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TWO PROTECTIVE MECHANISMS IN THE RELATION OF STRESS AND LIFE
SATISFACTION: TESTING THE FUNCTION OF STRENGTH-BASED PARENTING AND
PERSONAL GROWTH INITIATIVE

by

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A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

School Psychology

The University of Memphis

August 2019

Acknowledgements

This four-year, academic journey is a testimony to God's faithfulness in my life, and I am beyond grateful for his grace, love, and protection. I would also like to acknowledge my parents, who believe in me and consistently demonstrate it through their genuine encouragement, wise advice, their prayers, and their support. Next, I would like to recognize my sisters for their support and encouragement on the days where I wanted to quit. I would also like to acknowledge my major professor and chair of my dissertation committee, Dr. Xu Jiang, who guided me through this overwhelming process. Last, but not least, I am grateful for my best friends who give me wise advice, and are trustworthy, patient, loyal, and genuine supporters of my dreams and accomplishments.

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Abstract

The current study examined the function of strength-based parenting and personal growth initiative in the relation between university-related stress and life satisfaction in undergraduate students. Two types of moderation models were formulated to test the relations among the main variables, including a multiple moderator model and a moderated moderation model. Six types of university-related stressors were measured, and each stressor was the predictor in separate models. Data was collected from 353 undergraduate students (age range 18-23, 73.9% female) at a public university. Analyses of the multiple moderation model found that personal growth initiative significantly moderated the relation between practical stressors and life satisfaction. More specifically, the negative effect of practical stressors on life satisfaction decreased as personal growth initiative levels increased. In the remaining models, with five other stressors, neither the stressor nor strength-based parenting predicted life satisfaction, and no interaction was significant. However, personal growth initiative emerged as a significant predictor in four of the five models. The moderated moderation model showed no significant three-way interaction between practical stressors, personal growth initiative, and strength-based parenting. Overall, results demonstrate the saliency of practical stressors to college students and highlight the buffering role of personal growth initiative in protecting emerging adults' life satisfaction from practical stress. Implications and future directions for research are discussed.

Introduction

In the past century, psychological research and practice have predominantly centered around the disease model of mental health, which focuses on repairing damage to human functioning caused by mental illness (Seligman & Csikszentmihalyi, 2002). However, in recent decades, researchers have recognized the importance of identifying social factors and intrapersonal characteristics that prevent poor mental health outcomes and promote healthy development (Suldo & Shaffer, 2008). One area that represents these advancements in research and adopts a comprehensive mental health framework is subjective well-being. Subjective well-being is an individual's positive experience of life according to their own standards, which includes their affective experiences and cognitive evaluations (Diener, 1984). As the cognitive component of subjective well-being, life satisfaction (LS) is defined as an individual's subjective, cognitive evaluation of their life that is based on their personal standards of a good life (Diener, 1984; Diener, 2000). The importance of LS has been well-documented in past research studies. However, research gaps exist in understanding the development of LS. More specifically, there is a need to identify the mechanisms that protect LS from the negative effects of stressors. Two novel factors that are worth exploring include, strength-based parenting (SBP), which describes a parent's intentional encouragement of their child's strengths use, and personal growth initiative (PGI), which is a self-improvement mindset that promotes goal-oriented behavior in individuals. To fill in this gap, the purpose of the current study is to examine the possible protective mechanisms composed by these two psychosocial factors (i.e. strength-based parenting and personal growth initiative) in the relation between stress and LS in emerging adults.

Life Satisfaction and Emerging Adult Development

Researchers have found that LS is positively related to excellent academic outcomes and improved social-emotional development in adolescents (for a review, see Proctor, Linley, & Maltby, 2009). Regarding academic outcomes in emerging adults, LS was associated with academic self-efficacy, less academic stress, positive study behaviors (e.g., active engagement of class material, increased interaction with faculty, participation in activities outside the classroom), and high-grade point averages (Antaramian, 2017). LS is also positively associated with a sense of adequacy, personal adjustment, and stronger attachment to family and friends (Babinčák & Bačova, 2008; Bao, Pan, Shi, & Ji, 2013; State & Kern, 2017). Regarding mental health, LS is inversely related to depression and anxiety symptoms, suicidality, alcohol dependence, substance abuse, physical distress, and stress (Fergusson et al., 2015; Strine, Chapman, Balluz, Moriarty, & Mokdad, 2008; Tartaglia, Miglietta, & Gattino, 2017). Besides the associations with a variety of mental health indicators, evidence also suggested that LS predicted mental health problems over time (e.g., depression and anxiety, Huebner, Funk, & Gilman, 2000; Suldo & Huebner, 2004a). Furthermore, the benefits of LS also include its buffering effect, as LS moderated the negative relation between stressful life events and externalizing behaviors in adolescents (Suldo & Huebner, 2004a).

Overall, evidence supports the importance of LS in individual development. It is also well documented in literature that stress has a negative effect on well-being, including LS (Bergin & Pakenham, 2016; Kaya, Tansey, Melekoğlu, & Çakiroğlu, 2015; Matheny, Roque-Tovar, & Curlette, 2008). Research on the relations between stress and LS is reviewed below.

Stress and Life Satisfaction

Stress is an aversive emotional experience that is paired with somatic responses, that allow an individual to adapt to a stressor (Baum, 2009). When an individual perceives external events or environmental conditions as abnormally demanding, greater personal effort and resources are needed to address the stressors. (Baum, 1990; Lazarus & Folkman, 1984; Suldo, Shaunessy, & Hardesty, 2008). Such is the case in emerging adulthood. Emerging adulthood (ages 18-25, Arnett, 2000) is a developmental period characterized by goals of self-sufficiency and identify development, which increase pressure to take personal responsibility, engage in independent and insightful decision-making, and to achieve financial independence (Arnett, 2000). Additionally, the formation of interpersonal relationships, educational attainment, changes in profession, and changes in overall worldviews are also important (Arnett, 2000; Blanco et al., 2008). Thus, stress can stem from several different areas in an emerging adult's life (Acharya, Jin, & Collins, 2018; Hurst, Baranik, & Daniel, 2013), including relationships with significant others, friends, and college professors, lack of personal resources, personal or parental expectations, academic performance, and environment- or diversity-related concerns (Hurst et al., 2013). Similarly, other researchers indicate that stressors can be academic, interpersonal, or developmental in nature (Pedersen, 2017). While some emerging adults can positively cope with these distinct stressors, others undergo mental health issues due to an inability to meet these demands (Arnett, 2007).

The relation between stress and LS is a critical area of study in human development. Lazarus and Folkman (1984) highlighted the importance of considering individual characteristics when evaluating the potential negative impact of an external event on an individual's well-being. This notion has been tested in past research that found individuals' LS to be inversely associated

with stress (Bergin & Pakenham, 2016; Holinka, 2015; Kaya, Tansey, Melekoğlu, & Çakiroğlu, 2015). For example, among graduate students, stress had a negative impact on LS and other well-being indicators (e.g., desire for personal growth and self-acceptance, Bergin & Pakenham, 2016). Overall, the negative impact of stress on LS is supported by the literature. Kaya and colleagues (2015) proposed several factors that may explain such findings, including a lack of support to positively cope with the external stressors. To examine the possible mechanisms that influence the stress-LS linkage, it is important to understand the stress-coping process and the protective mechanisms in this process that impact individuals' LS.

Before focusing on the factors that contribute to the stress-coping process, here is a brief overview of the concept of coping. Coping strategies are employed when events and circumstances are perceived as taxing and threatening to one's well-being (Lazarus & Folkman, 1984). Typically, the coping strategy that is implemented can affect one's ability to adjust. When situations are perceived as stressful, individuals can employ emotion-focused coping strategies, which target their emotional response to the event, or problem-focused strategies, which include generating solutions to actively target the stressor. In general, emotion-focused coping is considered maladaptive, as such behaviors have been associated with increased stress levels and poor mental health (Chao, 2011; McKinley, 2013; Trouillet, Gana, Lourel, & Fort, 2009). In contrast, problem-focused coping strategies are typically adaptive, because they have been shown to buffer against stress and promote better mental health outcomes (Chao, 2011; Goletzke et al., 2017; Lyrakos, 2012). Research on LS, in particular, have suggested that problem-focused coping strategies, including seeking social support and relying on one's abilities, are positively related to higher levels of LS (Chao, 2011; MacCann, Lipnevich, Burrus, & Roberts, 2012; Stoeber & Janssen, 2011) and increases in LS over time (Lyons, Huebner,

Hills, 2016). The role of these two crucial problem-focused coping strategies, namely, seeking social support and relying on one's abilities, in the stress and LS link is reviewed in more detail below.

The role of social support in the stress-coping process. Research suggests that social support reduces stress by supporting the use of healthy coping strategies (Lazarus & Folkman, 1984; Chao, 2011). Individuals can discuss effective strategies for addressing stressors with supportive family members and friends, as well as receive emotional support (Hinton & Earnest, 2010). In other words, social support interacts with stressors to mitigate their impact on individuals' well-being, which allows for the use of more adaptive coping strategies (e.g., problem-focused coping, Hinton & Earnest, 2010). For example, in college students, high levels of perceived social support buffered against stress to increase well-being (Chao, 2011; Chao, 2012). In addition, the moderating effect of social support was further mediated by the use of problem-focused coping strategies (Chao, 2011).

Among various sources of social support, parental support has been found to be a robust protective factor in the coping process, especially in young people. Mounting evidence suggests that a strong, secure, and warm parent-child relationship promotes youth coping efficacy, use of adaptive coping, and overall healthy coping outcomes in children and adolescents (Rutter, 1979; Vélez, Wolchik, Tein, & Sandler, 2011). In terms of specific parenting behaviors, researchers found that youth's perceptions of authoritative parenting practices and parental support were positively associated with their implementation of adaptive coping strategies and less use of dysfunctional coping strategies (Chao, 2011; Gaylord-Harden, Elmore, & Montes de Ora, 2013; Kritzas & Grobler, 2005).

Social support as a protective factor of LS. Cumulative evidence supports the positive role of social support, specifically support from parents, in the development of LS. For example, Siddall and colleagues (2013) examined the influence of family, peer, and teacher support in a sample of adolescents and found significant positive relations between peer and family support with students' perceived LS. Furthermore, they reported that family support was the only type of support that significantly predicted LS over time (Siddall, Huebner, & Jiang, 2013). Similarly, in a sample of college students, research findings indicated that increases in family support and support from significant others led to increases in students' LS both directly and indirectly (Matsuda, Tsuda, Kim, & Deng, 2014). Results suggested that family support reduced students' negative affect, which allowed for increases in LS. In addition, support from significant others increased students' positive affect, which increased LS.

The role of intrapersonal strengths in the stress-coping process. Regarding intrapersonal characteristics, research findings suggested that individual character strengths, including hope, optimism, and self-efficacy, associate with coping (Danoff-Berg, Prelow, & Swenson, 2004; Li & Yang, 2009; Peer & Hillman, 2012; Trouillet et al., 2009). For example, among students who indicated using emotional or problem-focused coping strategies to combat stress, those who reported high hope levels indicated using more problem-focused coping strategies than those who reported low levels of hope (Danoff-Burg et al., 2004). In addition, high-hope students employed more effective coping strategies, such as positive cognitive restructuring and emotional processing. Peer and Hillman (2012) found that optimistic individuals who also received support from significant others used less emotion-focused coping strategies. They explained that optimistic individuals may identify more benefits and positive aspects of situations instead of focusing on the stress, thus utilizing more effective coping

strategies. Self-efficacy is also positively related to problem-focused coping. In fact, research suggests that individuals who possess, self-efficacy, trait resilience, and motivation demonstrate problem-focused coping strategies when faced with stressors (Li & Yang, 2009).

Intrapersonal strengths as a protective factor of LS. There has been increasing attention in research literature on the relation between intrapersonal strengths and LS. For instance, researchers noted that increases in character strengths, including gratitude, hope, love, self-esteem, and persistence, lead to enhanced LS (Noronha & Martins, 2016; Song, Kong, & Jin, 2013). In addition, researchers found that self-efficacy and social support increased an individual's responsiveness to support from others, which is associated with enhanced LS (Ronen & Seeman, 2007). Perhaps, intrapersonal strengths lead to higher LS because they act as coping resources for effective coping strategies, thus reducing negative mental health consequences.

Underlying Mechanism Linking Stress and Life Satisfaction: Two Potential Protective Factors

Emerging literature supports the importance of social support and some psychological strengths to LS. As the research advances, new concepts have emerged to capture more strength-based behaviors and capabilities, and there is a need to understand these newly defined factors in the stress-LS relation. In the sections below, research on two novel psychosocial factors, strength-based parenting (SBP) and personal growth initiative (PGI), as potential protective factors of LS are reviewed.

