ASPECTS OF PERSONALITY THAT PREDICT RESILIENCE AMONG LEBANESE UNIVERSITY STUDENTS

Thesis submitted in accordance with the requirements of Haigazian University for the degree of Master in Arts by *Sariah Daouk*

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ABSTRACT

The purpose of the study was to examine which aspects of personality predict change in total resilience scores among Lebanese university students. It was hypothesized that broad personality factors (positive emotionality, negative emotionality, and constraint) would significantly predict total resilience score. More specifically, achievement motivation, wellbeing, social potency, and stress reaction traits would be among the significant predictors of resilience. The Multidimensional Personality Questionnaire Brief Form (MPQ-BF) and the Connor Davidson Resilience Scale (CD-RISC) were used as instruments as well as a demographic data sheet. A total of 180 participants were recruited through convenience sampling from 3 different private universities in Lebanon. Data were analyzed using descriptive statistics, Pearson correlations, t-tests, Analysis of Variance, and standard Multivariate regression analysis. Positive emotionality and negative emotionality significantly predicted 20.2% of the variance in total resilience score, with positive emotionality being the stronger predictor. Achievement motivation, well-being, and stress reaction significantly predicted 28.1% variability in total resilience score, with Achievement motivation being the stronger predictor. Overall, mental health professionals and counselors can use the findings on positive emotionality, negative emotionality, achievement motivation, wellbeing, and stress reaction scales to help students better mitigate daily stressors and to promote everyday resilience.

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LIST OF ABBREVIATIONS

CD-RISC…….. Connor Davidson Resilience Scale

MPQ-BF……..Multidimensional Personality Questionnaire Brief Form

PEM……Positive Emotionality

NEM……..Negative Emotionality

CON……..Constraint

Aspects of Personality that Predict Resilience among Lebanese University Students

Stressful situations are inevitable and can be taxing on a person's health. Every person's experience of hardship is personal. Each one of us responds differently to loss, pain, and change. Some individuals might get confused, some might break down in tears, or some might simply freeze in the face of challenges. Those who stand out, however, are individuals that are able to overcome the odds and quickly bounce back from difficulties. Particularly, the concept of resilience emerges and it can be defined as personal qualities that allow a person to successfully cope with stress and to thrive in the face of adversity (Connor and Davidson, 2003). With the establishment of the Positive Psychology movement in the early 1990s (Seligman, & Csikszentmihalyi, 2000), the scientific interest shifted away from pathological medical models and it focused instead on positive outcomes that enable individuals and communities to flourish. The emphasis moved away from what causes mental illness to what constitutes mental wellness. Fittingly, more psychosocial studies are currently focusing on personal resources that potentially promote and sustain mental health and enhance psychosocial adjustment in the face of adversity (Shastri, 2013).

A bulk of studies compiled in a meta-analytic review (Chida, & Hamer, 2008) showed that personality factors play a central role in psychobiological responses (nervous and cardiovascular systems) to stressful situations. More recently, using laboratory mental stress testing (Childs, White, & de Wit, 2014), researchers found that personality traits regulated emotional and physiological acute responses to stress (cortisol, heart rate, Blood pressure, and mood) among healthy American-European adults. Personality differences therefore play a part in individual reactions to stress. In an attempt to shed more light on this field of research, the

purpose of this study was to examine aspects of personality that have the largest contributions on resilience among Lebanese university students.

Background of the Study

New coming university students get exposed to different types of stressors whether personal, academic, and/or financial in the new learning environment. Students deal with widespread challenges: heavier workloads, meeting deadlines, budgeting money, balancing fun activities and studying, making friends, getting involved in an intimate relationship, getting along with faculty members, etc. Even though the university experience provides the possibility for personal and academic growth, this transitional period can be highly stressful. Students acquire a new set of role demands, responsibilities, and expectations that accompany the freedom of lifestyles (Pittman & Richmond, 2008). Whereas a tangible amount of stress can be an important push for achievement, a large amount of stress can change brain structure functioning and possibly disrupt cognitive processes that are involved in learning and memory (Kim & Diamond, 2002). As such, the extent to which students are able to confront the situation and manage it has important implications on their academic persistence and overall health.

In terms of academic persistence, Hartley (2011) indicated that resilience positively contributed to explaining differences in cumulative GPA, aptitude, and achievement scores among American undergraduate students in two universities and that resilience was strongly related to mental health Students who worked hard to attain their goals were more likely to meet academic demands and have a better mental health status. Regardless of stress levels experienced by university students, resilience was shown to promote positive attitudes and

behaviors (life skills, self-care, and social connections) which enhance both emotional and mental wellbeing (Derosier, Frank, Shwartz, & Leary,., 2013).

Across nine universities in China, researchers (Sun, & Buys, 2013) examined the relationship between resilience and quality of life amongst students, and they found that resilience is predictive of both physical health (26.0%) and mental health (27.7%). A meta-analysis of 60 empirical studies (Hu, Zhang, & Wang, 2015) highlighted the importance of resilience in the context of well-being. Resilience seems to foster mental health and to limit the negative impact mood perturbations (such as depression and anxiety) that could emerge in adverse circumstances such that resilience increases one's ability to deal with potential threats in daily life. Suicidal ideations were found to have a significant negative relationship with resilience among university students in Tehran (Izadinia, Amiri, Jahromi, & Hamidi, 2010). Such research highlights the significance of researching the issue of resilience, a component of mental health (Rogers, 2013) among college students.

In an attempt to assess the ways in which resilience, cumulative stress, and responses to stress impacted students mental and emotional well-being, a cross-cultural comparative study was done using an international sample of students from 7 universities located across Australia, the United States of America, and Hong Kong (Pidgeon, Rowe, Stapleton, Magyar, & Low, 2014). Findings suggested that students with lower levels of resilience have significantly higher levels of psychological distress (depression, anxiety, and stress), lower levels of perceived social support, and campus connectedness. Depressive states are characterized as prolonged feelings of despondency, anxious states as feelings of increased worry, apprehension or fear, and stressful states as feelings of irritability and impatience (Pidgeon et al., 2014). The variety of emotions students experience in this new learning

environment are very relevant. A systemic review (Storrie, & Tuckett, 2010) pointed out that emotional distress in students was very high, with 83% of students being moderately or severely distressed, and that it was related to less emotional and behavioral skills (53%), social isolation (31%), and poor grades (19%). University students with higher levels of psychological distress wand low resilience scores report higher attrition rates (DeRoseier et al., 2013). Regarding social support, university students in Jordan with higher levels of perceived social support from friends and lower levels of depressive symptoms reported higher levels of resilience (Hamdan, & Mansour, 2015). This implied that resilience involves contact with people and the surroundings. The sheer quantity of people in social circles, however, does not predict meaningful adaptation to life challenges; rather it's the quality of the relationships ties that does (Galatzer-Levy, Burton, & Bonanno, 2012). So it falls down to a person's perception of support and the quality of relationships that influence resilience. Once excluded from meaningful company, a person can feel alienated, experience loneliness, and despair. This highlights the importance of addressing resilience in college health.

Resilience is a dynamic concept that involves both cognitive and behavioral predispositions that develop through various life experiences (Burns & Anstey, 2010). Students characterized with high levels of resilience possess personality dimensions that enable them to grow as they continuously interact with their environment and to persist with their academic tasks as they acquire a broader range of coping skills. Highly resilient students are more likely to perceive stressors as less demanding, to master competencies and manage internal and external resources to rise above challenges which in turn results in higher levels of satisfaction with life (Cazan & Truti, 2015). A meta-analysis of 33 empirical studies (Lee, Nam, Kim, Kim, Lee, & Lee, 2013) explored the predictive power of personal psychological

factors on resilience. Self-efficacy, positive affect, and self-esteem all had significant large effect sizes with resilience respectively. It was suggested that resilience stems from personal resources that can be accessed by adults to protect themselves against risk factors such as developing depression, anxiety, PTSD, and other psychiatric disorders.

In an attempt to examine the relationship of personality dimensions and resilience in young adults, Campbell-Sills, Cohan, and Stein (2006) indicated that neuroticism (proneness to experience negative emotions) had the strongest inverse contribution to resilience, followed by extraversion (positive affective styles, capacity for interpersonal closeness) and conscientiousness (tendency to be organized, task-oriented). Young adults who more often than not experience unpleasant emotions would poorly adapt because they tend to experience higher emotional distress levels. Interestingly, a longitudinal study on social work undergraduate students in Spain (Palma-Garcia, & Mendieta, 2014) found that extraversion contributes the most to resilience such that it enables better self-acceptance, more personal competence, and higher perceived social support. Students with high scores on Conscientiousness are more likely to have strong self-efficacy and a problem solving approach to dealing with stress.

Another study held at Michigan State University (Robinson, Larson, & Cahill, 2013) found that resilience was significantly predicted by broad stable personality dispositions which are positive emotionality (propensity to experience positive emotions) emotions, negative emotionality (propensity to experience negative emotions), and constraint (behavioral restraint). More particularly, the following primary personality traits achievement motivation, wellbeing, and social potency traits (facets of positive emotionality) and stress reaction trait (facet of negative emotionality) were significant predictors of resilience.

Problem and Hypotheses

Based on the above discussed literature, the following hypotheses were predicted:

- Positive Emotionality, Negative Emotionality, and Constraint are significant predictors of the change in resilience score, such that Positive Emotionality has the strongest unique contribution.
- Wellbeing, Social Potency, Achievement, and Stress Reaction are significant predictors of the change in resilience score, such that Achievement has the strongest unique contribution.

Significance of the Study

This study aimed at examining aspects of personality that have significant contributions to resilience scores among Lebanese university students. The literature review on resilience studies conducted in Lebanon is young and scarce, particularly within the academic domains wherein the focus has been on stress, coping, and wellbeing.

Within the Lebanese university settings, a cross-sectional epidemiological study assessed health risk behaviors among university students, specifically preventable ones, with the aim of developing health promotion initiatives (Salameh, Jomaa, Issa, Farhat, Zeghondi, Gerges, & Baldi, 2014). Another study (Doumit, 2013) among Lebanese students who newly entered college indicated that higher levels of perceived stress was related to low resilience scores, low social support, and the reliance on more withdrawal coping strategies. To add, students with such profile had significantly lower scores on wellbeing (Doumit, 2013).

A different study (Moussa, & Bates, 2011) examined a range of coping strategies Lebanese students adopt to deal with stressful events and suggested that denial of the existence of a stressor (a withdrawal coping strategy), Restraint (another withdrawal coping strategy that

involves holding back from engaging with the stressor), lack of emotional support, and the use of positive reinterpretation of stressful situations were significant predictors of distress. In order to explain further the latter finding, the researchers (Moussa, & Bates, 2011) suggested that for individuals to grow more resilient, they must first struggle and also acknowledge both the positive and negative aspects of their experiences.

In terms of subjective well-being among Lebanese university students, one study explored its association with academic achievement and with multilingualism (Ayyash-Abdo & Sánchez-Ruiz, 2012), while another examined the significant role of perceived social support on subjective well-being amongst university students (Ammar, Nauffal, & Sbeity, 2013).

The concept of resilience has been studied in Lebanon with a focus on childhood adversities and trauma given the climate of political instability (Itani, Haddad, Fayyad, Karam, & Karam, 2014), and the context of Lebanese war experiences (Tayara, 2013). The concept is even extrapolated to explore the process of community resilience following the Lebanese summer war of 2006 (Nuwayhid, Zurayk, Yamout, & Cortas, 2011).

Within the public health field, researchers explored HIV/AIDS related risk behaviors among transgender women in Lebanon using semi-structured interviews such that they viewed resilience as an interactional process between protective and risk factors (Kaplan, Wagner, Nehme, Aunon, Khouri, & Mokhbat, 2014). This study focused on the challenges faced by a most-at-risk population due to the lack of acceptance by family and society at large and on mechanisms of coping that some transgender women adopted to obtain and maintain safety amid an environment of stigma and discrimination.

Personality factors are highly stable yet some traits can temporarily fluctuate in reaction to biological factors, learning and situational transitions (Ungar, 2013). As such, more studies are needed to explore the relationship between aspects of personality that can predict resilience in the university years to better capture how students mitigate available resources to adjust with change.

This study adds to the body of literature examining college health in Lebanese students. It offers a deeper understanding of how certain aspects of personality significantly contribute to the resilience scores among students and how much resilience can be explained by personality factors. As such, interested researchers could use the findings to examine further adjustment levels to stressful situations (personal, interpersonal, familial, and social, etc.). Policy initiatives and outreach campaigns could be initiated based on findings to promote college health, enhance academic achievement, and provide positive workplace environments for students. Eliminating risks in university settings is practically difficult or not impossible, that's why it is more feasible to increase resilience building interventions (Hartley, 2013) and develop better suited psychosocial interventions tailored for Lebanese university students. Among the mental health services, professionals could use the findings to know which personality dimensions to focus on in order to facilitate personal growth. Therapists or school counselors can tailor their interventions focusing on certain aspects of personality that are relevant to resilience and be more helpful given the limited means they might have at their disposal.

Overview of Methodology

This research study is cross-sectional and quantitative in nature. It aimed at examining aspects of personality that predict resilience among Lebanese university students. Structured

questionnaires (MPQ-BF and CD-RISC) were used as instruments. Data analyses were done on SPSS version 20.The CD-RISC resilience total score was used as the dependent variable while aspects of personality were considered predictors. To characterize participants' demographics and to calculate total scale scores, Descriptive analysis was used and they consisted of mean, standard deviation and range for continuous variables, and frequencies and percentages for categorical ones.

