(3), 921-930. https://doi.org/10.1017/S0954579407000442

McCrae, R. R., & Costa, P. T. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality, 54*(2), 385-404. https://doi.org/10.1111/j.1467-6494.1986.tb00401.x

Meadows, L., Kaslow, N., Thompson, M., & Jurkovic, G. (2005). Protective factors against suicide attempt risk among African American women experiencing intimate partner violence. *American Journal of Community Psychology, 36*(1), 109-121. https://doi.org/10.1007/s10464-005-6236-3

Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., Houts, R., Poulton, R., Roberts, B. W., Ross, S., Sears, M. R., Thomson, W. M., & Heckman, J. J. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences of the United States of America, 108*(7), 2693-2698. https://doi.org/10.1073/pnas.1010076108

Mooney, M. (2010). Religion, college grades, and satisfaction among students at elite colleges and universities. *Sociology of Religion, 71*(2), 197-215. https://doi.org/10.1093/socrel/srq035

Mowbray, C. T., Megivern, D., Mandiberg, J. M., Strauss, S., Stein, C. H., Collins, K., Kopels, S., Curlin, C., & Lett, R. (2006). Campus mental health services. *American Journal of Orthopsychiatry, 76*(2), 226-237. https://doi.org/10.1037/0002-9432.76.2.226

Nagda, B. A., Gregerman, S. R., Jonides, J., von Hippel, W., & Lerner, J. S. (1998). Undergraduate student-faculty research partnerships affect student retention. *The Review of Higher Education 22*(1), 55-72. https://doi:10.1353/rhe.1998.0016

Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology, 3*(2), 137-152. https://doi.org/10.1080/17439760701756946

Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, L. (1998). Patterns of positive and negative religious coping with major life stressors. *Journal for the Scientific Study of Religion, 37*, 711-725. https://www.jstor.org/stable/1388152

Peper, E., Wilson, V., Martin, M., Rosegard, E., & Harvey, R. (2021). Avoid Zoom fatigue, be present and learn. *NeuroRegulation, 8*(1), 47-56. https://doi.org/10.15540/nr.8.1.47

Putney, S., & Middleton, R. (1961). Dimensions and correlates of religious ideologies. *Social Forces, 39(4),* 285-290. https://www.jstor.org/stable/2573423

Richmond, J. M., Elliott, A. N., Pierce, T. W., Aspelmeier, J. E., & Alexander, A. A. (2009). Polyvictimization, childhood victimization, and psychological distress in college women. *Child Maltreatment, 14*(2), 127-147. https://doi.org/10.1177/1077559508326357

Roisman, G. I., Masten, A. S., Coatsworth, J. D., & Tellegen, A. (2004). Salient and emerging developmental tasks in the transition to adulthood. *Child Development, 75*(1), 123-133. https://doi.org/10.1111/j.1467-8624.2004.00658.x

Rutter, P. A. (2008). Suicide protective and risk factors for sexual minority youth: Applying the cumulative factor model. *Journal of LGBT Issues in Counseling, 2*(1), 81-92. https://doi.org/10.1080/15538600802077681

Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from

neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 67*(6), 1063-1078.

Schiffrin, H., & Nelson, S. (2010). Stressed and happy? Investigating the relationship between happiness and perceived stress. *Journal of Happiness Studies, 11*(1), 33-39. https://doi.org/10.1007/s10902-008-9104-7

Schnell, T. (2011). Individual differences in meaning-making: Considering the variety of sources of meaning, their density and diversity. *Personality and Individual Differences, 51*(5), 667-673. https://doi.org/10.1016/j.paid.2011.06.006

Schwartz, S. J., Côté, J. E., & Arnett, J. J. (2005). Identity and agency in emerging adulthood. *Youth & Society, 37*(2), 201-229. https://doi.org/10.1177/0044118X05275965

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5-14. https://doi.org/10.1037/0003-066X.55.1.5

Shek, D. T. L., & Wong, K. K. (2011). Do adolescent developmental issues disappear overnight? Reflections about holistic development in university students. *The Scientific World Journal, 11*, 353-361. https://doi.org/10.1100/tsw.2011.5