Strength-Based Parenting. Waters (2015a) proposed a parenting characteristic known as strength-based parenting (SBP), which that has been predominantly studied in child and adolescent samples. This relatively new concept is defined as a parent's efforts to recognize and

promote the development of positive attributes in their children. SBP includes aspects of strength-based coping (Giovindji & Linley, 2007), which comprises two aspects, strengths knowledge and strengths use. Strengths knowledge is defined as an individual's cognizance of their personal strengths, and strengths use is an individual's application of these strengths in the face of stress or other challenges. When these concepts are applied in the parenting context, Waters (2015a) interprets strengths knowledge (SBP-K) as a parent's or caregiver's awareness of their child's strengths and strengths use (SBP-U) as a parent's encouragement of their practical use of these strengths. The main goal of SBP is for parents to cultivate these resources within their children by purposefully identifying specific strengths or characteristics, communicating their observations, and encouraging their children to use these intrapersonal characteristics to positively cope with potential stressors.

Research on SBP and its relations to coping and well-being is just emerging. Researchers have shown that it is negatively correlated with stress, anxiety, and depression in adolescents (Loton & Waters, 2017), positively related to strength-based coping in children (Waters, 2015a), and it predicted more strengths use in adolescents who have a growth mindset or one of self-improvement (Jach, Sun, Loton, Chin, & Waters, 2017). In addition, SBP promotes positive intrapersonal characteristics, including self-esteem and self-efficacy in adolescents (Loton & Waters, 2017). The SBP-K and SBP-U subscales have also been studied separately (Waters, 2015b). SBP-K was positively correlated with adolescents' self-report knowledge of their strengths and SBP-U was positively correlated with adolescents' self-report strengths use. Overall, findings suggested that adolescents have greater well-being when their parents can identify their strengths. Yet, little is known about the relation between SBP and LS or the role of SBP in the relation between stress and LS in emerging adults. Because of a growing need for

decision-making autonomy, emerging adults tend to have decreased direct behavioral interactions with their parents compared to children and adolescents (Carlson, 2014). Thus, direct parenting practices, including those measured by SBP-U, likely have a weaker influence in the development of emerging adults. In contrast, emerging adults' perception of their parents' knowledge of their strengths appear to be a more robust proxy of SBP. Hence, the current study specifically sought to explore the role of SBP-K in these relations.

Personal Growth Initiative. Personal growth initiative (PGI) is defined as the purposeful betterment of skills needed for self-improvement (Robitschek et al., 2012). PGI consists of a cognitive component and a behavior component. According to Robitschek (1998), the cognitive component is characterized by self-efficacy regarding personal growth and comprises planfulness and readiness for change aspects. The behavior component is characterized by purposeful implementation of changes that align with one's beliefs and comprises the use of resources and intentional behavior. Based on these definitions, PGI highlights two important concepts, intentional self-improvement and the generalizability of skills to different situations in different areas of life (Robitschek, 1999).

Like SBP, there is limited research on PGI, but this concept has specifically been researched in emerging adult samples. Researchers proposed that PGI functions to prevent or decrease distress (Robitschek & Kashubeck, 1999) and existing research has revealed correlations between PGI and mental health (Robitschek & Kashubeck, 1999; Robitschek & Keyes, 2009). Specifically, Robitschek and Keyes (2009) found that PGI was a significant predictor of emotional, social, and psychological well-being in college students. They further concluded that college students with higher PGI levels are self-accepting, have healthier interpersonal relationships, have a higher sense of control over factors in their environment,

practice autonomy over their lives, and they report positive affect. In studies that took stress factors into account, researchers found that PGI was a significant predictor of post-traumatic growth in military student service members and veterans experiencing post-traumatic stress related symptoms (Borowa, Robitschek, Harmon, & Shigemoto, 2016), and PGI mitigated the influence of stress on students' psychological adjustment (Yakunina, Weigold, & Weigold, 2013). Yet, the role of PGI in the process of coping with less traumatic and more normative stressors to protect LS is unknown.

Proposed Models

Based on the literature reviewed, two models were created to examine the protective roles of parental support and psychological strengths in the stress LS link. The first model hypothesized that SBP-K and PGI interact with stress, respectively, as two moderators that buffer against the negative effect of stress on LS (see Figure 1 & Figure 2).

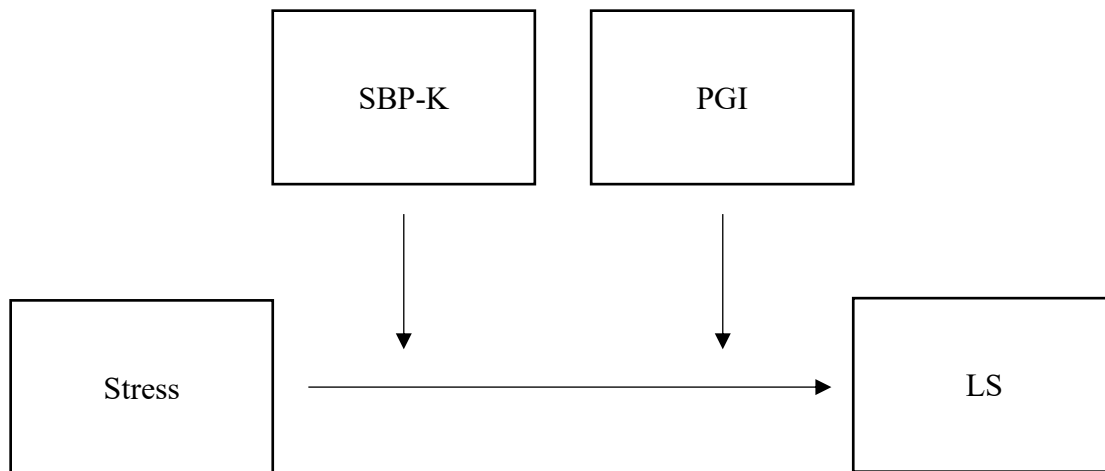


Figure 1. The conceptual model of the moderation effects of strength-based parenting and personal growth initiative on the relation of stress and life satisfaction.

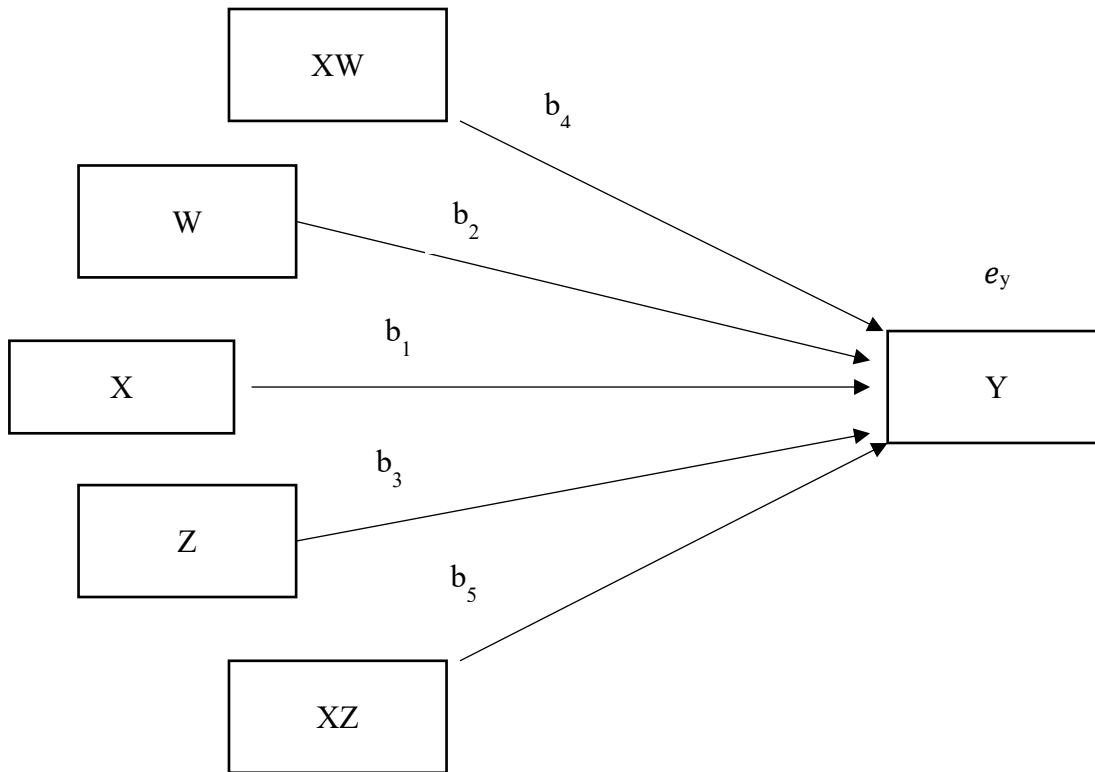


Figure 2. Statistical diagram of the conceptual multiple moderation model. Note. This model is represented by the following formula: $Y = i_Y + b_1X + b_2W + b_3Z + b_4XW + b_5XZ + e_Y$

In a second model, it is hypothesized that the moderating effect of PGI on the relation between stress and LS is further moderated by SPB-K (see Figure 3 & Figure 4). The foundation of these models, especially the role of SBP-K and PGI, is further supported by Rutter's resiliency theory, which is reviewed next.

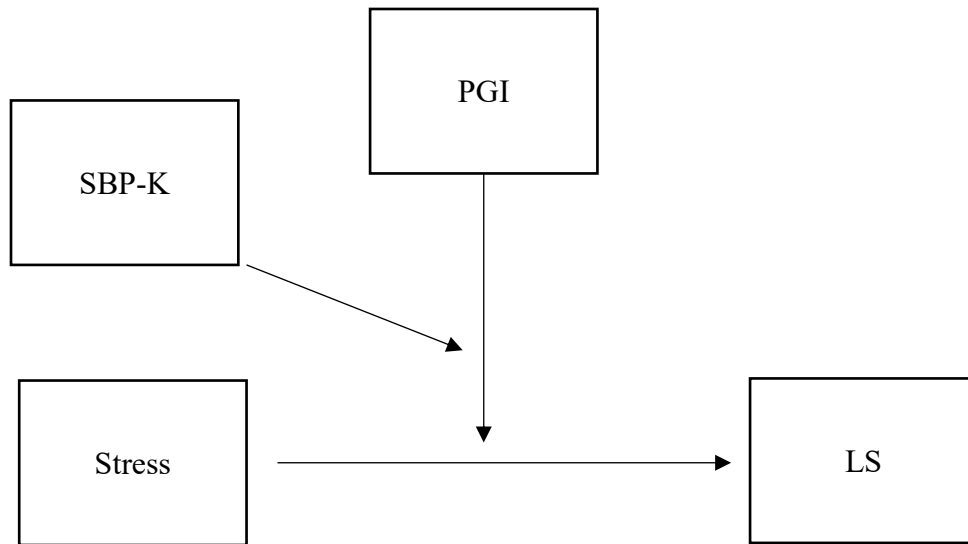


Figure 3. The conceptual model of the moderating effect of PGI on the relation between stress and LS and the moderated moderating effect of SBP-K

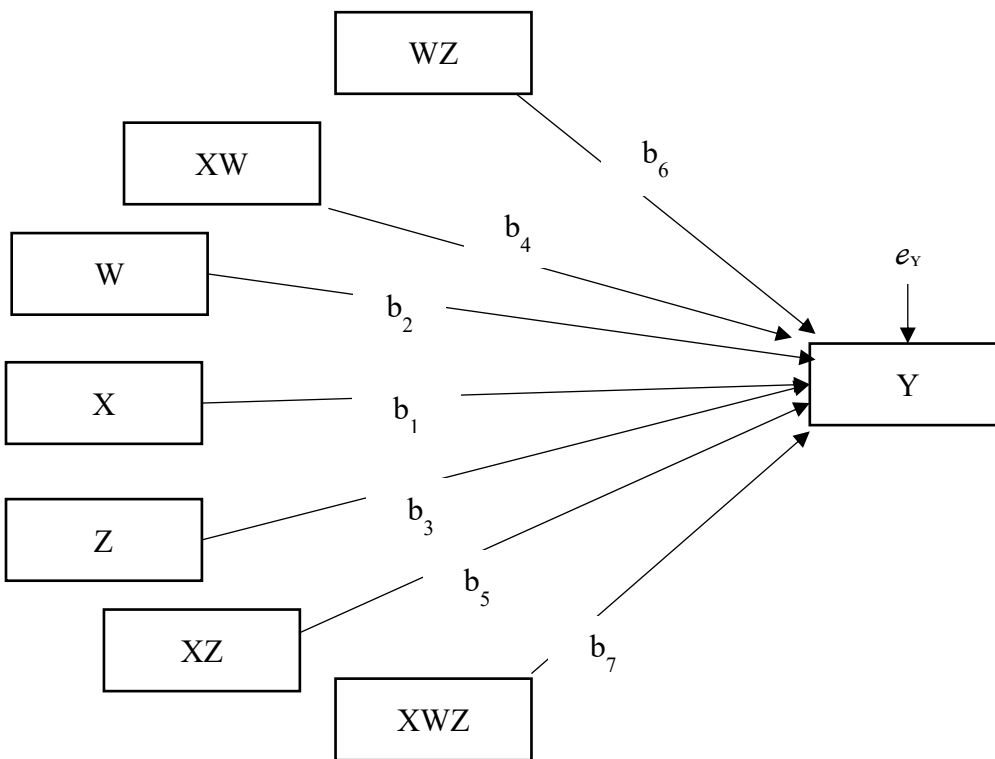


Figure 4. Statistical diagram of the conceptual moderated moderation model. Note. This model is represented by the following formula: $Y = i_Y + b_1X + b_2W + b_3Z + b_4XW + b_5XZ + b_6WZ + b_7XWZ + e_Y$

Rutter's Resiliency Theory

Though Rutter's theory uses the term "resiliency," this theory is considered appropriate to support the present models because coping and resilience are interrelated concepts, as they both involve an individual's response to stressful experiences (Campbell-Sills, Cohan, & Stein, 2006; Stratta et al., 2015). Research findings demonstrate positive relations between coping strategies and resilience (Campbell-Sills et al., 2006; Lee, Kim, Choi, 2017; Mayordomo, Viguerm Sales, Satorres, & Meléndez, 2016). The main difference is that coping is characterized by the implementation of behavioral and cognitive strategies to combat stressors (Folkman & Moskowitz, 2004), while resilience refers to the positive outcomes resulting from the implementation of coping strategies (Stratta et al., 2015). Under the resilience framework, protective factors can function in two ways, including promoting healthy functioning after an individual undergoes an adverse experience to (similar to coping) or working before a stressful experience is encountered (more preventive than coping) to promote well-being outcomes (Rutter, 2013).