As a pilot, Cronbach's alpha values were obtained to assess the relatedness of items for the scales using 30 participants. Reliability analyses were performed again with the sample of participants used in the actual study. Data analysis relied on Pearson's Product Moment Correlations to assess possible significant associations among the personality variables and total resilience scores. Subsequently, multiple linear regressions determined aspects of personality that predict significantly resilience scores. This was done in 2 steps: broad personality constructs were first used as independent variables measured against resilience score; second, primary personality traits were then measured against resilience score.

Delimitations

This research study recruited participants based on convenience sampling of Lebanese university students chosen from 3 different private institutions (Haigazian University, Lebanese American University, and American University of Beirut) because of availability options and feasibility constraints. Randomization was not possible because it would have necessitated time consuming administrative negotiations as well as the approval of the dean of students (in each institution) to release student email addresses in order to send invitation letters or flyers. The convenience sampling procedure limited generizability of the findings only to Lebanese university students who attended those 3 different private institutions. Also,

the nature of the study was cross-sectional which offered only a snapshot of each student's university experience at the time of data collection in comparison to longitudinal studies that might potentially track the trajectories of the variables examined. Self-report questionnaires were used and no identifying information was obtained. This allowed participants to respond in a private and anonymous manner. However, such self-rated assessment tools are prone to subjective biases.

It was assumed that the chosen students were linguistically competent to fill in the questionnaire in English since they were admitted to universities that request SAT and TOEFEL scores. It was also assumed that participants must have experienced challenges and stressors followed by opportunities to demonstrate resilience or maladjustment. It was also assumed that all participants understood the wording of each question and that they answered honestly.

Definition of Key Terms

- Resilience: a stress coping ability that enables a person to thrive in the face of adversity (Connor and Davidson, 2003)
- Positive and Negative Emotionality: broad and pervasive predispositions that reflect propensity to experience and communicate positive emotional states and pleasurable engagement with surroundings or negative emotional states and perceiving the world as threatening respectively (Tellegen, 1982; Watson & Clark, 1984)
- Constraint: broad pervasive predisposition that reflects a tendency inhibit and restrain impulse expression and risk taking behaviors (Watson & Clark, 1984)

The following definitions are taken from the Multidimensional Personality Questionnaire-Brief Form MPQ-BF (Patrick, Curtin, & Tellegen, 2002), a self-rated assessment instrument used in this study:

- Well-being: personality trait that describes the extent to which people have a cheerful disposition, feel good about themselves, and are optimistic
- Social Potency: personality trait that describes the extent to which people are forceful and decisive, and have a desire to make an impact on others
- Achievement motivation: personality trait that describes the extent to which people are ambitious, perfectionist, and are motivated to succeed
- Stress Reaction: personality trait that describes the extent to which people are tense, irritable, sensitive and worrisome

Chapter 2

Review of Literature

The review begins with a brief consideration of the study of resilience and an introduction of the Connor Davidson Resilience Scale. The review then looks at links between resilience and mental health. A brief discussion follows to discuss personality and the Multidimensional Personality Questionnaire Brief Form.

Resilience and the Connor-Davidson Resilience Scale

In an attempt to comprehensively measure the construct of resilience, Connor and Davidson (2003) constructed the Connor-Davidson Resilience Scale CD-RISC (which is the scale used in the current study) based on findings from previous studies (Kobasa, 1979, Rutter, 1985, & Lyons, 1991) that examined resilient outcomes people exhibit in the face of trauma and stress. They were interested in clinically measuring treatment responses for individuals suffering from of anxious, depressive and stress-related symptoms. For validation purposes, they used samples from both the general and clinical population. Total resilience scores were modifiable and could improve with psychopharmacological or psychosocial interventions, with greater improvement corresponding to higher levels of global functioning that reflected better physical and mental health (Connor and Davidson, 2003). They operationally defined resilience as a "stress coping ability" characterized by high levels of hardiness, optimism, and active coping. These terms are briefly defined below, however, this study will only use on the total CD-RISC resilience score.

Hardiness. Hardiness (Kobasa, 1979), a personality style associated with continued good health and performance exhibited in stressful situations, was marked by three self-

perception components: a sense of control, a commitment to all areas of life, and openness to change and challenges. Maddi (2013) described hardy individuals as those who adopt mental evaluative strategies that allow them to turn stresses into growth opportunities, who are able to determine what can be learned from such situations, and who persist in carrying out what they have learned.

Optimism. Optimism, associated with better subjective well-being in times of crisis, describes an individual disposition which reflects individuals who have favorable attitudes of the future and who believe that desirable outcomes are attainable during crisis (Carver, Scheier, & Segerstrom, 2010). Optimism was the strongest predictor of wellbeing in a study that assessed comparable samples of Lebanese college youth recruited from 13 universities across Lebanon, both in 2003 and 2007 (Ayyash-Abdo, 2010).

Active coping. It is not always possible to control or address the environment's shortcomings. People who adopt an active coping approach use a repertoire of problem solving skills, seek social support when needed, and directly address external stressors instead of avoiding them. Coping strategies such as behavioral disengagement, denial, and substance use might provide some form of relief in the short run but will eventually work against the students in the long run (Eisenberth, Champeau, & Donatelle, 2013). To further support this notion, findings from a comparative study between two business schools in Taiwan and in the USA (Li, & Nishikawa, 2012) corroborated the notion that higher resilience scores significantly predicted students' reliance on more active coping strategies to deal with daily stressors.

Resilience and Mental Health

Stressors and learning opportunities associated with university life are abundant. College students might adopt different strategies to navigate themselves in their new academic environment. To some students, unfortunately, their maladjustment can negatively impact their psychological health. Across 26 campuses in the United States, the following prevalence of mental health conditions was found: 17.3% for depression, 7.0% for generalized anxiety, 4.1% for panic disorder, 6.3% for suicidal ideation, and 15.3% for self-harm (Eisenberg, Hunt, & Speer, 2013).

Keeping that in mind, psychological distress has been associated with poor academic performance, with higher attrition rates, and with sleep disturbances whereas resilience was shown to promote positive mental and emotional well-being for students during the transition period to college (DeRosier, Frank, Schwarz, & Leary, 2013). Students who had higher levels of resilience tended to have lower levels of psychological distress (McGillvray & Pidgeon, 2015). This is based on the premise that the extent to which a person adaptively copes with a transition period is related to much he or she is resilient (Tusaie & Dyer, 2004). This emphasizes the value of resilience on fostering mental health among enrolled university students.

Another study focusing on Chinese medical students found that resilience moderated the impact of negative life events on mental health disorders (Peng, Zhang, Li, Li, Zhang, Zuo, Miao, & Xu, 2012) such that students with high scores on the resilience scale did not experience severe mental health symptoms (such as depression, anxiety, phobias) while encountering daily life stressors. Furthermore, another study demonstrated that resilience significantly promoted academic persistence and facilitated the learning experience among

undergraduate students already suffering from a range of mental health issues (Hartely, 2013). Thus, resilience can buffer against the impact of negative live events and it buffer also against the worsening of mental health symptoms.

The Case of Lebanon

An epidemiological study revealed that fourth of the Lebanese adult population met criteria for any of the DSM-IV disorders, with a high prevalence and age of onset during young adulthood (Karam, Mneimneh, Dimassi, Fayyad, Karam, Nasser, & Kessler, 2008). In other words, many mental health disorders begin to first appear in young adults and at a high rate in comparison to the general population. This period coincides with college years. Hence, college students are at risk of developing a mental health disorders because of their age range and the high prevalence of the disorders (as the findings described above point out) and they are also exposed to new stressors related to their campus environment. The authors (Karam et al., 2008) added that the number of people with mental disorders who are not receiving treatment in Lebanon is considerably higher than the rates from Western countries. What follows is that individuals who do not seek appropriate treatment fair worse than those who do.

Taken from another perspective, a study on 543 Lebanese students enrolled in the Universite Saint-Joseph (Kahi, Abi Rizk, Hlais, & Adib, 2012) examined their health status as well as possible barriers to help-seeking behaviors. Among those interviewed, there was a high prevalence of psychological issues (57.2%) yet only 3.3% consulted a health care provider and the rest resorted to peers and others sources of informal help from their social networks. The main barriers were classified into accessibility (lack of knowledge of services, inadequate means of transportation, cost) and relational (confidentiality, embarrassment) categories. The

findings of this study suggested the need to promote mental health across campuses (Kahi et al., 2012).

Given that resilience can protect and promote mental health among college students various countries, and that higher resilience scores predict lower levels of stress (Hjemdal, Vogel, Solem, Hagen, & Stiles, 2011), the following study assessed resilience scores to see whether alternative better stress prevention or stress management interventions could be tailored to help a bigger majority of students, particularly those who are not seeking health professionals for whatever reason or barrier. Steinhardt and Dolbier (2008) further elaborate on this notion that "resilience is an asset-based approach that can assist college counselors to support college students' mental health needs and promote academic persistence" (p. 445).

Overview of Personality

As discussed so far, resilience consists of personal qualities or internal personality dispositions that allow a person to bounce back (Connor and Davidson, 2003). What follows is a more elaborate consideration of personality.

In 1937, Gordon Allport, considered a highly influential American scholar in the field of Psychology and the study of Personality, collected more than 50 definitions of the term personality before offering his own: "personality is the dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to his environment" (p. 48). In other words, personality is the internal, organized psychological and physical structures that are characteristic of an individual over time and context. These underlie a person's patterns of thoughts, feelings, and behaviors. Personality psychology concerns the study of individual similarities and individual differences i.e. what makes people the same and what makes them different from one another (Carver, & Connor-Smith 2010).

Personality researchers are interested in better understanding the systematic variations of observed behaviors and traits in search for an underlying coherent hierarchical structure of personality (Watson, Clark, & Harkness, 1994). Factor analysis multivariate technique is used to simply the complex data and to generate summaries of the personality trait structure.

Personality traits are internal dispositions that characterize enduring patterns of thinking, feeling, and behaving and become increasingly stable throughout adulthood (Costa & McCrae, 1997). As such, personality traits are not temporary states that are transient. Consider this example: if an adult is generally considered more talkative than his peers, then it is implied that he is more likely to be talkative in the long-run than most people and not just in short run. Not only are personality traits unique to individuals, it seems that they become more stable with time. Two meta-analyses indicated that there are significant normative changes in aspects of personality in the majority of individuals, mainly through the transition from adolescence into early adulthood (Roberts, Walton, & Viechtbauer, 2006) which reflects young adults becoming more organized, more emotionally stable, and seeking leadership roles. Thus, personality traits become more consistent as adolescent enter adulthood which coincides with college age years. The study at hand focused on this age range.

In a biometric-longitudinal study conducted by Blonigen, Carlson, Hicks, Krueger, & Iacono (2008), researchers sought to examine the stability and change in personality from ages 17 to 24 in a community sample of twins using the Multidimensional Personality Questionnaire. The Multidimensional Personality Questionnaire (Tellegen, in press) consists of 11 primary personality traits that combine into 3 broader structural levels that embody affect and temperament. The higher order personality factors are: Positive Emotionality, Negative Emotionality, and Constraint. Both positive emotionality and negative emotionality

"reflect, at a psychological level, variations in susceptibility to positive and emotional states" (Patrick, Curtin, & Tellegen, 2002, p151); while the higher order variable constraint reflects "tendencies towards behavioral restraint versus impulsiveness" (p.151). The researchers (Blonigen et al., 2008) observed significant normative changes in traits over this transition period into adulthood that reflect a pattern of growth and maturity. As such, young adults learn to become cautious, better at self-regulation, and less vulnerable to experience intense negative emotions. Young adults get better equipped to deal with tasks and social roles associated with adulthood involving academic attainment, forming intimate relationships, getting into the work force, and deal with their civic duties. More recently, other researchers (Durbin et al., 2015) corroborated many of the normative trait processes just mentioned and suggested that primary traits that underlie Positive Emotionality remain stable across the late adolescent into early adulthood phase.

Multidimensional Personality Questionnaire- Brief Form

The Multidimensional Personality Questionnaire- Brief Form MPQ-BF (Patrick et al., 2002), is one of the scales used in the current study. Positive Emotionality is associated with Wellbeing, Social Potency, Achievement, and Social Closeness. Negative Emotionality is associated with Stress Reaction, Alienation, and Aggression. Constraint is associated with Control, Harm avoidance, and Traditionalism. Absorption is a separate trait linked to being deeply immersed in one's own sensory and imaginative experiences.

Personality terminology can be confusing in the field of Psychology. Positive Emotionality and Negative Emotionality are "correlated in a clear convergent-discriminant pattern with 2 primary dimensions of mood Positive Affect and Negative Affect" (Patrick et al., 2002, p.151) respectively thus the terms are used interchangeably in this paper. Positive

Affect and Negative Affect are respectively linked to distinct bio-behavioral approach and withdrawal systems (Watson, Wiese, Vaidya, & Tellegen, 1999). Also, in terms of comparing Tellegen's Big Three model with that of McCrae and Costa's Big Five model, data fibndings have shown that negative emotionality and positive emotionality are equivalent to neuroticism and extraversion, respectively, with a correlation typical of 0.65 or higher (McCrae & Costa, 1985; Watson & Clark, 1992b, 1993). As such, terms are used interchangeably in this paper.

