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LOYOLA UNIVERSITY CHICAGO

COPING MECHANISMS AMONG LEBANESE FIRST-TIME COLLEGE STUDENTS

A DISSERTATION SUBMITTED TO  
THE FACULTY OF THE GRADUATE SCHOOL  
IN CANDIDACY FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY

PROGRAM IN NURSING

BY

RITA DOUMIT

CHICAGO, ILLINOIS

AUGUST 2012

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For the Glory of God

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## ABSTRACT

**Background:** Newly admitted college students are subject to a massive input of stresses which require successful and ever-changing coping strategies. An expanding body of literature suggests that inadequate responses to coping with stress in adolescents of college age contributes to a range of psychosocial problems, including poor academic performance, anxiety, depression, mental distress and eating disorders. Those problems may be further exacerbated for adolescents who live in countries plagued by the uncertainties of war and violence.

**Significance:** The concept of coping is of particular interest in Lebanon given the socio-cultural context in which Lebanese youth pursue their education and social activities.

**Methods:** A descriptive correlational cross-sectional design was used to explore the relationships of stress, uncertainty, resilience, religiosity, socioeconomic status, social support to coping and well-being in Lebanese newly admitted college students. The Seiffge-Krenke's Stress, Coping and Outcomes Model (1995) was used as the conceptual framework for this descriptive cross-sectional correlational study. A convenient study sample of 293 newly admitted college students were recruited at the Lebanese American University on the Beirut campus. Data was gathered from self-reported questionnaires.

**Results:** Results demonstrated that Lebanese first-time college students used a combination of internal, active and withdrawal coping strategies as anticipated. Strategies

used varied with the type of situation. A greater proportion of overall strategies used included active and internal coping strategies which were focused on resolving the issue or problem. Stress ( $r = -.547, p < .01$ ) had the highest correlation with well-being followed by social support ( $r = .377, p < .01$ ), resilience ( $r = .366, p < .01$ ), uncertainty ( $r = -.353, p < .01$ ), withdrawal coping ( $r = -.243, p < .01$ ), and gender ( $p < .01$ ) as a controlling variable. When all those factors were combined together, six variables in addition to gender accounted for significant increments of variance in the level of well-being. These six variables included stress related to self, resilience, uncertainty, social support, religiosity, withdrawal coping and gender. As scores on resilience, social support and being male increased, the well-being of Lebanese first-time College students also increased. As the usage of withdrawal coping strategies, being exposed to stress related to self and uncertainty increased, the well-being of Lebanese first-time college students decreased. The final regression model accounted for 54% of the variance in well-being level (52.7% adjusted) ( $p < .001$ ). The result of the mediation analysis showed that coping did not mediate the relationship between stress and well-being.

**Implications for Nursing Practice and Research:** The results of this study will provide a better understanding of factors that are predictive of decreased well-being in Lebanese first-time college students and will be valuable in developing culturally sensitive intervention of stress and coping management program with a surveillance system and a systematic planning and evaluation procedure to respond to emerging and changing students' needs at the Lebanese American University.

## CHAPTER ONE

### INTRODUCTION

#### **Background**

Adolescence has long been considered by many developmental theorists, such as Erikson (1968) and Piaget (1972) as a period of dramatic and rapid change, accompanied by multiple psychosocial challenges. Change and challenges are evident in almost every area of growth, including the physiological, cognitive, behavioral and environmental realms (Landow, 2006). Adolescents are subject to a massive input of stresses which require successful and ever-changing coping strategies. These stresses include interpersonal pressures such as strains by the world to succeed, academic demands, social activities and conflicts with parents, stemming from independence and identity issues; and intrapersonal pressures such as acceptance of one's body image and sexuality, decision-making, financial responsibilities, concerns about uncertain futures, and new ideas and temptations (Landow, 2006).

In their first year of college, adolescents face newfound autonomy and adult responsibility. For example, for the first time, students are responsible for taking care of their basic life necessities, developing new relationships, adjusting to a new environment, and meeting new academic, intellectual, and social challenges.

An expanding body of literature suggests that inadequate responses to coping with stress in adolescents of college age contributes to a range of psychosocial problems,



including poor academic performance (Struthers, Perry, & Menec, 2000), anxiety (Smith & Renk, 2007), depression (Bouteyre, Maurel, & Bernaud, 2007; Ogul & Gencoz, 2003; Steinhardt & Dolbier, 2008), mental distress (Sasaki & Yamasaki, 2005), eating disorders (Wichianson, Bughi, Unger, Spruijt-Metz, & Nguyen-Rodriguez, 2009), and alcohol use (Pritchard, Wilson, & Yamnitz, 2007).

Researchers have proposed that the manner in which adolescents deal with stressful encounters may influence adaptation to the world. The coping process is particularly important during adolescence because it is the first time that young people are confronted with many different types of stressors and may not yet have a wide variety of coping strategies upon which to rely (Patterson & McCubbin, 1987). In comparison to other age groups, the period of middle- to late-adolescence, 15-19 years, is associated with the use of broader range of coping strategies and a greater ability to view problems from multiple perspectives (Seiffge-Krenke, 1995). A student's first year of college should be filled with excitement, new friends, new responsibilities, and new academic adventures. However, the growing reality for many newly admitted students is that the first year of college is fraught with often overwhelming challenges. Studies show that many first-year college students have difficulty with the transition from high school to college (Clark, 2005; Dyson & Renk, 2006). More than just academic strain, first-year students may suffer a decline in their emotional or mental health between the time they enter and finish their first year (Dyson & Renk, 2006). These issues may be further exasperated for students who live in countries plague by the uncertainties of war and violence.

### **Problem Statement**

Lebanon is a small country that has been ravaged by a civil war (1975-1990), by Israeli invasions in 1978, 1982 and 2006 and atrocities for a period of over three decades (Sibai, Tohme, Beydoun, Kanaan & Sibai, 2008). Although the long civil war is over, Lebanon has witnessed a series of adverse events during the past five years.

Demonstrations, street riots, rising religious tensions, political assassinations, a 34-day brutal war in July 2006, civil strife in May 2008, economic recession, and an uncertain future have all taken their toll on the everyday life of the average Lebanese.

Although there is a considerable base of knowledge on the impact of war on the Lebanese youth population (Ayyash-Abdo, 2001, 2003; Faour, 1998; Kazarian, 2005; Khalaf, 2002; Oweini, 1998), investigators know much less about college students' coping strategies, their daily life stressful events, their level of uncertainty, their social support, their culturally related personality dimensions and their general well-being.

Previous research on the state of youth in Lebanon, and how it has evolved over time, has yielded mixed results regarding well-being and mental health of the youth population (Ayyash-Abdo, 2003; 2010; Ayyash-Abdo & Alamuddin, 2007; El-Amine et al., 2008; Karam et al., 2008b; Mahfoud, Afifi, Haddad, DeJong, 2010; Shediac-Rizkallah et al., 2000-2001; Sibai et al., 1999; Tanios, Abou-Saleh, Karam, Salamoun, Mneimneh & Karam, 2009).

Ayyash-Abdo (2010) examined and compared the concept of well-being between a sample of college students during peace time (Ayyash-Abdo, 2003) and a comparable one during politically violent and tumultuous times (Ayyash-Abdo & Alamuddin, 2007).

Findings showed that in spite of adverse circumstances, college youth in the second study feel as satisfied in their lives as college youth in the first study. In 2003, the sample of study was enjoying a peaceful period of time (an easing of tensions) after 16 years of civil war. However, the sample of the second study (year 2007) had experienced political violence, a 34-day brutal war, and an uncertain future of the country.

The concept of health-related behaviors in post war Lebanon has been investigated among adolescents in Lebanon. Findings showed that 89% of Lebanese college students are engaging in two or more health-risky behaviors. The most frequently occurring risk behaviors were unhealthy dietary patterns, lack of seat belt use, lack of exercise, and poor oral hygiene (Shediac-Rizkallah et al., 2000-2001). In another Lebanese study conducted among high school students, nearly 42% and 17% of adolescents reported being involved in physical fights and weapon carrying, respectively. Compared with other countries, those rates of violent behavior were relatively high (Sibai et al., 2009).

The psychological conditions of children and youth in Lebanon after July 2006 war were examined in a cross-cultural study by El Amine and his colleagues. Results showed that the psychological conditions of Lebanese children and youth are similar to those in other countries living in conflict. The results of the study indicate that the prevalence of post-traumatic symptoms is about 26%. This figure is close to rates in countries that have experienced wars and conflicts which is about 25%, but is substantially lower than the rates seen in countries such as Rwanda (70%), Kuwait (45.6%). When fear and worry among Lebanese and US students were assessed, results

showed that it was slightly higher among Lebanese students. Depression, however, was not noticeably widespread among Lebanese (El-Amine et al., 2008).

The concept of depression and anxiety was also investigated in another Lebanese study. Findings revealed that around 14% of the Lebanese youth report presence of depression or anxiety, and around 25% report being worn out or moderately tired (Tanios, Abou-Saleh, Karam, Salamoun, Mneimneh & Karam, 2009). The prevalence of PTSD was 24% among adolescents. Anxiety disorders ranged from 24.9% (over anxious) to 17.9% (separation anxiety). In another study among Lebanese youth aged between 18 and 29 years, findings revealed that around 29.4% of youth suffer from post-traumatic stress disorder (Karam et al., 1998).

Karam et al. (2008b) also conducted a nationwide study funded by the World Health Organization (WHO) which employed a Lebanese sample of 3,000 adults. The study reported that the lifetime prevalence of anxiety disorders was 28.3% in the US, 13.6% in the EU, and 16.7% in Lebanon. Mood disorders lifetime prevalence was 20.8% for the US, 14.0% for EU countries, and 12.6% for Lebanon. Additional findings by Karam et al. (2008b) indicated that, over a one year period, 6.6% of the Lebanese suffered from mood disorders, and 11.2% from anxiety disorders. The prevalence of these disorders was similar or less in Lebanon than in the EU countries and the US.

The concept of suicide has been investigated among college youth in Lebanon. Alarming, nearly 13.9% of college students had thought seriously about suicide and 6.3% reported having actually attempted to kill themselves (Shediak-Rizkallah et al., 2000-2001). However, the prevalence of suicide ideation among Lebanese adolescents

was similar to that reported in countries of the Eastern Mediterranean Region (range: 13%-17%). An in-depth look at determinants of suicide ideation indicated that lack of parental supervision, use of drugs or alcohol, and feeling sad or hopeless most of the time, were shown to have a significant effect on suicide ideation rates (Mahfoud, Afifi, Haddad, & DeJong, 2010).

Building upon these research studies, findings across studies revealed that in spite of life-threatening events, psychopathology occurs among a minority of individuals. However, Lebanese researchers know little of how adolescents, who live with uncertainty, approach normative daily experience, and use their internal and external resources to actually adapt and go on with their lives.

### **Significance**

This study is especially important because it looks at the association between concepts that have been sadly neglected so far in the Lebanese population, and particularly among Lebanese youth. Research that focus on the concept of stress, coping and well-being of the youth population is needed due to the phenomenon of war and violence in Lebanon. The need for research on coping and well-being is further accentuated by the lack of a surveillance system and a systematic planning and evaluation procedure to respond to emerging and changing students' needs.

In addition, this study will contribute to the nursing science in several ways. The results of this study will provide a better understanding of factors that are predictive of decreased well-being in Lebanese first-time college students. Through the development of a better understanding of the relationships between these factors, specific nursing

assessment and intervention techniques can be developed to assist in prevention and early recognition, and treatment of mental distress in college students. Targeting stress reduction in college freshman may be important in decreasing the incidence of mental distress. Interventions to assist first-time students in adjusting to their early college experience can be developed to help students become more successful in their personal as well as academic lives.

### **Theoretical Framework**

Nearly 20 years ago research on children and adolescent coping was still in its infancy. Most of the models that were used were adapted from adult models and not truly designed for the younger populations (Compas et al., 2001). Recognizing this deficit, Seiffge-Krenke (1995) presented a model of stress, coping, and outcome during adolescence (see Figure 1). Seiffge-Krenke states that the model identifies coping as a key construct and incorporates “a broad range of variables that one would expect (on theoretical and empirical grounds) to be associated with coping behavior and contribute to adaptive or problematic outcomes” (p. 27).