Consistent with the conclusion based on coping research, resilience processes can be characterized by the simultaneous use of problem- and emotion-focused coping strategies (Lee et al., 2017). Particularly, problem-focused coping was positively associated with resilience (Campbell-Sills et al., 2006; Lee, et al., 2014; Mayordomo et al., 2016; Thompson, Fiorillo, Rothbaum, Ressler, & Michopoulos, 2018). Resilience research findings also support the importance of social support and intrapersonal strengths in promoting well-being through enhanced resilience. For example, support from friends, family, and mentors was found to predict resilience in young adults (Howell & Miller-Graff, 2014; Jang, Park, Chong, & Sok, 2017; Sulimani-Aidan, 2018). Studies have also shown that dispositional characteristics of self-

esteem, optimism, spirituality, emotional intelligence, self-efficacy, and extraversion predict resilient outcomes (Ames, Rawanna, Gentile, and Morgan, 2015; Bromand et al., 2012; Hamby, Grych, Banyard, 2018; Howell & Miller-Graft, 2014; Jang et al., 2017).

Rutter also defines resilience as a constantly changing and interactive process (Rutter, 1987). Unlike previous researchers who assumed that the protective and risk effects for certain factors applied universally (Garmezy, 1991b; Werner, 1989), Rutter posited that the protective, risk, or neutral functionality of factors depended upon situational and social contexts, as well as development stage and dispositional characteristics (Rutter, 2012). For example, these interactions may occur between unique external factors and dispositional characteristics that lessen the impact that stressful or traumatic experiences have on individual functioning. Examples of dispositional characteristics include planning, self-control, sense of agency, and self-efficacy (Shean, 2015). As evidence supporting Rutter's theory, more recent research findings revealed that social support strengthened the effect of some intrapersonal strengths (e.g., self-esteem, self-efficacy, problem-solving confidence) in the resilience process, which led to increases in the use of more effective coping strategies (Hinton & Earnest, 2010; McKinley, 2013; Trouillet et al., 2009). These findings suggested that when individuals cope with stress, there appear to be connections running from social support to intrapersonal strengths, which subsequently affect well-being outcomes (e.g., LS).

Within the family context, it appears more evident that parenting influences individuals' intrapersonal strengths, and both parenting and intrapersonal strengths execute the protective function together in the resilience process. For instance, strong evidence suggests that responsive and warm caregivers supported children's positive cognitive and social development, including adaptability and resilience over time (Garmezy, 1991b; Werner, 1997). In one qualitative study

examining mother-daughter relationships, researchers found that mothers used communication and modeling to set examples of effective coping strategies to utilize in response to stressors. Through positive mother-child interactions, mothers promoted the development of self-esteem and self-worth in their daughters (Everet, Marks, & Clarke-Mitchell, 2016). These findings further support an earlier note that parents or caregivers promote resilience by fostering an environment that nourishes the intrapersonal strengths that a child needs to cope, as well as providing other resources (Masten, Best, & Garmezy, 1991). Yet, little is known about the role of the possible interactions between parenting and intrapersonal strengths as the protective mechanism among emerging adults.

The Current Study

Emerging adults face unique stressors that include pressure to form career goals, to maintain relationships with friends and significant others, demands relating to religious affiliation and maintenance of personal health, and pressure to preserve family connections (Stevic & Ward, 2008). Past research findings support the negative relation between stress and LS (Bergin & Pakenham, 2016; Holinka, 2015). Overall, a great deal of research supports the protective role of parenting factors and some intrapersonal strengths in the coping process to promote well-being in youth. The purpose of the current study is to examine the function of SBP-K and PGI in the relation of university-related stress and LS in a sample of emerging adults in a college setting. As mentioned earlier, two models are formulated based on previous evidence and relevant theories.

In the first model (Two-Moderator Model), SBP-K and PGI are two moderators that moderate the adverse effect of stress on LS respectively (see Figure 1). Based on the strong support for the buffering effect of traditional parenting factors, the first hypothesis is that the

effects of university related stress on college students' LS would be moderated by SBP-K. Existing research demonstrates negative relations between SBP-K and stress (Waters, 2015a) and positive associations with LS (Jach, Sun, Loton, Chin, & Waters, 2017). However, no study has reported the relations between SBP-K, stress, and LS in the same model. Also, no study has investigated the potential buffering effects of PGI in the coping process to protect well-being, though the cognitive and behavioral aspects of PGI appear to support such buffering effect based on research on related constructs in the literature. Specifically, the cognitive aspect of PGI is characterized by self-efficacy for goal attainment (Robitschek, 1998). Self-efficacy has been inversely associated with stress, as well as positively related to problem-focused coping strategies, which promote life satisfaction (Trouillet et al., 2009). The behavior aspect of PGI is related to implementation of actions or plans that align with one's personal goals (Robitschek, 1998), which is very similar to problem-focused coping, the behavioral construct that has been shown to interact with stress to increase LS and overall well-being (Chao, 2011; MaCann et al., 2012). In addition, research findings support the buffering effect of PGI on stress to increase healthy psychological adjustment (Yakunina et al., 2013). Overall, PGI is a significant predictor of emotional, social, and psychological well-being by decreasing distress. Therefore, the second hypothesis is that the effects of university related stress on college students' LS is moderated by PGI.

In the second model (Moderated Moderation Model), the moderating effect of PGI on the relation between stress and LS is further moderated by SPB-K (see Figure 3). Empirical evidence supports the importance of both social support and intrapersonal strengths in promoting well-being (Ames et al., 2015; Howell & Miller-Graff, 2018; Sulimani-Aidan, 2018). However, the resilience theory (Rutter, 2012) emphasizes that the interactions between external and

intrapersonal factors buffer environmental stressors to promote healthy functioning, and thus such interaction should be considered in resilience research (Shean, 2015). Moreover, recent research findings suggest that social support may allow for the development of intrapersonal strengths, which ultimately promotes well-being (Duineveld, Parker, Ryan, Ciarrochi, & Salmela-Aro, 2017; Khan & Husain, 2010). In a study involving first-year university students experiencing stress from academic demands and family separation, researchers found that social support moderated the relation between positive psychological strengths of optimism, hope, and self-efficacy and LS (Khan & Husain, 2010). These findings evidence the importance of social support in aiding the growth of intrapersonal characteristics, and these qualities help students to overcome stressful circumstances to experience well-being. Other researchers found that a specific parenting characteristic, parental autonomy support, provided to students before they transition from high school to college, buffered against depression and emotional exhaustion and promoted increases in self-esteem and LS (Duineveld et al., 2017). Considering the research findings presented above, two major hypotheses were formulated. First, it was hypothesized that both SBP-K and PGI would significantly moderate the relation between each stressor (academic, relationship, equity, parenting, and health) and LS. To do so, six specific hypotheses would be tested through multiple moderation models, with each stressor as independent predictor.

Hypothesis 1.1: Both SBP-K and PGI significantly moderate the relation between academic stressors and LS.

Hypothesis 1.2: Both SBP-K and PGI significantly moderate the relation between equity stressors and LS.

Hypothesis 1.3: Both SBP-K and PGI significantly moderate the relation between relationship stressors and LS.

Hypothesis 1.4: Both SBP-K and PGI significantly moderate the relation between parenting stressors and LS.

Hypothesis 1.5: Both SBP-K and PGI significantly moderate the relation between practical stressors and LS.

Hypothesis 1.6: Both SBP-K and PGI significantly moderate the relation between health stressors and LS.

Second, based on the results of the two-moderator models, it was meaningful to further test one moderated moderation model, which had practical stressors as the predictor. The hypothesis was that PGI would moderate the relation between practical stress and LS and this interaction would be further moderated by SBP-K.

Method

Participants

Participants consisted of 353 undergraduate students from a public university located in the mid-south region of the United States. There were two recruitment periods that occurred within the 2017-2018 school year (fall and spring semesters). Each recruitment period consisted of two waves of data. Though the recruitment criteria included the age limit (under age 23 at wave 1), some students over age 23 were participated, and these cases were excluded from the current study sample. For the current study, only wave 1 from each recruitment period was used. The homogeneity of the two samples was confirmed through analyses (e.g., no differences in the demographic variable distribution, including age, gender, and racial groups were observed), therefore they were combined (see Table 1). Two participant cases were removed due to abnormality of responses. In the combined sample, the age of students ranged from 18 to 23 years of age ($M = 19.83$, $SD = 1.49$, $N = 353$). Female and male students comprised 73.9% ($N =$

263) and 23.6% (N = 84) of the sample, respectively. A very small percentage of students identified them as gender variant or non-conforming .8% (N = 3) and not listed .6% (N = 2). Over half of the sample consisted of European American students (51.1%), followed by African American students (34.8%). Other racial groups included students who identified as Asian (5.3%), Hispanic or Latino (5.1%), Multiracial or Biracial (2.5%), and Native American or Alaskan Native (.3%).

Table 1

Demographic Characteristics of Subsample 1, Subsample 2, and the Total Sample

Characteristic	Subsample 1 (Fall 2017) (n = 186)	Subsample 2 (Spring 2018) (n = 167)	Total Sample (n = 353)
Mean (SD)	19.94 (1.60)	19.60 (1.33)	19.83 (1.49)
Gender (n)			
Female	79% (147)	69.5% (116)	73.9% (263)
Male	19.4% (36)	28.7% (48)	23.6% (84)
Gender Non-Conforming	.5% (1)	1.2% (2)	.8% (3)
Not Answered	.5% (1)	.6% (1)	.6% (2)
Race			
European American	51.1%	52.1%	51.1%
African American	35.5%	34.7%	34.8%
Asian	5.4%	5.4%	5.3%
Hispanic/Latino	4.8%	5.4%	5.1%
Biracial/Multiracial	2.7%	2.4%	2.5%

Characteristic	Subsample 1 (Fall 2017) (<i>n</i> = 186)	Subsample 2 (Spring 2018) (<i>n</i> = 167)	Total Sample (<i>n</i> = 353)
Native American/Alaskan Native	.5%	-	.3%

Procedure

The data used in this study are part of a larger research project (PI: Dr. Xu Jiang) that investigates self-care and well-being in late adolescents. This project has obtained approval from Institutional Review Board (IRB #PRO-FY2018-159) at the University of Memphis. Participants were recruited through the psychology department’s online participant recruitment system and via flyers posted throughout the psychology department and other departments at the university. Students outside of the participant recruitment system or the Psychology department were instructed, via flyer, to contact the study administrators for the link to the consent form and survey. Participants electronically consented to participate in the study before they obtained access to the online questionnaire and all participation was voluntary. It took approximately 30 minutes to complete the questionnaire. Participants who completed the questionnaire via the online recruitment system were rewarded with course credit or a five-dollar gift card for their participation. Those participants outside the recruitment system or Psychology department were given a five-dollar gift card for their participation.

Measures

Satisfaction With Life Scale (SWLS). The SWLS (Diener, Emmons, Larsen, & Griffin, 1985) is a five-item measure that assesses subjective life satisfaction in young adult and adult populations (see Appendix A). Items were answered on a seven-point likert scale that ranges

from “strongly disagree” to “strongly agree.” Items were then averaged with higher scores representing higher levels of perceived life satisfaction. Past studies have provided alpha reliability coefficients ranging from .82 to .88 (Diener et al., 1985; Joshanloo, 2013; Vela, Lerma, & Ikonomopoulos, 2017). Good convergent and discriminant validity was also shown by past studies (Arrindell et al., 1999; Jovanić, 2015). The alpha reliability coefficient for the current study is .88.