Positive Emotionality

Positive emotionality predicted better physiological health and psychological wellbeing through the mechanism of resilience (Nath, &Pradhan, 2012) and it can have an adaptive function in adults as a response to potentially traumatic events (Bonanno & Diminich, 2013). Positive emotionality measures the extent to which a person feels enthusiastic engaged and alert (Watson, Clark, & Tellegen, 1988). Individuals that fall on the higher end of the continuum generally approach new experiences with genuine curiosity and pleasure. Cross-sectional, longitudinal, and experimental evidence point out that students that score higher in those scales are likely to be more engaged in school performance and tend to score lower on levels of disengagement (King, McInerney, Ganotice, & Villarosa, 2015). Students that find class material interesting and are motivated to put in more effort studying are more likely to gain from the learning activities offered and build up their academic livelihoods as opposed to being indifferent to academic activities. Student engagement is dynamic and can be shaped by the academic setting and can significantly contribute to achievement test scores, retention, and eventual graduation (Appleton, Christenson & Furlong, 2008).

In a sample of 1401 Lebanese students, positive emotionality was a significant positive predictor of academic achievement reflected in higher GPA scores (Ayyash-Abdo, & Sanchez-Ruiz, 2012). This relates to Frederickson's "Broaden and Build" theory (2001), which suggests that positive emotions can broaden one's thoughts and potential actions to pursue which results in an upward spiral of long-term success and wellbeing. Accordingly, students who have high scores on positive emotionality are predisposed to experience positive emotions, which enables them to perform better academically through actively exploring their direct environment.

In a review (Lyubomirsky, King, & Diener, 2005), researchers pointed out that positive affect fosters several positive life outcomes such as sociability, altruism, liking self and others, and better conflict resolution skills. This is reflected in a study held with undergraduate students from Northwestern China such that it was found that those who exhibit positive affect tend to build social support networks which in turn enhances their life satisfaction (Liu, Wang, & Li, 2012).

Well-being. Well-being, variously operationalized, is a facet of positive emotionality, and it depicts a happy disposition, favorable attitudes, and satisfaction with an individual's overall quality of life (Diener, 2013). Findings show that well-being is related to general health and positive adjustment (Diener, 2000). Individuals who believe that their lives are going well tend to be more satisfied with their moment to moment experiences.

Positive emotions mediate the physiological vulnerability to stress (Ong,Mroczek, & Riffin, 2011), directly fuels resilience and ultimately facilitates the use of adaptive coping strategies (Gloria et. al, 2014). Owing of that, postdoctoral graduates were protected from

developing clinical levels of anxious and depressive symptoms in the face of stress (Gloria et. al, 2014).

A person's general attitude on life and the way in which he/she interprets difficult situations directly impacts their engagement in multiple domains of life whether familial, academic, and/or social. A study relying on a sample of Italian university students (Sagone, & De Caroli, 2014) indicated that those who had positive attitudes were psychologically healthier and more resilient. Positive attitudes can exhibit the capacity to restore adverse effects resulting from the accumulation of stress as well as prevent burnout (Gloria, Faulk, & Steinhardt, 2012). This can be explained through association with greater coping strategies. Students who scored high on wellbeing scales adopted less avoidance strategies and more problem-solving coping, contrariwise, students who had low scores on wellbeing scales had a hard time getting over upsetting circumstances (Sagone, & De Caroli, 2014).

Social potency. Social Potency, another facet of positive emotionality, describes the extent to which people are forceful, decisive, persuasive, and enjoy being in leadership roles (Patrick et al., 2002). This profile of such students entails someone who has a good sense of his/her abilities, is able to initiate tasks, and is assertive, Such profile can be related to the concept of self-efficacy, defined as "people's beliefs in having control over their own functioning and over what occurs in the environment" (Li, 2008, p. 2). A meta-analysis (Lee et al., 2013) revealed that self-efficacy was the largest contributor of resilience. Perceptions of high self-efficacy and control are predictors of ongoing student engagement, academic performance, and everyday resilience (Skinner, & Pitzer, 2012). Students that are aware of their capabilities, adopt constructive strategies, and are in control of their direct surroundings are expected to be more resilient than their peers.

Achievement motivation. Understanding achievement motivation within academics settings can clarify what pushes students to persevere in their efforts to succeed despite the daily challenges they might encounter. Individuals that score high on Achievement motivation, a subscale of positive emotionality, are ambitious, competent, and motivated to succeed (Patrick et al., 2002). In a study using 4355 Korean students, high self-directness and high persistence significantly predicted better stress responses and resilience (Kim et al., 2013). Such profile depicts students who find delight in hard work, and are intrinsically motivated to perform better.

Negative Emotionality

A meta-analysis that investigated 60 studies found that Negative emotionality is negatively associated with resilience (Hu, Zhang, & Wang, 2015). Negative emotionality usually "accompanied by a pervasive perception that the world is a dangerous and threatening place, along with beliefs about one's inability to manage or cope with challenging events" (p.481) (Barlow, Ellard, Sauer-Zavala Bullis, & Carl, 2014). The more individuals judge themselves as unable to meet life demands, the greater their scores on negative emotionality (Einsebarth et al., 2013). People that score high on negative emotionality have negative attitudes, are readily irritable, experience high intensity negative reactions and moods, and more are reactive to minor frustrations. Negative emotionality includes both internalized emotions (fear) and externalized emotions (anger, frustration) (Hampson, 2012).

Aspects of negative emotionality are strongly related to psychopathology particularly depressive/ anxious disorder and alcohol dependence (Boschloo et al., 2013). The development of depressive/ anxious disorders and/or alcohol dependence disorder is likely to partly originate from underlying pathways that involve negative emotionality. Interestingly,

people that score high on negative emotionality scales experience a worsening of depressive symptoms over a 3 months period while others that score high on positive emotionality scales experience a lessening of severity in depressive symptoms (Loh et. al ,2013). Upon closer examination, researchers added that resilience mediated the effect of positive affect on change in depression symptoms, and to a lesser extent, mediated the effects of negative affect in change in depression symptoms.

Stress reaction. Primary traits that fall under Negative Emotionality significantly decrease from ages 17 to 24 years old (Blonigen et al., 2008), particularly that of Stress Reaction. Stress Reaction, a facet of negative emotionality, describes the extent to which individuals are usually apprehensive, irritable, emotionally labile, and nervous (Patrick et al., 2002). Findings from studies on colleges students (Kim, Lee & Lee, 2013) and medical doctors (Eley, Cloninger, Walters, Laurence, Synnott, & Wilkinson, 2013), demonstrated that low scores on trait anxiety scales, which measure a dimension of negative emotionality, significantly predicted higher resilience scores. So stress reaction inversely predicts resilience scores (Robinson et al., 2014).

Constraint

Constraint was among the predictors of resilience score among university students in the USA (Robinson et al, 2014). Individuals that score high on constraint scale are characterized as cautious, take more safety precautions, and abide by conventional norms, while those who score low on constraint scale are more impulsive, get into more risk-taking endeavors, and are less likely to conform to rigid moral standards (Patrick et al., 2002). In

other words, constraint involves the behavioral restraint system. Developmentally, constraint score significantly increase as adolescents enter adulthood (Blonigen et al., 2008).

In an attempt to assess the relationship between the MPQ Personality model and the Big Five using 575 college students (Church, 1994), Constraint encompassed the controlled aspect of Conscientiousness and much of Openness to Experience (inversely). Conscientious individuals are organized and diligent, and those who score low on Openness to experience prefer routines and have conventional views. When discussing temperament models, Constraint is also recognized as the precursor to later trait Conscientiousness (Hampson, 2012).

A meta-analysis on personality and academic performance suggested that Conscientiousness is the strongest predictor of academic performance with a magnitude similar to that of Intelligence (Poropat, 2009). Thus, how well a student performs academically is influenced not only by intelligence but also by their organization. A study on Caribbean secondary school adolescents revealed that conscientiousness was the best predictor of resilience (Fayombo, 2010). Such students attend classes regularly, plan ahead, and are better at mitigating academic stressors compared to their peers.

Hypotheses

Based on the above discussed literature, the following hypotheses were predicted:

- Positive Emotionality, Negative Emotionality, and Constraint are significant predictors of the change in resilience score, such that Positive Emotionality has the strongest unique contribution.

- Wellbeing, Social Potency, Achievement, and Stress Reaction are significant predictors of the change in resilience score, such that Achievement has the strongest unique contribution.

Chapter 3

Method

The following chapter describes the methodology used in this study, focusing on the research design, the participants' characteristics, the measures and procedures used, an outline of data analysis, and the ethical consideration briefly presented.

Research Design

The following study used an empirical based questionnaire and relied on quantitative methods of analysis to investigate the relationship between predictor variables (aspects of personality described below) and the outcome variable (total resilience score).

Sampling

Convenience sampling was used to collect the surveys from participants attending the different universities. This method was adopted because of the availability of students willing to participate and for practicality. Proper random sampling would not have been feasible given the practical limitations imposed by the different campuses and the time frame constraints. This could pose a threat to representativeness of the sample. The number of participants selected for the study was based on the following formula provided by Tabachnick and Fidell (2001, p.117): $N > 50 + 8 m$; where m= number of independent variables.

Participants

The participants recruited for this study included Lebanese university students attending three different private campuses (Haigazian University, Lebanese American University, and American University of Beirut). In terms of inclusion criteria, participants needed to be above the age of 18 years old, from any gender, enrolled in any academic level at university, fluent in English, carrying a Lebanese nationality, and providing informed consent

for participating in the study. No reward or incentive was given for participation. Informed consent (see Appendix I) was obtained from all participants who agreed to be part of the study. In terms of exclusion criteria, participants who missed out on filling more than 5% of the items on any of the scales were considered in the data analysis.

For the pilot study, 30 participants were recruited by the researcher to test for the reliability of items used in the survey. The sample characteristics of the 30 participants were as follows: the ages ranged from 22-33 years old with a mean of 26.6 (SD ±2.98). Sample was of mixed genders (76.7% females; 23.3% males), recruited from 3 universities (AUB 46.7%; LAU 40.0%; HU 13.3%), from various academic levels (26.7% Undergraduates; 63.3% Masters; 10% PhD or MD), and many were working as well as studying (86.7% yes; 13.3% no).

For the main study, 150 participants were recruited. Nine cases had more than 5% missing scale responses so they were excluded from data analysis. The sample used for the pilot study was then added to main study sample. The characteristics of the total 171 participants were as follows (see Appendix D): their age ranges from 18-33 years old with a mean of 22.9 (SD ±3.66), from both genders (66.1% females; 33.9% males), studying at the 3 different universities (AUB 43.3%; LAU 37.4%; HU 19.3%), attending different university academic levels (62.6% Undergraduates; 31.0% Masters; 6.4% PhD or MD), and some working aside from studying (44.4% yes; 55.6% no).

Materials

The survey contained a cover sheet that was used to obtain informed consent (see Appendix A), a demographics section (see Appendix B), and Two standardized self-report

measures (See Appendix C) were used from the respective authors. Data were scored according to the respective manuals provided by the authors and SPSS syntax files.

Consent form. The consent form (see Appendix A)described the purpose of the study, the affiliation of the student researcher, the participation procedures, the voluntary nature of participation, how confidentiality will be assured, how the data will be stored and when will it be destroyed, that withdrawal was possible at any moment without penalty, that they could skip any question that they might find uncomfortable, and it included the researcher contact information (student email address) in case any participant wanted further clarification about the study.

Demographics sheet. The demographics sheet (see Appendix B) asked about participant's age, gender, fluency in English language, student status, university affiliation, and whether they held a job while they were studying or not.

MPQ-BF. The Multidimensional Personality Questionnaire- Brief Form MPQ-BF is a self-rated assessment tool of personality that was developed through iterative factor analysis process (Patrick, et al., 2002). It consists of 11 discrete primary traits (low inter-correlations between the scales) that combine into 3 broader structural levels that embody temperament and affect (table 2). The higher order variables are: Positive Emotionality, Negative Emotionality, and Constraint. Positive Emotionality and Negative Emotionality represent basic parameters of emotional temperament which involves separate emotional responses systems that influence "cognitive and behavioral manifestations of the trait" (Tellegen, & Waller, 2008, p.276) and consider emotional, interpersonal, and social constructs.

Positive Emotionality is associated with Wellbeing, Social Potency, Achievement, and Social Closeness. A person who scores high on the Wellbeing scale: (a) does fun things; (b)

has a happy disposition; (c) has interesting experiences; (d) is optimistic and hopeful. A person who scores high on the Social Potency scale: (a) enjoys visibility, dominance; (b) likes to be in charge; (c) is persuasive; and (d) enjoys leadership roles. High scores on the Achievement motivation scale reflect a person who: (a) is ambitious; (b) enjoys putting effort into activities; (c) likes challenging tasks; (d) is a perfectionist; (e) is persistent and works hard. High scores on the Social Closeness scale depict someone who: (a) is sociable; (b) values close relationships; (c) is warm and affectionate; and (d) welcomes support.

Negative Emotionality is linked to Stress Reaction, Alienation, and Aggression. High scores on the Stress Reaction scales reflects a person who: (a) gets easily upset; (b) has unaccountable mood changes; (c) is usually nervous and worrisome; (d) is prone to feel guilty; and (e) is sensitive. A person who scores high on the Aggression scale: (a) enjoys distressing others and can victimize others for own gain; (b) enjoys witnessing violence; (c) can be vengeful and vindictive; and even (d) physically violent. Others who score high on the Alienation scale can be characterized as such: (a) often feel betrayed, exploited, deceived, and/or mistreated; (b) believe others wish him to fail; and (c) sees self as target of false rumors.