Seiffge-Krenke’s (1995) developmental model for adolescent coping is derived from the work of Lazarus and Folkman (1984). Stress is conceptualized as antecedent to the coping process. Consistent with the conception of Lazarus and Folkman, the individual engages in a cognitive appraisal of the perceived threat. Cognitive appraisal of the stressor is further impacted by (a) the nature of the stressor (e.g., type of stressor, event parameters such as frequency or controllability describing the stressor), (b) the individual appraisal of these event parameters and the availability of coping strategies, (c)

internal coping resources such as personality structure or self-concept that may buffer the effects of stress, and (d) external social resources such as support and coping assistance by parents and friends. Moreover, the quality of relationships with parents and friends may not only serve as a buffer against stress, but also as a model for functional or dysfunctional coping (i.e., an adaptive, or maladaptive outcome) (Seiffge-Krenke, 1995). Coping is not only a central construct in Seiffge-Krenke's research, but is also an important mediating variable in the interface between stress and outcome. Coping is influenced by internal resources and external resources provided by relationships.

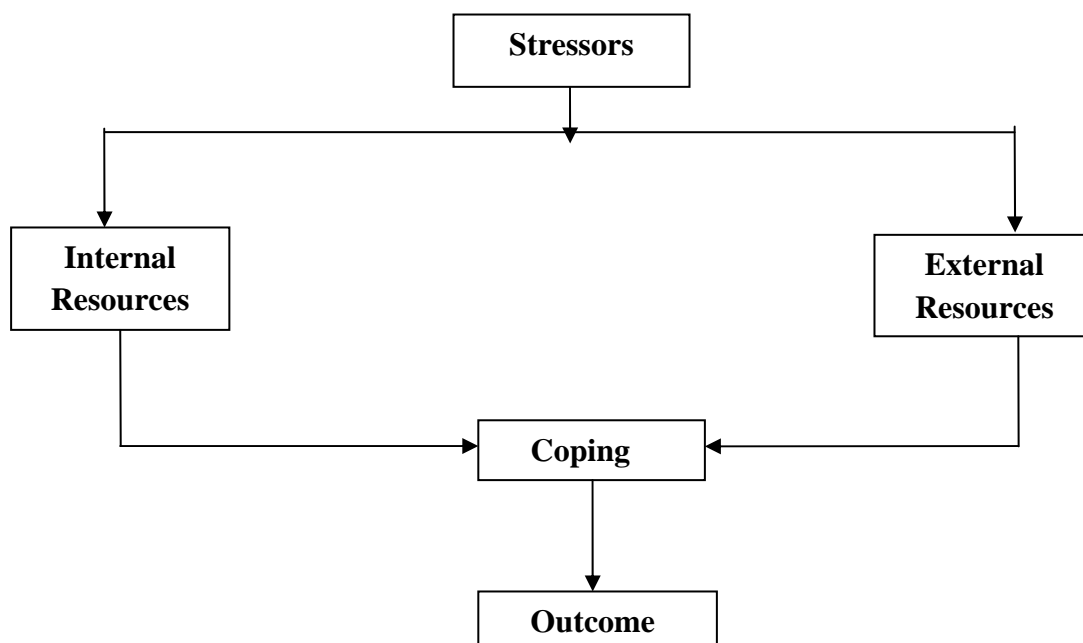


Figure 1. Model of Stress, Coping, and Outcomes in Adolescence (Seiffge-Krenke, 1995)

In the adolescent literature (see Appendix H), Seiffge-Krenke's (1995) model has been used as a guiding framework for many studies (Gelhaar, Seiffge-Krenke, Borge, Cicognani, Cunha, Loncaric, Macek, Stein-hausen, & Metzke, 2007; Haid, Seiffge-

Krenke, Molinar, Ciairano, Karaman, & Cok, 2010; Martyn-Nemeth, Penckofer, Gulanick, Velsor-Friedrich, & Bryant, 2009; Seiffge-Krenke, 2000; Seiffge-Krenke, Aunola, & Nurmi, 2009).

The rationale behind the choice of Seiffge-Krenke's (1995) model as the conceptual framework for this phenomenon of interest is multi-faceted. First of all, the major research questions that underline Seiffge-Krenke's model are central to this author's area of interest. The research questions that are central to Seiffge-Krenke's approach are the following: What types of stressors are salient for the vast majority of adolescents? How do adolescents cope with the special and complex demands that arise during this phase of development? How do age and gender differences shape coping behavior? How does the family influence and respond to coping? What do we know about the nature of close friendship in adolescence and how do they contribute to individual coping? How can we understand adolescents who are unable to meet the challenges during these years as well as those who are highly effective in dealing with the transition (Seiffge-Krenke, 1995)?

Second of all, Seiffge-Krenke's (1995) research involved a population of adolescents aged 12 to 19. Adolescent coping processes are thought to differ from those of adults (Compas et al., 2001), therefore, a framework specific to adolescents was chosen. Third of all, while Seiffge-Krenke infers judgment about people's coping actions, that is, distinguishes between good and poor coping, or what she called, functional and dysfunctional coping. Finally, most of the cross-sectional and longitudinal studies



conducted by Seiffge-Krenke were mainly carried out on normal adolescents without identified risk factors or health problems.

### **Current Study**

The current study will examine the coping strategies used by Lebanese newly admitted college students in different problem areas (school, parents, peers, romantic relationships, leisure time, future, self and job) and determine their level of well-being. It will also determine the relationships between stress, uncertainty, resilience, social support, religiosity, socioeconomic status and coping among students. In addition, the study will identify what factors best predict the outcome of well-being and will investigate the influence of coping as a mediator of stress on the outcome of well-being. The relationships of resilience (an internal resource), social support (an external resource), religiosity (an internal resource), socio-economic status (an external resource), stress (a daily stressor) and uncertainty (a daily stressor), will be proposed to serve as variables that influence the coping response. Well-being is a multidimensional construct of physical, mental/psychological and social well-being and is an important outcome of the coping process. The study variables are organized based on Seiffge-Krenke's Model of Stress, Coping and Outcomes in Adolescence (see Figure 2).

### **Stressors**

Stressors include both minor and major events. Seiffge-Krenke's (1995) model focuses on the everyday events that confront adolescents and analyzes the process of coping as well as the situation-specific choice of coping strategies. Therefore, in the current study, major life events will not be examined.

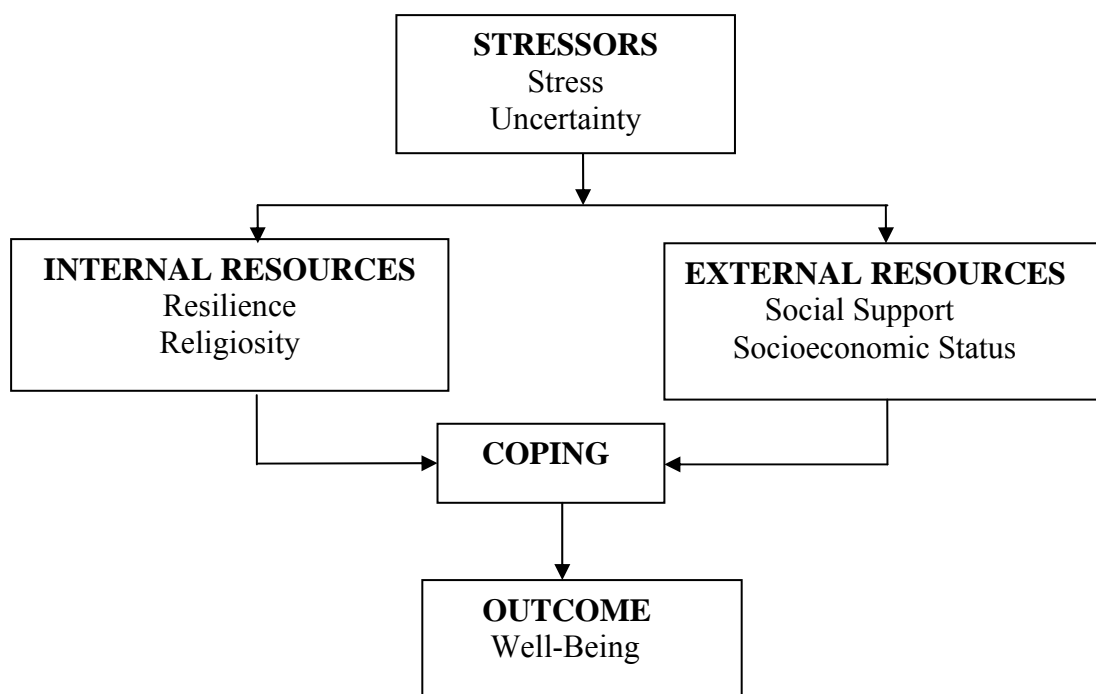


Figure 2. Study Model

**Stress.** Stress is defined as an internal or external demand, problem or encounter that represents “a particular relationship between the person and the environment that is appraised by a person as taxing or exceeding his or her resources and endangering his or her well-being” (Lazarus & Folkman, 1991, p.19). Stress is an antecedent to the coping process and may arise from the daily situations as well as major life events. Adolescent stress primarily includes relationships with family and peers, academic demands, issued with self and future as well as developmental changes that occur during adolescence (Seiffge-Krenke, 1995).

**Uncertainty.** Uncertainty is defined as a sense of not knowing what will happen (Afifi & Afifi, 2011) in a political context. As an antecedent to the coping process, it is

hypothesized that uncertainty is a daily stressor that will impact the coping process and therefore will influence the outcome of well-being among adolescents.

### **Internal Coping Resources**

Internal coping resources are personality characteristics and abilities that individuals bring to stressful situations and can include problem-solving ability, prior experience, knowledge, self-concept, interpersonal skills and personality characteristics. In the current study, resilience and religiosity are conceptualized as key internal resources that impact the coping process.

**Resilience.** Resilience is defined as “a positive personality characteristic that increases an individual’s adaptation” (Wagnild & Young, 1993, p. 167) and represents a component of personality characteristics. As an antecedent to the coping process, it is hypothesized that resilience impacts the coping process and therefore influences the outcome of well-being among adolescents.

**Religiosity.** Religiosity is represented in this study by the concept of religious faith. Religious faith is conceptually defined as the belief in a higher power that provides meaning and purpose in life (Plante & Boccaccini, 1997). Religiosity represents a component of self-concept. As an antecedent to the coping process, it is hypothesized that religiosity impacts the coping process and therefore influences the outcome of well-being among adolescents.

### **External Coping Resources**

External coping resources include social networks such as peers, family relationships, socioeconomic status and societal conditions (Lazarus & Folkman, 1991;

Seiffge-Krenke, 1995). Responses to stress may be learned and acquired through social relationships with others. In the current study, social support and socioeconomic status are conceptualized as key external resources that impact the coping process.

**Social support.** Social support is conceptually defined as the “social resources one is able to call upon in dealing with stress and problematic situation in life” (Pearlin & Aneshensel, 1986, p.418). As an antecedent to the coping process, it is hypothesized that social support impacts the coping process and therefore influences the outcome of well-being among adolescents.

**Socioeconomic status.** Socioeconomic status (SES) is conceptually defined as “a composite measure that typically incorporates economic status, measured by income; social status, measured by education; and work status, measured by occupation” (Dutton & Levine, 1986). The three indicators are interrelated but not fully overlapping variables. Often researchers use one or another of the indicators as the measure of SES. In Lebanon, there is lack of studies that address parents’ occupation as an indicator of SES among college students. Most of the Lebanese studies conducted on college students defined socioeconomic status by parental income (Ayyash-Abdo, 2010; Ayyash-Abdo & Alamuddin, 2007) and/or parents’ education (Afifi-Soweid, Najem Kteily, & Shediac-Rizkallah, 2002; Shediac-Rizkallah, Afifi Soweid, Farhat, & Yeretizian, 2000-2001; Sibai et al., 2008). In this study, parental monthly income and parents’ education level will define SES. As an antecedent to the coping process, it is hypothesized that socioeconomic status impacts the coping process and therefore influences the outcome of well-being among adolescents.

