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AN EXPLORATION OF RESILIENCE:

Evaluating Resilience Scores Among Honors Undergraduates Involved in Leadership Programs

Abstract

The purpose of this quantitative research was to determine if there are differences in scores on the Connor-Davidson Resilience Scale among undergraduate students involved in honors leadership programs at a four-year university. The study was an analysis of students' reported resilience scores in relation to the number of leadership activities in which they participated to examine the potential impact of leadership practices on resilience levels of the students. Results of the dependent variables were the total resilience score, and the five factors of resilience: persistence and tenacity; emotional and cognitive control; adaptability and ability to bounce back; control; and spiritual influences. Independent variables were the number of leadership programs completed, age, gender, and class status. The level of significance used for the statistical test was .05. There was no significant difference in the total resilience scores among the three activity groups. However, a majority of students scored well above the national average score, and male students scored slightly higher than females. Additionally, females scored higher than the national average.

Introduction

Higher education institutions across the United States have joined the push to build specialized leadership programs for students that incorporate opportunities for campus leadership, service, mentoring, internships, and study abroad (Gray, 2015). These efforts are intended to build high-quality leaders who will flourish on campus and as leaders in their chosen fields. Preliminary research on the importance of building undergraduate leadership programs has shown a significant impact on future leadership potential (Kan & Reichard, 2009). These leadership programs do impact future leadership potential, but HEI must consider resilience building as part of a successful program.

Honors leadership programs need to develop leaders who are highly equipped to lead and continue to lead in the long term. Resilience is an integral component to traditional and nontraditional college students' mental health, retention, and overall academic success (Gray, 2015; Kilbert et al., 2014; Lerner, 2006; Steinhardt & Dolbier, 2008). Research has clearly established resilience as an integral component to healthy human development across the human lifespan. Resilience is not merely the ability to survive hardship, but the ability to recover from hardship and grow stronger for having done so. Furthermore, resilience is progressive, meaning that it has a multiplying effect, and it permeates all aspects of the human (Benight & Cieslak, 2011; Joyce, Shand, Tighe, Laurent, & Bryant, 2018; Maier & Watkins, 2010). Therefore, at any age, a person may learn resilience, demonstrate resilience, and/or become more resilient through adversity.

Across the nation colleges and universities are cultivating leadership programs for motivated and high achieving students. Such programs provide unique opportunities for students to participate in activities that teach and promote leadership skills (Frost & Kay, 2015). Considering the link between effective leadership and resilience, it is prudent to explore resilience outcomes of such programs. Furthermore, it is necessary to consider demographic variables as they relate to potential differences in resilience outcomes for diverse student populations.

Resilience research is essential to the field of education and the related educational research as it considers the factors that promote academic, leadership, and career success as well as longevity in academic settings and the workplace. Resilience is a significant factor in college student development and success. However, a gap exists in understanding of resilience as a factor in successful higher education planning. The analysis and discussion resulting from this study may contribute planning considerations for higher education leaders and highlight areas for further research in noncognitive factors that may contribute to the promotion of leadership skills in college students.

The structure of this paper initially provides an extensive literature review. It will then explain the purpose of this quantitative research which was to determine if there were differences in scores on the Connor-Davidson Resilience Scale among undergraduate students involved in honors leadership programs at a 4-year university. It was also to determine links between specially designed four-year student leadership programs and resilience scores were studied. The paper will conclude with exploring the limitations and a discussion on moving forward based on the findings.

Review of Literature

Resilience is "individual variations in response to risk" (Ledesma, 2014, p. 2). There is also consensus that the varying definitions of resilience are grounded in the core concepts of adversity and positive adaptation (Fletcher & Sakar, 2013; Hu et al., 2014; Luthar et al., 2000; Masten & Obradovic, 2006). Kilbert et al. (2014) described resilience as a mechanism of a flexible set of attitudes that include finding meaning and purpose in conflict and change. Resilience can foster effective problem-solving skills that promote improved well-being and life satisfaction (Kilbert et al., 2014; Maddi, 2008). The elemental attitudes of resilience buffer the effects of any level of diversity. In contrast, attitudes that undermine the growth of resilience, such as attitudes that encourage "negative self-appraisals," diminish a sense of well-being (Campbell-Sills, Cohan, & Stein, 2006; Kilbert et al.).

Resilience theory has several definitions. The field of medicine defines resilience theory as the ability to "recognize pain, acknowledge its purpose, and tolerate it until it subsides" (p. 2). The social sciences generally define resiliency as the ability to survive adversity, while becoming stronger through the process (Ledesma, p. 2).

Resilience theory considers both internal and external variables of resilience. Ledesma (2014) categorized internal variables of resilience as "self-factors, personality factors, or individual resources" (p.4). Internal factors include hardiness, which describes an individual's ability to make the best of difficult circumstances (Bonanno, 2004; Ledesma, 2014). Other internal factors include temperament, coping ability, cognitive resources, self-efficacy, and self-factors such as self-esteem, empathy, insight, self-regulation, positive emotion, and laughter, and personal energy encompassing physical, emotional, mental, and spiritual energy (Bonanno, 2004; Ledesma, 2014; Luthar, Cicchetti, & Becker, 2006; Masten, 2009; Ungar, 2004). External variables of resilience that impact the ability to maintain resilience

when facing adversity have been identified as the centrality of relationships and social support (Ledesma, 2014). External variables connected to resilience has produced compelling and consistent findings demonstrating that confiding relationships during difficult times significantly impacts the individual's ability to be resilient (Ledesma, 2014; Masten, Cutuli, Herbers, & Reed, 2009).

Other dimensions of resilience include mental, emotional, physical, and spiritual factors (Connor & Davidson, 2003; Hu et al., 2014; Lerner, 2006). Reich, Zautra, and Hall (2010) also identify specifically the social dimensions, racial and cultural dimensions, biological dimensions, and cognitive, affective, and behavioral dimensions. Considering the far-reaching implications of stress and stress-related illnesses, resilience has proven significant to personal and familial development as well as social and financial development (Joyce et al., 2018). Many researchers have argued that the period of late adolescence, which is typically the point at which individuals enter college, is an "ideal period to examine trajectories of developmental change, as reflected in their intra-individual and interpersonal worlds" (Gutman et al., 2017, p. 81).