Constraint is related to Control, Harm avoidance, and Traditionalism. Individuals who score high on the Control scale are: (a) cautious, careful, and reflective; (b) organized; (c) try to anticipate events and plan ahead. Individuals who score high on the Harm Avoidance scale: (a) avoid risks of injury; (b) dislike dangerous emergencies; (c) dislike disaster areas and risky adventures. Individuals who score high on the Traditionalism scale: (a) advocate high moral standards; (b) condemn selfishness; (c) oppose permissiveness; (d) endorse religious values; (e) endorse strict child rearing; (f) have positive regard for parents; and (g) value propriety.

Absorption is a separate trait that does not fall into any of the 3 higher order personality factors mentioned above. A person who scores high on this scale can be portrayed as someone who: (a) can imagine vividly; (b) can relive the past; (c) is usually engrossed in his/her own thoughts; (d) has episodes of altered awareness and thinks in images.

The MPQ-BF contains 155 True or False items. In terms of testing internal consistency, the Cronbach's alpha measures for the MPQ subscales range from 0.81 to 0.91 in the original sample (Patrick, et al., 2002). The MPQ-BF personality scales were considered predictors in data analysis.

CD-RISC. A recent review of nineteen resilience assessment tools (Windle, Bennett, & Noyes, 2011) ranked the CD-RISC amongst the top three for best psychometric properties on total quality assessment and reproducibility. The Connor-Davidson Resilience Scale (CD-RISC) is a brief, self-rated measure that contains 25 items, 5-point range of response:not true at all (0), rarely true (1), sometimes true (2), often true (3), and true nearly all of the time (4). The scale is scored by summing all individual scores of items, with total scores ranging from 0-100.Higher scores indicate greater levels of resilience. The measure (table 3) was developed using items that relate to personal competence, tolerance of negative affect, positive acceptance of change and secure relationships, control, and spirituality (Connor, & Davidson, 2003). The original validation shows that it has sound psychometric properties with good internal consistency (Cronbach's alpha 0.89) and test-retest reliability using the general population. The CD-RISC total resilience score was considered the dependent variable in data analysis.

Procedure

Before the launch of the proposed study, approval was obtained from the Thesis Committee Board at Haigazian University early in January 2015. For the first phase of the study, 30 university students were approached by researcher and were asked to participate in pilot study. The aim of the pilot study was to assess the reliability of the scales. Data collection for the pilot study ended in February 2015. Throughout the second phase of the study that lasted from March till May 2015, 150 university students were approached by researcher and were asked to participate in the main study. Participants who agreed to participate had to sign an informed consent sheet then fill out a paper-pencil questionnaire individually. Data obtained from the pilot study were added to actual study data. Missing data of more than 5% of the items from any of the measures were excluded from the analysis (9 cases).

Data Analysis

All analyses were carried out using the SPSS statistical software, version 20.0. Initially, internal consistency of the scales was measured using Cronbach Alpha. The outcome measure (total resilience score) was first be visually inspected to check for normality and outliers. Descriptive analysis included mean, standard deviation and range for continuous variables and frequencies and percentages for categorical ones. Pearson's Correlation was used to check for the relationship between the predictors and outcome measures. The predictors that were deemed significant were later included in subsequent standard regression analyses to predict total resilience score.

Ethical Consideration

Since this research involves human participation, certain measures were taken to make sure no undue harm can result from participation. Within the consent form, participants were informed about the purpose of the study, about their right not to participate, that no harm was anticipated by participation, that the data set would remain confidential, and that no deception was used.

Chapter 4

Results

The following chapter presents the reliability of the scales used in this study, the descriptive analyses, and the results from the hypotheses testing and statistical analyses.

Reliability of Scales

Pilot. Reliability of items used in the scales was obtained in the pilot study (table 1). The Cronbach's alpha measures for the MPQ BF broad constructs ranged from 0.81 to 0.84 while the measures for the primary traits ranged from 0.66 to 0.85. The Cronbach's alpha value for the CD-RISC total resilience score was 0.85 (Table 1)

Table 1

Reliability of CD-RICS and MPQ-BF Scales

Scales	Previous Cronbach's Alpha Value	Current Cronbach's Alpha Value (Pilot)	Current Cronbach's Alpha Value (Main Study)
Resilience	0.89	0.85	0.87
Well-being	0.81	0.80	0.82
Social Potency	0.80	0.72	0.70
Achievement	0.80	0.77	0.74
Social Closeness	0.82	0.76	0.78
Stress Reaction	0.84	0.73	0.74
Alienation	0.82	0.85	0.82
Aggression	0.75	0.72	0.75
Control	0.74	0.83	0.76
Harm Avoidance	0.76	0.76	0.67

Traditionalism	0.78	0.71	0.53
Absorption	0.76	0.66	0.70
Positive Emotionality	-	0.81	0.82
Negative Emotionality	-	0.84	0.86
Constraint	-	0.84	0.70

Note. Values obtained from the studies by Connor and Davidson (2003); Patrick, et al. (2002)

Main study. Reliability of items used in the scales was obtained by including data obtained in the pilot study (table 1). The Cronbach's alpha measures for the MPQ broad constructs ranged from 0.70 to 0.86 while the primary trait subscales ranged from 0.53 to 0.82. The Cronbach's alpha value for the CD-RISC total resilience score was 0.87 (table 1)

Descriptive Analyses

The demographic information of the sample and the scales are described in Table 2. The mean age of participants was 22.9 (SD 3.66), the majority were females (66.1%), and were mostly undergraduates students (62.6%), with almost half of them working alongside their education (44.4%).

Table 2

Demographic Information of the Participants

Category	*M*	*SD*	Range	Frequency	Percentage
Age	22.9	3.66	18-33		
Gender					
Male				58	33.9%
Female				113	66.1%
University					
AUB				74	43.3%
LAU				64	37.4%
HU				33	19.3%
University Level					
Undergraduate				107	62.6%
Masters or MD				53	31.0%
PhD or Post-MD				11	6.4%
Work					
Yes				76	44.4%
No				95	55.6%

Note. N=171; *M= Mean; SD* = Standard Deviation

Comparing mean resilience scores for males and females. An independent samples t-test was conducted to compare the mean resilience scores for males and females. There was no significant difference in scores for males (*M*= 69.4; SD= 14.8) and females (*M*= 67.3; SD= 12.5; t(169)= 0.950; p= 0.343).

Comparing mean resilience scores for enrolled students currently working and not working. An independent samples t-test was conducted to compare the mean resilience scores for enrolled students currently working and not working students. There was no

significant difference in scores for students currently working (*M*= 69.7; SD= 12.5) and nonworking students (*M*= 66.7; SD= 13.9; t(169)= 1.459; p= 0.146).

Comparing mean resilience scores for different age categories. A one way between group analysis of variance was conducted to explore the impact of different age categories on resilience scores. Subjects were distributed into 3 groups as follows: group 1 (ages 18-21), group 2 (ages 22-24), and group 3 (ages 25-33). There was no significant difference in scores for students in group 1 (*M*= 67.0; SD= 14.7), group 2 (*M*= 68.5; SD= 12.4), and group 3 (*M*= 69.3; SD= 11.7; F(2,168)= 0.525; p= 0.592).

Comparing mean resilience scores for different universities. A one way between group analysis of variance was conducted to explore the impact of university affiliation on resilience scores. Subjects were distributed into 3 groups as follows: group 1 (American University of Beirut), group 2 (Lebanese American University), and group 3 (Haigazian University). There was no significant difference in scores for students in group 1 (*M*= 66.6; SD= 13.0), group 2 (*M*= 68.4; SD= 14.4), and group 3 (*M*= 70.4; SD= 11,7; F(2,168)= 0.987; p= 0.38).

Comparing mean resilience scores for different academic levels. A one way between group analysis of variance was conducted to explore the impact of academic levels on resilience scores. Subjects were distributed into 3 groups as follows: group 1 (undergraduate level), group 2 (graduate level), and group 3 (doctoral level). There was no significant difference in scores for students in group 1 (*M*= 67.4; SD= 14.2), group 2 (*M*= 69.6; SD= 11.5), and group 3 (*M*= 67.0; SD= 13.0; F(2,168)= 0.501; p= 0.610).

Comparing mean resilience scores to other studies. In comparison to other college students internationally, the mean CD-RISC total resilience score among Lebanese students

was 68.0 (SD 13.3, see APPENDIX D) which was somewhat consistent with students from China (*M*= 61.79; SD= 10.55) (Peng et al, 2012), from Iran (*M*= 68.34; SD= 17.5) (Khoshouei, 2009), from Australia (*M*= 64.3; SD= 12.3) (Benetti, & Kambouropoulos, 2006), and from the United States of America (*M*= 75.7;SD= 11.9) (Hartley, 2011). This further confirms the universality of the resilience concept across university settings. Interestingly enough, the mean resilience score of college students in Lebanon as well as the countries mentioned above was lower than the mean (*M* =80.7) for the US general population used in the CD-RISC validation study, and very similar to the mean resilience score of primary care patients (*M* =71.8) and psychiatric outpatients (*M*= 68.0) (Connor, & Davidson, 2003, see APPENDIX E).

Comparing the MPQ-BF t-scores to other studies. Concerning the higher order scales of the MPQ-BF, the t-scores on positive emotionality and constraint were somewhat similar to the original validation study used with 765 participants aged 18-40 (see Appendix IV and Appendix D), however the t-scores of negative emotionality was higher among Lebanese students (60.7 in comparison to 51.1). Concerning the primary traits of the MPQ-BF (see Appendix D and Appendix F), the t-scores were similar to a certain extent to those of the initial validation study (Patrick et al., 2002).

Hypotheses Testing & Inferential Statistics

Broad personality factors & total resilience score.

- Hypothesis 1: Positive Emotionality, Negative Emotionality, and Constraint are significant predictors of the change in resilience score such that Positive Emotionality has the strongest unique contribution.

Broad personality factors as measured by MPQ-BF (Positive emotionality, negative emotionality, and constraint) were used in a standard regression analysis to predict total resilience score as measured by CD-RISC. The variables were examined using the Pearson product-moment correlation coefficient (table 3). A significant positive correlation exists between CD-RISC total resilience score with positive emotionality, and with constraint. A significant negative correlation exists between CD-RISC total resilience score and negative emotionality.

Table 3

Correlation of Broad Personality Factors and Total Resilience Score

	Total Resilience	Positive Emotionality	Negative Emotionality	Constraint
Total Resilience	-			
Positive Emotionality	0.39**	-		
Negative Emotionality	-0.23**	0.001	-	
Constraint	0.16*	0.26**	-0.15	-

Note. N=171

**Correlation is significant at $p<0.01$

*Correlation is significant at $p<0.05$

To further test the relationship of broad personality factors with CD-RICS total resilience score, standard multiple regression was performed such that CD-RISC total resilience score was considered the dependent variable, while positive emotionality, negative emotionality, and constraint were the predictors. The prediction model was statistically

significant, F(3, 167) =14.13, p<0.000. The model (table 4) explained 20.2 % of the change in CD-RISC total resilience score (R^2 = 0.202, Adjusted R^2 = 0.188).

Table 4

Regression Analysis of Higher Oder Personality Factors Model with Total Resilience Score

	R	R^2	Adjusted R^2	S.E	F Change	df1	df2	Sig.	%
Model	0.450	0.202	.188	11.99	14.127	3	167	0.000	20.2%

Note. N=171
SE = Standard Error
df = Degrees of Freedom

The standardized and unstandardized regression coefficients of the predictors are shown in table 5. Positive emotionality (β =.381, p<.05) and negative emotionality (β =-0.227, p<.05) made unique contributions in resilience scores. Constraint did not have a significant unique contribution. Positive emotionality explains the greatest variance (14.5%) in total resilience score in comparison to negative emotionality (5.15%). This confirms the hypothesis that positive emotionality makes a bigger significant contribution followed by negative emotionality to the total resilience score.

Table 5

Regression Analysis of Higher Order Personality Factors with Total Resilience Score

	B	SE B	β	t	Sig.	%
Constant	40.210	9.557	-	4.208	0.000	-
PEM	0.483	0.091	.381	5.313	0.000	14.5%
NEM	-0.168	0.052	-0.227	-3.251	0.001	5.15%
Constraint	0.035	0.106	0.024	0.335	0.738	-

Note. N=171
SE = Standard Error

Primary personality traits & total resilience score.

- Hypothesis 2: Wellbeing, Social Potency, Achievement, and Stress Reaction are significant predictors of the change in resilience score, such that Achievement has the strongest unique contribution.

Pearson product-moment correlation coefficients were calculated for well-being, social potency, achievement, stress reaction, and total resilience score (table 6). Wellbeing, social potency, and achievement all had positive correlations with total resilience score. Stress reaction had a negative correlation with total resilience score.