Smyth, J. M., Hockemeyer, J. R., Heron, K. E., Wonderlich, S. A., & Pennebaker, J. W. (2008). Prevalence, type, disclosure, and severity of adverse life events in college students. *Journal of American College Health, 57*(1), 69-76. https://doi.org/10.3200/JACH.57.1.69-76

Soldavini, J., Berner, M., & Da Silva, J. (2019). Rates of and characteristics associated with food insecurity differ among undergraduate and graduate students at a large public university in the southeast United States. *Preventive Medicine Reports, 14*, 100836. https://doi.org/10.1016/j.pmedr.2019.100836

Son, C., Hedge, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of Medical Internet Research, 22*(9), e21279. https://www.jmir.org/2020/9/e21279/

Spitzberg, B., & Cupach, W. (2008). Managing unwanted pursuit. In M. Motley (Ed.), *Studies in applied interpersonal communication* (pp. 3-25). Sage Publications, Inc. https://doi.org/10.4135/9781412990301.d3

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*, 80-93. https://doi.org/10.1037/0022-0167.53.1.80

Stith, S. M., & Hamby, S. (2002). The Anger Management Scale: Development and preliminary psychometric properties. *Violence and Victims, 17*, 383-402. https://connect.springerpub.com/content/sgrvv%3A%3A%3A17%3A%3A%3A4%3A%3A%3A383.full.pdf?implicit-login=true&sigma-token=ykrcxnF2dvcQAU9M2_e_2idBDzk7z7k6LJ_092ap9tw

The Hamilton Project. (2017). *The Hamilton Project produces evidence-based policy proposals and analyses to promote broad-based economic growth.* https://www.hamiltonproject.org/

Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior, 52*(2), 145-161. https://doi.org/10.1177/0022146510395592

Thompson, R. W., Arnkoff, D. B., & Glass, C. R. (2011). Conceptualizing mindfulness and acceptance as components of psychological resilience to trauma. *Trauma, Violence, & Abuse, 12*(4), 220-235. https://doi.org/10.1177/1524838011416375

Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology, 86*(2), 320-333. https://doi.org/10.1037/0022-3514.86.2.320

Tusaie, K., & Dyer, J. (2004). Resilience: A historical review of the construct. *Holistic Nursing Practice, 18*(1), 3-10. https://doi.org/10.1097/00004650-200401000-00002

Turner, H. A., Finkelhor, D., & Ormrod, R. (2010). Poly-victimization in a national sample of children and youth. *American Journal of Preventive Medicine, 38*(3), 323-330. https://doi.org/10.1016/j.amepre.2009.11.012

Waugh, C. E., Thompson, R. J., & Gotlib, I. H. (2011). Flexible emotional responsiveness in trait resilience. *Emotion (Washington, D.C.), 11*(5), 1059-1067. https://doi.org/10.1037/a0021786

Weathers, F. W., Blake, D. D., Schnurr, P. P., Kaloupek, D. G., Marx, B. P., & Keane, T. M. (2013). *The Life Events Checklist for DSM-5 (LEC-5)*. Instrument available from the National Center for PTSD at www.ptsd.va.gov

Windle, G. (2011). What is resilience? A review and concept analysis. *Reviews in Clinical Gerontology, 21*(2), 152-169. https://doi.org/10.1017/S0959259810000420

Xiao, H., Carney, D. M., Youn, S. J., Janis, R. A., Castonguay, L. G., Hayes, J. A., & Locke, B. D. (2017). Are we in crisis? National mental health and treatment trends in college counseling centers. *Psychological Services, 14*(4), 407-415. http://dx.doi.org/10.1037/ser0000130

Zacher, H., & Rudolph, C. W. (2021). Individual differences and changes in subjective well-being during the early stages of COVID-19 pandemic. *American Psychologist, 76*(1), 50-62. http://dx.doi.org/10.1037/amp0000702

Zarrett, N., & Eccles, J. (2006). The passage to adulthood: Challenges of late adolescence. *New Directions for Youth Development, 2006*(111), 13-28. http://dx.doi.org/10.1002/yd.179

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*, 30-41. https://doi.org/10.1207/s15327752jpa5201_2

Zimet, G. D., Powell, S. S., Farley, G. K., Werkman, S., & Berkoff, K. A. (1990). Psychometric characteristics of the Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 55*(3&4), 610-617. https://doi.org/10.1080/00223891.1990.9674095

Appendix A: Full Qualtrics Survey

Radford University Cover Letter for Internet Research

RADFORD UNIVERSITY

You are invited to participate in a research survey, entitled "Investigating the RP Model." Thestudy is being conducted by Dr. Ruth Riding-Malon and Alyson Faires, M.S. from the Psychology Department of Radford University, Psychology Department, PO Box 6946, Radford University, 24142, 540-831-6892, rridingmalon@radford.edu or afaires@radford.edu.