Li and Yang (2016) explored the resilience-stress path model for college students, findings supported research reports that active coping by college students was effectively predicted by trait resilience. In their study of resilience intervention to enhance coping in college students, Steinhardt and Dolbeir (2008) emphasized the numerous challenges and health implications of enduring the transition from adolescence to adulthood. Significant stressors such as intrapersonal, academic, interpersonal, and environmental changes during the transition to college continuously increase and result in psychological and health problems for college students. Steinhardt and Dolbeir (2008) further noted that such stressors, when married with developmental gaps in coping ability, have contributed to the rise in reported psychological and physical health problems among college students.

The demands of roles and responsibilities for college students are ever-shifting, conflicting, and necessitate the achievement of balance to produce healthy emotional and behavioral adjustment (Kilbert et al., 2014). College life is often characterized by stressors such as, "high-stakes academic pressure, minimal academic support compared to high school, and potential social isolation during the transition, and long-term financial debt" (Hartley, 2011, p. 597). According to Pittman and Richmond (2008), first-time college students face multiple transitions alongside adapting to more independence and responsibility both personally and academically. While many experience successful college transitions, long term emotional maladjustment and depression plague some students.

Campbell-Sills et al. (2006) explored the relationship of resilience to personality traits, coping styles, and psychiatric symptoms in a sample of college students. The authors found a negative association between resilience and neuroticism and a positive relationship between resilience and extraversion and conscientiousness. Furthermore, coping styles were more highly associated with variances in resilience than personality traits.

The findings of Campbell-Sills, Cohan, and Stein were supported in the results of Kilbert et al.'s study of resilience as a mediator in perfectionism and college student distress (Kilbert etal., 2014). According to the authors, perfectionism is highly prevalent among college students, and is characterized by holding oneself to high standards (self-oriented); the tendency to hold others to stringently high standards (other-oriented); or, the perception that others assume highand unrealistic expectations of one's behavior (socially prescribed) (Kilbert et al., 2014). The study results indicated that socially prescribed perfectionism is negatively related to resilience among college, which indicates that those students have greater difficulty overcoming adversity. Further, a notable association was made between coping strategies, such as appraising and managing stressful circumstances, and the connection between socially prescribed perfectionism and stress. Essentially,

college students who have difficulty coping with and overcoming stress report greater symptoms of distress (Kilbert et al., 2014).

Resilience research exemplifies the buffering effect that protective factors have on negative impacts of risk. A multitude of characteristics of adolescents and their developmental stage can be gestated with respect to risk and protective factors (Gutman et al., 2017). Gutman et al. (2017) cited prior research that illustrated a fluctuation in student expectations. A decline was noted from ages 14 to 16, followed by an increase until age 20, and then a decrease from ages 20 to 26. Likewise, analysis of student occupational expectations demonstrated an increase from ages 14 to 18, followed by a slight decline through age 26. These findings are significant to the exploration of college student development in terms of resilience as the ages are reflective of those of traditional undergraduate college students.

Many studies have noted differences between males and females regarding risk and protective factors. In academic performance, females have been shown to outperform males throughout middle grades, high school, and college years (Gutman et al., 2012). Regarding educational and occupational aspirations and school motivation, females in early and late adolescence outperform their male counterparts. However, females demonstrate lower levels of academic self-concept (Gutman et al., 2012; Mello, 2008; Schoon, Martin, & Ross, 2007). Studies of female college students who display coping skills, including active coping strategies, found that females exhibited greater overall well-being and positive self-concept (Snapp, Hensley-Choate, & Ryu, 2012).

Resilience and Leadership. Resilience theory can inform action, and the study of resilience can be reflexive as it seeks to promote understanding of both characteristics and processes (Ungar, 2008). Similarly, leadership theory and practices have sought to explore the characteristics of successful leaders as well as the actions that successful leaders take. It is vital that leaders face challenges and take appropriate action to move ahead despite adversity.

The survival of a leader, as well as his or her ability to adapt and succeed, is dependent upon his or her career resiliency (Ledesma, 2014).

Resilient leadership can have far-reaching impacts on both individuals within the organization as well as the organization as a system. Research indicates that resilient leaders can influence the resilience of their counterparts and followers. In their study of leader resilience impact on followers, Harland, Harrison, Jones and Reiter-Palmon (2005) found that "participants who mentioned their leaders as a positive factor in dealing with the situation exhibited greater resilience than participants who did not" (p. 2).

The positive psychological resources of hope, efficacy, resilience, and optimism have been evaluated for their impacts on overall organizational health. Analyses of these constructs have shown to be relevant in human resources development in organizations across the United States (Avey, Reichard, Luthans, & Mhatre, 2011). Additionally, Chen (2005) found a statistically significant correlation between psychological constructs and leadership characters. Undoubtedly, the displayed characteristics of positive psychological resources through leadership can be developed and supported with a focus on the development of resilience at all levels (Avey et al., 2011; Youssef & Luthans, 2007).

The foundational aspects of recruiting and retaining resilient leaders involve providing access to trusted peers and colleagues, time for reflection and collaboration with colleagues, and collaborative transformational development opportunities (Ledesma, 2014; Nishikawa, 2006; Perry, 2002). According to Rosen (2014) healthy leaders embrace six dimensions of leadership health: emotional health, intellectual health, spiritual health, vocational health, and social health.The development of these dimensions empowers leaders to act, forge a shared direction, unleash human potential, foster productive relationships, seize new opportunities, and drive high performance (p. 18).

College Student Leadership. Colleges and universities

across the United States have joined the push to build specialized leadership programs for students that incorporate opportunities for campus leadership, service, mentoring, internships, and study abroad (Gray, 2015). These efforts are intended to build high-quality leaders who will flourish on campus and as leaders in their chosen fields. Preliminary research on the importance of building undergraduate leadership programs has shown a significant impact on future leadership potential (Kan & Reichard, 2009).

Woodard (1994) discussed the need for innovative and varying leadership approaches. Leadership development should include opportunities that promote individual values and beliefs, as well as their leadership development in areas such as theory, skills development, societal issues, and leadership experience. Furthermore, the author cited the necessity of an overall leadership model that promotes decisive, competent, flexible leaders. Finally, it was suggested that student leadership development programs must facilitate the growth of leaders who are comfortable with risk-taking.