## **Coping**

Coping is conceptualized as a process that entails cognitive or behavioral response(s) to internal or external stressors, problems and situations or encounters that are influenced by stress appraisal, developmental level, internal resources and external situational factors (Seiffge-Krenke, 1995). According to Seiffge-Krenke's Model of Stress, Coping and Outcome, coping strategies may be functional or dysfunctional. Functional coping is defined as active or internal coping. Active and internal coping are approach strategies in which the individual employs "efforts to manage a problem either by active support-seeking, concrete actions or reflections on possible solutions" (p. 125). Dysfunctional coping is defined as withdrawal coping strategy. Dysfunctional coping is an "attempt to withdraw from the stressor, the emergence of defense mechanisms, to deny the existence of a stressor and attempts to regulate the emotions (p. 125). In the current study, it is hypothesized that the coping process will be influenced by stressors, internal and external resources and will impact the outcome of well-being.

## **Outcomes**

The outcomes of coping may be adaptive or maladaptive (Seiffge-Krenke, 1995). Adaptive outcomes entail the use of good and effective coping strategies and are associated with positive mental health and well-being. However, the use of ineffective coping strategies leads to maladaptive outcomes that are associated with poor health behaviors and diminished well-being (Seiffge-Krenke, 1995).

**Well-being.** In the current study, adolescent well-being is conceptually defined as a holistic, multidimensional construct incorporating mental/psychological, physical, and social dimensions (Columbo, 1984). In the current study, it is hypothesized that:

1. Lebanese adolescents that use active or/and internal coping strategies will report increased well-being.
2. Lebanese adolescents that use withdrawal coping strategies will report diminished well-being.

### **Assumptions**

1. Stress promotes low well-being in susceptible individuals.
2. Uncertainty, resilience, social support, religiosity and socioeconomic status are antecedents to the coping process.
3. Coping serves as a mediator between stress and well-being.

### **Purpose**

The purpose of this study is to investigate the relationships between stress, uncertainty, resilience, social support, religiosity, socioeconomic status and well-being in Lebanese first-time college students and to determine if coping mediates the relationship between stress and the outcome of well-being.

### **Research Aims**

1. To describe coping strategies used by Lebanese first-time college students and to determine their scores of well-being.

2. To determine if Lebanese first time college students use different coping responses in different problem areas (school, future, parents, peers, romantic relationship, and self-related problems).
3. To determine the relationships between stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (SES and social support), coping and well-being.
4. To determine whether stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (social support and socioeconomic status) and coping are predictors of well-being.
5. To test whether coping mediates the relationship between stress and the outcome of well-being in Lebanese first-time college students.

## CHAPTER TWO

### LITERATURE REVIEW

#### **Adolescent Developmental Issues**

Adolescence is a period of great transition, a developmental move from childhood to adulthood that typically involves travelling back and forth between the experiences of being a child and those of developing into an adult. Adolescent development is characterized by rapid growth, along with advancement in, psychosocial, physical, neuropsychological, cognitive and spiritual abilities (Seiffge-Krenke, 1995).

#### **Psychosocial Development**

Psychosocial development during adolescence involves increased responsibility for self and increasing independence. During this period, adolescents develop their own identity, choose their lifestyle, and gradually separate from their parents and migrate toward peer relationships. Along this shift to peer relations is a desire for more privacy from family members, often resulting in changes in their family relationships (Wolfe, Jaffe, & Crooks, 2006). While peers turn to their peers for help with more superficial decisions about things like clothes and sport activities, parents are more influential than peers in more serious matters of religious beliefs, moral values, and political ideas (Steinberg & Morris, 2001). This might explained by Kohlberg's theory on moral development which identified the family as the first source of values and moral



development for an individual. Kohlberg believed that as the adolescent's intelligence and ability to interact with others matures so does her patterns of moral behavior.

Adolescence has also been characterized as the developmental period in which "identity" is the primary psychosocial crisis. According to Erikson's (1968) theory, the process of developing an identity entails the sense of an integrated, coherent and goal-directed self as a major task of adolescence. The teenager needs the novelty and possibilities inherent in a new identity characteristic while having the ability and comfort of a familiar characteristic in order to eventually transcend the current level of identity development. The formation of identity is important in adolescence because the teen appraises and copes in the light of that identity. In other words, the teenager experiences daily hassles and uplifts according to the identity she is developing (Erikson, 1968).

### **Physical Development**

Adolescents undergo significant physical changes in conjunction with psychological and emotional changes. For example, they face transformations in physical appearance such as breast development in females and growth of facial hair for males and a dramatic increase in height. During this period, most youth will physically mature from children into adults, although males continue to grow into their early 20s. Physical changes affect self-image and behavior while also prompting changes and reactions in others. The impact of puberty differs across the board: some youth feel attractive, grown-up, and confident, while others feel self-conscious, unattractive, and afraid. These physical changes are intertwined with psychological and emotional transitions (Wolfe, Jaffe, & Crooks, 2006).

## **Neuropsychological Development**

In addition to outward pubertal changes taking place during adolescence, hormonal and synaptic changes in the brain affect teens' behavior (Wolfe, Jaffe, & Crooks, 2006). One significant hormonal change is the increased activity of the hypothalamic-pituitary adrenal (HPA) axis, which plays a central role in the biological response to stress (Walker, 2002). Heighted stress levels during adolescence have been attributed in large part to this more active HPA axis. The prefrontal cortex-the part of the brain where emotional control, impulse restraint, and rational decision-making take place-also grows quickly during adolescence. However, because this part of the brain is still developing, most teens have not yet fully achieved the abilities of self-control and affect regulation. To a certain extent, this lag in neurodevelopment explains why many teenagers engage in high-risk and impulsive behavior: their passions are ignited, yet they lack the cognitive and self-regulatory skills to consistently make positive, well-considered decisions (Wolfe, Jaffe, & Crooks, 2006). Neuroanatomical studies using functional magnetic resonance imaging to assess brain development have found that prefrontal cortex development is not complete until the mid-twenties. This area of the brain is responsible for advanced thinking such as planning, decision-making, and goal setting in adolescents' daily life (Casey, Tottenham, Liston, & Durson, 2005; Giedd et al., 1999).

## **Cognitive Development**

As a result of these neurological processes and experience in general, adolescents' intellectual abilities progressively become more sophisticated, their

expectations about relationships become more realistic, and their ability to regulate emotions becomes more finely tuned (Wolfe, Jaffe, & Crooks, 2006). In addition, more advanced cognitive skills such as reasoning and problem solving emerge and are consolidated. More advanced thinking abilities also imply an increased propensity to consider hypothetical situations and abstract concepts-skills that affect how one thinks about the self, relationships, and the world.

Along with cognitive maturation comes the ability to think from more than one perspective or angle-to consider what is being observed versus what is possible. As adolescents mature, they also gain the ability to plan ahead, anticipate the response of others, and become better debaters and arguers, all of which contribute to and are affected by increased problem solving skills and the ability to reflect on moral dilemmas (Piaget, 1972).

This increased ability to think about possibilities may also lead to becoming lost in thoughts and worries. Adolescents become capable of metacognition, or “thinking about thinking” and as a result, they experience an increased propensity to monitor thoughts, more intense self-absorption, and often a belief that their own behavior is the focus of everyone else’s concern and attention. Adolescents develop an increased comprehension of their own emotions and the ability to understand or analyze why they feel a certain way, which facilitates more intimate relationships. As feeling toward others mature during these years, teens generally begin to place less value on appearance and more on personality, thus finding themselves in more meaningful and intense relationship (Wolfe, Jaffe, & Crooks, 2006).

## **Spiritual Development**

Spiritual development should not be overlooked and is integral to holistic adolescent development (Garcia, 2010). Suman and Madelene (2005) discuss the importance of spirituality in the daily contexts of adolescents' life space, recognizing that spirituality develops across behavioral, psychological, cultural, and social contexts. Spiritual experiences during adolescence are closely tied to childhood, selfhood, and personhood. Adolescents draw meaning from their lives; question important existential issues; are conflicted about their values, beliefs, and morals; and explore religious and spiritual topics that affect their lives. Spiritual experiences are also linked closely to notions about the nature of relations one has with others in one's social world, as well as the emotions that one invests in these relationships (Suman & Madelene, 2005).

## **Summary**

Adolescence is marked by growth on many levels. Holistically, one can appreciate the intertwined development of an adolescent in physical, psychological, neuropsychological, cognitive, and spiritual domains. The rate at which an adolescent develops in these domains varies, and development in one domain does not imply parallel development in another (Garcia, 2010). Thus, the complexity of adolescent development, and the variability in which this development occurs, makes obvious the difficulty in specifying categories of stress, methods of coping as well as measurement challenges. Similar to the spectrums of development, adolescent stress and coping concepts reflect a range of behaviors, experiences, triggers, and actions. And as with theories of

development, theories of stress and coping have been developed, refined, and challenged as the field, and understanding, advances (Garcia, 2010).

### **Adolescents in the Eastern Mediterranean Region**

One of the main challenges of describing youth health in the Eastern Mediterranean region is the difficulty of finding data. There is a dearth of research on youth health in the region, and even less on the social structural conditions that affect their health. Few programs are targeted at youth health, and those that are generally focus on ‘fixing them.’ The globalization of the region has created a gap between generations, and in the conservative Arab society, adults are rarely willing or prepared to deal with sensitive topics of youth development (Roudi-Fahimi & Kent, 2007). In fact, the Middle-Eastern region has been witnessing a fast process of westernization (Faour, 1998). That process has generated a gap between generations. Traditional-oriented Arab adults have not been able to understand and cope with the Arab youth’s sensitive issues. Consequently, youth have been mostly seen as problems to be solved.

The Arab region is known to have the largest proportion of youth globally (Assaad & Roudi-Fahimi, 2007). Youth are now the “largest demographic category in the Middle East/North Africa” region (Unicef, 2000) with around 21% of the total population in 19 Arab countries comprised of youth aged 15-24 years old (Assaad & Roudi-Fahimi, 2007). The reason for these high numbers of youth is the combination of sharp declines in child mortality as well as belated declines in fertility in the region which has created a significant population momentum (Roudi-Fahimi & Kent, 2007).

Although the Arab world is often discussed as one entity, there are, in fact, many subcultures within it. At the very least, there are three distinct economic strata: the rich oil countries, the middle income countries of the Levant, and the most disadvantaged poorer countries such as Yemen and Afghanistan (Assaad & Roudi-Fahimi, 2007). The ratio of literacy between women and men aged 15-24 years – an indicator of gender equality, ranges between 0.34 in Yemen (the only country under 0.7) to 1.08 in the United Arab Emirates. The Human Development Index, which measures “life expectancy, literacy, education, and standard of living for countries worldwide”, ranged from 0.492 in Yemen to 0.871 in Kuwait. The gender gap is still prominent with respect to youth indicators such as education, employment, and overall status in society (Unicef, 2000).

Although acknowledging the great amount of work yet to be done in individual countries, and in the region, to advance youth health and well-being, effectiveness and impact will continue to be limited by international politics of power. Violence and conflict in the region fueled by international interests results in displacement, interrupted schooling, disrupted access to basic services, limited opportunities for employment of youth and their families, and disrupted usual livelihoods such as agricultural work (in addition to causing massive death and disability) (Roudi-Fahimi & Kent, 2007).

### **Lebanon: Socio-Cultural Context**

Lebanon is a small country of only 10,452 square kilometers (km), from north to south it extends 217 km and from east to west it spans 80 km at its widest point. The country is bounded by Syria on both the north and east and by Israel (the Palestinian

Occupied territories) on the south. Lebanon has a Mediterranean climate, with well-defined four seasons although the climate varies somewhat across the landform belts (Oweini, 1998; Pattison, 1984). Lebanon has a resident population of about four million inhabitants as well as about two to three million Lebanese residing abroad. Without its own natural resources the country has relied throughout the ages on trade, services, light industry, and the economic support of a continuously expanding Diaspora (Karam, 2006).