University Stress Scale (USS). The USS (Stallman & Hurst, 2015) is a 21-item measure that assesses the severity of university stress caused by different external stressors unique to college students (see Appendix B). The measure is comprised of six subscales, including Academic, Relationship, Equity, Parenting, Practical, and Health. In addition, there were three additional items that measured stress from the University/College Environment, Work, and Parenting Expectations. All items were answered on a four-point Likert scale that included response options of “not at all,” “sometimes,” “frequently,” and “constantly.” Items were averaged so that higher scores represented higher stress levels. Past studies have shown good internal consistencies of .83 and .93 for the total scale (Stallman & Hurst, 2015; Stallman, Ohan, & Chiera, 2017) and internal consistencies for the Academic, Equity, Relationship, Practical, Parenting, and Health stressors were .62, .63, .73, .64, .69, and .60 (Stallman & Hurst, 2015). Evidence for good convergent validity was shown through the significant correlations between the USS and the Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995) and with the physical illness symptoms measured through the Patient Health Questionnaire (PHQ; Kroenke, Spitzer, & Williams, 2002). Evidence for discriminant validity has been shown through significant negative correlations between the USS and the Social Support Scale (SSS; Crouchley, Daly, & Molster, 2006) as well as between the USS and the University Connectedness Scale

(Stallman & Shochet, 2009). In the current sample, the USS has a good internal consistency for the total scale with an alpha coefficient of .87. Alpha reliability coefficients for the individual scales include: Academic (.68), Equity (.67), Relationship (.68), Practical (.67), Parenting (.49), and Health (.67).

Strength-Based Parenting. The SBP scale (see Appendix C; Waters, 2015a) is a 14-item measure that assesses children's and adolescent's perceptions of their parents' behaviors. The two subscales of this measure consisted of Parents' awareness of their child's positive qualities and strengths (Strengths Knowledge) and parents' encouragement of youths use of these positive qualities to decrease stress (Strengths Use). The SBP-U subscale was not usable due to a missing item. The use of SBP-K has been supported in the literature. Thus, In the current study, only the Strengths Knowledge subscale (SBP-K) was used. The SBP-K scale items was answered on a seven-point Likert scale that ranged from "strongly disagree" to "strongly agree." Item 2 ("My parents have to think hard about what my strengths are.") was the only scale item that needed to be reverse scored before the item responses were combined. An overall score was obtained by averaging the scale items. Higher scores represented greater levels of SBP-K practices.

Evidence of good internal consistencies for the Strengths Knowledge subscale (.87, .89, and .95) have been provided in past studies (Jach et al., 2017; Loton & Waters, 2017; Waters, 2015b). In addition, an alpha coefficient of .94 was found for the overall scale (Waters, 2015a). Waters and colleagues (2018) reported evidence for discriminant validity based on a significant reduction in model fit of a confirmatory factor analysis of the SBP scale and the parental autonomy granting and responsiveness subscales of the Parenting Styles Inventory (PSI-II;

Darling & Toyokawa, 1997). The SBP-K has a good internal consistency in the current sample with an alpha coefficient of .90.

Personal Growth Initiative Scale-II (PGIS-II). The PGIS-II (see Appendix D; Robitschek et al., 2012) is a 16-item measure that assesses an individuals' self-efficacy regarding personal improvement and their purposeful attainment of goals that align with their beliefs (Robitschek, 1998). The scale items fall under four subscales, including Readiness for Change (items 2, 8, 11, 16), Planfulness (1, 3, 5, 10, 13), Using Resources (6, 12, 14), and Intentional Behavior (4, 7, 9, 15). Readiness for Change and Planfulness are cognitive components, while Using Resources and Intentional Behavior are behavioral components. Items were answered on a six-point Likert scale that ranged from “disagree strongly” to “agree strongly.” Subscale scores can be calculated by averaging the item scores. The total score was calculated by averaging the four subscale scores. Higher scores represent higher levels of PGI.

Researchers noted internal consistencies of .76-.86 for the Readiness for Change scale, .75- .87 for Planfulness, .73- .85 for Using Resources, and .73- .86 for Intentional Behaviors (Robitschek et al., 2012; Shigemoto, Thoen, Robitschek, & Ashton, 2015). Other studies have also shown good internal consistencies for the overall scale ranging from .73 to .93 (Borowas, Robitschek, Harmon, & Shigemoto, 2016; Luyckx & Robitschek, 2014; Shigemoto et al., 2015; Thoen & Robitschek, 2013). Robitschek and colleagues (2012) provided evidence for discriminant validity with the Marlowe-Crowne Social Desirability Scale-Short Form (Ballard, 1992; Reynolds, 1982). Convergent validity was also shown through significant positive correlations with the General Perceived Self-Efficacy Scale (GPSES; Schwarzer & Jerusalem, 1995), the internal locus control subscale of the Multidimensional Locus of Control Inventory (LOC; Levenson, 1974), and the original PGIS scale (Robitschek et al., 2012; Weigold, Weigold,

Russell, & Drakeford, 2014). Discriminant validity was shown through significant negative correlations with the Chance Locus of Control subscale of the original PGIS measure (Robitschek, 1998). The PGIS-II has good internal reliability in the current sample with alpha reliability coefficients of .89 for Readiness for Change, .92 for Planfulness, .81 for Using Resources, .88 for Intentional Behaviors subscales and a total scale alpha coefficient of .96.

Data Analyses

Preliminary Analyses. Following the suggestions made by Tabachnik and Fidell (2013), data was evaluated for issues of missingness and non-normality. Descriptive statistics (i.e., minimum and maximum values, mean, standard deviation, skewness, kurtosis, etc.) were calculated to detect out-of-range values, to confirm plausible means and standard deviations, and to locate univariate and multivariate outliers. Pearson correlation analyses were calculated to evaluate for issues of multicollinearity and singularity and to examine the strength and direction of associations among study variables. Missing values were addressed via estimation maximization. These preliminary analyses were performed using the IBM Statistical Package for Social Sciences (IBM SPSS) statistics 24.0 (IBMCORP, 2016). The expectation-maximization (EM) algorithm was ran to address missing data before running main analyses in PROCESS.

Main Analyses. The PROCESS macro for SPSS (Hayes, 2018) is a mathematical tool that was designed to run observed variable path analysis-based moderation and mediation analyses and conditional process analyses. PROCESS utilizes ordinary least square regression to provide estimates of model coefficients, standard errors, t- and p-values, and confidence intervals. Two distinct models were tested. The first model examined the relation between stress and LS, as moderated by SBP and PGI (see Figure 1). As recommended by Hayes, the first model represents the simultaneous effect that SBP and PGI have on stress. In the statistical

model (see Figure 2), two variables are created based on the products of Stress (X) and SBP (W) and Stress (X) and PGI (Z). The second model (moderated moderation) examined a three-way interaction between stress, PGI, and SBP (see Figure 3). This model represents the hypothesized effect of stress (X) on LS (Y) that was moderated by both PGI (W) and SBP (Z). However, the moderating effect of PGI is not dependent on SBP (see Figure 4; Hayes, 2018, p. 330).

Results

Preliminary Analyses

Descriptive Statistics. Descriptive statistics for study variables are displayed in Table 2. The normality of the distribution of each variable is indicated by the skewness and kurtosis of the dataset (also see Table 2). Univariate skewness values of 2.0 and higher and kurtosis values of 7.0 and higher are considered moderate to high indicators of non-normality, and they have been found to create problems in analyses (Curran, West, & Finch, 1996; Muthén & Kaplan, 1985, 1992). Based on the criteria selected above, the skewness and kurtosis values of the main variables indicated fairly normal distributions.

Table 2

Descriptive Statistics of Study Variables.

Measure	<i>M</i>	<i>SD</i>	Range	Skewness	Kurtosis
LS	4.48	1.43	1-7	-.32	-.71
Total Stress	2.00	.50	1-4	-.68	-.27
Academic	3.03	.71	1-4	-.50	-.26
Relationship	1.90	.68	1-4	.75	.26
Equity	1.29	.53	1-4	2.38	6.43
Parenting	1.34	.59	1-4	1.89	3.33

Total Stress (continued)	Mean	SD	Range	Skewness	Kurtosis
Practical	2.20	.83	1-4	.44	-.68
Health	1.90	.90	1-4	.75	-.42
SBP-K	5.52	1.40	1-7	-1.14	1.08
PGI	4.54	1.00	1-6	-.54	-.18

The average level of LS reported by participants ($M = 4.48$, $SD = 1.43$) fell between 4 (Slightly Agree) to 5 (Agree), suggesting positive levels of LS in the sample. The levels of university-related stress reported by participants varied. Average levels of Academic stressors ($M = 3.03$, $SD = .71$) fell near a rating of 3, indicating that participants on average “Frequently” encountered these stressors. Average levels of Practical stressors ($M = 2.21$, $SD = .84$) fell between a 2 and 3, suggesting that participants on average “Sometimes” to “Frequently” encountered the stressors. The average levels of Relationship, Equity, Parenting, and Health stressors all fell between a 1 and 2 (Relationship $M = 1.91$, $SD = .68$; Equity $M = 1.30$, $SD = .53$; Parenting $M = 1.35$, $SD = .60$; Health $M = 1.91$; $SD = .90$), indicating that participants either experienced these stressors “Not At All” or “Sometimes.” Dependent samples t-tests demonstrated significant differences between Academic and Relationship ($t = 9.70$, $p < .001$), Equity ($t = 38.27$, $p < .001$), Parenting ($t = 52.54$, $p < .001$), Practical ($t = 17.02$, $p < .001$), and Health ($t = 42.77$, $p < .001$) stressors, as well as significant differences between Practical and Academic ($t = 17.02$, $p < .001$), Relationship ($t = -6.89$, $p < .001$), Equity ($t = 20.45$, $p < .001$), Parenting ($t = 31.38$, $p < .001$), and Health ($t = 21.10$, $p < .001$) stressors. The average level of SBP-K reported ($M = 5.52$, $SD = 1.40$) fell between ratings of 4 and 5, suggesting that participants were “Neutrally” or “Slightly” agreed with the statements regarding their parents’

awareness of their strengths. The average level of PGI reported ($M = 4.54$, $SD = 1.00$) fell between a 4 and 5, suggesting that participants “Somewhat Agreed” to “Strongly Agreed” with the statements.

Residual Assumptions of Normality. All study variables were further tested for normality using residuals (see Table 3). Residual assumptions of normality were evaluated for all study variables using multiple indicators, including skewness and kurtosis values, the Kolmogorov-Smirnov (K-S) and Shapiro-Wilk (S-W) tests, and normal quantile-quantile (Q-Q) plots (SPSS Tutorials, 2018). The univariate skewness and kurtosis values for residuals of all the variables were less than 1.0, indicating no significant deviations from normality (Boomsma & Hoogland, 2001; Muthén & Kaplan, 1985). Both the K-S and S-W tests were significant, suggesting deviations from normality. However, these tests are sensitive to large samples sizes and have been shown to indicate significance when all other indicators demonstrate little deviations from normality. Lastly, the Q-Q plots suggest normal distributions for all variable residuals. Overall, residual assumptions of normality for all study variables were considered met.

Table 3

Normality Tests of Residuals for Study Variables

Measure	Skewness	Kurtosis	Kolmogorov-Smirnov (<i>p</i> -value)*	Shapiro-Wilk (<i>p</i> -value)*
University Stressors:				
Academic	-.27	-.62	.07 (.001)	.98 (.000)
Relationship	-.24	-.30	.06 (.008)	.99 (.009)
Equity	-.18	-.58	.08 (.000)	.98 (.000)
Parenting	-.25	-.53	.09 (.000)	.98 (.000)
Practical	-.19	-.53	.07 (.001)	.99 (.001)

University Stressor:	Skewness	Kurtosis	Kolmogorov-Smirnov (p-value)*	Shapiro-Wilk (p-value)*
Health	-.20	-.28	.06 (.002)	.99 (.025)
SBP-K	-.20	-.51	.06 (.013)	.99 (.006)
PGI	-.35	-.40	.07 (.000)	.98 (.001)

Note. * $p < .05$.

Correlation Analyses. Pearson correlations are presented in Table 4 and were interpreted using Cohen's (1988) interpretation of correlation magnitude. Analyses demonstrated significant, negative, and small associations between LS and each stressor, including Academic ($r = -.19, p < .01$), Equity ($r = -.18, p < .01$), Parenting ($r = -.19, p < .01$), and Practical ($r = -.26, p < .01$) stressors. A significant, negative, and moderate relation was demonstrated between LS and two stressors, Relationship ($r = -.31, p < .01$) and Health ($r = -.36, p < .01$), respectively. Significant, moderate, positive associations were demonstrated between SBP-K ($r = .35, p < .01$) and LS and also between PGI ($r = .44, p < .01$) and LS. Additionally, significant, negative, and weak correlations were demonstrated between SBP-K and several stressors, including Relationship ($r = -.28, p < .01$), Equity ($r = -.24, p < .01$), Parenting ($r = -.27, p < .01$), Practical ($r = -.17, p < .01$), and Health ($r = -.24, p < .01$), but no significant association was found between SBP-K and the Academic ($r = -.10, p > .05$) stressor. Similarly, significant, negative, and weak correlations were demonstrated between PGI and most stressors, including Academic ($r = -.11, p < .05$), Relationship ($r = -.14, p < .01$), Equity ($r = -.17, p < .01$), Parenting ($r = -.14, p < .05$), and Health ($r = -.26, p < .01$), but the association between PGI and the Practical ($r = -.00, p > .05$) stressor was nonsignificant.