The purpose of this study is to examine reactions of students to stress, difficult, and potentially traumatic events that they have experienced previously. Your participation in the survey will contribute to a better understanding of students' reactions to life difficulties. We estimate that it will take about 35-45 minutes of your time to complete the questionnaire. Youwill receive two (2) credits on SONA for participation. You are free to contact the investigator(s) at the above address and phone number to discuss the survey.

Some of the questions we will ask you as part of this study may make you feel uncomfortable. These include questions regarding previous instances of adversity such as theft, types of assault, natural disaster, etc. Details of these events are not requested, just whether you have experienced such an event directly or indirectly. No specific details will beasked. You may refuse to answer any of the

questions, take a break or stop your participation in this study at any time. There is a possibility that this study may present more than minimal risk to participants. You will be provided with resources to contact at the end ofthe questionnaire in the event that some of the questions made you feel uncomfortable.

The research team will work to protect your data to the extent permitted by technology. It is possible, although unlikely, that an unauthorized individual could gain access to your responses because you are responding online. This risk is similar to your everyday use of the internet. Identification numbers associated with email addresses will be kept during the data collectionphase for tracking purposes only so that students can receive course credit. A limited number of research team members will have access to the data during data collection. No identifying information will be included in the dataset.

Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you wish towithdraw from the study or have any questions, contact the investigator listed above. If youchoose not to participate or decide to withdraw, there will be no impact on your grades/academic standing. For students receiving course credit, alternatives to research participation will be offered. See your course instructor for additional information.

If you have any questions or wish to update your email address, please call one of the researchers listed above at 540-831-6892 or send an email to rridingmalon@radford.edu or afaires@radford.edu. You may also request a hard copy of the survey from the contact information above.

This study was approved by the Radford University Committee for the Review of HumanSubjects Research. If you have questions or concerns about your rights as a research subject or have complaints about this study, you should contact Dr. Benjamin Caldwell,Institutional Official and Dean of the College of Graduate Studies and Research, RadfordUniversity, bcaldwell13@radford.edu, 1-540-831-7163.

If you agree to participate, please ***press the arrow button at the bottom right of the screen****. Otherwise use the X at the upper right corner to close this window and disconnect.*

Thank you.

Demographics

What is your age?

What is your major?

Do you have a minor? If yes, please describe.

What is your class standing?

- Freshman
- Sophomore
- Junior
- Senior

What is your gender?

- Male
- Female
- Transgender male
- Transgender female
- Nonbinary
- Other (please describe)

Please select your race and/or ethnicity. Choose as many as apply.

- [ ] American Indian/Native American or Alaska Native
- [ ] Asian
- [ ] Black or African American
- [ ] Hispanic/Latinx
- [ ] Native Hawaiian or Other Pacific Islander
- [ ] White

☐ Other (please describe)

JVQ

RADFORD UNIVERSITY

These are questions about some things that might have happened during your childhood. Your "childhood" begins when you are born and continues through age 17. It might help to take a minute and think about the different schools you attended, different places you mighthave lived, or different people who took care of you during your childhood. Try your best to think about your entire childhood as you answer these questions.

When you were a child, did anyone use force to take something away from you that youwere carrying or wearing?

○ Yes
○ No

When you were a child, did anyone steal something from you and never give it back? Thingslike a backpack, money, watch, clothing, bike, stereo, or anything else?

○ Yes

- ○ No

When you were a child, did anyone break or ruin any of your things on purpose?

- ○ Yes
- ○ No

Sometimes people are attacked <u>with</u> sticks, rocks, guns, knives, or other things that would hurt. When you were a child, did anyone hit or attack you on purpose <u>with</u> an object or weapon? Somewhere like: at home, at school, at a store, in a car, on the street, or anywhereelse?