Before 1975, Beirut was an almost magical space where the romantic Arab world meets Western sophistication, embodying a combination of glamour and warmth, openness and kin-based insularity, cosmopolitanism and distinctive 'local' character (Nagel, 2002). Beirut gained the reputation as a prosperous cosmopolitan city by virtue of both the European presence and the Beiruti merchant class's extensive links with West Africa, Latin America, and other Mediterranean cities. Beirut, moreover, became the home of numerous migrants and refugees, including Armenians, Circassians, and Greeks, who added to the city's diversity and enhanced its commercial base. The presence of a strong merchant class which perceived itself as a community bound by common economic interests ensured a degree of social tolerance among the city's innumerable ethnic and sectarian groups (among them Shiites, Sunnis, Greek Orthodox, Greek Catholics, Maronite Catholics, Druzes, and Jews). Merchants of various communities were partners in private business ventures; Artisans and traders worked side by side; Christians and Muslims continued to meet together at official functions and served on the same committees, courts, and mixed tribunals (Nagel, 2002).

These nostalgic musings, however, contrast sharply with the Beirut that millions of Lebanese were forced to endure for almost fifteen years of civil war. Once celebrated as the 'Paris of the Mediterranean' and a playground for the elite of the Arab world, Beirut in the 1970s and 1980s became notable primarily as a haven for terrorists, assassins, and kidnappers. The civil war that erupted in 1975 was the most devastating military conflict that Lebanon witnessed in its modern history. It was the breaking point of years of tension and power struggle between the Muslim and the Christian communities who represent the two major religious groups in Lebanon. The government collapsed, and armed militias and warlords prevailed, each in its own fief: killing, random shelling, looting, kidnapping, car bombings, forced occupations, and displacements were commonplace. Additionally, the rationing of electricity, water and fuel, hiding in shelters, coexisting day by day with the fear of anxiety of the unforeseen, became a way of life. All sectors of the economy suffered a severe blow and most religious, social, and cultural institutions were rendered dysfunctional (Oweini, 1995).

Although the long civil war is over, Lebanon has witnessed a series of adverse events during the past five years. Demonstrations, street riots, rising religious tensions, political assassinations, a 34-day brutal war in July 2006, civil strife in May 2008, economic recession, and an uncertain future have all taken their toll on the everyday life of the average Lebanese (Ayyash-Abdo, 2010). A list of war-related traumatic events was provided in a study of Lebanese adults (Karam et al., 2008). Ten war events were included in this study: civilian in war region, civilian in terror region, refugee, rescue



worker, witness death or injury, witness atrocities, death of close one, trauma to close one, kidnapped, and robbed or threatened by weapon.

Lately, the national economy has only partially recovered because of the subsequent years of political immobility, factionalism, and mismanagement (Karam, 2006). The measurable Lebanese Gross Domestic Product (GDP) has been estimated to be around \$US 17-20 billion in the last couple of years with very limited growth if any at all. The national debt has increased to an estimated \$US 40 billion as of 2005. In the absence of any reliable statistical data, unemployment is officially estimated at around 20 per cent. The services sector currently dominates the economy. Light transformation and agro-food industries make a strong but limited contribution to the GDP. The agricultural sector, which has been a historical mainstay of the economy, is currently operating at its lowest efficiency contributing less than 10% to the GDP. The economy relies heavily on the financial support of Lebanese immigrants and on foreign investment from neighboring Arab countries. Unofficial estimates put the contribution of the Lebanese abroad at more than 25% of the GDP (Karam, 2006).

### **Lebanon: Education System**

Primary education in Lebanon is for children aged 5 to 6. Basic education composes of two levels: elementary level and intermediate level. Elementary level is grade 1 to 3 (cycle 1) and grades 4 to 6 (cycle 2). Intermediate level is grades 7 to 9 (cycle 3). Secondary Education is grades 10 to 12 (cycle 4).

Secondary education is three years education, and composes of general education (humanities, economics, life sciences, science) and technical education (about 55

different fields of study). School principals decide students' path based on students' aptitude as shown by the Brevet examination results (official exam taken at grade 9). When students complete three years education, they take official Lebanese Baccalaureate exams in their respective tracks (four in all). Students who finish examinations successfully obtain the Lebanese Baccalaureate Certificate of Secondary Education or the Technical Baccalaureate (Ayyash-Abdo, 2001; Nahas, 2009).

### **Curriculum**

The Lebanese curriculum as described above is used at all public and private schools in Lebanon. Because of their quality education and high tuition fees, private schools attract students from the richest families, while poor families, who cannot afford to pay tuition fees for their children's education, send them to either public or private tuition-free schools, which are usually subsidized by the government. Private schools are mostly sectarian and controlled by different religious denominations.

Public and private schools have to apply both the Lebanese and foreign programs of study at the same time when they will implement a foreign curriculum (French, English, or international) in a school (World Bank Group, 2006).

### **Medium of Instruction**

Lebanon has a reputable school system that combines the Anglo-Saxon and French cultures. This system is a result of the opening in the mid-19<sup>th</sup> century of schools and educational institutions by missionaries from France, England, and the United States (El-Hassan, 2001).

The spread of second languages, specifically English and French, is on the rise in Lebanon. This phenomenon has been exacerbated by the return of many Lebanese immigrants and the universal technological innovations. In general, the Lebanese culture is Arab colored by Western influences, mainly French and American. Arabic is the official language as well as the religious language for Muslims, Druze, and Christian communities. Although French is not an official language in Lebanon, almost all government publications appear in French as well as in Arabic (Ayyash-Abdo, 2001).

In addition, all students in Lebanon are required to learn second and third languages (Ayyash-Abdo, 2001). English or French with Arabic are taught from early years in schools. After primary education, English or French become the mandatory medium of instruction for mathematics and science for all schools (World Bank Group, 2006).

Following high school, Lebanese students aged between 17 or 18 years may choose to study at a university, a college, or a vocational training institute. The number of years to complete each program varies. While the Lebanese educational system offers a very high quality and international class of education, the local employment market lacks enough opportunities, thus encouraging many of the young educated to travel abroad.

Lebanon has 41 nationally-accredited universities, several of which are internationally recognized (Nahas, 2009). The American University of Beirut (AUB) and the Université Saint-Joseph (USJ) were the first Anglophone and the first Francophone universities to open in Lebanon respectively (Nahas, 2009). The 41 universities, both

public and private, largely operate in French, or English as these are the most widely used foreign languages in Lebanon (Nahas, 2009).

At the English universities, students who have graduated from an American-style high school program enter at the freshman level to earn their baccalaureate equivalence from the Lebanese Ministry of Higher Education. This qualifies them to continue studying at the higher levels. Such students are required to have already taken the SAT I and the SAT II upon applying to college, in lieu of the official exams. On the other hand, students who have graduated from a school that follows the Lebanese educational system are directly admitted to the sophomore year. These students are still required to take the SAT I, but not the SAT II.

Not all private higher educational institutions in Lebanon consider SAT I or SAT II for undergraduate admissions. The majority require a local entrance test prepared by these individual higher educational institutions. In most times, the entrance test is a placement test. The main requirement for undergraduate admissions for Lebanese students is the secondary-school leaving certificate called the Baccalaureate II or more recently the International Baccalaureate. However, students with a foreign nationality, or who have lived for more than three years outside Lebanon are admitted to private higher education institutions that pattern after the American system of higher education as Freshman students in case they do not have an equivalence to the Baccalaureate II. In case they obtain an equivalence from the Ministry of Education and higher Education, they are admitted as sophomore students.

Students who enter at the Sophomore level have either passed their Lebanese, French or International Baccalaureate official exam. Therefore, those students have been exposed to a demanding and an intensive program. It is expected that they are more able to cope with academic stressors and college life than students who enter at the Freshman level.

### **Adolescents in Lebanon**

#### **Demographics**

Youth under the age of 25 years account for almost 40% of the total population in Lebanon (Lebanese Republic, Central Administration for Statistics, 2006). According to the Lebanese Republic's Central Administration for Statistics, the median age of the Lebanese population is 26.1 years, and the average life expectancy is 71 years. The median marital age is 31 years for men and 29 years for women. In contrast to the trend in many Western societies, in Lebanon, youth tend to remain at home until they marry. Although this phenomenon is more pronounced among female than male youth because of prevalent conservative social norms, it is difficult, given the worsening economy and decreased employment opportunities, to disentangle the impact of tradition from the dictates of economy. Unemployment and underemployment are major problems that Lebanese youth confront. Current data reveal that the overall unemployment rate is 25% and that over 40% of the unemployed population is less than 25 years old. Many university graduates feel that they must leave the country to find work opportunities, and men account for 65% of those who leave (Lebanese Republic, Central Administration for Statistics).

### **Cultural and Personality Traits**

In Lebanon, there is scarcity of research on youth's culturally related personality dimensions (Ayyash-Abdo & Alamuddin, 2007; Kazarian, 2005). Lebanese folklore portrays the national character as fun loving, hopeful, and hardy in the face of adversity. The Lebanese use the cedar tree (Arzeh), the national symbol, to refer to their own hardiness. The cedar tree occupies the center of the national flag and is a symbol of perseverance; cedars grow only in hard and brittle soil (Ayyash-Abdo, 2010).

In as much as Lebanon represents a mosaic of cultures, identities, religions, and beliefs, it is very much part of the Arab world and markedly influenced by the Arab culture (Oweini, 1995). It follows that Lebanese people share a number of cultural traits with their Arab neighbors. Nydel (1987) outlined them as follows: (1) a person's dignity, honor, and reputation are of paramount importance, (2) loyalty to one's family takes precedence over personal needs, (3) it is important to behave at all times in a manner that reflects well on others, (4) everyone believes in one God and acknowledges His power, (5) humans cannot control events; some things depend on God, and (6) piety is one of the most admirable characteristics in a person.

Three important personality traits are peculiar to the Lebanese population: ability to endure hardships, spirit of enterprise and resourcefulness (Oweini, 1995). Pattison (1984) stated that tough endurance of occupation and war has made the Lebanese existentially accept war as an integral part of their culture. Endurance might also be attributed to the Arab childrearing practices of instilling in the child, particularly the male, qualities such as bravery, courage, maleness, aggressiveness, vengefulness and

competitiveness (Marocco, 1983). On the other hand, the Lebanese resourcefulness and the spirit of enterprise derive from Lebanon's entrapment between East and West and its long association with commerce (Oweini, 1995).

### **Role of Family**

Lebanese people tend to rank family as the most important social institution in their country (Faour, 1998). As in other Middle Eastern countries, there is currently a trend toward increasing nucleation of the lifestyles of the Lebanese families. The number of traditional Lebanese extended families that live in one household has significantly decreased. Young people still maintain long kinship ties, but these are generally based on relatedness to the nuclear family first and to the extended family second (Faour, 1998). Family solidarity, which is hierarchical and patriarchal in nature, governs the transmission of socio-cultural values. Male births are preferred over female births in Lebanon, and many families give boys more privileges and, at times, preferential treatment. The father and the eldest son command the most respect and obedience, and they assume pivotal roles in deciding the family's fate, both economically and socially. Women are generally perceived as in need of protection and care (Ayyash-Abdo & Alamuddin, 2007). However, women do have a good deal of power in decision making (Nydel, 1996). They usually have the decisive voice in matters relating to household expenditures, the upbringing and education of children, and sometimes the arrangement of marriages. Men are responsible for providing for the family's material welfare; though if a woman has money, she needs not to contribute to family expenses (Nydel, 1996).

Most women feel satisfied that the present social system provides them with security, protection, and respect.

However, some women view their situation otherwise, and have begun pressing for more years of education and greater social, legal, and personal freedom. The average years of education for women older than 25 was 8.5 years in 2009 compared to 1.6 in 1970 (Gakidou, Cowling, Lozano, & Murray, 2010). A possible explanation for this increase is Lebanon's current move toward individualism (Faour, 1998). In fact, many Lebanese sociologists found that youth in Lebanon are becoming increasingly individualistic (Faour, 1998; Khalaf, 2002). Nowadays, one could observe that Lebanese youth, specifically young women who come from non-tradition-oriented and non-conservative families tend to have more individualistic features such as the pursuit of individual goals and personal decision-making about marriage and career choice than women coming from tradition-oriented and conservative families.