Dugan (2006) supported the notion that the major function of higher education has been to educate and cultivate leaders. Curricular and co-curricular programs for developing college student leaders are prolific among institutions. The depth and scale of college student development programs range among various institutions. Programs vary from a series of short workshops to leadership undergraduate and graduate programs (Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001).

In a longitudinal study by Cress et al. (2001) it was purported that students who participated in leadership programs demonstrated growth in the areas of leadership skills, understanding of leadership theories, personal and societal values, civic responsibility, and multicultural awareness. These findings were reinforced by the results of Dugan's (2006) study that suggested that student developmental gains demonstrated the effectiveness of leadership programs in developing "civic responsibility, multicultural awareness, skill

development, and personal and societal awareness" (p. 217). Later research findings presented by Thompson and Torres (2012) illustrated the positive impact of increased student interaction with varying agencies on students' cognitive development toward leadership.

Findings from the study of outcomes for college students involved in leadership activities conducted by Cress et al. (2001) described common elements of leadership programs that directly impact student development. Opportunities for service learning (volunteering), experiential activities (internships), and active learning through collaboration (group projects) were found to have the greatest degree of impact on student growth. The measures assigned by Cress et al. (2001) represent development skills, values, and cognitive understanding that are outcome goals of the American College Personnel Association (ACPA) Student Learning Imperative. The goals represent the ACPA notion that "learning, personal development, and student development are inextricably intertwined and inseparable and are the hallmarks of a college-educated person" (p. 17).

Findings from a 2007 national study on building leadership capacities among college students sponsored by the National Clearinghouse for Leadership programs demonstrated "meaningful and positive changes in student perceptions of leadership" (Dugan & Komives, 2007, p. 12) in the areas of consciousness of self, congruence, collaboration, common purpose, citizenship, and change. The sample population involved in the study included students who participated in leadership activities over the course of their 4 years of college. Study results indicated growth over time in all areas assessed. When assessed on the degree to which they are confident in their ability to participate in select leadership activities (leadership efficacy), students reported the highest degree of change in leadership efficacy.

Luthans, Luthans, and Avey (2014) highlighted the significance of resilience as a facilitator of leader focus, willingness to take on challenges, and ability

to recover from mistakes. Resilient leaders are not easily distracted by emotion, and they typically more motivated to engage in new activities as they expect successful outcomes. Furthermore, students who participated in leadership activities that cultivate resilience demonstrated a lasting effect on overcoming barriers to academic success. Wagner (2016) described the necessity of personal commitment in ensuring leadership success. Grounded in an individual's sense of self, commitment has been characterized by investment and involvement of time and emotional passion. Such investment powers the leader's commitment to the purpose and generates resilience from setbacks. Although commitment can be a challenge for developing leaders, resilience can enhance the ability to stay the course (Wagner, 2016). Purposeful structuring of student leadership programs that encourage a wide variety of contextual experiences will prepare students for responsible resilient leadership (Dugan, 2006).

Resilience research has informed program development through the recognition of resilience as an important factor in authentic leadership (Resilient Leadership, 2015). Resilient 41 leaders not only possess the personal qualities that allow them to thrive, but they model those attributes for their constituents (Beetham, McGill, & Littlejohn, 2009; Yates, Tyrell, & Masten, 2015). Resilient leaders continuously thrive personally and professionally despite life's challenges (Resilient Leadership, 2015). Resilience building is a key ingredient in successful program development that promotes leadership and personal development (Luthans, Luthans, & Avey, 2013; O'Dougherty-Wright, Masten & Narayan, 2013).

The extensive bodies of research on resilience, college student development, and leadership clearly demonstrates the profound impact of resilience on overall well-being, student success, and leadership development as well as implications for future career leadership success. Building leadership skills in undergraduate students to support their personal development and educational attainment is necessary. Despite the vast literature supporting these concepts, there appears a gap in exploring the impacts of leadership programs on the development of resilience among undergraduate college students. This study is designed to contribute to the exploration of leadership program impacts on resilience development by considering whether resilience may be impacted by engagement in varying numbers of leadership activities.

Statement and Significance of the Problem

The purpose of this quantitative study was to explore potential links between leadership activities and resilience scores among undergraduates in different honors programs at a 4-year university. There were three main research questions that focus this study:

1. Is there a significant difference in the total resilience scores among the three activity groups for students enrolled in the honors programs at the participating university?

2. Is there a significant difference in resilience scores between male and female students enrolled in the honors program at the participating university?

3. Is there a significant difference in resilience scores among freshmen, sophomore, juniors, and seniors enrolled in the honors program at the participating university?

Research Methodology

The research took place at a private, 4-year university in the state of North Carolina during the 2018 - 2019 academic year. The population for this study was undergraduate students at a 4- year university who were currently enrolled in one or more of three specialized leadership programs: Teaching Scholars, Engaged Scholars, and Broyhill Leaders. The population included participants from all class standings (freshman, sophomore, junior, and senior) and both male and female students. The participants

had engaged in a variety of leadership activities of their choice with varying numbers of leadership activities. Subgroups were identified by class status (freshman, sophomore, junior, senior) and gender.

Participants included all students who were participating in one or more of the three leadership programs. All students participating in these programs who were at least 18 years of age at the time of the survey were sampled. The total population was 170 students. Students who were involved in more than one of the programs were surveyed only once. The final sample size was 72 students (42%).

As a quantitative designed study, Connor Davidson Resilience Scale was administered to participants. The use of the quantitative design allowed for collection of numerical data that can be conveyed in usable statistics. The Connor Davidson Resilience scale (CD-RISC), a 25 question Likert-type survey, is a researched backed instrument that serves as a widely used resilience measure in psychological and educational research. This instrument enables the researcher to measure scores of overall resilience which includes the five factors of resilience. The five factors of resilience measured by the CD-RISC include persistence and tenacity (factor 1), emotional and cognitive control (factor 2), adaptability and ability to bounce back (factor 3), control (factor 4), and spiritual influences (factor 5). Each question in the CD-RISC offers rating options of not true at all (0) rarely true (1) sometimes true (2) often true (3) true nearly all the time (4). The five factor analysis categories were determined by grouping questions thematically with corresponding questions. The researcher coded the questionnaire based on question content.