Table 6

Correlation of primary personality traits and total resilience score

	Total Resilience	Well-Being	Social Potency	Achievement	Stress Reaction
Total Resilience	-				
Well-being	0.320**	-			
Social Potency	0.167*	0.075	-		
Achievement	0.469**	0.258**	0.237**	-	
Stress Reaction	-0.192*	0.258**	-0.079	-0.032	-

Note. N=171

**Correlation is significant at p<0.01

*Correlation is significant at p<0.05

To further examine those relationships, a standard multiple regression analysis was performed using total resilience score as the dependent variable while the achievement, social potency, wellbeing, and stress reaction scales were used as predictors. The model explains 28.1 % of the variance in total resilience score. The R for the regression (see table 7) was significant, $F(4, 166) = 16.24$, $p < 0.000$.

Table 7

Regression Analysis of Primary Personality Factors Model with Total Resilience Score

	R	R^2	Adjusted R^2	*SE*	F Change	df1	df2	Sig.	%
Model	0.530	0.281	.264	11.42	16.24	4	166	0.000	28.1%

Note. N=171
SE = Standard Error
df = Degrees of Freedom

Table 8

Regression Analysis of Primary Personality Traits with Total Resilience Score

	B	*SE* B	β	t	Sig.	%
Constant	49.136	4.928	-	9.971	0.000	-
Wellbeing	0.73	0.29	0.178	2.53	0.013	3.17%
Social Potency	0.31	0.45	0.047	0.69	0.492	-
Achievement	2.06	0.35	0.408	5.83	0.000	16.6%
Stress Reaction	-0.59	0.31	-0.130	-1.90	0.060	1.69%

Note. N=171
SE = Standard Error

The positive emotionality facets of wellbeing and achievement scales (table 8) are unique predictors of change in the total resilience score. Achievement motivation makes the largest unique contribution ($\beta=0.408$, $p<0.001$) which explains 16.6% of variance in total resilience score, followed by Wellbeing scale ($\beta=0.178$, $p<0.05$) which explains 3.17% variance in total resilience score (table 8). This confirms part of the hypothesis. Social Potency

was not significant predictors, however, the Stress reaction predictor achieved marginal level of significance (p=0.06) which explains 1.69%.

Chapter 5

Discussion

The purpose of this study was to examine which aspects of personality make the largest contributions on total resilience scores among Lebanese university students.

As hypothesized, positive emotionality, negative emotionality, and constraint are significant predictors of changes in resilience scores and this is consistent with previous findings on USA college students using the same scales (Robinson et al., 2014). Positive emotionality is the strongest predictor of changes in total resilience scores in comparison to negative emotionality. Constraint, taken separately, did not have a significant unique contribution to the total resilience score. So it appears that PEM and NEM, both temperamental dispositions to experience positive emotions and negative emotions respectively (Patrick et al., 2002), significantly contribute to the changes in total resilience score whereas the behavioral restraint component CON (vs. impulsive actions) does not have a significant impact on the total resilience score in this study.

This goes in line with previous findings from a meta-analysis research (Lee et al., 2013) which indicated that positive emotionality had a significantly impact on resilience. This highlights the value of positive emotionality among students' successful adjustment to the stressful campus life. A review of 225 studies done by Lyubomirsky, King, and Diener (2005) indicated that positive affect produces a wide range of favorable outcomes such as facilitating decision-making and the use of problem solving skills via increased flexible coping. Galatzer-Levy et al. (2012) found that flexible coping, which consists of a person's ability to both focus attention on and away of distressing material, is strongly associated "resilient adaptation" such that individuals can process feelings and thoughts associated with the incident while also

having a positive outlook toward the future and engaging interpersonally with their social surrounding. As a reminder, people who score high on PEM are more likely to experience pleasant states with such an intensity which facilitates engagement in contrast to others who score low on this scale and are typically disengaged from their direct environment (Patrick et. al, 2002).

In terms of primary personality traits, achievement motivation, social potency, wellbeing, and stress reaction scales all were associated with resilience. Achievement motivation and wellbeing, each a facet of positive emotionality, were significant predictors of the total resilience score. Stress reaction, a facet of negative emotionality, achieved marginal significance as well. The strongest predictor of total resilience score was Achievement motivation. This finding offered further support to previous research (Robinson et al., 2014). A survey research (Paul, Sriram, Subalukshmi, & Mala, 2015) on 200 college students found significant relation between academic motivation and resilience, more specifically, between intrinsic academic motivation factors (to know, to accomplish, and to experience stimulation) and resilience. Students who aspire to accomplish difficult academic tasks while maintaining high standards are more likely to overcome challenges and had higher resilience scores. Students scoring high on achievement motivation scales are typically ambitious, welcome challenges, and persist in their tasks while others might give up. By expecting good things to happen, one might work towards actualizing his/her goal. Self-directedness and persistence significantly enhance resilience and contribute to better stress response in college students (Kim et al., 2013) and also in medical doctors (Eley et. al, 2013).

People scoring high on wellbeing scale are more optimistic, have a cheerful disposition, feel good about themselves, and find pleasure in the things they are doing (Patrick

et al., 2002). Students who score high on this scale are more likely to use positive emotions amidst stressful circumstances to psychologically and "physiologically recover from negative emotional arousal" (Tugade, & Frederickson, 2004, p.20) and to and to have overall higher life satisfaction scores(Cohn et al., 2009).This finding also supported the "build" component taken from the Broaden and Build model (Frederickson, 2001), which stipulated that positive emotions are associated with better cognitive and behavioral resilience resources, decreased physical illness, increased mindfulness, and stronger feelings of purpose in life (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008). Wellbeing and achievement motivation seem to buffer the potentially stressful impact of challenges ubiquitous in the university life of students and helps them adapt in a better than expected manner compared to other peers.

What follows is a discussion of the findings on negative emotionality. Negative emotionality inversely predicted the variability of total resilience scores. Students who scored high on this scale had lower resilience scores. As a refresher, negative emotionality relates to one's propensity to experience anxiety, resentment, anger, hostility in a variety of settings (Patrick et. al, 2002). In a longitudinal study, negative emotionality was related to a history of poor adaptive difficulties bothin early childhood and in adulthood reflected in poor academic attainment, difficulty with rule-abiding conduct, poor social competence, and to poor performance at work (Shiner, Masten, & Tellegen, 2002). When under pressure, students who score high on this scale are more likely to engage in maladaptive ways with their surroundings. More specifically, the stress reaction scale which achieved marginal significance in this study is an aspect of negative emotionality is associated with behaviors indicative of emotional problems (Tellegen & Waller, 1992). Students who are worrisome, experience mood swings, and view themselves as unworthy have lower resilience scores.

Taking this a step further, Genet and Siemer (2011) argued that the ability to modulate between negative and positive affective states is one of the unique predictors of the resilience. People who are better at regulating emotional and physiological responses to match the demands of changing events are more resilient (Waugh, Thomson, & Gotlib, 2011). Positive emotions enhanced self-regulation resources for better functioning regardless of the effects of negative affect amongst university students (Moskowitz, Shmueli-Blumberg, Acree, &Folkman, 2012). The co-occurrence of affective states is associated with resilience and wellbeing (Larsen & McGraw, 2011). Thus, this adaptive interplay of emotional components offers students an edge in the face of adversity.

Clinical Implications

Many steps taken in this study were in line with previous resilience research in university settings (Robinson et al., 2014, DeRosier et al., 2014, Pidgeon et al, 2014, Hartley, 2013). Many of the CD-RISC items can be readily used as behaviors to be learned and are worth taking into consideration. University campuses can offer individual and group counseling programs geared towards empowering students and enhancing their resilience. A meta-analysis study reviewed 13 clinical trials to assess the efficacy of adult resilience training programs across a variety of settings and found that they do have a small to moderate effect in increasing resilience score within a three month duration follow-up, and a moderate effect of reducing the severity of stress symptoms, and depression symptoms (Leppin, Bora, Tilburt, Gionfriddo, Zeballos-Palacios, Dulohery, & Montori, 2014). A brief three 60-90 minutes sessions intervention, Program for Accelerated Thriving and Health (PATH), significantly improved resilience and thriving among undergraduate students in comparison to a placebo control group (Gerson, & Fernandez, 2013). Pennsylvania Resilience training program (Peng,

Li, Zuo, Miao, Chen, Yu, & Wang, 2014) implemented with medical students was deemed successful in encouraging students to adopt proper emotion regulation style when facing difficult situations. Mental health specialists in Lebanon could use the findings from this study (positive emotionality, negative emotionality, academic achievement, wellbeing, and stress reaction) to better develop resilience-building programs within the Lebanese private universities to target students most at risk of academic failure or a psychopathology.

Among the clinical practice, mental health professionals could use the findings and develop affective and cognitive components of resilience to help students manage daily stressors. Many of the difficulties faced by university students may be the expression of enduring personality factors. Mental health professionals can use those findings to have more realistic range of expectations for the therapeutic change that can happen in the sessions and what to work on.

In light of achievement motivation, mental health professionals can focus on a person's cognitive appraisals. In a study using Lebanese undergraduates from the American University of Beirut, positive reinterpretation of stressful situations significantly predicted better thriving (Moussa, & Bates, 2011). In another study, it was found that, following a potentially traumatic event, people who tend to make "challenge appraisals", as opposed to threat appraisals, were more likely to adapt with lower levels of psychological distress (Bonanno, & Diminich, 2013). Individuals who adopted challenge appraisals welcomed change in their daily routines and viewed it as an opportunity for personal growth, while individuals who adopted threat appraisals construed change as potentially harmful. Mental health professionals can support students to focus on positive outcomes and actively deal with the stressors throughout difficult situations.

In light of the findings on positive emotionality and on wellbeing, therapists can use interventions tailored to increase levels of positive emotions, such as the Well-being therapy (Fava, & Tomba, 2009), to counteract and possibly prevent effects of psychological distress. Interventions tailored to promote positive evaluation of one's self, a sense of continued growth, a sense of purpose in life, a sense of self-determination and proper management, and quality relations with others are proving to increase wellbeing and reduce vulnerability to depression, mood swings, and anxiety (Ruini & Fava, 2012). Other strengths-based cognitive behavioral therapy is a four step model that could help clients build positive qualities characteristic of resilient individuals (Padesky, & Mooney, 2012). Mindfulness meditation, aimed at increasing positive emotions, can act as a protective mechanism against academic stressors such that it is related to lower psychological distress and to higher psychological well-being, and it was proved to be a significant predictor of resilience (Pidgeon & Keye, 2014). Mindfulness based intervention modules such as KORU consisting of four 75 minutes sessions, are already being assessed and contributing to higher resilience scores (Greeson, Juberg, Maytan, James, & Rogers, 2014).

Undesirable traits can be a source of frustration for the students and for those willing to offer help. In light of the findings on negative emotionality and stress reaction, students with high scores on those scales can benefit from approaches that enable students to keep their negative emotional states in check. In Iran, the effectiveness of an eight 90 minutes resilience training session proved as good as an eight 90 minutes cognitive therapy session for reducing depression among female college students (Zamirinejad, Hojjat, Golzari, Borjali, & Akaberi, 2014).

Future Studies. The CD-RISC and MPQ BF scales had good internal reliability within the Lebanese university settings. Positive emotionality and negative emotionality each significantly contributed to the change in total resilience scores. On a lower-order personality trait level wellbeing, achievement motivation, and stress reaction were significant predictors of resilience scores. To minimize the potential of respondent biases inherent in self-report measures, future studies could adopt other-respondent measures. Future studies can also consider looking into other variables that might act as predictors of resilience such as perceived stress levels, coping strategies adopted by university students, and other mental health indices. Would each of perceived stress levels and coping strategies significantly predict resilience scores? Would aspects of personality influence which coping strategy resilient students might use? Would CD-RISC score be associated with different affect-related psychopathology?

References

Allport, G. (1937). *Personality: A psychological interpretation*, New York: Holt Press

Ammar, D., Nauffal, D., & Sbeity, R. (2013) The role of perceived social support in predicting subjective well-being in Lebanese college students, *Journal of Happiness & Well-Being, 1*(2), 121-134.

Analysis of Lebanon's education sector (2014). BankMed Market & Economic Research Division.

Appleton, J., Christenson, S., & Furlong, M. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. Psychology in the Schools, 45(5), 369-386. doi: 10.1002/pits.20303

Ayyash-Abdo, H. (2010). Subjective well-being during political violence and uncertainty: A study of college youth in Lebanon, *Applied Psychology: Health and Wellbeing, 2* (3), 340–361 doi:10.1111/j.1758-0854.2010.01038.x

Ayyash-Abdo, H., & Sánchez-Ruiz, M. (2012). Subjective wellbeing and its relationship with academic achievement and multilinguality among Lebanese university students, *International Journal of Psychology*, *47*(3), 192-202. doi:10.1080/00207594.2011.614616

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational psychologist, 28*(2), 117-148. doi: 10.1207/s15326985ep2802_3

Barlow, D., Ellard, K., Sauer-Zavala, S., Bullis, J., & Carl, J. (2014). The origins of neuroticism. *Perspectives on Psychological Science*, *9*(5), 481-496. doi: 10.1177/1745691614544528

Benetti, C., & Kambouropoulos, N. (2006). Affect-regulated indirect effects of trait anxiety and trait resilience on self-esteem. *Personality and Individual differences*, *41*(2), 341-352. doi:10.1016/j.paid.2006.01.015

Blonigen, D., Carlson, M., Hicks, B., Krueger, R., & Iacono, W. (2008). Stability and change in personality traits from late adolescence to early adulthood: A longitudinal twin study. *Journal of personality, 76*(2), 229-266.doi: 10.1111/j.1467-6494.2007.00485.x

Bonanno, G., & Diminich, E. (2013). Annual research review: Positive adjustment to adversity trajectories of minimal impact resilience and emergent resilience, *Journal of Child Psychology and Psychiatry, 54 (*4), 378–401. doi:10.1111/jcpp.12021

Boschloo, L., Vogelzangs, N., Van den Brink, W., Smit, J., Beekman, A., & Penninx, B. (2013). The role of negative emotionality and impulsivity in depressive/anxiety disorders and alcohol dependence. *Psychological medicine*, *43*(06), 1241-1253. doi:10.1017/S0033291712002152

Burns, R., & Anstey, K. (2010). The Connor–Davidson Resilience Scale (CD-RISC): Testing the invariance of a uni-dimensional resilience measure that is independent of positive and negative affect. Personality and Individual Differences, 48(5), 527-531. doi:10.1016/j.paid.2009.11.026

Burns, R., Anstey, K., & Windstor, T. (2011). Subjective well-being mediates the effects of resilience and mastery on depression and anxiety in a large community sample of young and middle-aged adults, *Australian & New Zealand Journal of Psychiatry*, *45*, 240-248. doi: 10.3109/00048674.2010.529604

Buse, N., Bernacchio, C., & Burker, E. (2013). Cultural variation in resilience as a response to traumatic experience, *Journal of Rehabilitation, 79* (2), 15-23.