### **Role of Religion**

Religion is another major social system in Lebanon. Intertwined with the notion of family solidarity as an organizational and value system (Ayyash-Abdo, 2001; Oweini, 1995), religion is one of the most enduring aspects of the social structure in the country. The Lebanese government officially recognizes 18 religious sects (the two main religions are Islam and Christianity). Religion is institutionalized such that each sect has its own courts, traditions, and social and economic organizations. Rather than serving a spiritual function, religion in Lebanon has traditionally contributed to individuals' social and political identifications and their cultural worldviews. Key positions in the state must be



filled by constitution, by people belonging to specific religious sects (Chaaya, Sibai, Fayad, & El Roueiheb, 2007). The primacy of religious identity over national identity has resulted in repeated periodic political unrest in the country. Rival Christians and Muslims groups fought in 1958 and again between 1975 and 1991 (Oweini, 1995) and off and on recently. Adding to Lebanon's cultural uniqueness is the fact that, unlike all East Mediterranean Region countries, Christians constitute almost 30% of its population, and are considered an essential group within the Lebanese society (Chaaya et al., 2007).

### **Summary of Lebanese Adolescents' Literature**

Three important personality traits are peculiar to the Lebanese population: ability to endure hardships, spirit of enterprise and resourcefulness. Intertwined with the notion of family solidarity as an organizational and value, religion is one of the most enduring aspects of the social structure in the country.

### **Coping in Adolescence**

The ensuing review of literature will be organized according to the major concepts of the model of stress, coping and outcome in adolescence (Seiffge-Krenke, 1995), stress, internal coping resources, external coping resources, coping, and outcomes. Reviews of these studies will be contained within the five major concepts.

### **Stressors**

According to Seiffge-Krenke's model (1995), adolescent stressors are antecedents to the coping process and stem from two major sources: (a) traumatic events which interfere with normal development (i.e., death of a parent, parental divorce and exposure

to war hostilities), and (b) daily stressors (i.e., academic pressures, competition with peers, feeling of uncertainty, and decision-making for future).

**Traumatic events.** Although the focus of the current paper is on adolescents' everyday events rather than traumatic events, the review has included in the literature matrix (see Appendix H) only studies that examine war stressor as a major stressful life event given its relevance to the Lebanese socio-political context.

Many adolescents must cope with many major stressors such as parental divorce (Afifi, Huber, & Ohs, 2006), parental depression (Jaser et al., 2005), the death of a family member (Swick & Rauch, 2006), and the hostilities of the war (Braun-Lewenohn, Celestin-Westreich, Celestin, Vereye, Verte, & Ponjaert-Kristoersen, 2009; Hardin, Hayes, Cheever, & Addy, 2003; Tatar & Amram, 2007), specifically the Lebanese war (Braun-Lewenohn, Sagy, & Roth, 2010; Farhood, Zurayk, Chaya, Saadeh, Meshefedian, & Sidani, 1993; Karam & Ghosn, 2003).

The frequency of conflicts in Lebanon has resulted in the accumulation of research studies that have dealt with the impact of war on various cohorts. Of special interest to the current study are articles exploring the impact of violence and war on children, youth and adults during the civil war (1975-91) and during the more recent violent events (2005-08) (Abdel-Khalek, 2002; Abu Saba, 1999; Ayyash-Abdo, 2010; Ayyash-Abdo & Alamuddin, 2007; El-Amine et al., 2008; Farhood et al., 1993; Karam et al. 2002; Karam et al., 2008a; Karam et al., 2008b; Macksoud & Aber, 1996; Saigh, 1988; Oweini, 1995; Oweini, 1998; Usta, Farver, & Zein, 2008). The recent violent events that Lebanon has witnessed from year 2005 until 2008 include multiple

demonstrations, street riots, rising religious tensions, many political assassinations, a 34-day brutal war in July 2006 and a civil strife in May 2008.

### **Daily Stressors**

**Stress.** The second source of stressors, stress, concerns commonplace events that occur frequently or persist over a long period of time. Research on adolescent stress has shifted its focus from the study of traumatic events and chronic stressors, characterized by loss and threat, to normative challenges, demands, and developmental tasks (Seiffge-Krenke, 1995). Stress experienced by adolescents include schoolwork (Puskar et al., 1993), relationships with family and friends (Seiffge-Krenke, 2006), financial hardship (Magaya, Asner-Self, & Schreiber, 2005), and concerns about educational and career-related issues (Frydenberg, & Lewis, 1999).

In the literature, there is no consensus on what is the most stressful perceived situation for adolescents. While Puskar et al. (1993) noticed that the most commonly occurring stressor for 35% of the adolescents was school (exams and grades), Seiffge-Krenke (2006) found that 46%-82% of all stressful everyday events named by adolescents pertain to interpersonal relationships. On the other hand, Haid et al. (2010) observed that 3,259 adolescents from Turkey, Germany, and Italy experienced future concerns as most stressful. The findings of that study also demonstrated the universality of fearful future anticipations among adolescents with different cultural backgrounds and underline the stressfulness of identity development during the transition to adulthood.

In another study, Murff (2005) conducted a literature review on the impact of stress on academic success in college students, and found that college students are faced

with a unique set of stressors that may be overwhelming, thus altering the ability to cope with a situation. In fact, the experience of stress is likely to be a regular occurrence in the lives of new college students given the nature of the transition that they are making. For example, freshmen reported more psychological dependencies on their mothers and fathers as well as poorer social and personal-emotional adjustment to university life than did upperclassmen (Brougham, Zail, Mendoza, & Miller, 2009). In Lebanon, there is lack of research on college students' perception of daily hassles. Most studies have focused on the impact of war on Lebanese people.

**Uncertainty.** Uncertainty is a daily stressor related to the frequency of wars in Lebanon history. Uncertainty is defined by Breznitz (1967) as a situation in which the degree of confidence that something will happen is equal to the degree that it will not happen. It includes two elements that have an impact on the level of stress: the first is the probability that the threat will occur, and the second is the length of uncertainty period (Shamai, 1999). The length of the uncertainty period increases the level of stress, even if there is a relatively low probability that the threat will be implemented. Accordingly, there is a very high probability that people living for a long time under conditions of uncertainty with a threat to their physical existence and a threat of a forced relocation will be affected by these stressors and by the different demands derived from these stressors (Shamai, 2001).

The concept of uncertainty has not been investigated among adolescents in Lebanon. Given the socio-political context of this study, the researcher will have a unique opportunity to glimpse into the experience of and ability to cope with stress in a situation

of political uncertainty. The uncertainty that might be shared by the Lebanese adolescent population concerns both the present and the future.

The present uncertainties depend on the political and economic situation in the country. Periods of “peace” and periods of instability are intermittent. During the periods of “peace”, the present uncertainties are related to tension and struggle between the different political and religious parties and to security issues, such as robberies, crimes, car robberies, stealing, limited opportunities for employment of youth and their families, financial hardship and feeling of fear and anxiety on the streets. During the periods of instability (such as demonstrations, street riots, civil war, war with Israel/Syria, car explosions), the present uncertainties are related to security issues such as being killed while going to university, random shelling, looting, kidnapping, car bombings, forced occupations, displacements, interrupted schooling, disrupted access to basic services, and disrupted usual livelihoods such as agricultural work in addition to causing massive death and disability.

Uncertainties about the future related to the near future, such as security issues surrounding civil war in the country, as well as the far future concerning questions of possible war with Israel/Syria, relocation, car explosions, and uncertainty of getting a job after graduating from the university.

In the literature, the concept of political uncertainty has been investigated during periods of instability in Israel. Shamai, (1999) conducted a study to investigate the way in which stress is caused by the political uncertainty as it is experienced and coped with by a specific group of mental health professionals who live and practice under conditions

of uncertainty. Data was collected during a period of instability, when the stress of possible relocation was very intense. The stress of uncertainty was centered around the feeling of present loss and possible future loss. This loss included physical and spiritual levels, which were experienced by both genders; however, each gender elicited some other aspect due to gender stereotypes. The males concentrated on analyzing security issues, such as how the army is going to respond if and when they should be attacked, or by organizing and taking part in political demonstrations and activities against the government policy. The combination of commitment to their beliefs and some control over the situation seems to be their basic coping strategy. The females were more focused on talking about the effect of the ongoing anxiety and the way in which it influences the daily life of the children and entire families. The interaction between the two affected the stress level that was experienced in reaction to the threat of possible relocation. When analyzing the interviews, gender differences in experiencing the uncertainty were also found. The first difference centered around the male image. The hidden belief behind these statements is that males should not be anxious and should not feel stress, although, as mental health professionals, they were aware of the fact that stress and uncertainty affect every person. The second gender difference in experiencing stress and uncertainty was related to gender role. The males indicated their anxiety about their role as the main financial supporters of their families, adding that the threat of being without a job or at a lower salary hurt their male self-image.

In another study, Shamai (2000) described the differences and similarities between parents' feelings and their perception of their children's feelings in a politically

uncertain situation. The results show that most of the feelings evoked by the uncertainty are negative emotions, such as fear, anger, hate, desire for revenge, and avoidance. These emotions are experienced by parents and, according to the parents' perceptions, by their children as well. In addition to the correlation between parents' own experiences and their appraisal of their children's, the children were perceived as having more negative feelings than the parents. Systemic analysis of the results indicates that the children are often a channel for expression of their parents' emotions. The study also revealed that children who live under the stress of terrorism and political uncertainty pay a double price. They are burdened by their own physical and mental states and are also a channel for their parents' expressions of emergency-engendered feelings. In addition, the children's perceived feelings serve as the impetus for their parents to re-examine their world view, in order to use it to help their children cope with the overwhelming situation.

### **Stressors: Summary of the Literature**

In adolescence, stress and uncertainty are important daily stressors that influence the coping process. The impact of stress and uncertainty on the coping process has not been studied among Lebanese college students. Stress arises primarily from problems related to school, interpersonal relationships, identity-related problems and future concerns. Uncertainty is centered around the feeling of present loss (such as physical and financial losses) and possible future loss (such as risk of relocation). Most of the feelings evoked by uncertainty are negative emotions, such as fear, anger, hate, desire for revenge, and avoidance.

## Internal Coping Resources

Coping theories often refer to specific skills, personality characteristics, aspects of self-concept, and abilities that individuals bring to stressful situations in the search for those factors that constitute a “good copier” (Seiffge-Krenke, 1995). Internal resources can include problem-solving ability, prior experience, religiosity, resilience, knowledge, self-concept, self-esteem, and interpersonal skills.

In the literature, studies on internal coping resources have identified a number of protective factors, including but not limited to resilience (Hunter & Chandler, 1999; Rew, Taylor-Seehafer, Thomas & Yockey, 2001), hardiness (Pengilly, & Dowd, 2000), hope (Roesch & Duangado, 2010), self-esteem (Mann, Hosman, Schaalma, & De Vries, 2004), optimism (Finkelstein, Kubzansky, Capitman, & Goodman, 2007; Pritchard, Wilson, & Yamnitz, 2007), perfectionism (Dunkley, Zuroff, & Blankstein, 2003), positive affect (Steinhardt & Dolbier, 2008), and religiosity (Kane & Jacobs, 2010).

**Resilience.** Steinhardt and Dolbier (2008) conducted a four-week resilience intervention to enhance resilience, coping strategies, and protective factors, as well as decrease symptomatology among college students during a period of increased academic stress. The majority of students were undergraduate (64.9%), with equal percentages of masters (17.5%) and doctoral students (17.5%). Results showed that students, in the experimental group, had significantly higher resilience scores, more effective coping strategies, higher scores on protective factors (i.e., positive affect, self-esteem, self-leadership), and lower scores on symptomatology (i.e., depressive symptoms, negative affect, perceived stress) post-intervention than did the wait-list control group.