Table 4

Correlation Analyses Between Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. LS	1							
2. Academic Stressor	-.191	1						
3. Relationship Stressor	-.308	.360	1					
4. Equity Stressor	-.180	.107	.484	1				
5. Parenting Stressor	-.191	.177	.526	.554	1			
6. Practical Stressor	-.263	.336	.516	.330	.402	1		
7. Health Stressor	-.358	.326	.448	.375	.401	.379	1	
8. SBP-K	.353	-.096n.s.	-.283	-.238	-.267	-.171	-.243	1
9. PGI	.439	-.113	-.144	-.171	-.137	-.004n.s.	-.261	.345

Note. All correlations are significant ($p < .05$, two-tailed) except for those with n.s. (non-significant) beside them.

PROCESS Analyses

Multiple Moderation Models. The hypothesized models of SBP-K and PGI moderating the association between each of the six stressor variables and LS were ran in six separate models. Among all the models, only one significant interaction effect was found, which had Practical stressors as the predictor (X). In this model, Practical stressors ($\beta = -1.14$, $t = -2.83$, $p < .01$) and SBP-K ($\beta = .31$, $t = 2.09$, $p < .05$) significantly predicted LS, but PGI ($\beta = .04$, $t = .19$, $p > .05$) was not a significant predictor. PGI was a significant moderator ($\beta = .22$, $t = 2.72$, $p < .05$) in the relation between Practical stressors and LS, though SBP-K ($\beta = -.05$, $t = -.77$, $p > .05$) did not significantly moderate this association (see Table 5).

Table 5

Moderating Effects of Strength Based Parenting (knowledge subscale) and Personal Growth Initiative on the Relation between Practical Stressors and LS

	R^2	F	β	SE	t	ΔR^2
Practical Stressor			-1.14	.40	-2.83**	
SBP-K			.31	.15	2.09*	
PGI			.04	.20	.19	
Model Summary	.31	30.98**				
Practical Stressor x SBP-K		.60	-.04	.06	-.77	.001
Practical Stressor x PGI		7.40	.22	.08	2.72*	.015

Note. * $p < .05$. ** $p < .01$.

These results suggest that PGI interacts with Practical stressors to increase LS. Further, the negative effect of Practical stressors on LS decreased as PGI levels increased (see Table 6 and Figure 5).

Table 6

Conditional Effect(s) of Practical Stressors on Life Satisfaction at Levels of Personal Growth Initiative and Strength-Based Parenting (knowledge subscale)

PGI level	SBP-K level	β	SE	t
3.44 (Low)	4.13	-.59	.13	-4.58***
	5.88	-.66	.13	-5.24***
	7.00	-.72	.16	-4.37***
4.63 (Medium)	4.13	-.33	.11	-2.89**
	5.88	-.41	.08	-5.14***
	7.00	-.46	.11	-4.06***
5.63 (High)	4.13	-.12	.16	-.74

SBP-K level	β	SE	t
5.88	-.19	.11	-1.78
7.00	-.24	.12	-2.01*

Note. Significant interactions were probed using the 16th, 50th, and 84th percentiles to estimate the conditional effects of the predictor at low, moderate, and high levels of the moderator.

* $p < .05$, ** $p < .01$, *** $p < .001$.

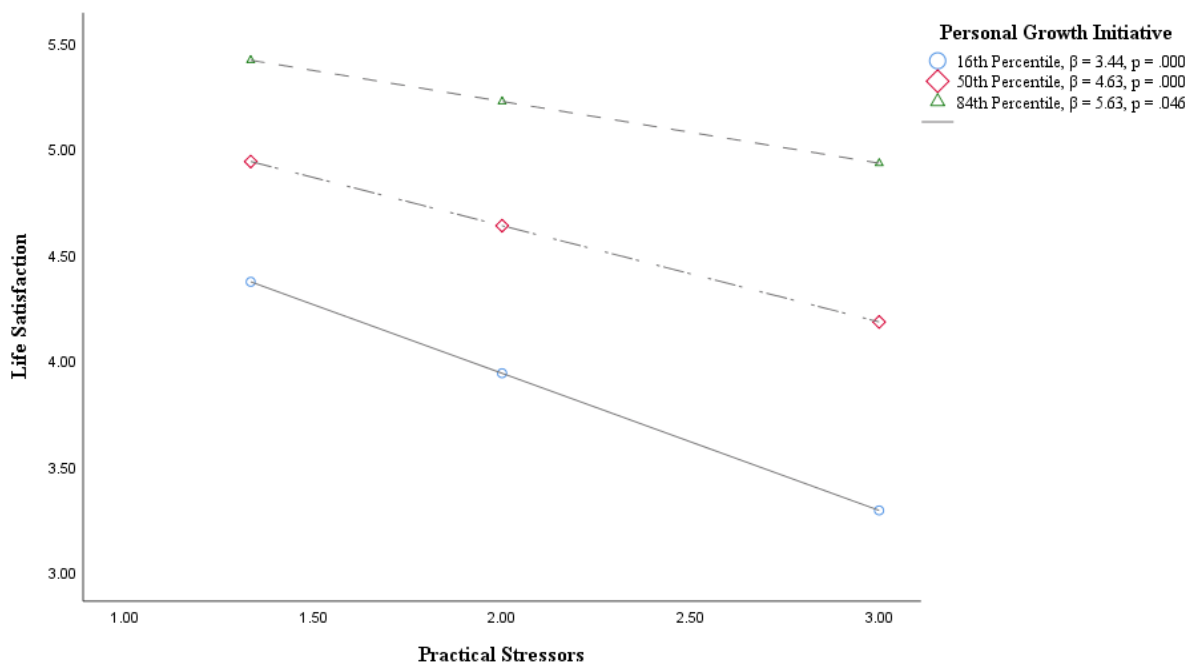


Figure 5. Conditional effects of personal growth initiative on the relation between practical stressors and life satisfaction.

In the remaining five models, PGI emerged to be a significant predictor in four of the five models, including the models with Relationship stressors ($\beta = .63$, $t = 3.11$, $p < .01$), Equity stressors ($\beta = .38$, $t = 2.01$, $p < .05$), Parenting stressors ($\beta = .69$, $t = 3.81$, $p < .001$), and Health stressors ($\beta = .44$, $t = 2.54$, $p < .001$), but not Academic stressors. More detailed results are shown in Table 7. Additionally, none of the five remaining stressors (academic, relationship,

equity, parenting, health) or SBP-K predicted LS. Lastly, there were no significant interaction effects found in these models.

Table 7

Summary of Moderation Models with Each University-Related Stressors as Predictor

	R ²	F	β	SE	t	ΔR ²
Academic Stressor			-.31	.54	-.58	
SBP-K			.18	.24	.76	
PGI			.53	.30	1.75	
Model Summary	.26	24.44				
Stressor x SBP-K		.04	.02	.08	.20	.000
Stressor x PGI		.01	-.01	.10	-.12	.000
Relationship Stressor			-.47	.52	-.92	
SBP-K			.05	.15	.34	
PGI			.63	.20	3.11**	
Model Summary	.29	27.79				
Stressor x SBP-K		.84	.06	.07	.92	.002
Stressor x PGI		.48	-.07	.10	-.69	.001
Equity Stressor			-.64	.54	-1.18	
SBP-K			.21	.15	1.37	
PGI			.38	.19	2.01*	
Model Summary	.25	23.04				
Stressor x SBP-K		.00	.01	.11	.07	.000
Stressor x PGI		.42	.09	.14	.65	.001
Parenting Stressor			.30	.53	.56	

	R ²	F	β	SE	t	ΔR^2
SBP-K			.19	.14	1.42	
PGI			.69	.18	3.81***	
Model Summary	.25	23.46				
Stressor x SBP-K		.04	.02	.09	.19	.000
Stressor x PGI		1.21	-.14	.12	-1.10	.003
Health Stressor			-.39	.38	-1.03	
SBP-K			.19	.12	1.52	
PGI			.44	.18	2.54**	
Model Summary	.29	28.50				
Stressor x SBP-K		.00	.00	.05	.04	.000
Stressor x PGI		.00	.00	.08	.02	.000

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Moderated Moderation Model. Because PGI was a significant moderator of the relation between practical stressors and LS, a moderated moderation model was run to determine whether the buffering effect of PGI would be further moderated by SBP-K (see Table 8). No significant three-way interaction between Practical stressors, PGI, and SBP-K was found ($\beta = .03$, $t = .52$, $p > .05$). Please refer to Table 8 for details.

Table 8

Summary of the Moderated Moderation Model

	R ²	F	β	SE	t	ΔR^2
Practical Stressor			-.57	1.18	-.48	
SBP-K			.58	.58	.99	
PGI			.35	.73	.48	

	R^2	F	β	SE	t	ΔR^2
Model Summary	.31	22.06**				
Practical Stressor x PGI			.08	.27	.31	
Practical Stressor x SBP-K			-.16	.23	-.70	
PGI x SBP-K			-.06	.13	-.46	
Practical Stressor x PGI x SBP-K		.27	.03	.05	.52	.001

Note. ** $p < .01$.

Discussion

The purpose of the current study was to investigate the buffering role of SBP-K and PGI in the relation between six university-related stressors and LS in emerging adults. Two possible mechanisms were tested, including having SBP-K and PGI as two moderators in a two-moderator model and then in a moderated moderation model. For the multiple moderator model, results showed that PGI, but not SBP-K, significantly moderated the relations between practical stressors and LS in emerging adults. For the moderated moderation model, the three-way interaction between practical stressors, PGI, and SBP-K was non-significant. The findings are discussed in more detail below.

Demographic results

Based on the descriptive statistic results, the average levels of the academic and practical stressors perceived by emerging adults in the college setting were statistically higher in comparison to the other stressors, which is consistent with both theory of the developmental tasks for this population and relevant research. Specifically, pursuing self-sufficiency is one of the key themes in the development of emerging adulthood, and to achieve this developmental goal, many emerging adults attend college to receive higher education and to attain undergraduate degrees (Arnett, 2000). This path is inevitably accompanied by college related

stress, such as academic stress. Specific academic stressors among college students typically include, but are not limited to, increases in academic demands and work load, stress to prepare for and take exams, and consequences of receiving low grades. Also, in contrast to emerging adults who obtain a job after high school, those who choose to attend college likely have difficulty with financial independence because they do not have financial support from family members and must take out student loans or use credit cards (Robb, 2017). Therefore, to become more self-sustained financially, some students may live on tight budgets and work a side job along with maintaining other academic and personal responsibilities (Hurst et al., 2013). Besides a lack of financial support, many college students also experience practical stressors related to changes in living situation, changes in sleep and eating habits, and time management (Acharya et al., 2018; Hurst et al., 2013). By using self-report, findings indicated that college students indeed perceived high levels of academic and practical stresses.

In contrast to a relatively high level of academic and practical stress, emerging adults in this sample reported lower levels of perceived relationship, equity, parenting, and health stressors (i.e., as occurring not at all to sometimes). Such pattern is consistent with previous studies in general, which have shown that academic and practical stressors are most frequently reported by students, followed by reports of interpersonal stressors related to being accepted and respected by their peer group, completing group projects, having to work with individuals they do not know, leaving family and friends to attend college, and making tough decisions to maintain or end relationships (Acharya, 2018; Darling, McWey, Howard, & Olmstead, 2007; Kuang-Tsan & Yuan, 2017; Lindsey et al., 2011).

In the present study, participants reported low levels of Equity stressors. Past research has shown that Equity stressors are salient in the lives of minority students. Minority students

reported high levels of microaggressions, stereotyping, and discrimination in social and academic environments, as well as social isolation (Chavajay & Skowronek, 2008; Hurst et al., 2013; Smith, Allen, Danley, 2007; Watkins, Green, Goodson, Guidry, and Stanley, 2007). Thus, it should be noted that much of the sample were white, female participants, which may not fully capture the Equity stress experienced by non-white and male students.

The current descriptive findings of the low levels of perceived Parenting stressors are consistent with past research which has reported that among the sources of college stress, parenthood was not identified as a stressor (Acharya, 2018; Hurst et al., 2013; Wilson & Pritchard, 2005). Nowadays, it is likely that parenthood is delayed in emerging adulthood (i.e., 18-25) due to educational pursuits and extended identify exploration (Arnett, 2000).

Lastly, the descriptive findings for Health stressors were also consistent with previous research. Researchers noted that college students are more mentally healthy than those who opt out of college (Arnett, 2016). Arnett explained that emerging adults have fewer responsibilities because they are neither forced to comply with parental restrictions nor have taken on adult responsibilities (e.g., career, family). Still, there may be college students who find certain stressors unbearable, which impacts their mental health. After reviewing existing research on college student stressors, Hurst and colleagues (2013) found that only 10% of the reported stressors were related to mental and physical health. In a qualitative study, students who reported health-related stressors indicated that academic stress led them to choose unhealthy food choices over well-balanced meals and not exercising regularly (Szabo & Marian, 2017).