Campbell-Sills, L., Cohan, S., & Stein, M. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behavior Research and Therapy, 44,* 585–599. doi:10.1016/j.brat.2005.05.001

Carver, C., & Connor-Smith, J. (2010). Personality and coping. Annual review of psychology, 61, 679-704. doi: 10.1146/annurev.psych.093008.100352

Carver, C., Scheier, M., & Segerstrom, S. (2010). Optimism. *Clinical psychology review, 30*(7), 879-889. doi:10.1016/j.cpr.2010.01.006

Cazan, A., & Truta, C. (2015). Stress, Resilience and Life Satisfaction in College Students. *Revista de Cercetare si Interventie Sociala, 48,* 95-108.

Cheng, C. (2001). Accessing coping flexibility in real-life and laboratory settings: A multimethod approach, *Journal of Personality and Social Psychology, 80,* 814–833.

Chida, Y., & Hamer, M. (2008). Chronic psychosocial factors and acute physiological responses to laboratory-induced stress in healthy populations: a quantitative review of 30 years of investigations. *Psychological bulletin, 134*(6), 829-885. doi: 10.1037/a0013342

Childs, E., White, T., & de Wit, H. (2014). Personality traits modulate emotional and physiological responses to stress, *Behavioural Pharmacology, 25,* 493–502. doi: 10.1097/FBP.0000000000000064

Church, A. T. (1994). Relating the Tellegen and five-factor models of personality structure. *Journal of Personality and Social Psychology, 67*(5), 898. doi: 10.1037/0022-3514.67.5.898

Connor, K., & Davidson, J. (2003). Development of a new resilience scale: The connor–davidson resilience scale (CDRISC), *Depression and Anxiety, 18,* 76–82. doi: 10.1002/da.10113

Costa Jr, P., & McCrae, R. (1997). Longitudinal stability of adult personality. doi: 10.1016/B978-012134645-4/50012-3

DeRosier, M., Frank, E., Schwartz, V. and Leary, K. (2013) The Potential Role of Resilience Education for Preventing Mental Health Problems for College Students. P*sychiatric Annals, 43,* 538-544. doi:10.3928/00485713-20131206-05

Diener, E. (2000). Subjective well-being: The science of happiness, and a proposal for national index, American Psychologist, 55, 34-43. doi: 10.1037/0003-066X.55.1.34

Diener, E. (2013). The remarkable changes in the science of subjective well-being. *Perspectives on Psychological Science, 8*(6), 663-666. doi: 10.1177/1745691613507583

Doumit, R. (2013). Stress, Coping and Well-Being in Lebanese Entering College Students. In *Sigma Theta Tau International's 24th International Nursing Research Congress*. STTI.

Durbin, C.., Hicks, B., Blonigen, D., Johnson, W., Iacono, W., & McGue, M. (2015). Personality trait change across late childhood to young adulthood: Evidence for nonlinearity and sex differences in change. *European Journal of Personality*. doi: 10.1002/per.2013

Eisenbarth, C. A., Champeau, D., & Donatelle, R. (2013). Relationship of appraised stress, coping strategies, and negative affect among college students. *International Journal of Psychology and Behavioral Sciences, 3*(5), 131-138.

El Kahi, H., Abi Rizk, G., Hlais, S., & Adib, S. (2012). Health-care-seeking behaviour among university students in Lebanon.

Eley, D., Cloninger, C., Walters, L., Laurence, C., Synnott, R., & Wilkinson, D. (2013). The relationship between resilience and personality traits in doctors: implications for enhancing well-being. *Peer Journal*, *1*, e216. doi: 10.7717/peerj.216

Fava, G., & Tomba, E. (2009). Increasing psychological well-being and resilience by psychotherapeutic methods. *Journal of Personality*, *77*(6), 1903-1934. DOI: 10.1111/j.1467-6494.2009.00604.x

Fayombo, G. (2010). The relationship between personality traits and psychological resilience among the Caribbean adolescents. *International Journal of Psychological Studies, 2*(2), 105-116.doi: 10.5539/ijps.v2n2p105

Fredrickson, B. (1998). What good are positive emotions?. *Review of general psychology, 2*(3), 300-319. doi:10.1037/1089-2680.2.3.300

Fredrickson, B. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist*, *56*(3), 218-226.doi:10.1037/0003-066X.56.3.218

Fredrickson, B., Cohn, M., Coffey, K., Pek, J., & Finkel, S. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal Of Personality And Social Psychology*, *95*(5), 1045-1062. doi:10.1037/a0013262

Galatzer-Levy, I., Burton, C., & Bonanno, G. (2012). Coping flexibility, potentially traumatic life events, and resilience: A prospective study of college student adjustment, *Journal of Social and Clinical Psychology, 31* (6), 542-567.

Genet, J., & Siemer, M. (2011). Flexible control in processing affective and non-affective material predicts individual differences in trait resilience, *Cognition and Emotion, 25*, (2), 380-388. doi:10.1080/02699931.2010.491647

Gerson, M., & Fernandez, N. (2013). PATH: a program to build resilience and thriving in undergraduates. *Journal of Applied Social Psychology, 43*(11), 2169-2184.

Gloria, C., Faulk, K., & Steinhardt, M. (2013). Positive affectivity predicts successful and unsuccessful adaptation to stress. *Motivation and Emotion, 37*(1), 185-193. doi: 10.1007/s11031-012-9291-8

Gooding, P., Hurst, A., Johnson, J., & Tarrier, N. (2011). Psychological resilience in young and older adults. *International Journal of Geriatric Psychiatry, 27*, 262-270.

Greeson, J., Juberg, M., Maytan, M., James, K., & Rogers, H. (2014). A randomized controlled trial of Koru: a mindfulness program for college students and other emerging adults. *Journal of American College Health, 62*(4), 222-233. doi: 10.1080/07448481.2014.887571

Hamdan-Mansour, A., & Hamdan-Mansour, A.. (2015). Correlates of resilience among university students. *European Psychiatry, 30*, 1945. doi:10.1016/S0924-9338(15)31485-1

Hampson, S. (2012). Personality processes: Mechanisms by which personality traits "get outside the skin". *Annual Review of Psychology, 63*, 315-339. doi: 10.1146/annurev-psych-120710-100419

Hartley, M. (2011). Examining the relationships between resilience, mental health, and academic persistence in undergraduate college students. *Journal of American College Health, 59* (7), 596-604. doi: 10.1002/gps.2712

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

Hewitt, P. L., & Flett, G. L. (2004). Multidimensional perfectionism scale: Technical manual. Toronto: Multi-Health Systems Inc.

Hjemdal, O., Vogel, P., Solem, S., Hagen, K., & Stiles, T. (2011). The relationship between resilience and levels of anxiety, depression, and obsessive–compulsive symptoms in adolescents. *Clinical Psychology & Psychotherapy*, *18*(4), 314-321. doi: 10.1002/cpp.719

Hu, T., Zhang, D., & Wang, J. (2015). A meta-analysis of the trait resilience and mental health. *Personality and Individual Differences*, *76*, 18-27. doi:10.1016/j.paid.2014.11.039

Itani, L., Haddad, Y., Fayyad, J., Karam, A., & Karam, E. (2014). Childhood adversities and traumata in Lebanon: A national study, *Clinical Practice & Epidemiology in Mental Health, 10*, 116-125

Izadinia, N., Amiri, M., ghorban Jahromi, R., & Hamidi, S. (2010). A study of relationship between suicidal ideas, depression, anxiety, resiliency, daily stresses and mental health among Tehran university students. *Procedia-Social and Behavioral Sciences*, 5, 1615-1619. doi:10.1016/j.sbspro.2010.07.335

Kaplan, R.,Wagner, G., Nehme, S., Aunon, F., Khouri, D., & Mokhbat, J. (2014). Forms of Safety and Their Impact on Health: An Exploration of HIV/AIDS-Related Risk and Resilience Among Trans Women in Lebanon. *Health care for women international*, (ahead-of-print), 1-19. doi:10.1080/07399332.2014.896012

Karam, E., Mneimneh, Z., Dimassi, H., Fayyad, J., Karam, A., Nasser, S., & Kessler, R. (2008). Lifetime prevalence of mental disorders in Lebanon: First onset, treatment, and exposure to war. *PLoS Medicine*, *5*(4), 61. doi:10.1371/journal.pmed.0050061

Kessel, G. (2013). The ability of older people to overcome adversity: A review of the resilience concept, *Geriatric Nursing, 34,* 122-127. doi:10.1016/j.gerinurse.2012.12.011

Kim, J., & Diamond, D. (2002). The stressed hippocampus, synaptic plasticity and lost memories. *Nature Reviews Neuroscience, 3*(6), 453-462. doi: 10.1038/nrn849

Kim, J., Lee, H., & Lee, K. (2013). Influence of temperament and character on resilience, *Comprehensive Psychiatry, 54,* 1105-1110. doi: 10.1016/j.comppsych.2013.05.005

King, R., McInerney, D., Ganotice, F. & Villarosa, J.. (2015). Positive affect catalyzes academic engagement: Cross-sectional, longitudinal, and experimental evidence. *Learning and Individual Differences, 39,* 64-72. doi:10.1016/j.lindif.2015.03.005

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

Khoshouei, M. (2009). Psychometric evaluation of the Connor-Davidson Resilience Scale (CD-RISC) using Iranian students. *International Journal of Testing*, *9*(1), 60-66. doi: 10.1080/15305050902733471

Kobasa, S. (1979). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology, 37,* 1–11. doi:10.1037/0022-3514.37.1.1

Larsen, J., & McGraw, A. (2011). Further evidence for mixed emotions. *Journal Of Personality And Social Psychology, 100*(6), 1095 -1110. doi:10.1037/a0021846

Leary, K., & DeRosier, M. (2012). Factors promoting positive adaptation and resilience during the transition to college. *Psychology, 3(*12), 1215. doi: 10.4236/psych.2012.312A180.

Lee, J., Nam, S., Kim, A., Kim, B., Lee, M., & Lee, S. (2013). Resilience: A meta-analytic approach. *Journal of Counseling & Development*, *91*, 269–279. doi: 10.1002/j.1556-6676.2013.00095.x

Leppin, A., Bora, P., Tilburt, J., Gionfriddo, M., Zeballos-Palacios, C., Dulohery, M. & Montori, V. (2014). The efficacy of resiliency training programs: A systematic review and meta-analysis of randomized trials. doi: 10.1371/journal.pone.0111420

Li, M., & Nishikawa, T. (2012). The relationship between active coping and trait resilience across u.s. and taiwanese college student samples. *Journal of College Counseling, 15,* 157-171.

Liu, Y., Wang, Z., Zhou, C., & Li, T. (2014).Affect and self-esteem as mediators between trait resilience and psychological adjustment, *Personality and Individual Differences, 66,* 92–97. http://dx.doi.org/10.1016/j.paid.2014.03.023

Liu, Y., Wang, Z., & Li, Z. (2012). Affective mediators of the influence of neuroticism and resilience on life satisfaction. *Personality and Individual Differences 52*, 833–838.doi:10.1016/j.paid.2012.01.017

Loh, J., Schutte, N., & Thorsteinsson, E. (2014). Be happy: The role of resilience between characteristic affect and symptoms of depression. *Journal of Happiness Studies, 15*(5), 1125-1138. doi: 10.1007/s10902-013-9467-2

Lyons, J. A. (1991). Strategies for assessing the potential for positive adjustment following trauma. *Journal of Traumatic Stress, 4,* 93–111. doi:10.1002/jts.2490040108

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: does happiness lead to success?. *Psychological Bulletin, 131*(6), 803-855. doi: 10.1037/0033-2909.131.6.803

Maddi, S. (2013). Personal hardiness as the basis for resilience. In *Hardiness* (p.7-17). Springer Netherlands. doi:10.1007/978-94-007-5222-1_2

McCrae, R., & Costa, P. (1985). Comparison of EPI and psychoticism scales with measures of the five-factor model of personality. *Personality and individual Differences, 6*(5), 587-597.doi:10.1016/0191-8869(85)90008-X

McGillivray, C. & Pidgeon, A. (2015). Resilience attributes among university students: a comparative study of psychological distress, sleep disturbances and mindfulness. *European Scientific Journal, 11*(5).