Dumont and Provost (1999) conducted a study on 8<sup>th</sup> graders and 11<sup>th</sup> graders. Students were classified into three groups created from crossing scores of depressive symptoms and frequency of daily hassles: well adjusted, resilience, and vulnerable. Findings revealed that well-adjusted adolescents had higher self-esteem than adolescents in the two other groups. Resilient adolescents had higher self-esteem than vulnerable adolescents and had higher scores on problem-solving coping strategies than adolescents in the two other groups.

In the Lebanese literature, the concept of resilience has not been investigated and there is dearth of research on Lebanese youth's culturally related personality dimensions. Only two studies have examined personality constructs such as optimism and self-esteem among Lebanese adolescents. Findings across studies reveal that self-esteem and optimism predicted subjective well-being in Lebanese college youth (Ayyash-Abdo, 2010; Ayyash-Abdo & Alamuddin, 2007). In other Lebanese studies, personality traits such as hardiness, persistence, resilience, perseverance and adaptability were mostly cited to explain and support findings (Abdel-Khalek, 2002; Ayyash-Abdo, 2010; Oweini, 1995; Saigh, 1988).

**Religiosity.** To investigate the importance of spiritual and religious belief among university students and the associated predictor variables, an exploratory study conducted by Kane and Jacobs (2010) revealed that students relied on spiritual/religious values to problem solve and cope. Adolescents generally believed that spirituality/religion would allow them to overcome psychological challenges and that spiritual/religious beliefs were more important than financial success.

Rew and Wong (2006) reviewed 43 studies that were conducted between 1998 and 2003 on religiosity, spirituality and health attitudes, and behaviors in persons aged between 10 and 20 years old. The researchers concluded that positive relations of religiosity and spirituality were found to be significant in 84% of studies.

A meta-analysis of 34 recent studies conducted between 1999 and 2002 revealed that personal devotion (subjective religious orientation) produces the strongest correlation with positive psychological functioning (happiness, life satisfaction) and that institutional religiosity (organizational religious orientation such as participation at church/mosque activities) creates the weakest correlation (Hackney & Snaders, 2003). More recent studies suggest a salutary effect of religion on mental health, with organizational religiosity having the highest impact (Parker et al., 2003).

Disparities between two groups of adolescents from alcoholic and non-alcoholic families regarding religious coping strategies were examined in a study of high school Christian students in Poland (Szewczyk & Weinmuller, 2006). Adolescents from alcoholic families, compared to non-alcoholic families, believed that the Devil was responsible for their difficult situation, being a child of an alcoholic. They also felt left by God and believed that He didn't answer their prayers.

There is a growing body of research linking religion and spirituality to health outcomes. However, the research comes mostly from the West, with little empirical evidence on Arab population in the Middle East Region (Al Kandari, 2003) and specifically in Lebanon. Although religion and spirituality play an important part of daily social and political life in the Lebanese population (Chayya et al., 2007), the relationship

between religiosity to coping and health outcomes among college students has been investigated in Lebanon in only three studies.

Oweini (1995) conducted a qualitative study to understand how college students coped with the war. Oweini found that faith may have had a positive effect on coping in that it provided a sense of confidence, assurance, and serenity in the face of negative events, which made adjustment to the war smoother. During war times, Lebanese students sought strength and comfort in religion, though they did not practice their faith consistently, and some experienced a stronger belief in the existence of God and a renewed interest in religious worship.

In another Lebanese study, the concept of religious identity (measured by the strength of religiosity, as perceived by the respondent, and the functional impact of religiosity on daily activity) and smoking behavior were examined in a Lebanese study conducted on college students aged between 16 and 19 years (Soweid, Khawaja & Salem, 2004). Findings of this study revealed that regular smoking was strongly and consistently associated with religiosity: About 7% of students with strong religious identity (RI) were regular smokers, compared to over 23% of those reporting weak religiosity. The results also revealed that religiosity is a protective factor against smoking over and above commonly known behavioral variables (such as alcohol use and violent behavior), personal variables (such as stress, control over health, physical health status and social support from family and friends), socio-demographic variables (such as age, pocket money, nationality and residence outside Lebanon), and environmental (exposure to peer and household smoking) risk factors for smoking.

Afifi and her colleagues (Afifi, Yeretian, & Mack, 2011) have investigated the differential effect of extrinsic and intrinsic religiosity on various health outcomes among 1294 adolescents aged between 13 and 20 years, living in impoverished neighborhoods of Beirut. Results indicated that different aspects of religiosity influence the three health indicators under study: external religiosity was related to self-perceived health, internal religiosity to health risk behaviors, and both aspects of religiosity to self-esteem.

The concept of religiosity and mental health has been examined in several cross-cultural studies in the Middle Eastern region. Abdel Khalek and Naceur (2007) explored the association between religiosity and both positive and negative emotions and traits among a sample of Algerian Muslim college students. Findings revealed that religiosity was significantly correlated only with mental health among men. However, in women, religiosity was significantly and positively correlated with physical health, mental health, happiness, satisfaction with life, and optimism, whereas religiosity correlated negatively with both anxiety and pessimism. In another study, Fatimah El-Jamil (2003) found that higher religiosity served as a protection against depression and anxiety in Lebanese and American undergraduate students aged 18 years and older.

### **Internal Coping Resources: Summary of the Literature**

In the literature, studies on internal coping resources have identified a number of protective factors, including but not limited to resilience and religiosity. In Lebanon, the concepts of religiosity and resilience in reaction to stress have not been investigated among adolescents. However, faith and personality traits including but not limited to resilience were mostly cited to explain and support findings. Religiosity might play a

critical role as a stress-buffer variable in reaction to stress among Lebanese youth (Soweid, Khawaja & Salem, 2004). Religiosity might also have a positive effect on coping in that it provides a sense of confidence, assurance, and serenity in the face of negative events, which made adjustment to the war smoother in Lebanon (Oweini, 1995). Two personality traits (self-esteem and optimism) were examined in Lebanese college youth and strongly predicted subjective well-being (Ayyash-Abdo, 2010; Ayyash-Abdo & Alamuddin, 2007).

### **External Coping Resources**

External coping resources include social networks such as peers, family relationships, socioeconomic status and societal conditions (Lazarus & Folkman, 1984; Seiffge-Krenke, 1995). The review of the literature did not reveal a lot of studies related to external coping resources in adolescents. In a study conducted by Smith and Renk (2007) to examine potential predictors of the academic-related stress experienced by college students. Social support provided by significant others was found to be a significant predictor of the academic-related stress experienced by college students.

**Social support.** The concept of social support as a stress buffer of the stress-health relationship has been investigated among adolescents (Charvoz,, Bodenmann & Herman, 2003; Grant et al., 2006; Stanton-Salazar & Spina, 2005; Yarcheski & Mahon, 1999).

According to Cohen and Wills (1985), the function of social support on the relationship between stress and individual health or well-being is described in terms of an interaction effect, known as the buffering hypothesis. The term buffering suggests that

social support protects individuals from the deleterious effects of stress on health and well-being.

Based on research literature, Grant et al. (2006) concluded that there is ample evidence in support of the buffering hypothesis, especially when social support assesses the perceived availability of interpersonal resources that are responsive to the needs created by stressful events.

In another study, the concept of peer network as a context for adolescents' social support has been examined among low-income Mexican-origin adolescents (Stanton-Salazar & Spina, 2005). Findings revealed that adolescents found in their friends the support necessary to withstand emotionally challenging circumstances (e.g., school-related problems) and to cope in appropriate and effective ways. Often, the only people who knew of an adolescent's emotional burdens and stressful circumstances were friends and close peers, and when compelled to react to these circumstances, many adolescents sought help, safety, and relief from their peers.

In Lebanon, the concept of social support among adolescents has been examined in only one study (Oweini, 1995). Findings revealed that a strong social network played a critical role as a stress-buffering variable in reaction to war stress. During war times, Lebanese students sought strength from a strong support network of friends and family, deeply valued their nuclear and extended families, and felt a strong sense of belonging to their community.

Social support as a stress buffer in a war context has been investigated among the general population in Lebanon across many studies (Farhood et al., 1993; Farhood &

Dimassi, 2011; Farhood, Dimassi, & Lehtinen, 2006; Farhood & Noureddine, 2003; Jawad, Sibai & Chaaya, 2009). Findings across studies reveal that social support (e.g., close family relationships) protects against post- traumatic stress disorder and depression.

**Socioeconomic status.** The concept of socioeconomic status as an external coping resource was investigated in several studies among adolescents (Clark-Lempers, Jacques & Netusil, 1990; Conger et al., 1992; Conger et al., 1994; Finkelstein, Kubzansky, Capitman, & Goodman, 2007; Wadsworth & Compas, 2002).

The relationship among family financial stress, parents' emotional-affective support for their children, and academic performance and depressive symptoms was investigated in young adolescents (Clark-Lempers, Jacques & Netusil, 1990). Findings revealed that family financial stress was strongly related to adolescents' reports of depressive symptoms.

In another study, Conger and her colleagues examined the concept of economic hardships among adolescents (Conger et al., 1992; 1994). Findings revealed that objective economic conditions such as per capita income and unstable work were related to parents' emotional status and behaviors through their perceptions of increased economic pressures such as the inability to pay monthly bills. These pressures were associated with depression and demoralization for both parents, which was related to marital conflict and disruptions in skillful parenting. Disrupted parenting mediated the relations between the earlier steps in the stress process and adolescent adjustment. The emotions and behaviors of both mothers and fathers were almost equally affected by financial difficulties. High levels of spousal irritability, coupled with coercive exchanges

over money matters, were associated with greater hostility in general by parents toward their children. These hostile/coercive exchanges increased the likelihood of adolescent emotional and behavioral problems (i.e., depression and anxiety).

Another study showed that adolescents from families with low SES are less optimistic than teens from more advantaged families. The researchers concluded that this pessimism may be a mechanism through which lower SES increases stress in adolescence (Finkelstein, Kubzansky, Capitman, & Goodman, 2007).

Wadsworth and Compas (2002) examined the impact of family economic problems on psychological adjustment in a sample of 364 adolescents from rural New England. Results revealed that family economic hardship was related to aggression and anxiety/depression primarily through two proximal stressors: perceived economic strain and conflict among family members. Family conflict partially mediated the relation between economic strain and adolescent adjustment, and coping further mediated the relation between family conflict and adjustment.

In the Lebanese literature, few studies have examined the concept of economic hardship among adolescents (Ayyash-abdo, 2003; Ayyash-Abdo, 2010; Ayyash-Abdo & Alamuddin, 2007). Findings across studies revealed that socio-economic status (SES) which was measured by college students' reported monthly family income, was associated with higher levels of subjective well-being (SWB), specifically with measures of life satisfaction and optimism. College students in the low SES group scored significantly lower on SWB than did students in the upper-middle and upper SES groups (Ayyash-Abdo & Alamuddin, 2007). It is important to note that the general Lebanese



population has a wide range of income levels, from the equivalent of \$400-\$15,000 US per month (United Nations Development Programme in Lebanon, 2009).

Another Lebanese study (Nakkash et al., 2003) showed that the bad economic situation in the country was a major perceived barrier to exercising, nonsmoking, and healthy eating habits. Farhood et al. (1993) also stated that in such prolonged war situation as Lebanon has shown, Lebanese families reported severe impact of changed economic circumstances and of not being able to ensure the basic needs of decent living, particularly for families in the low social class.

### **External Coping Resources: Summary of the Literature**

The concept of social support as a stress buffer and a mediator of the stress-health relationship has been investigated among adolescents. Social support seems to protect individuals from the deleterious effects of stress on health and well-being. In Lebanon, social support as a stress buffer in a war context has been investigated among the general population across many studies. During war times, Lebanese people sought strength from a strong support network of friends and family, deeply valued their nuclear and extended families, and felt a strong sense of belonging to their community.

The concept of socioeconomic status has been examined among youth. Adolescents from families with low SES are less optimistic than teens from more advantaged families. Family economic hardship was related to aggression and anxiety/depression and greater hostility in general by parents toward their children. These hostile/coercive exchanges increased the likelihood of adolescent emotional and behavioral problems (i.e., depression and anxiety). In Lebanon, given the prolonged war

situations, families reported severe impact of changed economic circumstances and of not being able to ensure the basic needs of decent living, particularly for families in the low social class. College students in the low SES group scored significantly lower on SWB than did students in the upper-middle and upper SES groups (Ayyash-Abdo & Alamuddin, 2007).