The survey also included an informed consent cover page and a demographic portion to identify gender, class status (freshman, sophomore, junior, senior), and number of leadership activities completed. The range categories for the number of leadership activities were as follows: 0-4, 5-9, 10-14, and 15-19. The possible range of scores was determined by the total possible number of activities a given student may complete by the start of his or her senior year.

The overall mean score of resilience was compared with national averages.

The research questions were analyzed using one-way ANOVA. Research question 7 was analyzed using independent sample t-tests to compare the means of the subgroups. Question 8 was analyzed using one-way ANOVA. All data analysis procedures were conducted using IBM - SPSS data analysis software. The validity and reliability of the study were enhanced by using statistical measures. The Connor-Davidson Resilience scale is a psychometrically sound measure of resilience that has been studied and validated within several groups including American college students (Debb, et al., 2018; Madewell & Ponce-Garcia, 2016; Wasden, 2014). Also, because there was no direct manipulation of conditions, the design was non-experimental in nature.

The principle of "proximal similarity," outlined by Campbell in 1985, was used to evaluate the potential generalizability of this research that was based on a non-probability sample. The size of the sample (over 40% of the population) and a careful examination of the participants in the sample lead this researcher to the conclusion that the population of 170 was similar in many ways to the 72 participants. However, generalizations should be limited to hypothetical populations that are similar to the sample of participants actually included in the study.

This study is delimited to undergraduate students who attend a private, four-year university in the state of North Carolina during the 2018 - 2019 academic year. All students who were involved in one of three leadership programs were invited to participate. However, the responses of those who chose not to respond may differ from those who chose to participate.

Data Collection. After receiving approval from the Institutional Review Boards, the three program directors of honors programs (Teaching Scholars, Engaged Scholars, and Broyhill Leaders) agreed to administer the survey during program meetings. Program directors were emailed a description of the purpose of the study, a script for administering the

survey, and the link to the survey. A previously agreed upon date for administration of the survey was added to the email and director calendars. The Connor Davidson Resilience Scale survey was electronic and administered online. The researcher uploaded the informed consent document, demographic survey, and resilience scale to Survey Monkey. The Survey Monkey link was shared with participants during a program meeting during the fall semester, September 2018. The program directors followed a script provided by the researcher for administering the survey link to participants. The participants completed and submitted the surveys through the Survey Monkey link. Participants were allowed time to complete the survey during the meeting.

The population in the study was students enrolled in one of the three honors programs. The dissemination of the survey corresponded with the program meeting dates. Participants had to agree to the first question to access the survey. This action ensured that the participant had read the informed consent, agreed to voluntarily and anonymously participate in the study, and were at least 18 years of age. The survey link was provided to 170 students enrolled in one of the three honors programs. The survey responses were anonymous because they included no identifiable measures. No tangible incentives were provided for participation in the study. The researcher provided contact information to all participants with invitation to contact for further questions or information as needed.

Findings

Descriptive data revealed 26.7% (n = 19) of students were enrolled in the Teaching Scholars Program, 52.1% (n =37) were Engaged Scholars, and 21.1% (n = 15) were Broyhill Leaders. Gender characteristics of the students were 73.2% (n = 52) female and 23.9% (n = 17) were male. Reported age ranges for students were as follows: 74.6% (n=75) were 18-20 years of age; and 25.4% (n = 18) were 21-27 years of age. The reported academic status of students was 43.6% (n = 30) freshmen and sophomores, 36.6% (n = 26)

juniors, and 19.7% (n = 14) seniors. Participants were also asked to report a range of leadership activities they had completed in their programs including student governance, mentoring, community outreach organization and implementation, study abroad, etc. The majority of students 61.9% (n = 44) reported completion of 0-4 leadership activities. Just over 23% (n = 17) reported completing 5-9 activities, while 14% (n = 10) reported completing 10 or more activities.

A one-way analysis of variance (ANOVA) was conducted to evaluate the relationship between total resilience scores and the three honors programs. The factor variable number of leadership activities included three levels: 0 to 4 activities, 5 to 9 activities, and 10 or more activities. The dependent variable was the total resilience score. The ANOVA was not significant, $F_{(2, 66)} = .13$, $p = .882$. The strength of the relationship between 51 total resilience scores and number of leadership activities as assessed by 2 was small (<.01). The results indicate that the total resilience score was not significantly related to the number of activities. Students that participated in more activities did not display higher resilience scores. The means and standard deviations for the three activity groups are reported in Table 1 and Figure 1 shows the distribution of scores.

Table 1
Means and Standard Deviations of Activity Groups

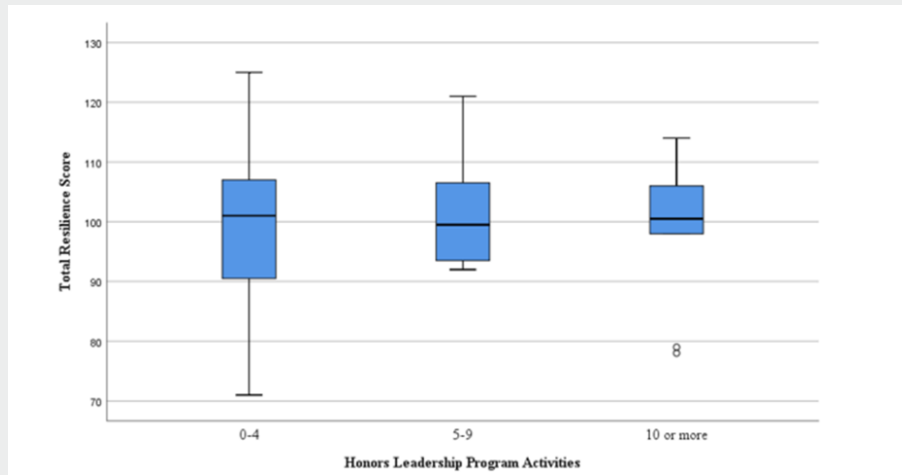| Number of Activities	N	M	SD
0 to 4	43	99.93	11.61
5 to 9	16	101.38	9.10
10 or more	10	99.40	12.34

Figure 1. Resilience scores by number of activities.