- ○ Yes
- ○ No

When you were a child, did anyone hit or attack you <u>without</u> using an object or weapon?

- ○ Yes
- ○ No

When you were a child, did someone start to attack you, but for some reason, it didn'thappen? For example, someone helped you or you got away?

- Yes
- No

When you were a child, did someone threaten to hurt you when you thought they might reallydo it?

- Yes
- No

When a person is kidnapped, it means they were made to go somewhere, like into a car, by someone who they thought might hurt them. When you were a child, did anyone try to kidnapyou?

- Yes
- No

When you were a child, have you been hit or attacked because of your skin color, religion, orwhere your family comes from? Because of a physical problem you have? Or because someone said you were gay?

- Yes
- No

Next, we are going to ask about grown-ups who take care of you. This means parents, babysitters, adults who live with you, or others who watch you. Before we begin, I want to remind you that your answers will be kept totally private. If there is a particular question that you don't want to answer, that's O.K. But it is important that you be as honest as you can, sothat we can get a better idea of the kinds of things that kids your age sometimes face.

Not including spanking on your bottom, when you were a child, did a grown-up in your life hit,beat, kick, or physically hurt you in any way?

- ○ Yes
- ○ No

When you were a child, did you get scared or feel really bad because grown-ups in your lifecalled you names, said mean things to you, or said they didn’t want you?

- ○ Yes
- ○ No

When someone is neglected, it means that the grown-ups in their life didn’t take care of themthe way they should. They might not get them enough food, take them to the doctor when they are sick, or make sure they have a safe place to stay. When you were a child, were youneglected?

- ○ Yes

- ○ No

Sometimes a family fights over where a child should live. When you were a child, did aparent take, keep, or hide you to stop you from being with another parent?

- ○ Yes
- ○ No

Sometimes groups of kids or gangs attack people. When you were a child, did a group ofkids or a gang hit, jump, or attack you?

- ○ Yes
- ○ No

When you were a child, did any kid, even a brother or sister, hit you? Somewhere like: athome, at school, out playing, in a store, or anywhere else?

- ○ Yes
- ○ No

When you were a child, did any kids try to hurt your private parts on purpose by hitting orkicking you there?

- Yes
- No

When you were a child, did any kids, even a brother or sister, pick on you by chasing you orgrabbing you or by making you do something you didn't want to do?

- Yes
- No

When you were a child, did you get scared or feel really bad because kids were calling younames, saying mean things to you, or saying they didn't want you around?

- Yes
- No

When you were a child, did a boyfriend or girlfriend or anyone you went on a date with slapor hit you?

- Yes
- No

When you were a child, did a grown-up you know touch your private parts when they shouldn't have or make you touch their private parts? Or did a grown-up you know force you

to have sex?

- ○ Yes
- ○ No

When you were a child, did a grown-up you did not know touch your private parts when theyshouldn't have, make you touch their private parts or force you to have sex?

- ○ Yes
- ○ No

Now think about other kids, like from school, a boy friend or girl friend, or even a brother orsister. When you were a child, did another child or teen make you do sexual things?

- ○ Yes
- ○ No

When you were a child, did anyone try to force you to have sex; that is, sexual intercourse ofany kind, even if it didn't happen?

- ○ Yes
- ○ No

When you were a child, did anyone make you look at their private parts by using force orsurprise, or by "flashing" you?

- ○ Yes
- ○ No

When you were a child, did anyone hurt your feelings by saying or writing something sexualabout you or your body?

- ○ Yes
- ○ No

When you were a child, did you do sexual things with anyone 18 or older, even things youboth wanted?

- ○ Yes
- ○ No

When you were a child, did you SEE a parent get pushed, slapped, hit, punched, or beat upby another parent, or their boyfriend or girlfriend?

- ○ Yes
- ○ No

When you were a child, did you SEE a parent hit, beat, kick, or physically hurt your brothersor sisters, not including a spanking on the bottom?

- ○ Yes
- ○ No

When you were a child, in real life, did you SEE anyone get attacked on purpose WITH a stick, rock, gun, knife, or other thing that would hurt? Somewhere like: at home, at school, ata store, in a car, on the street, or anywhere else?