Masten, A. (2011). Resilience in children threatened by extreme adversity: Frameworks for research, practice, and translational synergy. *Development and Psychopathology*, *23,* 493–506.

Moskowitz, J., Shmueli-Blumberg, D., Acree, M., & Folkman, S. (2012). Positive affect in the midst of distress: implications for role functioning. *Journal of community & applied social psychology, 22*(6), 502-518.doi: 10.1002/casp.1133

Moussa & Bates (2011). A preliminary investigation of Lebanese students' strategies for coping with stressful events, *Journal of Mental Health, Religion & Culture, 14* (5), 489–510.DOI: 10.1080/13674676.2010.486779

Nath, P., & Pradhan, R. (2012). Influence of positive affect on physical health and psychological well-being: Examining the mediating role of psychological resilience. *Journal of Health Management*, *14*(2), 161-174. doi: 10.1177/097206341201400206

Nuwayhid, I., Zurayk, H., Yamout, R., & Cortas, C. S. (2011). Summer 2006 war on Lebanon: A lesson in community resilience. *Global public health*, *6*(5), 505-519.doi:10.1080/17441692.2011.557666

Olas Palma-García, M., & Hombrados-Mendieta, I. (2014). Resilience and personality in social work students and social workers. *International Social Work*, doi:10.1177/0020872814537856

Ong, A., Mroczek, D., & Riffin, C. (2011). The health significance of positive emotions in adulthood and later life, Social and Personality Psychology Compass, 5 (8), 538-551. doi: 10.1111/j.1751-9004.2011.00370.x

Padesky, C. A., & Mooney, K. A. (2012). Strengths-based cognitive–behavioural therapy: A four-step model to build resilience. *Clinical psychology & psychotherapy*, *19*(4), 283-290. doi: 10.1002/cpp.1795

Patrick, C., Curtin, J., & Tellegen, A. (2002). Development and validation of a brief form of the multidimensional personality questionnaire. *Psychological Assessment, 14(2)*, 150-163.doi: 10.1037//1040-3590.14.2.150

Paul, H., Sriram, S., Subalukshmi, S., & Mala, V. (2015). Resilience, academic motivation and social support among college students. *Indian Journal of Positive Psychology, 6(*1), 106-110.

Peng, L., Zhang, J., Li, M., Li, P., Zhang, Y., Zuo, X., Miao, Y., & Xu, Y. (2012). Negative life events and mental health of chinese medical students: The effect of resilience,

personality and social support. *Psychiatry Research, 196*, 138-141. doi:10.1016/j.psychres.2011.12.006

Peng, L., Li, M., Zuo, X., Miao, Y., Chen, L., Yu, Y., & Wang, T. (2014). Application of the Pennsylvania resilience training program on medical students. *Personality and Individual Differences, 61*, 47-51. doi:10.1016/j.paid.2014.01.006

Pidgeon, A., & Keye, M. (2014). Relationship between resilience, mindfulness, and pyschological well-being in University students. *International Journal of Liberal Arts and Social Science, 2*(5), 27-32.

Pidgeon, A., Rowe, N., Stapleton, P., Magyar, H. and Lo, B. (2014) Examining characteristics of resilience among university students: An international study. *Open Journal of Social Sciences*, *2*, 14-22. doi: 10.4236/jss.2014.211003.

Pittman, L., & Richmond, A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. *Journal of Experimental Education, 76*, 343–361. doi: 10.3200/JEXE.76.4.343-362

Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological bulletin, 135*(2), 322-338.doi:10.1037/a0014996

Roberts, B.,Walton, K., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: a meta-analysis of longitudinal studies. *Psychological bulletin*, *132*(1), 1.doi: 10.1037/0033-2909.132.1.

Robinson, J., Larson, C., & Cahill, S. (2013) Relations between resilience, positive and negative emotionality, and symptoms of anxiety and depression, *Psychological Trauma: Theory, Research, Practice, and Policy, 6* (1), 92-98. doi:10.1037/a0033733

Rogers, H. (2013). Mindfulness meditation for increasing resilience in college students. Psychiatric Annals, 43(12), 545-548.

Ruini, C., & Fava, G. (2012). Role of well-being therapy in achieving a balanced and individualized path to optimal functioning, Clinical Psychology & Psychotherapy, 19 (4), 291-304. doi: 10.1002/cpp.1796

Rutter, M. (2006). Implications of resilience concepts for scientific understanding, Annals of the New York Academy of Sciences, 1094, 1–12.

Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *The British Journal of Psychiatry, 147,* 598–611. doi:10.1192/bjp.147.6.598

Sagone, E., & De Caroli, M. (2014). A correlational study on dispositional resilience, psychological well-being, and coping strategies in university students. *American Journal of Educational Research, 2*(7), 463-471.

Salameh, P., Jomaa, L., Issa, C., Farhat, G., Zeghondi, H., Gerges, N., & Baldi, I. (2014). Assessment of health risk behaviours among university students: a cross-sectional study in Lebanon. *International Journal of Adolescence and Youth*, *19*(2), 203-216. doi: 10.1080/02673843.2012.733313

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

Shastri, P. (2013). Resilience: Building immunity in psychiatry. *Indian Journal of Psychiatry. 55(3)*, 224-234. doi: 10.4103/0019-5545.117134

Shiner, R., Masten, A., & Tellegen, A. (2002). A developmental perspective on personality in emerging adulthood: Childhood antecedents and concurrent adaptation. *Journal of Personality and Social Psychology*, *83*(5), 1165. doi: 10.1037//0022-3514.83.5.1165

Shiner, R., & Caspi, A. (2003). Personality differences in childhood and adolescence: Measurement, development, and consequences. *Journal of Child Psychology and Psychiatry*, *44*(1), 2-32. doi: 10.1111/1469-7610.00101

Skinner, E., & Pitzer, J. R. (2012). Developmental dynamics of student engagement, coping, and everyday resilience. *In Handbook of research on student engagement* (pp. 21-44). Springer US.

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. doi:10.3200/JACH.56.44.445-454

Sun, J., & Buys, N. (2013). Relationship between resilience and quality of life in Chinese undergraduate university students. International Public Health Journal, 5(4),443-450.

Tabachnick, B., & Fidell, L. (2001). Using multivariate statistics.

Tang, C. (2007). Trajectory of traumatic stress symptoms in the aftermath of extreme natural disaster: A study of adult Thai survivors of the 2004 Southeast Asian earthquake and tsunami, *The Journal of Nervous and Mental Disease*, 195.

Tayara, R. (2013). Resiliency and war experiences: A psychometric study of the Lebanese adolescent experience of war. *International Journal of Psychology and Behavioral Sciences*, *3*, 23-33. DOI: 10.5923/j.ijpbs.20130301.04

Tellegen, A. (1982). Brief manual for the multidimensional personality questionnaire. *Unpublished manuscript, University of Minnesota, Minneapolis,* 1031-1010.

Tellegen, A., & Waller, N. (2008). Exploring personality through test construction: Development of the Multidimensional Personality Questionnaire. *The Sage handbook of personality theory and assessment*, *2*, 261-292.

Torrie, K., Ahern, K. and Tuckett, A. (2010), A systematic review: Students with mental health problems—A growing problem. *International Journal of Nursing Practice, 16*, 1–6. doi: 10.1111/j.1440-172X.2009.01813.x

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

Tusaie, K., & Dyer, J. (2004). Resilience: A historical review of the construct. *Holistic Nursing Practice*, 18(1), 3-10.

Ungar, M. (2013). Resilience, trauma, context, and culture, *Trauma, Violence, and Abuse, 14* (3), 255-266. doi: 10.1177/1524838013487805

Watson, D., & Clark, L. (1984). Negative affectivity: the disposition to experience aversive emotional states. *Psychological bulletin, 96*(3), 465. doi: 10.1037/0033-2909.96.3.465

Watson, D., Clark, L., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, *54*(6), 1063. . doi:10.1037/0022-3514.54.6.1063

Watson, D., & Clark, L. (1992). On traits and temperament: General and specific factors of emotional experience and their relation to the five-factor model. *Journal of Personality*, 60(2), 441-476. doi: 10.1111/j.1467-6494.1992.tb00980.x

Watson, D., & Clark, L. (1993). Behavioral disinhibition versus constraint: A dispositional perspective.

Watson, D., Clark, L., & Harkness, A. (1994). Structures of personality and their relevance to psychopathology. *Journal of Abnormal Psychology,103*(1), 18. doi: 10.1037/0021-843X.103.1.18

Watson, D., Wiese, D., Vaidya, J., & Tellegen, A. (1999). The two general activation systems of affect: Structural findings, evolutionary considerations, and psychobiological evidence. *Journal of personality and social psychology, 76*(5), 820. doi:10.1037/0022-3514.76.5.820

Waugh, C., Thompson, R., & Gotlib, I. (2011). Flexible emotional responsiveness in trait resilience. *Emotion, 11*(5), 1059. doi:10.1037/a0021786

Windle, G., Bennett, K., & Noyes, J. (2011) A methodological review of resilience measurement scales, *Health and Quality of Life Outcomes, 9* (8). doi:10.1186/1477-7525-9-8

Witmer, J., & Sweeney, T. (1992).A holistic model for wellness and prevention over the life span, *Journal of Counseling & Development, 71* (2), 140-148. doi: 10.1002/j.1556-6676.1992.tb02189.x

WHO World Health Statistics (2013).

Zamirinejad, S., Hojjat, S., Golzari, M., Borjali, A., & Akaberi, A. (2014). Effectiveness of resilience training versus cognitive therapy on reduction of depression in female Iranian college students. I*ssues in Mental Health Nursing, 35*(6), 480-488. doi: 10.3109/01612840.2013.879628

APPENDIX A

INFORMED CONSENT FORM

Study Title. Aspects of Personality that Predict Resilience among Lebanese University Students

Researcher. Sariah Daouk, MA Program in Clinical Psychology, Haigazian University

Purpose of the Research. To examine which aspects of personality predict resilience score

Procedure. Complete a survey (30-40 minutes)

Voluntary Participation. Your participation in the study is completely voluntary and you may refuse to answer any question or choose to stop participating at any time.

Confidentiality. All information you supply during the research will be held in confidence and your name will not appear in any report or publication of the research. Your data will be safely stored and only the researcher will have access to this information

No Anticipated Harm. Participation in this study involves no more than minimal risk

No Use of Deception. Deception is not used in this study

Questions. If you have questions about the research in general or about your role in the study, please feel free to contact Ms. Sariah Daouk, through e-mail (SDAOUK@students.haigazian.edu)

Legal Rights & Signatures:

I have understood the nature of this study and wish to participate.

APPENDIX B

- Age: _____
- Gender: _____
- Are you a Lebanese citizen? YES/ NO
- If yes, do you carry a second nationality? YES/ NO
- Are you fluent in English? YES/ NO
- Are you a current student? YES/ NO
- If Yes, Specify your Academic Level _____
- University _____
- Are you currently working aside from studying? YES/NO

APPENDIX C

Below, you will find statements that a person might use to describe her/his attitudes, opinions, interests, and other characteristics. Each statement is followed by two choices, lettered (A) and (B). Read the statement and decide which choice describes you best. Please answer every statement, even if you are not completely sure which answer is right for you. Don't spend too much time deciding on the answer.

1. It is easy for me to become enthusiastic about things I am doing.

(A) True (B) False

2. I am quite effective at talking people into things.

(A) True (B) False

3. Some people say that I put my work ahead of too many other things.

(A) True (B) False

4. I have occasionally felt discouraged about something.

(A) True (B) False

5. I usually like to spend my free time with friends rather than alone.

(A) True (B) False

6. Often I get irritated at little annoyances.

(A) True (B) False

7. Many people try to push me around.

(A) True (B) False

8. Often when I get angry I am ready to hit someone.

(A) True (B) False

9. I like to stop and think things over before I do them.

(A) True (B) False

10. I am often nervous for no reason.

(A) True (B) False

11. I might enjoy riding in an open elevator to the top of a tall building under construction.

(A) True (B) False

12. I don't like to see religious authority overturned by so-called progress and logical reasoning.

(A) True (B) False

13. I can be deeply moved by a sunset.

14. My table manners are not always perfect.

15. I enjoy being in the spotlight.

(A) True (B) False

(A) True (B) False

(A) True (B) False

16. I set very high standards for myself in my work.

(A) True (B) False

17. When I am unhappy about something

(A) I tend to seek the company of a friend

(B) I prefer to be alone

18. My mood often goes up and down.

(A) True (B) False

19. I know that certain people would enjoy it if I got hurt.

(A) True (B) False

20. When someone hurts me, I try to get even.

(A) True (B) False

21. I am more likely to be fast and careless than to be slow and plodding. (A) True (B) False

22. It might be fun and exciting to be in an earthquake.

(A) True (B) False

23. Strict discipline in the home would prevent much of the crime in our society.

(A) True (B) False

24. When listening to organ music or other powerful music, I sometimes feel as if I am being lifted into the air.

(A) True (B) False

25. I have always been extremely courageous in facing difficult situations.

(A) True (B) False

26. I often feel happy and satisfied for no particular reason.

(A) True (B) False

27. I often keep working on a problem even if I am very tired. (A) True (B) False

28. I am usually happier when I am alone.

29. I suffer from nervousness.

(A) True (B) False

30. People often try to take advantage of me.

(A) True (B) False

(A) True (B) False

31. I admit that I sometimes enjoy hurting someone physically.

(A) True (B) False

32. Basically I am a happy person.

(A) True (B) False

33. I often prefer to "play things by ear" rather than to plan ahead.

(A) True (B) False

34. Of these two situations I would dislike more:

(A) Having a pilot announce that the plane has engine trouble and it may be necessary to make an emergency landing

(B) Working in the fields digging potatoes.