The researcher also analyzed the five factors of reliance. A one-way analysis of variance (ANOVA) was conducted to evaluate the relationship between the number of leadership activities and each factor was scored. The five-factor variable number of leadership activities included three levels: 0 to 4 activities, 5 to 9 activities, and 10 or more activities. The means and standard deviations for the three activity groups are reported in Table 2.

Table 2
Five Factors Means and Standard Deviations of Activity Groups

Factor	Number of Activities	N	M	SD	η2
Persistence/Tenacity	0 to 4	43	19.53	2.97	<.01
	5 to 9	17	20.29	3.10	
	10 or more	10	20.00	2.67	
Emotional/Cognitive Control	0 to 4	43	23.16	3.33	<.01
	5 to 9	16	23.94	2.08	
	10 or more	10	23.60	3.57	
Adaptability/Ability to Bounce Back	0 to 4	43	20.91	2.29	<.01
	5 to 9	17	20.35	2.69	
	10 or more	10	20.20	2.86	
Control	0 to 4	43	23.56	3.63	<.01
	5 to 9	17	24.71	2.66	
	10 or more	10	22.90	3.28	
Spiritual Influences	0 to 4	43	12.77	2.12	<.001
	5 to 9	17	11.76	1.86	
	10 or more	10	12.70	2.79	

To determine the difference between the mean scores of the three subgroups for

Persistence/Tenacity, survey items 6, 12, 15, 23, and 25 were analyzed. A score of 30 points for the combined total of these items was the maximum possible points. The mean Emotional/Cognitive Control scores for respondents who completed 10 or more leadership activities was 23.60. In order to determine the difference between the mean scores of the three subgroups for Emotional/Cognitive Control 2, survey items 5, 7, 18, 19, 20, and 24 were analyzed. A score of 30 points for the combined total of these items was the maximum possible points. In order to determine the difference between the mean scores of the 3 subgroups for Adaptability/Ability to Bounce Back, survey items 5, 7, 18, 19, and 24 were analyzed. A score of 25 points for the combined total of these items was the maximum possible points. To determine the difference between the mean scores of the 3 subgroups for Control, survey items 4, 11, 13, 14, 17, and 22 were analyzed. A score of 30 points for

the combined total of these items was the maximum possible points. In order to determine the difference between the mean scores of the 3 subgroups for Spiritual Influences, survey items 3, 9, and 21 were analyzed. A score of 15 points for the combined total of these items was the maximum possible points

An independent sample test was conducted to evaluate whether the mean scores for

females differed from the mean score for males. The mean resilience score was the test variable and the grouping variable was male or female. The test was not significant, t (68) = 14.66, p <.001. The 2 index was < .01, which indicated a small effect size. Female students (M = 99.42, SD = 10.77) tended to score lower than males (M = 103.29, SD =63 12.03). The 95% confidence interval for the difference in means was 13.66 to 19.78. The means and standard deviations for males and females are shown in Figure 2 shows the distributions for the two groups.
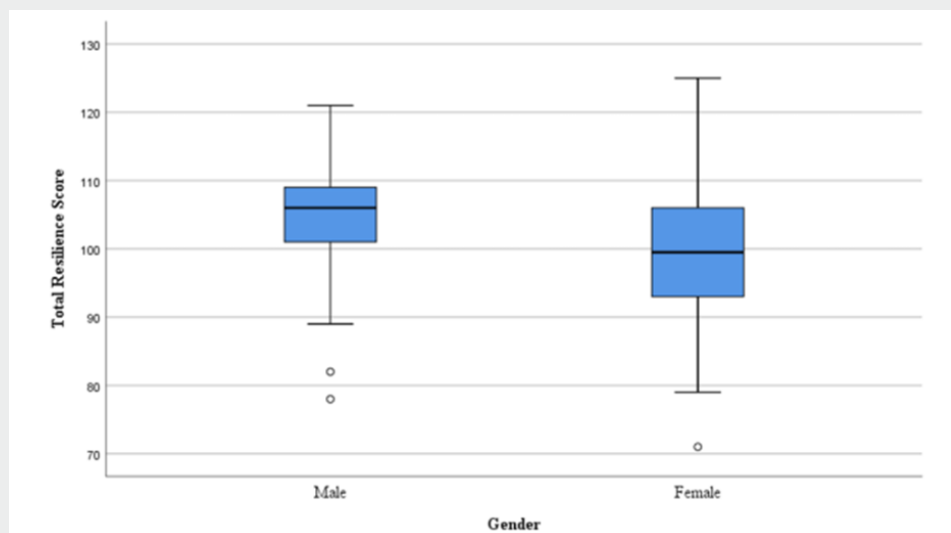

Figure 2. Resilience scores by gender.

A one-way analysis of variance (ANOVA) was conducted to evaluate the relationship between the resilience scores and class status. The factor variable class status included three levels: freshman or sophomore, junior, senior. The dependent variable was the resilience score.

The ANOVA was not significant, $F(2, 66) = .78$, $p = .462$. The strength of the relationship between status and resilience score as assessed by 2 was small (<.001). The results indicate that the resilience scores were not significantly related to the academic classification. The means and standard deviations for the three activity groups are reported in Table 3.

Table 3
Means and Standard Deviations of Status

Status	N	M	SD
Freshmen/Sophomore	32	101.78	13.19
Junior	24	98.04	7.87
Senior	13	100.23	10.35

Conclusion

Data were gathered from 72 of the 170 students enrolled in a four-year university who were invited to participate in the study, resulting in a 42% response rate. Data analysis centered on the research questions resulted in no significant findings. Dependent variables were the total resilience score, and the five factors of resilience: persistence and tenacity; emotional and cognitive control; adaptability and ability to bounce back; control; and spiritual influences. Independent variables were the number of leadership programs completed, age, gender, and status (freshmen and sophomore, junior, and senior). The level of significance used for the statistical test was .05.

There was no significant difference in the total resilience scores among the three activity groups. Students who completed 0 to 4 leadership activities reported a mean resilience score of 99.93. Students who completed 5 to 9 leadership activities reported a mean resilience score of 101.38. Students who completed 10 or more leadership activities reported a mean resilience

score of 99.40. In order to determine the difference in total resilience scores among the three activity groups, the average overall scores were compared. Results from the survey concerning all five factors indicated there was no significant impacted by the number of leadership activities completed related to any of the five factors. Review of Persistence/Tenacity demonstrated that most respondents selected often true on these analyzed test items. Less than 5% of respondents reported rarely true or not true at all for these items. Masten and Obradovic (2006) considered positive adaptation as a second core concept of resiliency. Respondents' self-perceptions of persistence and tenacity, which are integral to positive adaptation, were highly positive in ratings among the analyzed questions.