### **Outcomes**

According to Seiffge-Krenke (1995), the outcomes of coping may be adaptive or maladaptive. Adaptive outcomes have been associated with positive mental health and well-being among adolescents. Maladaptive outcomes have been associated with poor health behaviors such as smoking, alcohol use, unhealthy eating patterns, diminished psychological well-being, and depression.

**Well-being.** In the literature, studies on adolescents showed that the use of active and internal coping strategies such as direct problem-solving, positive thinking, leisure activities, and humor is positively related to positive affect and well-being (Aldridge & Roesch, 2008; Ben-Zur, 2009; Iwasaki, 2001), and negatively related to distress (Frydenberg & Lewis, 2009; Muris, Schmidt, Lambrichs, & Meesters, 2001; Ogul & Gencoz, 2003).

On the other hand, the use of negative avoidant coping strategies such as withdrawal and avoidance is positively related to unhealthy eating behavior (Martyn-Nemeth, Penckofer, Gulanick, Velsor-Friedrich, & Bryant, 2009; Wichianson,, Bughi, Unger, Spruijt-Metz, & Nguyen-Rodriguez, 2009), alcohol consumption (Park, Armeli, & Tennen, 2003; Park & Levenson, 2002), poor physical health (Pritchard, Wilson, &

Yamnitz, 2007), negative affect (Aldridge & Roesch, 2008), distress (Frydenberg & Lewis, 2009; Muris, Schmidt, Lambrichs, & Meesters, 2001; Ogul & Gencoz, 2003; Sasaki & Yamasaki, 2005; Sun, Fangbia, Hao, & Wan, 2010), decreased emotional and psychological well-being (Fledderus, Bohlmeijer, & Pieterse, 2010) and emotional and behavioral problems (Seiffge-Krenke, 2000).

In Lebanon, given the paucity of Lebanese studies on the concept of well-being, this section will examine well-being and other outcomes that are pertinent to the Lebanese adolescent literature.

Only three Lebanese studies have examined the concept of well-being in Lebanese college students (Ayyah-Abdo & Alamuddin, 2007; Ayyash-Abdo, 2003; 2010). The prevalence and predictors of subjective well-being was examined among a sample of 689 students aged between 17 and 24 years from 10 major universities during peace time in Lebanon (Ayyash-Abdo, 2003). Finding revealed that college youth were enjoying a slightly above average score on well-being compared to other nations. A comparable sample was assessed in 2007 during politically violent and tumultuous times (Ayyah-Abdo & Alamuddin, 2007). Results showed that college youth seem to feel as satisfied with their lives as those in the previous study (Ayyash-Abdo, 2003). When compared, those two studies showed that the subjective well-being (SWB) of Lebanese youth hovers in the neutral or middle range and that they experience more positive affect than negative affect (Ayyash-Abdo, 2010). Findings also revealed that, in spite of adverse circumstances, college youth did not experience post-traumatic stress disorder and are not at high risk for psychopathology and self-destructive behavior. However, when the scores

of Lebanese students' SWB scores were compared with those of European-American college students, findings revealed that Lebanese youth ( $M = 20.16$ ,  $SD = 6.32$ ) has lower SWB scores than European American youth ( $M = 24.24$ ,  $SD = 6.69$ ) (Ayyash-Abdo, 2010).

**Depression, anxiety and suicide.** Lebanese adolescent studies in the mental health area have focused on examining the impact of the war on youth (Abu Saba, 1999; Abdel Khalek, 2002; Al-Issa, Bakal, & Fung, 1999; El Amine et al., 2008; Farhood et al., 1993; Macksoud & Aber, 1996; Saigh, 1988; Usta, Farver, & Zein, 2008). Findings across those studies reveal that: (a) undergraduate university students who experienced more than eight war-events scored higher on the State-Trait Anxiety Inventory than those who experienced four or less war events; (b) university students who experienced intense war exposure scored higher on anxiety disorder after eight days than after 37 days; (c) Lebanese college students scored lower than their Egyptian and Kuwaiti counterparts in death anxiety and death depression; (d) Lebanese college students scored higher on the Beck anxiety inventory than Canadian students; and (e) the prevalence of fear and worry among Lebanese students was slightly higher than among US students.

The concept of suicide among Lebanese adolescents has been also examined in two studies. Results showed that around 16% of Lebanese adolescents in 7<sup>th</sup>-9<sup>th</sup> grades thought of suicide. Risk factors for suicide ideation included poor mental health (felt lonely, felt worried, felt sad or hopeless), substance use (got drunk, used drugs), victimization (was bullied, was sexually harassed), and lack of parental understanding (Mahfoud, Afifi, Haddad & Dejong, 2011). In another study, around 14% of 16-19-year-

old students at the American University of Beirut reported having ever seriously considered suicide (Shediac-Rizkallah et al., 2001).

**Health-risk behaviors.** In Lebanon, many studies have examined health risk behaviors among adolescents such as unhealthy dietary patterns (Afifi-Soweid, Najem Kteily, Shediac-Rizkallah, 2001), lack of seat belt use, lack of exercise, poor oral hygiene, physical fighting, smoking, and alcohol use (Shediac-Rizkallah, Afifi-Soweid, Farhat, & Yeretian, 2000-2001), violence (Sibai, Tohme, Beydoun, Kanaan, & Mehio Sibai, 2008), and tobacco smoking practices (El-Roueiheb, Tamim, Kanj, Jabbour, Alayan, & Musharrafieh, 2008; Tamim, Terro, Kassem, Ghazi, Khamis, Hay, & Musharrafieh, 2003; Zoughaib, Adib, & Jabbour, 2004).

The prevalence and correlates of violent behavior in post-war Lebanon was examined among 827 high school adolescent students in Beirut (Sibai, Tohme, Beydoun, Kanaan & Sibai, 2008). Results showed that Lebanon has high rates of violent behavior compared with other countries. Prevalence rates for physical fights and weapon carrying were estimated at 41.5% and 17.3 %, respectively. The observed elevated violence rates in that study population were attributed to the longstanding exposure to the civil strife and armed conflicts in the country. Sibai et al. also highlights the fact that adolescents of today were raised as children in a culture that was permissive of weapon carrying, and they continue to be exposed to turmoil and military aggression. For example, at the time that study was conceptualized, a war characterized by an unprecedented scale of destruction struck Lebanon in July 2006. Then, more recently, political aggression,

erupted in May 2008, impacting on the county's economy, its social infrastructure (including educational services), as well as its political order, possibly for years to come.

Students' health risk behaviors in postwar Lebanon have been examined in a study of college students (Shediac-Rizkallah, Afifi Soweid, Farhat, & Yeretian, 2000-2001). The most frequently occurring risk behaviors were unhealthy dietary patterns, lack of seat belt use, lack of exercise, and poor oral hygiene. Also common were physical fighting, smoking, and alcohol use. Sexual activity, drug and sedative use, and suicide ideation were least common but not negligible. Eighty-nine percent of students reported two or more risk behaviors.

The prevalence of preoccupation with weight indicators and disordered eating behaviors among entering university students, and factors associated with these indicators and behaviors was supported in a study of Lebanese students (Afifi-Soweid, Najem, Keteily, Shediac-Rizkallah, 2001). Results showed that the indicators held most often included a desire to be thinner, and an awareness of caloric content. The behaviors engaged in most often included strenuous exercising, and avoiding particular foods. The prevalence of indicators and behaviors is high and is especially alarming as it represents indicators and behaviors of students just beginning their college education, before the stress of university and its associated peer pressure exert their own influence on them.

Tobacco smoking practices (waterpipe and/or cigarette) was assessed among public and private adolescent school students in Lebanon (El-Roueiheb, Tamim, Kanj, Jabbour, Alayan, & Musharrafieh (2008). The waterpipe, also known as argileh, shisha, hookah, or hubble-bubble is a form of smoking other than cigarettes that is currently

spreading among people of all ages both in Arab and even non-Arab countries. A standard waterpipe consists of a tray connected by the means of a metal tube to a glass bottle half-filled with water. Tumbak, a tobacco paste often mixed with fruit flavors, is placed on the waterpipe and lit by a burning charcoal. The smoker inhales through a flexible hose connected to the metal tube. The current prevalence of cigarettes smoking was 11.4%, and that of waterpipe smoking was 29.6%. Public school students were, respectively, 3.2 (95% CI 1.8-5.6) and 1.7 (95% CI 1.4-2.1) times more likely to be exclusive cigarettes smokers, and exclusive waterpipe smokers.

### **Outcomes: Summary of the Literature**

Studies on adolescents showed that the use of active and internal coping strategies such as direct problem-solving, positive thinking and leisure activities is positively related to well-being. On the other hand, the use of avoidant coping strategies such as withdrawal and avoidance is positively related to decreased emotional and psychological well-being. In Lebanon, findings are not conclusive regarding the mental health of the youth population. However, while limited, the existing adolescent literature showed that in spite of adverse circumstances, college youth did not experience post-traumatic stress disorder, are not at high risk for psychopathology and self-destructive behaviors and are enjoying a slightly above average score on well-being compared to other nations (Ayyash-Abdo, 2010).

### **Coping**

The field of stress and coping has been soundly and appropriately criticized for the failure to adequately define the concepts of stress and coping (Compas et al., 2003).

Although there is still controversy about the conceptualization of coping (Compas et al., 2003; Garcia, 2010; Skinner, Edge, Altman, & Sherwood, 2003), abundant evidence has been generated to show that different styles of coping exist (see Appendix H). The literature matrix in Appendix H showed that fewer than half of the studies (39 out of 82 studies) reviewed included a specific statement defining coping. Instead, many authors described coping in the context of stress response by identifying particular types or ways of coping or naming specific coping strategies used. The theoretical frameworks guiding examination of coping varied across studies. A range of measures were used to assess adolescent coping.

In the literature, the debate has focused on whether effective coping involves the greater use of productive strategies or less use of dysfunctional strategies to enhance the use of coping resources in adolescents. For example, Frydenberg and Lewis (2004) examined the coping strategies which characterize Australian adolescents who profess the least ability to cope. Results of that study showed that both productive and non-productive strategies characterize poor copers. In fact, the least able copers used, at least sometimes, non-productive strategies such as tension-reduction (e.g., make oneself feel better by taking alcohol, cigarettes or other drugs), self-blame, ignoring the problem, keeping to oneself and, most noticeable, worry and wishful thinking. However, a range of productive strategies was also used at least sometimes, including problem-solving, working hard and focusing on the positive. Consequently, Frydenberg and Lewis recommend minimizing the use of non-productive coping responses when attempting to maximize the use of more productive coping responses. In contrast, Steiner, Erickson,



Hernandez, and Paveslski (2002) recommend encouraging the maximum use of helpful strategies such as problem-solving and planning without minimizing the use of unhelpful strategies such as ignorance and withdrawal. That suggestion was supported by the fact that the interaction of productive and unproductive coping strategies would mitigate the influence of unproductive coping. Consequently, students high in both would have better health outcomes and fewer risk behaviors than those high in unproductive coping alone, but not as good functioning as adolescents high in productive coping only.

There is strong consensus in the literature reviewed (see Appendix H) that problem-focused coping (PFC) strategies such as direct-problem solving and planning have been associated with increased positive affect and reduced negative affect, whereas more emotion-focused coping (EFC) such as distancing and acceptance would be associated with increased negative affect and reduced positive affect (Ben-Zur, 2009; Braun-Lewensohn, Celestin-Westreich, Celstin, Verleye, Verte, & Ponjaert-Kristoffersen, 2009; Braun-Lewensohn, Sagy, & Roth, 2010; Frydenberg & Lewis, 2004; Garcia-Grau, Fuste, Miro, Saldana, & Bados, 2004; Ogul & Gencoz, 2003; Sideridis, 2006; Steiner et al., 2002; Struthers, Perry, & Menec, 2000).