- ○ Yes
- ○ No

When you were a child, in real life, did you SEE anyone get attacked or hit on purposeWITHOUT using a stick, rock, gun, knife, or something that would hurt?

- ○ Yes
- ○ No

When you were a child, did anyone steal some thing from your house that belongs to yourfamily or someone you live with? Things like a TV, stereo, car, or anything else?

- ○ Yes
- ○ No

When you were a child, was anyone close to you murdered, like a friend, neighbor orsomeone in your family?

- ○ Yes
- ○ No

When you were a child, were you in any place in real life where you could see or hear peoplebeing shot, bombs going off, or street riots?

- ○ Yes
- ○ No

When you were a child, were you in the middle of a war where you could hear real fightingwith guns or bombs?

- ○ Yes
- ○ No

Optimism

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	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
If something can go wrong for me, it will	O	O	O	O
I hardly ever expect things to go my way	O	O	O	O

Attachment Maternal

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Answer the following questions about your mother (or mother figure). If she is deceased, answer these questions about when she was alive.

You seek out your mother (or mother figure) when you're upset.

- ○ Mostly true about me
- ○ Somewhat true about me

- ○ A little true about me
- ○ Not true about me
- ○ I did not have a mother figure when I was a child

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You turn to your mother (or mother figure) when you're worried about something.

- ○ Mostly true about me
- ○ Somewhat true about me
- ○ A little true about me
- ○ Not true about me

You turn to your mother (or mother figure) for comfort when you're not feeling well.

- ○ Mostly true about me
- ○ Somewhat true about me
- ○ A little true about me
- ○ Not true about me

Your mother (or mother figure) encourages you to try new things that you'd like to do but are nervous about.

- ○ Mostly true about me
- ○ Somewhat true about me
- ○ A little true about me
- ○ Not true about me

Your mother (or mother figure) encourages you to go after your goals and future plans.

- ○ Mostly true about me
- ○ Somewhat true about me
- ○ A little true about me
- ○ Not true about me

Your mother (or mother figure) shows support for the things you do.

- ○ Mostly true about me
- ○ Somewhat true about me
- ○ A little true about me
- ○ Not true about me

Social Support- Friends and Adults

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	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
My friends really try to help me	O	O	O	O
I can count on my friends when things go wrong	O	O	O	O
I can talk about my problems with my friends	O	O	O	O
In my life right now, there are adults other than my parents who care about my feelings and what happens to me	O	O	O	O
In my life right now, there are adults other than my parents who would give me good suggestions and advice	O	O	O	O

	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
In my life right now, there are adults other than my parents who would help me with practical needs, like getting somewhere or help with a project	○	○	○	○

Life-event Checklist

Instructions: Listed below are a number of difficult or stressful things that sometimes happen to people. For each event check one or more of the boxes to indicate that: (a) it happened to you personally; (b) you witnessed it happen to someone else; (c) you learned about it happening to a close family member or close friend; (d) you were exposed to it as part of your job (for example, paramedic, police, military, or other first responder); (e) you're not sureif it fits; or (f) it doesn't apply to you.

Be sure to consider your entire life (growing up as well as adulthood) as you go through thelist of events.

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Natural disaster (for example, flood, hurricane, tornado, earthquake)	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Fire or explosion	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Transportation accident (for example, car accident, boat accident, train wreck, plane crash)	☐	☐	☐	☐	☐	☐

	recreational activity	Happened to me		Witnessed it		Learned about it
Serious accident at work, home, or during	☐	☐	☐			

Part of my job	Not sure	Doesn't apply
☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Exposure to toxic substance (for example, dangerous chemicals, radiation)	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Other unwanted or uncomfortable sexual experience	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Combat or exposure to a war-zone (in the military or as a civilian)	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Life-threatening illness or injury	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Severe human suffering	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Sudden violent death (for example, homicide, suicide)	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Sudden accidental death	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Serious injury, harm, or death you caused to someone else	☐	☐	☐	☐	☐	☐

	Happened to me	Witnessed it	Learned about it	Part of my job	Not sure	Doesn't apply
Any other very stressful event or experience	☐	☐	☐	☐	☐	☐