Overall, these findings suggest that academic stress is the most significant stressor for college students, followed by practical stressors. Compared to academic and practical stressors,

students experience less relationship stress, and equity related stressors in this sample. On average, students appear to have minimal parenting or health issues.

Correlational Results

First, the correlational results showed that all the stressor variables and LS have negative associations with small to moderate effect size. These results are consistent with previous research assessing the correlates of stress and LS among college students (Kaya et al., 2015, Saleh, Camart, & Romo, 2017; Weinstein & Laverghetta, 2009), though these studies did not specify the types of stressors as those used in the current study. Second, significant positive, moderate correlations were found between LS and each moderating variable, SBP-K and PGI, respectively. These correlations are also consistent with past research evidencing significant, positive correlations between the same variables in adolescent and emerging adult samples (Stevic & Ward, 2008; Waters, 2015a). Third, the present study also showed a significant, moderate, positive relation between SBP-K and PGI, which supports the observation reported in previous research, that individuals tend to seek out support when they have a well-developed personal growth mindset (Klockner & Hicks, 2008), which is a similar construct to PGI. But beyond this, this finding reveals the relation between strength-based parenting and intrapersonal strengths in young adults, as the new contribution to the literature. Lastly, there are two very small, negative, and non-significant correlations, one between academic stress and SBP-K, and another between practical stress and PGI. To my best knowledge, no existing research has reported the correlation between academic stress and SBP-K, though a study has shown that SBP has an indirect effect on academic achievement in adolescents and emerging adults (Waters, et al., 2018). The non-significant correlation between practical stressors and PGI may suggest that the direct association between these stressors and intrapersonal characteristics, such as PGI, is

very weak. Undergraduate students face specific financial stressors related to education financing (Robb, 2017). In fact, Berman (2015) reported that the average debt for graduates continues to rise each year, which indicate the external financial stressors that students face may make goals for self-sufficiency or financial independence difficult, and such difficulty may be unrelated to individuals' personal strengths, such as PGI. However, future research is suggested to determine if the association between these two factors is direct or more complex.

Regression results

Although there were no significant moderation effects in the other multiple moderation models, significant main effects of PGI were found in several models involving the Relationship, Equity, Parenting, and Health stressors. It has been shown in past research that PGI was positively correlated with subjective well-being factors, such as life satisfaction and positive affect (Hardin, Weigold, Robitschek, & Nixon, 2007), and PGI has an indirect effect on LS through meaning of life (Borowa, Kossakowska, Harmon, & Robitschek, 2012). This study contributes to the literature by demonstrating the direct effect of PGI on LS in emerging adults.

The most important finding of this study is that PGI significantly moderated the relation between practical stressors and LS. This suggests that PGI buffers the negative impact of practical stressors to promote LS in college students. PGI comprises cognitive and behavioral components. The cognitive component consists of self-efficacy regarding change, and the behavioral component is characterized by intentional self-changing behaviors (Robitschek, 1998). As emerging adults with goals of self-dependence and financial independence, intrapersonal strengths, such as PGI, may encourage students to tackle problems involving finances, housing, work, and transportation with persistence (Arnett, 2000; Yakunina et al., 2013). Resilience theory also supports this significant interaction where PGI is a preventive

factor that promotes well-being by protecting against the impact of stressors (Rutter, 2013). Individuals with PGI can apply these skills to different areas of their life where growth is desired (Robitschek, 1999). When experiencing practical stressors, individuals with PGI may have higher confidence in their ability to grow in how they address these stressors, as well as intentionally seek out support.

The moderation effect of SBP-K is non-significant, which might reflect the limitation of the construct being measured in this study, which focused on parental knowledge of their child's strengths. Another aspect of SBP is parental strengths use (SBP-U; Waters 2015a), which was shown to positively relate to LS (Waters 2015b). Research shows that overall SBP is negatively related to perceived stress in children, as well as has an indirect effect on stress by increasing strength-based coping in children (Waters, 2015a). In adolescents, SBP practices lead to higher levels of LS and allows them to know and use their strengths in the face of stress (Waters, 2015b). Additionally, SBP promotes happiness in adolescents by protecting against distress (Loton & Waters, 2017). In the current study, only SBP-K was used, so the researcher was unable to identify whether the parental application of students' strengths (SBP-U) or the overall SBP (both knowledge and strength use) buffered the impact of practical stressors. Future studies should incorporate SBP-U to test the interaction between SBP and university-related stressors in emerging adults.

Strengths, Limitations, and Future Directions

The current study possesses several main strengths. First, the overall sample size was relatively large and included individuals from diverse racial backgrounds. Second, a university stress scale specific to the college student sample, rather than using a general stress measure, was used, which more accurately captured the stress that most applied to the studied population.

Third, the current study sought to expand the research on the role of two new positive psychological variables, SBP and PGI, in the context of stress. The findings contributed to the understanding of how perceived intrapersonal strengths protected college students' life satisfaction under perceived practice stress.

Despite the strengths, several limitations of the current study should also be noted. First, a convenient sample of undergraduate students was used instead of a more nationally representative sample. Specifically, the majority of the sample were female, which may overly represent the saliency of the university related stressors in females. Second, parental knowledge of child strengths use was assessed through college students' self-report rather than parents directly reporting, which may be discrepant from students' perceptions of parental knowledge. Also in this study only one aspect of SBP was measured (i.e., knowledge), but not parental strengths use. Lastly, the data is cross-sectional in nature and thus is not able to capture longitudinal relations among the variables. Future studies should incorporate a longitudinal design to examine relations among variables and use a more generalizable sample. Future research should gather information of both types of SBP practice, and from both parents' and students' perspectives.

Implications

The present study demonstrated the negative association between university-related stressors on college students' LS. Knowing the saliency of these stressors in the lives of college students, universities should offer support to those experiencing significant stress in order to help them better cope with it. With the knowledge that a personal growth mindset significantly buffers the negative impact of practical stressors on LS, as revealed in the present study, one suggestion is for higher education systems to offer programs that educate students about good

studying practices, time management, and finances, which are important to manage practical demands (e.g., loans and credit management, Robb, 2017). Financial literacy programs and workshops may also help to develop students' personal growth mindsets, giving them knowledge and tools to tackle issues associated with their practical needs. This increases self-efficacy, overall confidence, and ultimately promotes student well-being.

References

- Acharya, L., Jin, L., & Collins, W. (2018). College life is stressful today- Emerging stressors and depressive symptoms in college students. *Journal of American College Health, 22*, 1-10. doi: 10.1080/07448481.2018.1451869
- Ames, M. E., Rawana, J. S., Gentile, P., & Morgan, A. S. (2015). The protective role of optimism and self-esteem on depressive symptom pathways among Canadian Aboriginal youth. *Journal of Youth and Adolescence, 4*, 142-154. doi: 10.1007/s10964-013-0016-4
- Antaramian, S. (2017). The importance of very high life satisfaction for students' academic success. *Cogent Education, 4*, 1-10. doi: 10.1080/2331186X.2017.1307622
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469-480. doi: 10.1037//0003-066X.55.5.469
- Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives, 1*(2), 68-73. doi: 10.1111/j.1750-8606.2007.00016.x
- Arnett, J. J. (2016). College students as emerging adults: The developmental implications of the college context. *Emerging Adulthood, 4*(3), 219-222. doi: 10.1177/2167696815587422
- Arrindell, W. A., Heesink, J., & Feij, J. A. (1999). The satisfaction with life scale (SWLS): Appraisal with 1700 healthy young adults in the Netherlands. *Personality and Individual Differences, 26*(5), 815- 826. doi: 10.1016/S0191-8869(98)00180-9
- Babinčák, P., & Bačova, V. (2008). Life satisfaction, beliefs and relations to oneself and others in university students. *Studia Psychologica, 50*(1), 79-94.
- Ballard, R. (1992). Short forms of the Marlowe-Crowne social desirability scale. *Psychological Reports, 71*, 1155- 1160.

- Bao, X., Pan, W., Shi, M., & Ji, M. (2013). Life satisfaction and mental health in Chinese adults. *Social Behavior and Personality*, *41*(1), 1597-1604. doi: 10.2224/sbp.2013.41.10.1597
- Baum, A. (1990). Stress, intrusive imagery, and chronic distress. *Health Psychology*, *9*(6), 653-675. doi: 10.1037/0278-6133.9.6.653
- Bergin, A. J., & Pakenham, K. I. (2016). The stress-buffering role of mindfulness in the relationship between perceived stress and psychological adjustment. *Mindfulness*, *7*, 928-939. doi: 10.1007/s12671-016-0532-x
- Berman, J. (2015, May 9). Class of 2015 has the most student debt in U.S. history. *MarketWatch*, pp.
- Blanco, C., Okuda, M., Wright, C., Hasin, D. S., Grant, B. F., Liu, S., & Olfson, M. (2008). Mental health of college students and their non-college-attending peers. *Archives of General Psychology*, *65*(12), 1429- 1437.
- Boomsma, A., & Hoogland, J. J. (2001). The robustness of LISREL modeling revisited. In R. Cudeck, S. DuToit, & D. Sörbom (Eds.), *Structural equation models: Present and future*. Lincolnwood, IL: Scientific Software International.
- Borowa, D., Kossakowska, M. M., Harmon, K. A., & Robitschek, C. (2018). Personal growth initiative's relation to life meaning and satisfaction in a Polish sample. *Current Psychology*, 1-13. doi: 10.1007/s12144-018-9862-2
- Borowa, D., Robitschek, C., Harmon, K. A., Shigemoto, Y. (2016). Posttraumatic stress and growth in student service members and veterans: The role of personal growth initiative. *Journal of American College Health*, *64*(7),527-534. doi: 10.1080/07448481.2016.1188395

- Bromand, Z., Temur-Erman, S., Yesil, R., Montesinos, A. H., Aichberger, MC., Kleiber, D.,...
Rapp, MA.(2012). Mental health of Turkish women in Germany: Resilience and risk factors. *European Psychiatry*, 27, S17- S21. doi: 10.1016/S0924-9338(12)75703-6
- Carlson, C. L. (2014). Seeking self-sufficiency: Why emerging adult college students receive and implement parental advice. *Emerging Adulthood*, 2(4), 257-269. doi: 10.1177/2167696814551785
- Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy*, 44(4), 585-599. doi: 10.1016/j.brat.2005.05.001
- Chao, R. C. (2011). Managing stress and maintaining well-being: Social support, problem-focused coping, and avoidant coping. *Journal of Counseling & Development*, 89(3), 338-348. doi: 10.1002/j.1556-6678.2011.tb00098.x
- Chao, R. C. (2012). Managing perceived stress among college students: The roles of social support and dysfunctional coping. *Journal of College Counseling*, 15, 5-21. doi: 10.1002/j.2161-1882.2012.00002.x
- Chavajay, P., & Skowronek, J. (2008). Aspects of acculturation stress among international students attending a university in the USA. *Psychological Reports*, 103, 827-835. doi: 10.2466/PRO.103.3.827-835
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey: Lawrence Erlbaum.

- Crouchley, K., Daly, A., & Molster, C. (2006). *An overview of the health and well-being of young adults in Western Australia 2002- 2005*. Perth: Department of Health
- Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factory analysis. *Psychological Methods, 1*(1), 16-29. doi: 10.1037//1082-989X.1.1.16
- Danoff-Burg, S., Prelow, H. M., & Swenson, R. R. (2004). Hope and life satisfaction in black college students coping with race-related stress. *Journal of Black Psychology, 30*(2), 208-228. doi: 10.1177/0095798403260725
- Darling, C. A., McWey, L. M., Howard, S. N., & Olmstead, S. B. (2007). College student stress: The influence of interpersonal relationships on sense of coherence. *Stress and Health, 23*, 215-229. doi: 10.1002/smi.1139
- Darling, N., & Toyokawa, T. (1997). Construction and validation of the parenting style inventory II (PSI-II). Unpublished manuscript.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*(3), 542-575.
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*(1), 34-43. doi: 10.1037//0003-066X.55.1.34
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71- 75. doi: 10.1207/s15327752jpa4901_13
- Duineveld, J. J., Parker, P. D., Ryan, R. M., Ciarrochi, J., Salmela-Aro, K. (2017). The link between perceived maternal and paternal autonomy support and adolescent well-being

- across three major educational transitions. *Developmental Psychology*, 53(10), 1978-1994. doi: 10.1037/dev0000364
- Everett, J. E., Marks, L. D., & Clarke-Mitchell, J. F. (2016). A qualitative study of the black mother-daughter relationship: Lessons learned about self-esteem, coping, and resilience. *Journal of Black Studies*, 47(4), 334- 350. doi: 10.1177/0021934716629339
- Fergusson, D. M., McLeod, G. F. H., Horwood, L. J., Swain, N. R., Chapple, S., & Poulton, R. (2015). Life satisfaction and mental health problems (18 to 35 years). *Psychological Medicine*, 45(11), 2427-2436. doi: 10.1017/S0033291715000422
- Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745-74. doi: 10.1146/annurev.psych.55.090902.141456
- Garnezy, N. (1991a). Resilience in children's adaptation to negative life events and stressed environments. *Pediatric Annals*, 20(9), 459-466.
- Garnezy, N. (1991b). Resiliency and vulnerability to adverse developmental outcomes associated with poverty. *American Behavioral Scientist*, 34(4), 416-430. doi: 10.1177/0002764291034004003
- Gaylord-Harden, N. K., Elmore, C. A., & Montes de Oca, J. (2013). Maternal behaviors and child coping in African American families. *Journal of Family Psychology*, 27(4), 607-617. doi: 10.1037/a0033414
- Goletzke, J., Kocalevent, R. D., Hansen, G., Rose, M., Becher, H., Hecher, K., Arck, P. C., Diemert, A. (2017). *Journal of Psychosomatic Research*, 102, 8-14. doi: 10.1016/j.jpsychores.2017.09.002