35. The best way to achieve a peaceful world is to improve people's morals.

(A) True (B) False

36. Sometimes thoughts and images come to me without any effort on my part.

(A) True (B) False

37. At times I have been envious of someone.

(A) True (B) False

38. I live a very interesting life.

(A) True (B) False

39. People find me forceful.

(A) True (B) False

40. I am a warm person rather than cool and distant.

(A) True (B) False

41. I often find myself worrying about something.

(A) True (B) False

42. People often say mean things about me.

(A) True (B) False

43. I see nothing wrong

44. When faced with a decision I

45. I usually do not like to

with stepping on people's toes a little if it is to my advantage.

(A) True (B) False

usually take time to consider and weigh all possibilities.

(A) True (B) False

be a "follower."

(A) True (B) False

46. I would enjoy trying to cross the ocean in a small but seaworthy sailboat.

(A) True (B) False

47. I am opposed to more censorship of books and movies because it would go against free speech.

(A) True (B) False

48. If I wish I can imagine (or daydream) some things so vividly that it's like watching a good movie or hearing a good story.

(A) True (B) False

49. My opinions are always completely reasonable.

(A) True (B) False

50. Every day I do some things that are fun.

(A) True (B) False

51. When I work with others I like to take charge.

(A) True (B) False

52. People say that I drive myself hard.

(A) True (B) False

53. I am too sensitive for my own good. (A) True (B) False

54. My "friends" have often betrayed me.

(A) True (B) False

55. I enjoy a good brawl.

(A) True (B) False

56. I am very level-headed and usually have both feet on the ground.

(A) True (B) False

57. Of these two situations I would dislike more:

(A) Having to walk around all day on a blistered foot

(B) Sleeping out on a camping trip in an area where there are

rattlesnakes.

58. It is a pretty unfeeling person who does not feel love and gratitude toward her/his parents.

(A) True (B) False

59. Sometimes I can change noise into music by the way I listen to it.

(A) True (B) False

60. If I have a humiliating experience I get over it very quickly.

(A) True (B) False

61. I have at times eaten too much.

(A) True (B) False

62. I usually find ways to liven up my day.

(A) True (B) False

63. In most social situations I like to have someone else take the lead.

(A) True (B) False

64. I am not a terribly ambitious person.

(A) True (B) False

65. I am more of a "loner" than most people.

(A) True (B) False

66. I would be more successful if people did not make things difficult for me.

(A) True (B) False

67. Sometimes I hit people who have done something to deserve it.

(A) True (B) False

68. I almost never do anything reckless.

(A) True (B) False

69. Of the these two situations I would dislike more:

(A) Being out on a sailboat during a great storm at sea

(B) Having to stay home every night for two weeks

with a sick relative.

70. I would prefer to see:

(A) Stricter observance of major religious holidays

(B) Greater acceptance of nontraditional families, like single parent families

71. I can often somehow sense the presence of another person before I actually see or hear her/him.

(A) True (B) False

72. I have always been completely fair to others.

(A) True (B) False

73. People rarely try to take advantage of me.

(A) True (B) False

74. Most mornings the day ahead looks bright to me.

(A) True (B) False

75. I am very good at influencing people.

(A) True (B) False

76. I enjoy putting in long hours.

(A) True (B) False

77. For me one of the best experiences is the warm feeling of being in a group of good friends.

(A) True (B) False

78. Occasionally I have strong feelings (like anxiety or anger) without really knowing why.

(A) True (B) False

79. I would rather turn the other cheek than get even when someone treats me badly.

(A) True (B) False

80. I often act on the spur of the moment.

(A) True (B) False

81. Of these two situations I would dislike more:

(A) Being at the circus when two lions suddenly get loose down in the ring

(B) Bringing my whole family to the circus and then not being able to get in because a clerk sold me tickets for the wrong night.

82. Higher standards of conduct are what this country needs most.

(A) True (B) False

83. The sound of a voice can be so fascinating to me that I can just go on listening to it.

(A) True (B) False

84. I have at times been angry with someone.

(A) True (B) False

85. Most days I have moments of real fun or joy.

(A) True (B) False

86. I often act without thinking.

(A) True (B) False

87. When it is time to make decisions, others usually turn to me.

(A) True (B) False

88. I often keep working on a problem long after others would have given up.

(A) True (B) False

89. I prefer to work alone.

(A) True (B) False

90. Minor setbacks sometimes irritate me too much.

(A) True (B) False

91. People often just use me instead of treating me as a person.

(A) True (B) False

92. I don't like to start a project until I know exactly how to do it.

(A) True (B) False

93. Of these two situations I would dislike more:

(A) Riding a long stretch of rapids in a canoe

(B) Waiting for someone

who's late.

94. I am disgusted by dirty language.

(A) True (B) False

95. Some music reminds me of pictures or changing patterns of color.

(A) True (B) False

96. I always tell the entire truth.

(A) True (B) False

97. I often feel sort of lucky for no special reason.

(A) True (B) False

98. I do not like to be the center of attention on social occasions.

(A) True (B) False

99. I work just hard enough to get by without overdoing it.

(A) True (B) False

100. I have few or no close friends.

(A) True (B) False

101. I sometimes get very upset and tense as I think of the day's events.

(A) True (B) False

102. Some people are against me for no good reason.

(A) True (B) False

103. I can't help but enjoy it when someone I dislike makes a fool of herself/himself.

(A) True (B) False

104. I seldom feel really happy.

(A) True (B) False

105. Of these two situations I would dislike more:

(A) Being chosen as the "target" for a knife-throwing act

(B) Being sick to my stomach for 24 hours.

106. No decent person could ever think of hurting a close friend or relative.

(A) True (B) False

107. I can so completely wander off into my own thoughts while doing a routine task that I actually forget that I am doing the task and then find a few minutes later that I have finished it.

(A) True (B) False

108. Sometimes I'm a bit lazy.

(A) True (B) False

109. Every day interesting and exciting things happen to me.

(A) True (B) False

110. I am quite good at convincing others to see things my way.

(A) True (B) False

111. I push myself to my limits.

(A) True (B) False

112. I am happiest when I am with people most of the time.

(A) True (B) False

113. I am often troubled by guilt feelings.

(A) True (B) False

114. I know that people have spread false rumors about me on purpose.

(A) True (B) False

115. I like to watch a good, vicious fight.

(A) True (B) False

116. Before I get into a new situation I like to find out what to expect from it.

(A) True (B) False

117. I perform for an audience whenever I can.

(A) True (B) False

118. I am not at all sorry to see many of the traditional values change.

(A) True (B) False

119. I can sometimes recall certain past experiences in my life so clearly and vividly that it is like living them again, or almost so.

120. Never in my whole life have I taken advantage of anyone.

(A) True (B) False

(A) True (B) False

121. In my spare time I usually find something interesting to do.

(A) True (B) False

122. In social situations I usually allow others to dominate the conversation.

(A) True (B) False

123. I like to try difficult things.

(A) True (B) False

124. I prefer not to "open up" too much, not even to friends.

(A) True (B) False

125. My mood sometimes changes from happy to sad, or sad to happy, without good reason.

(A) True (B) False

126. I have often been lied to.

(A) True (B) False

127. Sometimes I just like to hit someone.

(A) True (B) False

128. I am a cautious person.

(A) True (B) False

129. Of these two situations I would dislike more:

(A) Being in a flood

(B) Carrying a ton of bricks from the backyard into the basement.

130. At times I somehow feel the presence of someone who is not physically there.

(A) True (B) False

131. I have sometimes felt slightly hesitant about helping someone who asked me to.

(A) True (B) False

132. My feelings are hurt rather easily.

(A) True (B) False

133. For me life is a great adventure.

134. I do not like to organize other people's activities.

135. I find it really hard to give up on a project when it proves too difficult.

(A) True (B) False

(A) True (B) False

(A) True (B) False

136. I often prefer not to have people around me.

(A) True (B) False

137. I often lose sleep over my worries.

(A) True (B) False

138. When people are friendly they usually want something from me.

(A) True (B) False

139. When people insult me, I try to get even.

(A) True (B) False

140. I usually make up my mind through careful reasoning.

(A) True (B) False

141. Of these two situations I would dislike more:

(A) Being seasick every day for a week while on an ocean voyage

(B) Having to stand on the window ledge of the 25th Floor of a hotel because there's a fire in my room.

142. People should obey moral laws more strictly than they do.

(A) True (B) False

143. I have never felt that I was better than someone else.

(A) True (B) False

144. I always seem to have something exciting to look forward to.

(A) True (B) False

145. I don't enjoy trying to convince people of something.

(A) True (B) False

146. I like hard work.

(A) True (B) False

147. Never in my whole life have I wished for anything that I was not entitled to.

(A) True (B) False

148. I am rather aloof and maintain distance between myself and others.

(A) True (B) False

149. There are days when I'm "on edge" all of the time.

(A) True (B) False

150. I have had a lot of bad luck.

(A) True (B) False

151. Sometimes I seem to enjoy hurting people by saying mean things.

(A) True (B) False

152. I generally do not like to have detailed plans.

(A) True (B) False

153. It might be fun learning to walk a tightrope.

(A) True (B) False

154. High moral standards are the most important thing parents can teach their children.

(A) True (B) False

155. Sometimes I am so immersed in nature or in art that I feel as if my whole state of consciousness has somehow been temporarily changed.

(A) True (B) False

For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.

	Not True at All (0)	Rarely True (1)	Sometimes True (2)	Often true (3)	True nearly all the time (4)
1. I am able to adapt when changes occur.					
2. I have at least one close and secure relationship that helps me when I am stressed.					
3.When there are no clear solutions to my problems, sometimes fate or God can help.					
4. I can deal with whatever comes my way.					
5. Past successes give me confidence in dealing with new challenges and difficulties.					
6. I try to see the humorous side of things when I am faced with problems.					
7. Having to cope with stress can make me stronger.					
8. I tend to bounce back after illness, injury, or other hardships.					
9. Good or bad, I believe that most things happen for a reason.					
10. I give my best effort no matter					

what the outcome may be.					
11. I believe I can achieve my goals, even if there are obstacles.					
12. Even when things look hopeless, I don't give up.					
13. During times of stress/crisis, I know where to turn for help.					
14. Under pressure, I stay focused and think clearly.					
15. I prefer to take the lead in solving problems rather than letting others make all the decisions.					
16. I am not easily discouraged by failure.					
17. I think of myself as a strong person when dealing with life's challenges and difficulties.					
18. I can make unpopular or difficult decisions that affect other people, if it is necessary.					
19. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.					
20. In dealing with life's problems, sometimes you have to act on a hunch without knowing why.					
21. I have a strong sense of purpose in life.					
22. I feel in control of my life.					

23. I like challenges.					
24. I work to attain my goals no matter what roadblocks I encounter along the way.					
25. I take pride in my achievements.					

APPENDIX D

Table 9

Descriptive Total Scores of the Scales among Lebanese Students

Variables	Mean	SD	Mean of T-scores	SD of T-score
Resilience	68.0	1.02		
PEM	69.7	10.5	51.5	7.17
NEM	50.8	18.0	60.7	12.2
CON	76.7	9.12	44.0	6.33
Well-being	7.84	3.23	47.0	11.4
Social Potency	7.09	2.02	56.4	5.64
Achievement	7.40	2.64	51.5	8.46
Social Closeness	6.75	1.88	46.9	5.96
Stress Reaction	7.29	2.94	54.8	8.52
Aggression	3.81	3.06	55.3	12.6
Alienation	4.70	3.31	63.8	14.4
Control	7.63	1.94	46.5	7.53
Harm Avoidance	6.99	1.97	43.8	7.07
Traditionalism	7.67	1.94	48.0	6.74
Absorption	7.71	2.70	57.2	8.81

APPENDIX E

Table 10

Data from original CD-RISC Validation Study (Connor, & Davidson, 2003)

Variables	Mean
US general population	80.7
Primary care patients	71.8
Psychiatric outpatients	68.0
Generalized anxiety	62.4
PTSD samples	47.8-52.8

APPENDIX F

Table 11

Data from original MPQ-BF Validation Study (Patrick et al.,2002)

Variables	Mean	SD	Mean of T-scores	SD of T-score
PEM	67.85	14.84	50.20	10.14
NEM	33.66	15.65	51.13	10.61
CON	82.07	14.46	47.75	10.03
Well-being	8.47	2.93	49.26	10.28
Social Potency	5.20	3.52	51.15	9.84
Achievement	6.85	3.12	49.69	10.02
Social Closeness	7.80	3.12	50.19	9.91
Stress Reaction	5.73	3.45	50.32	9.98
Aggression	2.94	2.58	51.68	10.57
Alienation	1.68	2.48	50.74	10.75
Control	8.31	2.63	49.13	10.22
Harm Avoidance	8.31	2.85	48.48	10.20
Traditionalism	7.53	2.87	47.52	9.98
Absorption	5.69	3.11	50.60	10.14

Notes: N = 765; Age range 18-40 years old (*M* = 30.82)

Provided by respective authors