Emotional Awareness

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	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
I am aware of my feelings	○	○	○	○
I pay attention to how I feel	○	○	○	○

Coping

	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
When dealing with a problem, I spend time trying to understand what happened	○	○	○	○
When dealing with a problem, I try to see the positive side of the situation	○	○	○	○

	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
When dealing with a problem, I try to step back from the problem and think about it from a different point of view	○	○	○	○
When dealing with a problem, I consider several alternatives for handling the problem	○	○	○	○
When dealing with a problem, I try to see the humor in it	○	○	○	○
When dealing with a problem, I think about what it might say about bigger lifestyle changes I need to make	○	○	○	○
When dealing with a problem, I often wait it out and see if it doesn't take care of itself	○	○	○	○
When dealing with a problem, I often try to remember that the problem is not as serious as it seems	○	○	○	○
When dealing with a problem, I often use exercise, hobbies, or meditation to help me get through a tough time	○	○	○	○

	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
When dealing with a problem, I make jokes about it or try to make light of it	○	○	○	○
When dealing with a problem, I make compromises	○	○	○	○
When dealing with a problem, I take steps to take better care of myself and my family for the future	○	○	○	○
When dealing with a problem, I work on making things better for the future by changing my habits, such as diet, exercise, budgeting, or staying in closer touch with people I care about	○	○	○	○

Anger Management

	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
I can calm myself down when I am upset	O	O	O	O
I can tell when I am beginning to get angry	O	O	O	O
I can usually tell when I am about to lose my temper	O	O	O	O
Before I let myself get really angry, I think about what will happen if I lose my temper	O	O	O	O
When I feel myself getting angry, I try to tell myself to calm down	O	O	O	O

Attachment Paternal

Answer the following questions about your father (or father figure). If he is deceased, answer these questions about when he was alive.

You seek out your father (or father figure) when you're upset.

- Mostly true about me
- Somewhat true about me
- A little true about me
- Not true about me
- I did not have a father figure when I was a child

RADFORD UNIVERSITY

You turn to your father (or father figure) when you're worried about something.

- Mostly true about me
- Somewhat true about me
- A little true about me
- Not true about me

You turn to your father (or father figure) for comfort when you're not feeling well.

- Mostly true about me
- Somewhat true about me
- A little true about me
- Not true about me

Your father (or father figure) encourages you to try new things that you'd like to do but are nervous about.

- Mostly true about me
- Somewhat true about me
- A little true about me
- Not true about me

Your father (or father figure) encourages you to go after your goals and future plans.

- Mostly true about me
- Somewhat true about me
- A little true about me
- Not true about me

Your father (or father figure) shows support for the things you do.

- Mostly true about me
- Somewhat true about me
- A little true about me
- Not true about me

Emotional Regulation

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	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
I have difficulty making sense of my feelings	O	O	O	O
When I'm upset, I have difficulty focusing on other things	O	O	O	O
When I'm upset, I feel out of control	O	O	O	O
When I'm upset, it takes me a long time to feel better	O	O	O	O

Financial Strain

RADFORD UNIVERSITY

Please indicate whether the following are very true, a little true, or not true about your currentfinancial situation.

	Very true	A little true	Not true
You don't have enough money to buy the clothes or household items that you or your family need.	○	○	
You are behind one month or more on your rent or mortgage payment.	○	○	○
You don't have enough money to pay your regular bills.	○	○	
You don't have enough money to go out to dinner, or pay for entertainment or recreational activities.	○	○	
It would be hard for you to find the money to cover an unexpected expense, such as a medical bill or repair that was $500 or more.	○	○	○

Physical Well-being

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Would you say that, in general, your health is:

- Excellent
- Very Good
- Good
- Fair
- Poor

During the past 30 days, how many days was your physical health, which includes physical illness and injury, not good?

- 0
- 1 week or less
- About 2 weeks
- About 3 weeks
- Almost every day
- Every day

During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usualactivities, such as self-care, school/work, or recreation?

- 0

- [x] 1 week or less
- [x] About 2 weeks
- [ ] About 3 weeks

- ○ Almost every day
- ○ Every day

During the past 30 days, for about how many days did PAIN make it hard for you to do your usual activities, such as self-care, school/work, or recreation?