- Govindji, R., & Linley, A. (2007). Strengths use, self-concordance and well-being: Implication for strengths coaching and coaching psychologists. *International Coaching Psychology Review*, 2(2), 143-153.
- 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. Doi: 10.1037/vio0000135
- Hardin, E. E., Weigold, I. K., Robitschek, C., & Nixon, A. E. (2007). Self-discrepancy and distress: The role of personal growth initiative. *Journal of Counseling Psychology*, 54(1), 86-92. doi: 10.1037/0022-0167.54.1.86
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: The Guildford Press.
- Hinton, R., & Earnest, J. (2010). Stressors, coping, and social support among women in Papua New Guinea. *Qualitative Health Research*, 20(2), 224-238. doi: 10.1177/1049732309357572
- Holinka, C. (2015). Stress, emotional intelligence, and life satisfaction in college students. *College Student Journal*, 49(2), 300-311.
- Howell, K. H., & Miller-Graff, L. (2014). Protective factors associated with resilience functioning in young adulthood after childhood exposure to violence. *Child Abuse and Neglect*, 38, 1985-1994. doi: 10.1016/j.chiabu.2014.10.010

- Huebner, E. S., Funk, B. A. III, & Gilman, R. (2000). Cross-sectional and longitudinal psychosocial correlates of adolescent life satisfaction reports. *Canadian Journal of School Psychology, 16*(1), 53-64. doi: 10.1177/082957350001600104
- Hurst, C. S., Baranik, L. E., & Daniel, F. (2013). College student stressors: A review of the qualitative research. *Stress and Health, 29*, 275-285. doi: 10.1002/smi.2465
- Jach, H. K., Sun, J., Loton, D., Chin, T., & Waters, L. E. (2017). Strengths and subjective wellbeing in adolescence: Strength-based parenting and the moderating effect of mindset. *Journal of Happiness Studies, 19*(2), 567-586. doi: 10.1007/s10902-016-9841-y
- Jang, M. H., Park, J., Chong, M. K., Sok, S. R. (2017). Factors influencing resilience of burn patients in South Korea. *Journal of Nursing Scholarship, 49*(5), 478-486. doi: 10.1111/jnu.12311
- Joshanloo, M. (2013). The influence of fear of happiness beliefs on responses to the satisfaction with life scale. *Personality and Individual Differences, 54*(5), 647- 651. doi: 10.1016/j.paid.2012.11.011
- Jovanić, V. (2016). The validity of the satisfaction with life scale in adolescents and a comparison with single-item life satisfaction measures: A preliminary study. *Quality of Life Research, 25*(12), 3173- 3180, doi: 10.1007/s11136-016-1331-5
- Kaya, C., Tansey, T. N., Melekoğlu, M., & Çakiroğlu, O. (2015). Stress and life satisfaction of Turkish college students. *College Student Journal, 49*(2), 257-261.
- Khan, A., & Husain, A. (2010). Social support as a moderator of positive psychological strengths and subjective well-being. *Psychological Reports, 106*(2), 534-538. doi: 10.2466/PRO.106.2.534-538

Klockner, K., & Hicks, R. E. (2008). My next client: Understanding the big five and positive personality dispositions of those seeking psychosocial support interventions.

International Coaching Psychology Review, 3(2), 146-161.

Kritzas, N., & Grobler, A. A. (2005). The relationship between perceived parenting styles and resilience during adolescence. *Journal of Child and Adolescent Mental Health*, 17(1), 1-12. doi: 10.2989/17280580509486586

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2002). The PHQ- 15: Validity of a new measure for evaluating the severity of somatic symptoms. *Psychosomatic Medicine*, 64(2), 258- 266. doi: 10.1097/00006842-200203000-00008

Kuang-Tsan, C. & Fu-Yuan, H. (2017). Study on relationship among university students' life stress, smart mobile phone addiction, and life satisfaction. *Journal of Adult Development*, 24, 109-118. doi: 10.1007/s10804-016-9250-9

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer Publishing Company, Inc.

Lee, J. H., Seo, M., Lee, M., Park, S. Y., Lee, J. H., & Lee, S. M. (2017). Profiles of coping strategies in resilient adolescents. *Psychological Reports*, 120(1), 49-69. doi: 10.1177/0033294116677947

Lee, S., Kim, S., & Choi, J. Y. (2014). Coping and resilience of adolescents with congenital heart disease. *Journal of Cardiovascular nursing*, 29(4), 340-346. doi: 10.1097/JCN.0b013e3182865367

- Levenson, H. (1974). Activism and powerful others: Distinctions within the concept of internal-external control. *Journal of Personality Assessment*, 38, 377-383.
doi:10.1080/00223891.1974.10119988
- Li, M., & Yang, Y. (2009). Determinants of problem solving, social support seeking, and avoidance: A path analytic model. *International Journal of Stress Management*, 16(3), 155-176. doi: 10.1037/a0016844
- Lindsey, R., Reed, S., Lyons, R., Hendricks, D., Mead, A., & Butler, K. L. (2011). Sources of stress among gender and classification for African American college students. *College Student Journal*, 45(4), 749-757.
- Linley, P. A., Garcea, N., Hill, J., Minhas, G., Trenier, E., & Willars, J. (2010). Strengthspotting in coaching: Conceptualisation and development of the strengthspotting scale. *International Coaching Psychology Review*, 5(2), 165-176.
- Loton, D. J., & Waters, L. E. (2017). The mediating effect of self-efficacy in the connections between strength-based parenting, happiness and psychological distress in teens. *Frontiers in Psychology*, 8, 1-13. doi: 10.3389/fpsyg.2017.01707
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales* (2nd ed.). Sydney, NSW, Australia: Psychology Foundation of Australia.
- Luyckx, K., & Robitschek, C. (2014). Personal growth initiative and identity formation in adolescence through young adulthood: Mediating processes on the pathway to well-being. *Journal of Adolescence*, 37, 973 – 981. doi: 10.1016/j.adolescence.2014.07.009

- Lyons, M. D., Huebner, E. S., Hills, K. J. (2016). Relations among personality characteristics, environmental, events, coping behavior and adolescents' life satisfaction. *Journal of Happiness Studies*, 17(3), 1033-1050. doi: 10.1007/s10902-015-9630-z
- Lyrakos, D. G. (2012). The impact of stress, social support, self-efficacy, and coping on university students, a multicultural European study. *Psychology*, 3(2), 143-149. doi: 10.4236/psych.2012.32022
- MacCann, C., Lipnevich, A. A., Burrus, J., & Roberts, R. D. (2012). The best years of our lives? Coping with stress predicts school grades, life satisfaction, and feelings about high school. *Learning and Individual Differences*, 22, 235-241. doi: 10.1016/j.lindif.
- Masten, A. (2014). *Ordinary magic: Resilience in development*. New York, NY: The Guilford Press.
- Masten, A. S., Best, K. M., & Garmezy, N. (1991). Resilience and development: Contribution from the study of children who overcome adversity. *Development and Psychopathology*, 2(4), 425-444. doi: 10.1017/S0954579400005812
- Matheny, K. B., Roque-Tovar, B. E., & Curlette, W. L. (2008). Perceived stress, coping resources, and life satisfaction among U.S. and Mexican college students: A cross-cultural study. *Anales de Psicologia*, 24(1), 49-57.
- Matsuda, T., Tsuda, A., Kim, E., & Deng, K. (2014). Association between perceived social support and subjective well-being among Japanese, Chinese, and Korean, college students. *Psychology*, 5, 491-499. doi: 10.4236/psych.2014.56059

- Mayordomo, T., Viguer, P., Sales, A., Satorres, E., & Melendez. (2016). Resilience and coping as predictors of well-being in adults. *The Journal of Psychology, 150*(7), 809-821, doi: 10.1080/00223980.2016.1203276
- McKinley, C. (2013). Applying a distress-detering approach to examine how emotional support predicts perceived stress and stress-related coping response. *Southern Communication Journal, 78*(5), 387-404. doi: 10.1080/1041794X.2013.839737
- Muthén, B., & Kaplan, D. (1985). A comparison of some methodologies for the factor analysis of non-normal Likert variables. *British Journal of Mathematical and Statistical Psychology, 38*(2), 171-189. doi: 10.1111/j.2044-8317.1985.tb00832.x
- Noronha, A. P. P., & Martins, D. D. F. (2016). Associations between character strengths and life satisfaction: A study with college students. *Acta Columbiana de Psicología, 19*(2), 97-103. doi: 10.14718/ACP.2016.19.2.5
- Paolini, L., Yanez, A. P., & Kelly, W. E. (2006). An examination of worry and life satisfaction among college students. *Individual Differences Research, 4*(5), 331-339.
- Pedersen, D. E. (2017). Which stressors increase the odds of college binge drinking? *College Student Journal, 51*(1), 129-141.
- Peer, J. W., & Hillman, S. B. (2012). The mediating impact of coping style on stress perception for parents of individuals with intellectual disabilities. *Journal of Intellectual Disabilities, 16*(1), 45-59. doi: 10.1177/174462951244078

- Proctor, C., Linley, P., & Maltby, J. (2009). Youth life satisfaction: A review of the literature. *Journal of Happiness Studies, 10*(5), 583-630. doi: <http://dx.doi.org/10.1007/s10902-008-9110-9>
- Robb, C. A. (2017). College student financial stress: Are the kids alright? *Journal of Family and Economic Issues, 38*(4), 514-527. doi: [10.1007/s10834-017-9527-6](https://doi.org/10.1007/s10834-017-9527-6)
- Robitschek, C. (1998). Personal growth initiative: The construct and its measure. *Measurement and Evaluation in Counseling and Development, 30*, 183-198.
- Robitschek, C. (1999). Further validation of the personal growth initiative scale. *Measuring and Evaluation in Counseling and Development, 31*(4), 197-210.
- Robitschek, C., Ashton, M. W., Sperring, C. C., Geiger, N., Byers, D., Schotts, G. C., & Thoen, M. A. (2012). Development and psychometric evaluation of the personal growth initiative scale-II. *Journal of Counseling Psychology, 59*(2), 274-287. doi: [10.1037/a0027310](https://doi.org/10.1037/a0027310)
- Robitschek, C., & Kashubeck, S. (1999). A structural model of parental alcoholism, family functioning, and psychological health: The mediating effects of hardiness and personal growth orientation. *Journal of Counseling Psychology, 46*(2), 159-172.
- Robitschek, C., & Keyes, C. L. M. (2009). Keyes's model of mental health with personal growth initiative as a parsimonious predictor. *Journal of Counseling Psychology, 56*(2), 321-329. doi: [10.1037/a0013954](https://doi.org/10.1037/a0013954)
- Ronen, T., & Seeman, A. (2007). Subjective well-being of adolescents in boarding schools under threat of war. *Journal of Traumatic Stress, 20*(6), 1053-1062. doi: [10.1002/jts.20248](https://doi.org/10.1002/jts.20248)

- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. *Annals of the Academy of Medicine Singapore*, 8(3), 324-338. doi: 10.1111/j.1939-0025.1987.tb03541.x
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57(3), 316- 331. doi: 10.1111/j.1939-0025.1987.tb03541.x
- Rutter, M. (2007). Resilience, competence, and coping. *Child Abuse and Neglect*, 31(3), 205-209. doi: doi:10.1016/j.chiabu.2007.02.001
- Rutter, M. (2012). Resilience as a dynamic concept. *Development and Psychopathology*, 24, 335-344. doi: 10.1017/S0954579412000028
- Rutter, M. (2013). Annual research review: Resilience – clinical implications. *Journal of Child Psychology and Psychiatry*, 54(4), 474-487. doi: 10.1111/j.1469-7610.2012.02615.x
- Saleh, D., Camart, N., & Romo, L. (2017). Predictors of stress in college students. *Frontiers in Psychology*, 8(19), 1-8. doi: 10.3389/fpsyg.2017.00019
- Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio* (pp. 35-37). Windsor, UK: NFERNELSON.
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14. doi: 10.1037/0003-066X.55.1.5
- Shean, M. (2015). *Current theories relating to resilience and young people: A literature review*. Retrieved from <https://www.vichealth.vic.gov.au/~media/resourcecentre/publicationsandresources/mental%20health/current%20theories%20relating%20to%20resilience%20and%20young%20people.pdf?la=en>