Interestingly, the mean totals for Emotional/ Cognitive Control for each of the three groups were slightly higher when compared to mean scores for Persistence/Tenacity, Adaptability/Ability to Bounce Back, and Spiritual Influence. These findings are intriguing considering the consistently high stress levels of college students. Steinhardt and Dolbeir (2008) emphasized the numerous challenges and

health implications of enduring significant stressors such as intrapersonal, academic, interpersonal, and environmental changes during the transition to college continuously increase and result in psychological and health problems for college students. However, resilience may mediate the relationship between college stressors and student functioning (Kilbert et al., 2014; Lerner, 2006). Furthermore, Li and Yang (2016) asserted that active coping by college students was effectively predicted by trait resilience.

A review of Adaptability/Ability to Bounce Back responses found that 78.26% of the respondents reported having at least one close and secure relationship that helps when stressed. This finding draws an important parallel to research suggesting that external support systems encourage and reinforce coping skills (Ledesma, 2014). The literature on external variables connected to resilience has produced compelling and consistent findings demonstrating that confiding relationships during difficult times significantly impacts the individual's ability to be resilient (Ledesma, 2014; Masten Cutuli, Herbers, & Reed, 2009).

A review of Control responses demonstrated that students who had completed 5 to 9 leadership activities scored slightly higher in Control than the 0 to 4 leadership activity subgroup. This particular can be supported by various research findings indicating that during any point in the human life span, the capacity of resilience is determined by the accumulation of life experiences (Patterson & Kelleher, 2005). Furthermore, research findings suggest that participation in leadership experiences and activities are integral components of the learning process and significantly impact the student's level of educational attainment and increased personal values (Cress et al., 2001).

A review of Spiritual Influence responses demonstrated the greatest variation in responses as compared to the other factors. However, more than half of respondents selected "true nearly all the time" for all 3 spirituality items. Hartley (2011) cited the buffering effect that protective factors such as spirituality can have on the negative impacts of risk. Consistent with the demographic make-up of the university the students attend, significantly more females responded to the survey than males. Of the participants, 73.24% were female, 23.94% were male, and 2.82% identified as other. Analysis showed a higher mean score for males than females which may correspond with research suggesting that female college students demonstrate lower levels of academic self-concept (Gutman, Schoon, & Sebates, 2012; Mello, 2008; Schoon, Martin, & Ross, 2007).

Also, there was no significant difference found between total resilience scores of female and male participants. The mean score for male participants was 103.29, while the mean score for females was 99.42. The highest possible score was 150. There was also no significant difference in resilience scores among student status (freshman and sophomore, junior, senior). The mean score for freshman and sophomores was 101.78. The means score for juniors was 98.04, and the mean score for seniors was 100.23. The highest possible score was 150. Responses from seniors constituted less than one fourth of the responses. Many respondents were juniors, while the smallest number of responses came from sophomores.

An additional analysis performed by the researcher comparing the national average resilience score for female undergraduate college students and the average resilience score of the female respondents resulted in a significant difference in overall resilience scores between the two groups. The test value national average for female undergraduate students in the United States was 82.7, while the mean score for females in the participant group was 99.42 resulting statistically significant difference.

Limitations. Limitations existed regarding this study due to the nature of the population that was chosen, cross-sectional study methodology, and the non-probability sampling method employed. The study is limited by the appropriateness of the theoretical framework in determining the resilience of participants and that resilience can be measured.

The study also assumed that the single survey used for data collection is valid and reliable and was only implemented once in the semester. It is assumed that participants answered honestly, and that the sample was representative of the population. Furthermore, it is assumed that the methodology appropriately addressed the research questions, and that the statistical tests were appropriate. The study is also limited by the usefulness of the results to the stakeholders.

Limitations existed regarding this study due to the nature of the population that was chosen. This study is delimited to undergraduate students who attend a private, 4-year university in the state of North Carolina during the 2018 - 2019 school year. Therefore, the results may not be generalizable to students at other institutions. Furthermore, limitations to the validity of the study could result from limited universality in replicating the study. All students who were involved in one of three leadership programs were invited to participate. However, the responses of those who chose not to respond may differ from those who chose to participate.

Recommendations for Additional Research

The analysis of the results from this study regarding differences among varying numbers of leadership activities is consistent with research findings regarding the efficacy of leadership activities and student engagement. The participants in this study had engaged in mostly self-selected opportunities. Research has shown that college student involvement is determined by the degree of both physical and psychological energy a student devotes to the academic experience. Student personal development and learning are directly proportional to their level of involvement in all aspects of the learning process (Cress et al., 2001).

While the mean scores among the three activity groups (0 to 4, 5 to 9, and 10 or more) were not significantly different, demographic findings demonstrated that 86% of respondents had completed 4 or fewer

leadership activities. The limited number of responses for the 5 to 9 and 10 or more activity groups proved a limitation to providing solid conclusions regarding the impact of activities on resilience. Furthermore, the study's lack of specificity regarding types of activities completed, proved to limit further analysis. However, the high response rate of 0 to 4 leadership activities may align with findings of a study by Dugan and Komives (2007) in which results indicated growth over time. When assessed on the degree to which they are confident in their ability to participate in select leadership activities (leadership efficacy), students reported the highest degree of change in leadership efficacy. Student consciousness of self was also highly ranked in degree of change (Dugan & Komives, 2007). Additionally, these results are consistent with Connor and Davidson's (2013) shared national findings indicating that female college students score slightly lower than males on the Connor-Davidson Resilience Scale (CD-Risc).

Across the nation colleges and universities are cultivating leadership programs for motivated and high achieving students. Such programs provide unique opportunities for students to participate in activities that teach and promote leadership skills (Frost & Kay, 2015). Considering the link between effective leadership and resilience, it is prudent to explore resilience outcomes of such programs. Furthermore, it is necessary to consider demographic variables as they relate to potential differences in resilience outcomes for diverse student populations.