- ○ 0
- ○ 1 week or less
- ○ About 2 weeks
- ○ About 3 weeks
- ○ Almost every day
- ○ Every day

During the past 30 days, for about how many days have you felt VERY HEALTHY AND FULL OF ENERGY?

- ○ 0
- ○ 1 week or less
- ○ About 2 weeks
- ○ About 3 weeks
- ○ Almost every day
- ○ Every day

Satisfaction With Life

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Instructions: Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item.Please be open and honest in your responding.

	Strongly Agree (7)	Agree (6)	Slightly agree (5)	Neither agree nor disagree (4)	Slightly disagree (3)	Disagree (2)	Strongly disagree (1)
In most ways my life is close to my ideal.	○	○	○	○	○	○	○
The conditions of my life are excellent.	○	○	○	○	○	○	○
I am satisfied with my life.	○	○	○	○	○	○	○
So far I have gotten the important things I want in life.	○	○	○	○	○	○	○
If I could live my life over, I would change almost nothing.	○	○	○	○	○	○	○

Religious Meaning-making

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	Yes	No
Have you ever prayed for the well-being of others?	○	○

	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
When dealing with a problem, I look for spiritual support from religious leaders.	○	○	○	○
When dealing with a problem, I ask others to pray for me.	○	○	○	○
My faith or spiritual beliefs affect my views on other things.	○	○	○	○
My faith or spiritual beliefs are very important in my life.	○	○	○	○
I often think about my faith or spiritual beliefs.	○	○	○	○

	Several times a day	Once a day	A few times a week	Once a week	A few times a month	Once a month or less	Never
How often do you pray privately in places other than at church or at synagogue?	○	○	○	○	○	○	○
How often do you attend religious services and other activities at a place of worship, such as weekly dinners?	○	○	○	○	○	○	○

Subjective Happiness

For each of the following statements and/or questions, please circle the point on the scale that you feel is most appropriate in describing you

	1. Not a very happy person	2	3	4	5	6	7. A very happy person

	1. Not a very happy person	2	3	4	5	6	7. A very happy person
In general, I consider myself:	○	○	○	○	○	○	○

	1. Less happy	2	3	4	5	6	7. More happy
Compared to most of my peers, I consider myself:	○	○	○	○	○	○	○

	1. Not at all	2	3	4	5	6	7. A great deal
Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?	○	○	○	○	○	○	○

	1. Not at all	2	3	4	5	6	7. A great deal
Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?	○	○	○	○	○	○	○

Purpose

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	Mostly true about me	Somewhat true about me	A little true about me	Not true about me
My life has a clear sense of purpose.	O	O	O	O
I have a good sense of what makes my life meaningful.	O	O	O	O
Overall, I expect more good things to happen to me than bad.	O	O	O	O

Final Debriefing

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Your answers have been recorded. Thank you for your participation. You will receive two (2)SONA credits for participation. If you have questions or concerns, please contact Ruth Riding-Malon, Ph.D. at rridingmalon@radford.edu. Assistance is available through the Radford University Counseling Center; please call (540)- 831-5226 if you would like to talk with a counselor. Additional resources are also available. **You may also print this page foryour records.** You may now exit the survey.

On-campus Resources:

Radford University's Student Counseling Center: Confidential, Lower level of Tyler Hall,(540) 831-5226
Substance and Violence Education Support Services: Confidential, Lower level of TylerHall, (540) 831-5709
Student Health Services: Confidential, STI Testing, Lower level of Moffett Hall, (540) 831-5111
Radford University Police Department: Filing criminal reports, assistance with care/well-being services, Allen Building, (540) 831-5500

Off-campus Resources:

Radford City Police: Filing a criminal complaint, 20 Robertson St., Radford, VA 24141 (540)731-3624

New River Valley Community Services (NRVCS): Confidential emergency hotline, (540)961-8400

Radford Women's Resource Center: Confidential hotline, 1217 Grove Ave., Radford, VA24141 (540) 639-9592

If you are experiencing symptoms of distress, please contact one of the following: Radford University's Counseling Center (540) 831-5226, New River Valley Community Services Crisis Hotline (540) 961-8400