- Shigemoto, Y., Ashton, M. W., Robitschek, C. (2016). Predictors of growth in the aftermath of traumatic events: The role of personal growth initiative. *Journal of Loss and Trauma*, 21(5), 399-409. doi: 10.1080/15325024.2015.1110446
- Siddall, J., Huebner, E. S., & Jiang, X. (2013). A prospective study of differential sources of school-related social support and adolescent global life satisfaction. *American Journal of Orthopsychiatry*, 83(1), 107-114. doi: 10.1111/ajop.12006
- Smith, W. A., Allen, W. R., & Danley, L. L. (2007). Psychosocial experiences and racial battle fatigue among African American male college students. *American Behavioral Scientist*, 51(4), 551-578. doi: 10.1177/0002764207307742
- Song, G., Kong, F., & Jin, W. (2013). Mediating effects of core self-evaluations on the relationship between social support and life satisfaction. *Social Indicators Research*, 114(3), 1161-1169. doi: 10.1007/s11205-012-0195-5
- SPSS tutorials: Descriptive stats for one numeric variable (Explore). (2018). Retrieved December 15, 2018 from <https://libguides.library.kent.edu/SPSS/Explore>
- Stallman, H. M., & Hurst, C. P. (2015). The university stress scale: Measuring domains and extent of stress in university students. *Australian Psychologist*, 51(2), 128- 134. doi: 10.1111/ap.12127
- Stallman, H. M., Ohan, J. L., & Chiera, B. (2017). The role of social support, being present, and self-kindness in university student psychological distress. *Australian Psychologist*, 53(1), 52- 59. doi: 10.1111/ap.12271

- Stallman, H. M., & Shochet, I. M. (2009). Prevalence of mental health problems in Australian university health services. *Australian Psychologist, 44*(2), 122- 127. doi: 10.1080/00050060902733727
- State, T. M., & Kern, L. (2017). Life satisfaction among high school students with social, emotional, and behavioral problems. *Journal of Positive Behavior Interventions, 19*(4), 205-215. doi: 10.1177/1098300717714573
- Statistical Analysis System. (2018). *Regression Model Assumptions*. Retrieved from https://www.jmp.com/en_us/statistics-knowledge-portal/what-is-regression/simple-linear-regression-assumptions.html
- Stevic, C. R., & Ward, R. M. (2008). Initiating personal growth: The role of recognition and life satisfaction on the development of college students. *Social Indicators Research, 89*(3), 523-534. doi: 10.1007/s11205-008-9247-2
- Stoeber, J., & Janssen, D. P. (2011). Perfectionism and coping with daily failures: Positive reframing helps achieve satisfaction at the end of the day. *Anxiety, Stress, & Coping, 24*(5), 477-497. doi: 10.1080/10615806.2011.562977
- Stratta, P., Capanna, C., Dell'Osso, L., Carmassi, C., Patriarca, S., Di Emidio, G., Riccardi, I., Collazzoni, A., & Rossi, A. (2015). Resilience and coping in trauma spectrum symptoms prediction: A structural equation modeling approach. *Personality and Individual Difference, 77*, 55-61. doi: /10.1016/j.paid.2014.12.035
- Strine, T. W., Chapman, D. P., Balluz, L. S., Moriarty, D. G., & Mokdad, A. H. (2008). The associations between life satisfaction and health-related quality of life, chronic illness,

- and health behaviors among U.S. community-dwelling adults. *Journal of Community Health, 33*(1), 40-50. doi: 10.1007/s10900-007-9066-4
- Suldo, S. M., & Huebner, E. (2004a). Does life satisfaction moderate the effects of stressful life events on psychopathological behavior during adolescence? *School Psychology Quarterly, 19*(2), 93-105. doi: 10.1521/scpq.19.2.93.33313
- Suldo, S. M., & Shaffer, E. J. (2008). Looking beyond psychopathology: The dual-factor model of mental health in youth. *School Psychology Review, 37*(1), 52-68.
- Suldo, S. M., Shaunessy, E., & Hardesty, R. (2008). Relationships among stress, coping, and mental health in high-achieving high school students. *Psychology in the Schools, 45*(4), 273-290. doi: 10.1002/pits.20300
- Sulimani-Aidan, Y. (2018). Present, protective, and promotive: Mentors' roles in the lives of young adults in residential care. *American Journal of Orthopsychiatry, 88*(1), 69-77. doi: 10.1037/ort0000235
- Szabo, Z. & Marian, M. (2017). Stressors and reactions to stress: A cross-cultural case study in two educational programs. *Journal of Evidence-Based Psychotherapies, 17*(1), 89-103. doi: 10.24193/jebp.2017.1.6
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics- Sixth edition*. Boston: Allyn and Bacon.
- Tartaglia, S., Miglietta, A., Gattino, S. (2017). Life satisfaction and cannabis use: A study on young adults. *Journal of Happiness Studies, 18*(3), 709-718. doi: 10.1007/s10902-016-9742-0

- Tohen, M. A., & Robitschek, C. (2013). Intentional growth training: Developing an intervention to increase personal growth initiative. *Applied Psychology: Health and Well-being*, 5(2), 149- 170. doi: 10.1111/aphw.12001
- Thompson, N. J., Fiorillo, D., Rothbaum, B. O., & Ressler, K. J., & Michopoulos, V. (2018). Coping strategies as mediators in relation to resilience and posttraumatic stress disorder. *Journal of Affective Disorders*, 225, 153-159. doi:10.1016/j.jad.2017.08.049
- Trouillet, R., Gana, K., Lourel, M., & Fort, I. (2009). Predictive value of age for coping: The role of self-efficacy, social support satisfaction and perceived stress. *Aging & Mental Health*, 13(3), 357-366. doi: 10.1080/13607860802626223
- Vela, J. C., & Lerma, E., & Ikonopoulos, J. (2017). Evaluation of the life satisfaction and subjective happiness scales with Mexican American high school and college students. *Hispanic Journal of Behavioral Sciences*, 39(1), 34- 45. doi: 10.1177/0739986316681298
- Vélez, C. E., Wolchik, S. A., Tein, J., & Sandler, I. (2011). Protecting children from the consequences of divorce: A longitudinal study of the effects of parenting on children's coping processes. *Child Development*, 82(1), 244-257. doi: 10.1111/j.1467-8624.2010.01553.x
- Waters, L. (2015a). The relationship between strength-based parenting with children's stress levels and strength-based coping approaches. *Psychology*, 6, 689-699. doi: 10.4236/psych.2015.66067
- Waters, L. (2015b). Strength-based parenting and life satisfaction in teenagers. *Advances in Social Sciences Research Journal*, 2(11), 158- 173. doi: 10.14738/assrj.211.1651

- Waters, L. E., Loton, D., & Jach, H. K. (2018). Does strength-based parenting predict academic achievement? The mediating effects of perseverance and engagement. *Journal of Happiness Studies*, doi: 10.1007/s10902-018-9983-1
- Watkins, D. C., Green, B. L., Goodson, P., Guidry, J. J., Stanley, C. A. (2007). Using focus groups to explore the stressful life events of black college men. *Journal of College Student Development*, 48(1), 105-118, doi: 10.1353/csd.2007.0009
- Weigold, I. K., Weigold, A., Russell, E. J., & Drakeford, N. M. (2014). Examination of the psychometric properties of the personal growth initiative scale-II in African American college students. *Assessment*, 21(6), 754- 764. doi: 10.1177/1073191114524019
- Weinstein, L., & Laverghetta, A. (2009). College student stress and satisfaction with life. *College Student Journal*, 43(4), 1161-1162.
- Werner, E. (1989). High-risk children in young adulthood: A longitudinal study from birth to 32 years. *American Journal of Orthopsychiatry*, 59(1), 72-81. doi: 10.1111/j.1939-0025.1989.tb01636.x
- Werner, E. (1997). Vulnerable but invincible: High-risk children from birth to adulthood. *Acta Paediatrica Supplementum*, 422, 103-105. doi: 10.1007/BF00538544
- Wilson, G., Pritchard, M. (2005). Comparing sources of stress in college student athletes and non-athletes. *Athletic Insight*, 7(1), 1-8.
- Yakunina, E. S., Weigold, A., & Weigold, I. K. (2013). Personal growth initiative: Relations with acculturative stress and international student adjustment. *International Perspectives in Psychology: Research, Practice, Consultation*, 2(1), 62-71. doi: 10.1037/a0030888

Appendix A.

Satisfaction with Life Scale (SWLS)

Direction: Below are five statements about how you think about your overall life. Using the 1-7-point scale below, indicate to what level you disagree or agree with each item. Please be open and honest in your responding.

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

Appendix B

University Stress Scale (USS)

Direction: Below are statements about stress associated with college life. Using the 1-4-point scale to rate **over the past month**, how often have each of the following caused you stress. If any are not applicable, check *Not at all*.

		Not At All	Sometimes	Frequently	Constantly
1	Academic/coursework demands	(1)	(2)	(3)	(4)
2	Procrastination	(1)	(2)	(3)	(4)
3	University/college environment	(1)	(2)	(3)	(4)
4	Finances and money problems	(1)	(2)	(3)	(4)
5	Housing/accommodation	(1)	(2)	(3)	(4)
6	Transport	(1)	(2)	(3)	(4)
7	Mental health problems	(1)	(2)	(3)	(4)
8	Physical health problems	(1)	(2)	(3)	(4)
9	Parenting issues	(1)	(2)	(3)	(4)
10	Childcare	(1)	(2)	(3)	(4)
11	Family relationships	(1)	(2)	(3)	(4)
12	Friendships	(1)	(2)	(3)	(4)
13	Romantic relationships	(1)	(2)	(3)	(4)
14	Relationship break-up	(1)	(2)	(3)	(4)
15	Work	(1)	(2)	(3)	(4)
16	Parental expectations	(1)	(2)	(3)	(4)
17	Study/life balance	(1)	(2)	(3)	(4)
18	Discrimination	(1)	(2)	(3)	(4)
19	Sexual orientation issues	(1)	(2)	(3)	(4)

		Not At All	Sometimes	Frequently	Constantly
20	Language/cultural issues	(1)	(2)	(3)	(4)
21	Other demands	(1)	(2)	(3)	(4)

Appendix C

Strength-based Parenting - Knowledge Scale

Direction: The following questions ask to what degree your parents know or support your strengths (e.g., the things that you are able to do well or do best) from your view. Please respond using a 1 (strongly disagree) to 7 (strongly agree) scale.

		Strongly Disagree	Somewhat Disagree	Slightly disagree	Neutral	Slightly agree	Somewhat Agree	Strongly Agree
1	My parents see the strengths that I have.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
2	My parents have to think hard about what my strengths are.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
3	My parents know what I do best.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	My parents are aware of my strengths.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
5	My parents know the things I am good at doing.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
6	My parents know my strengths well.	(1)	(2)	(3)	(4)	(5)	(6)	(7)

		Strongly Disagree	Somewhat Disagree	Slightly disagree	Neutral	Slightly agree	Somewhat Agree	Strongly Agree
7	My parents know the things I do best.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
8	My parents know when I am at my best.	(1)	(2)	(3)	(4)	(5)	(6)	(7)

Appendix D

Personal Growth Initiative Scale II (PGI-II)

Directions: Below are statements regarding behaviors and beliefs people have. On a 1-6-point scale, please mark how much you disagree or agree with the statement.

		Disagree Strongly	Disagree Somewhat	Disagree a Little	Agree a Little	Agree Somewhat	Agree Strongly
1	I set realistic goals for what I want to change about myself.	(1)	(2)	(3)	(4)	(5)	(6)
2	I can tell when I am ready to make specific changes in myself.	(1)	(2)	(3)	(4)	(5)	(6)
3	I know how to make a realistic plan in order to change myself.	(1)	(2)	(3)	(4)	(5)	(6)
4	I take every opportunity to grow as it comes up.	(1)	(2)	(3)	(4)	(5)	(6)
5	When I try to change myself, I make a realistic plan for my personal growth.	(1)	(2)	(3)	(4)	(5)	(6)
6	I ask for help when I try to change myself.	(1)	(2)	(3)	(4)	(5)	(6)
7	I actively work to improve myself.	(1)	(2)	(3)	(4)	(5)	(6)
8	I figure out what I need to change myself.	(1)	(2)	(3)	(4)	(5)	(6)
9	I am constantly trying to grow as a person.	(1)	(2)	(3)	(4)	(5)	(6)
10	I know how to set realistic goals to make changes in myself.	(1)	(2)	(3)	(4)	(5)	(6)

		Disagree Strongly	Disagree Somewhat	Disagree a Little	Agree a Little	Agree Somewhat	Agree Strongly
11	I know when I need to make a specific change in myself.	(1)	(2)	(3)	(4)	(5)	(6)
12	I use resources when I try to grow.	(1)	(2)	(3)	(4)	(5)	(6)
13	I know steps I can take to make intentional changes in myself.	(1)	(2)	(3)	(4)	(5)	(6)
14	I actively seek out help when I try to change myself.	(1)	(2)	(3)	(4)	(5)	(6)
15	I look for opportunities to grow as a person.	(1)	(2)	(3)	(4)	(5)	(6)
16	I know when it's time to change specific things about myself.	(1)	(2)	(3)	(4)	(5)	(6)