References

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. Human Resource Development Quarterly, 22(2), 127-152. Retrieved July 10, 2018 from https://digitalcommons.unl.edu/cgi/viewcontent. cgi?article=1146&context=managementf acpub

Beetham, H., McGill, L., & Littlejohn, A. (2009). Thriving in the 21st century: Learning literacies for the digital age (LLiDA project): Executive Summary, Conclusions and recommendations. Retrieved March 15, 2018 from http://oro.open.ac.uk/52237/1/llidaexecsumjune2009.pdf

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? American Psychologist, 59(1), 20. Retrieved July 11, 2018 from http://psycnet.apa.org/record/2004-10043-003

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. Retrieved July 13, 2018 from https://www.sciencedirect.com/science/ article/pii/S000579670500104X

Chen, S. (2005). Changing college students' psychological constructs of learning influences their academic performances. College Student Journal, 39(1), 48-59. Retrieved July 13, 2018 from http://eds.a.ebscohost.com/abstract?site=eds&scope=site&jrnl=01463934&AN=1666318 1&h=PUeGVNqcIW6v6hAmgQ6BlaOsr31%2fnvvD7pwPilk2RyqRgMVusFZEcE04v4tt lR5XwprzT90INrWTH8Mn5ZK%2fag%3d%3d&crl=f&crawlloc=cf%3az%2f02045460 75&crawllib=RD200503.LIB&resultLocal=ErrCrlNoResults&resultNs=Ehost&crlhashur l=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcr awler%26jrnl%3d01463934%26AN%3d16663181

Campbell, D. T. (1986, Fall). Relabeling internal and external validity for applied social scientists. https://doi. org/101002/ev.1434

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The ConnorDavidson resilience scale (CD-RISC). Depression and Anxiety, 18(2), 76-82. doi:10.1002/da.10113

Cress, C. M., Astin, H. S., Zimmerman-Oster, K., & Burkhardt, J. C. (2001). Developmental outcomes of college students' involvement in leadership activities. Journal of College Student Development. Retrieved July 12, 2018 from https://searchproquestcom.iris.etsu.edu:3443/docview/ 195181299?accountid=10771&rfr_ id=info%3Axri%2Fsi d%3Aprimo

Debb, S. M., Colson, D., Hacker, D., & Park, K. (2018). Applying the Connor-Davidson Resilience Scale for use with third-year African American college students. The Journal of Negro Education, 87(1), 73-89.

Dugan, J. P. (2006). Explorations using the social change model: Leadership development among college men and women. Journal of college student development, 47(2), 217-225. Retrieved July 10, 2018 from https://www.researchgate.net/profile/John_Dugan2/publication/236774426_

References

Explorations _Using_the_Social_Change_Model_Leadership_Development_among_ College_Men_an d_Women/links/570fcaac08ae19b18693838c/Explorations-Using-the-Social-ChangeModel-Leadership-Development-among-College-Men-and-Women.pdf

Dugan, J. P., & Komives, S. R. (2007). Developing leadership capacity in college students. College Park, MD: National Clearinghouse for Leadership Programs. Retrieved July 10, 2018 from https://www.researchgate. net/profile/John_Dugan2/publication/237536892_Developing_ Leadership_Capacity_In_College_Students_ Findings_From_a_National_Study/links/570 fca6a08ae68dc79096a74/Developing-Leadership-Capacity-In-College-StudentsFindings-From-a-National-Study.pdf

Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. European Psychologist, 18(1), 12-23. doi:10.1027/10169040/a000124

Frost, L., & Kay, L. W. (2015). Where honors lives: Results from a survey of the structures and spaces of US honors programs and colleges. Retrieved May 20, 2018 from https://digitalcommons.unl.edu/cgi/ viewcontent.cgi?article=1008&context=nchcmonocha p

Gray, P. (2015, September). Declining student resilience: A serious problem for colleges. Psychology Today. Retrieved from https://www.psychologytoday.com/us/blog/freedomlearn/201509/ declining-student-resilience-serious-problem-colleges

Gutman, L., Peck, S., Malanchuk, O., Sameroff, A., & Eccles, J. (2017). IV: Psychological wellbeing. Monographs of the Society for Research in Child Development, 82(4), 70-82. doi:10.1111/mono.12330

Gutman, L. M., Schoon, I., & Sabates, R. (2012). Uncertain aspirations for continuing in education: Antecedents and associated outcomes. Developmental Psychology, 48(6), 1707. doi: 10.1037/a0026547

Harland, L., Harrison, W., Jones, J. R., & Reiter-Palmon, R. (2005). Leadership behaviors and subordinate resilience. Journal of Leadership & Organizational Studies, 11(2), 2-14. Retrieved July 10, 2018 from https://digitalcommons.unomaha.edu/cgi/viewcontent.cgi?article= 1062&context=psychfa cpub

Hartley, M. T. (2011). Examining the relationships between resilience, mental health, and academic persistence in undergraduate college students. Journal of American College Health, 59(7), 596-604. Retrieved July 10, 2018 from https://www.tandfonline.com/doi/abs/10.1080/ 07448481.2010.515632

Joyce, S., Shand, F., Tighe, J., Laurent, S. J., Bryant, R. A., & Harvey, S. B. (2018). Road to resilience: a systematic review and meta-analysis of resilience training programmes and interventions. BMJ Open, 8(6), e017858. Retrieved July 13, 2018 from https://bmjopen.bmj.com/content/8/6/e017858

Kan, D. B., & Reichard, R. J. (2009). Student selection criteria in undergraduate leadership education programs. Educational Considerations, 37(1), 56-58. Retrieved July 10, 2018 from https://newprairiepress.org/cgi/viewcontent.cgi?referer=https://scholar.google.com/&http sredir=1&article=1145&context=edconsiderations

Kilbert, J., Lamis, D. A., Collins, W., Smalley, K. B., Warren, J. C., Yancey, C. T., & Winterowd, C. (2014). Resilience mediates the relations between perfectionism and college student distress. Journal of Counseling & Development, 92(1), 75-82. doi:10.1002/j.1556-6676.2014.00132.x

References

Ledesma, J. (2014). Conceptual frameworks and research models on resilience in leadership. /Sage Open, 4(3), 2158244014545464. doi:10.1177/2158244014545464

Lerner, R. M. (2006). Resilience as an attribute of the developmental system: Comments on the papers of Professors Masten & Wachs. Annals of the New York Academy of Sciences, 1094(1), 40-51. doi:10.1196/annals.1376.005

Li, M., & Yang, Y. (2016). A cross-cultural study on a resilience-stress path model for college students. Journal of Counseling & Development, 94(3), 319-332.

Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. Journal of Management, 33(3), 321-349. Retrieved July 12, 2018 from https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1007&context=leadershipfac pub

Luthar, S., Cicchetti, D., & Becker, B. (2006). The Construct of Resilience: A critical evaluation and guidelines for future work. Child Development, 71(3), 543-562.

Maddi, S. R. (2008). The courage and strategies of hardiness as helpful in growing despite major, disruptive stresses. Retrieved July 13, 2018 from http://psycnet.apa.org/record/2008-12151-014

Madewell, A. N., & Ponce-Garcia, E. (2016). Assessing resilience in emerging adulthood: The resilience scale (RS), Connor–Davidson resilience scale (CD-RISC), and scale of protective factors (SPF). Personality and Individual Differences, 97, 249-255.

Maier, S. F., & Watkins, L. R. (2010). Role of the medial prefrontal cortex in coping and resilience. Brain Research, 1355, 52-60. Retrieved July 6, 2018 from https://www.sciencedirect.com/science/article/pii/S0006899310018214

Masten, A. S. (2009). Ordinary magic: Lessons from research on resilience in human development. Education Canada, 49(3), 28-32. Retrieved July 10, 2018 from https://eric.ed.gov/?id=EJ868694

Masten, A. S., Cutuli, J. J., Herbers, J. E., & Reed, M. G. (2009). 12 Resilience in Development. The Oxford Handbook of Positive Psychology, 117.

Mello, Z. R. (2008). Gender variation in developmental trajectories of educational and occupational expectations and attainment from adolescence to adulthood. Developmental Psychology, 44(4), 1069. Retrieved May 10, 2018 from https://pdfs.semanticscholar.org/1cac/467e3c70ceb974c6db026d0012e2e25b214f.pdf

Nishikawa, Y. (2006). Thriving in the face of adversity: Perceptions of elementary school principals (Doctoral dissertation, University of La Verne).

Patterson, J. L., & Kelleher, P. (2005). Resilient School Leaders: Strategies for turning adversity into achievement. Alexandria, VA: Association for Supervision and Curriculum Development.

Perry, B. D. (2002). How children become resilient. Scholastic Parent & Child, 10(2), 33.

References

Pittman, L. D., & Richmond, A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. The Journal of Experimental Education, 76(4), 343-362. Retrieved July 13, 2018 from https://www.researchgate.net/profile/Laura_Pittman/publication/254346929_University_Belonging_Friendship_Quality_and_Psychological_Adjustment_During_the_Transition_ to_College/links/569ceb2408ae8f8ddc70b235.pdf

Reed, D. E., & Blaine, B. (2015). Resilient women educational leaders in turbulent times: Applying the leader resilience profile to assess women's leadership strengths. Planning & Changing, 46(3/4), 459-468.

Resilient Leadership LLC (2015). Resilient Leadership. Retrieved May 20, 2018 from http://ugspace. ug.edu.gh/bitstream/handle/123456789/21551/Resilient%20Leadership_A %20Transformational_ Transactional%20Leadership%20mix.pdf?sequence=1

Reich, J. W., Zautra, A. J., & Hall, J. S. (Eds.). (2010). Handbook of Adult Resilience. New York, NY: Guilford Press.

Rosen, R. (2014). Six pillars of leadership. Leadership Excellence Essentials, 31(2), 18-19.

Schoon, I., Martin, P., & Ross, A. (2007). Career transitions in times of social change. His and her story. Journal of Vocational Behavior, 70(1), 78-96. Retrieved July 10, 2018 from https://www.ifs.org.uk/caytpubs/schoon11.pdf

Snapp, S., Hensley-Choate, L. l., & Ryu, E. (2012). A body image resilience model for first-year college women. Sex Roles, 67(3-4), 211-221. doi:10.1007/s11199-012-0163-1

Steinhardt, M., & Dolbier, C. (2008). Evaluation of a resilience intervention to enhance coping strategies and protective factors and decrease symptomatology. Journal of American College Health, 56(4), 445-453.

Thompson, M. M., & Torres, V. (2012). Gender Differences among contributing leadership development resources. Journal of College Student Development, 53(3), 472-476. doi:10.353/csd.2012.0047

Ungar, M. (2004). A constructionist discourse on resilience: Multiple contexts, multiple realities among at-risk children and youth. Youth & Society, 35(3), 341-365. doi:10.1177/0044118X03257030

Ungar, M. (2008). Putting resilience theory into action: Five principles for intervention. Resilience in Action, 17, 38. Retrieved July 10, 2018 from https://s3.amazonaws.com/academia.edu. documents/31724873/Applied_theoryPutting_Resilience_Theory_into_Action.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL 3A&Expires=1555350619&Signature=qLgVNvO3NGBoLe9% 2Bkf%2Fmy4fOdtA%3D &response-contentdisposition=inline%3B%20filename%3DPuttin gResilience_Theory_into_Action_Fi.pdf

Wagner, W. E. (2016). Leadership for a better world: Understanding the social change model of leadership development. Hoboken, NJ: John Wiley & Sons.

Wasden, S. T. (2014). A Correlational Study on Transformational Leadership and Resilience in Higher Education Leadership. ProQuest LLC. 789 East Eisenhower Parkway, PO Box 1346, Ann Arbor, MI 48106.

Woodard, D. (1994). Leadership challenges, 2002. New Directions for Student Services, (66), 91-99. doi:10.1002/ss.37119946609

References

Yates, T. M., Tyrell, F. A. N. I. T. A., & Masten, A. S. (2015). Resilience theory and the practice of positive psychology from individuals to societies. Positive Psychology in Practice: Promoting Human Flourishing in Work, Health, Education, and Everyday Life, 773-788. Retrieved July 10, 2018 from https://pdfs. semanticscholar.org/f59f/e98b083264ee9b18cbb3f124a4fc411502c8.pdf

Youssef, C. M., & Luthans, F. (2007). Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. Journal of Management, 33(5), 774-800. Retrieved July 12, 2018 from https:// digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1035&context=managementf acpub