However, those finding have not been conclusive. Some investigators suggested that EFC strategies, specifically avoidance, can be seen as alternative adaptive strategies when people must deal with major stressors. For example, Gidron and Nyklicek (2009) found that in severely appraised situations, EFC is more beneficial than PFC, while PFC would be more adaptive in benign situations. The rationale behind this finding is that PFC may be ineffective in events appraised as uncontrollable. It is possible that some

severe situations (e.g., illness, war) involve less personal control, rendering PFC less effective. Findings in that study challenge the simplistic view that PFC is “always” better than EFC.

Although EFC strategies have been equally or more beneficial than PFC in very specific situations (Gidron & Nyklicek, 2009) or particular populations (Aldridge & Roesch, 2008), Seiffge-Krenke (2004) noticed that the positive effects of using EFC strategy, specifically avoidant coping, may wane with time. Seiffge-Krenke also noted that avoidance may be associated with a positive outcome only in the short-term, particularly in case of highly stressful, unalterable events and that the use of avoidant and withdrawal coping (examples of EFC) over a longer time period is clearly maladaptive. On the other hand, Sideridis (2006) detect a synergy between PFC and EFC strategies. Findings showed that neither problem nor emotion-focused coping were associated with stress levels. Rather, it was the interaction of both PFC and EFC strategies that significantly decreased stress levels.

In another study, Lewis and Frydenberg (2002) examined the relationship between adolescents’ declared failure to cope and the many coping styles that are reported concomitantly. The most surprising finding is that strategies such as seeking social support and seeking professional help (examples of PFC strategies) were predictive of less ability to cope. According to Lewis and Frydenberg, those specific PFC strategies are at times an index of dependence rather than an indication of a capacity to cope effectively.

Lewis and Frydenberg (2002) suggest for those working in the field of adolescent education, that a cost-benefit analysis should show that money will be better spent on reducing non-productive coping than on increasing productive coping. In particular, two of the non-productive coping that may most need to be targeted for reduction are attempts to ignore the presence of the concern and responding to concerns by turning to stress releasing activities such as drinking, displaying anger, and eating (Lewis & Frydenberg, 2002).

Although some individuals may have a strong preference to use one particular coping different strategy, different coping strategies are generally not mutually exclusive. Thus, most individuals tend to use different types of strategies so that the selected strategies coincide with the situational context (Smith & Renk, 2007). In particular, Aldridge and Roesch (2008) assessed the daily stress and coping processes in multiethnic adolescents. Findings revealed that adolescents are fully utilizing their repertoires of coping strategies rather than solely relying on specific strategies, such as family support, religious, and avoidant coping. It also appears that these adolescents are employing flexible coping repertoires on a daily basis, which has been linked to improved adjustment and increased positive affect in adolescents.

In a cross-cultural study on stress and coping in adolescent populations, adolescents from seven nations shared cross-cultural similarity in coping for specific stressors (Gelhaar et al., 2007). That similarity was impressive despite the considerable traditional, educational and economic differences among the cultures investigated.

The concepts of stress perceptions and coping styles were examined in another cross-cultural study among 3,259 Turkish, Italian, and German adolescents with a mean age of 14.97 years ( $S= 1.74$ ) (Haid, Seiffge-Krenke, Molinar, Ciairano, Karaman, & Cok, 2010). Results showed that the coping behavior was strikingly similar among adolescents. Whereas active coping styles dominated in dealing with future-related stressors, relatively high withdrawal rates occurred in all three countries when identity problems have to be dealt with.

**Coping in Lebanon.** In Lebanon, only one study has highlighted the coping strategies of Lebanese college students (Oweini, 1995). Oweini conducted a qualitative study to understand the coping mechanisms in response to prolonged war hostilities at the American University of Beirut (AUB). Foremost of the coping strategies were denial, rationalization, and intellectualization. The researcher noted that although many AUB students believed have used denial consistently, it was unlikely, based on the literature, that any of the interviewees had insulated him/herself from the outside war in Lebanon for a long period of time. If denial existed, it must have been situational, short-lived, and infrequent. On the other hand, rationalization such as playing “mind games”, and perceiving the environment selectively, seems to have been more frequently used by the group in perilous situations. In concert with rationalization, intellectualization has been used as another coping mechanism. For example, some students reported that they have removed their feelings from the anxiety-provoking event with a surprising degree of detachment so their academic pursuit and fulfillment of goals would not be compromised.

### **Coping among First-year College Students**

The coping mechanisms of first-year college students are the focus of this review paper. The literature matrix in Appendix K shows that 30 studies (n= 30; 37%) discuss coping among college students. Eight out of the 30 studies that focus on college students target students in their first year of studies (Bouteyre, Maurel, & Bernaud, 2007; Clark, 2005; Dyson & Renk, 2006; Gidron & Nyklicek, 2009; Magaya, Asner-Self, & Schreiber, 2005; Sheu & Sedlacek, 2004; Sideridis, 2006; Smith & Renk, 2007). Analysis of findings across studies was limited due to the differences in the conceptualization of coping, in the coping measures used in each study and in the population characteristics.

Bouteyre and her colleagues (2007) conducted a study with French first-year psychology students to determine: (1) the rate of depressive symptoms, (2) if daily hassles encountered during first-year of college study were related to student depressive symptoms and (3) the relationship between coping and symptoms. Findings showed that not all coping strategies work equally well. Task-centered coping was negatively associated with depression, indicating the beneficial effect of problem-solving coping methods. This study also showed that emotion-centered coping was a significant predictor of depression. Task-centered coping reduced perception of hassles whereas emotion-centered coping exacerbated it. The study also revealed that 41% of those surveyed suffered depressive symptoms and that daily hassles encountered during the first year of university life could be considered a relevant risk factor for depression.

In another study, Dyson and Renk (2006) examined the relationships among college freshmen's sex, their level of masculine and feminine characteristics, the levels of

stress that they experience during their first year, the types of coping strategies that they use, and the level of depressive symptomatology experienced. Results of this study suggest that these variables were related uniquely for first-year college students. Gender significantly predicted problem-focused coping. Femininity significantly predicted emotion-focused coping. Further, the levels of family stress and college stress reported by college students as well as their endorsement of avoidant coping significantly predicted their levels of depressive symptoms.

The dynamics of coping strategies were also explored in a qualitative study of eight first-year students (Clark, 2005). Looking at the kinds of challenges both inside and outside of college that prompts students to strategize during that important time and the circumstances that appear to influence them in that process were also investigated.

Gidron and Nyklicek (2009) tested the effects of minor events (getting dirty, missing a bus/train, forgetting someone's address) and major events (failing an important exam, separating from a partner, death of a close person) , primary appraisal (benign, severe), coping (problem-focused coping versus emotion-focused coping), external resources (with/without social support), and internal impediments (hostility), on estimated distress (dependent variable) of first-year Dutch students in written imagined stressful daily scenarios. Results of this study showed that the variables event, appraisal, and social support significantly and independently affected estimated distress. Event and appraisal synergistically interacted in relation to estimated distress. Appraisal interacted with coping such that the distress-reducing effects of problem-focused coping occurred

only in benign events, while coping did not affect estimated distress in severely appraised events.

In another study, the coping strategies and major stressors were examined in a study of Zimbabwean first year college students (Magaya, Asner-Self, & Schreiber, 2005). These stressors included schoolwork, relationships, social life and financial hardship. Results also showed that Zimbabwean adolescents use emotion-focused strategies more frequently than problem-solving strategies.

Sheu and Sedlacek (2004) explored differences in help-seeking attitudes and coping strategies among three racial first-year college students groups (Asian American, African American, and White American). Results showed that first-year students demonstrated differences on help-seeking attitudes and coping strategies by gender and race. African Americans had more positive attitudes toward seeking help for impersonal issues, whereas Asian Americans were more likely to use avoidant coping strategies.

The association between coping, affect, and stress during demanding, stressful tasks among first-year undergraduate students was examined by Sideridis (2006). Results showed that emotion-focused coping was associated with significantly elevated negative affect compared to problem-focused coping. Inclusion of an interaction term reflecting different levels of the two coping strategies showed enhanced adaptation compared to the use of either problem-focused or emotion-focused coping strategies.

Another study conducted by Smith and Renk (2007) assessed potential predictors of the academic-related stress experiences by first-year college students. In particular, the relationships among the coping strategies used by college students, social support, the

parenting style used by college students' mothers and fathers, college students' experience of anxiety, and academic-related stress were examined. Results suggested that anxiety, problem-focused coping, and support from significant others may serve as potentially important predictors of the academic-related stress experienced by college students.

### **Summary of the Review of Literature**

This review of the literature related to coping mechanisms among adolescents used Seiffge-Krenke's (2004) stress, coping and outcomes as a guiding framework. Synthesis of the literature revealed that adolescent stressors primarily arise from school, family, peers, future and identity problems. A number of protective factors, including but not limited to resilience and religiosity have been identified in the adolescent population. Family members and friends have also been found to be a major source of support for adolescents. Internal and active coping strategies have been positively associated with positive mental health and well-being among adolescents. On the other hand, withdrawal coping strategies have been positively associated with poor health behaviors such as smoking, alcohol use, unhealthy eating patterns, diminished psychological well-being, and depression.

While limited, synthesis of the Lebanese literature showed that adolescent stressors might emerge from the political uncertainty, the economic hardship in the country and the inability to meet basic needs in life. Lebanese personality traits such as resilience, optimism and self-esteem as well as cultural characteristics such as strong social support network and religiosity play a critical role as stress-buffering variables in



reaction to stress in Lebanese youth. Results regarding the mental health of Lebanese population are not conclusive. While limited, findings across three studies in college students showed that Lebanese youth, in spite of life-threatening circumstances, are satisfied with their lives.

### **Implications for Nursing Research**

#### **Gaps in the Literature**

Much of the research on adolescent coping has proceeded without an explicit definition of coping, and, as a consequence, characteristics of adolescents' responses that have been included within the concept of coping in one investigation have been excluded from another. The lack of clarity and consensus in conceptualizing coping has had a number of far-reaching effects, including confusion in approaches to measurement, difficulties in comparing findings across studies, and difficulties in documenting fundamental differences in coping as a function of individual-differences factors.

**Coping conceptualization.** Fewer than half of the studies reviewed included a specific statement defining coping (n=39; 48%). Fourteen of the articles referenced Lazarus and Folkman (1984) when defining or describing coping (17%). Rather than providing a definition of coping, many authors described coping in the context of stress response by identifying particular types or ways of coping or naming specific coping strategies used (n=30; 37%).

Among the studies describing rather than defining coping, 12 (12 out of 30=40%) defined coping by highlighting ways of coping such as avoidant coping (Dunkley, Zuroff, & Blankstein, 2003), anger coping, helpless coping and hangout coping (Wills, Sandy,

Yaeger, Cleary, & Shinar, 2001) and the subsequent outcomes such as use of alcohol or drugs (Edmondson, & Park, 2009). Six articles (n=6; 8%) did not include either a description or definition of coping.

Furthermore, the existing literature is silent with respect to how coping conceptualization or definition might change with varying adolescent developmental stages. This could, in part, be due to general recognition that adolescent coping, as conceptualized and defined, remains broad enough to encompass the various stages of development adolescents' experience (Garcia, 2010).

**Theoretical frameworks.** The theoretical frameworks guiding examination of coping varied across studies. Among those who identified the study's theoretical conceptualizations (n=39; 48%), most described a stress and coping theoretical foundation, citing Lazarus and Folkman, Moos, Carver and colleagues, Seiffge-Krenke and Frydenberg and Lewis. Others employed models such as Neuman System Model, Self-Regulation Model, Cognitive-Behavioral Model, Ecological Model of Stress and Vulnerability-Stress framework (see Appendix H).

### **Approaches to Coping: Trait-Oriented vs. Process-Oriented Approaches**

Coping theorists have developed two approaches; style- or trait-oriented and process-oriented approaches (Carver et al., 1989; Folkman et al., 1986; Lazarus, 1993). Although Lazarus (1993) and Friedman (1984) suggested that the impact of situations on coping style is greater than person-related factors, little research has been carried out to determine the relative extents to which individual characteristics or situations play in

directing the coping strategies individuals select (Seiffge-Krenke, Aunola, & Nurmi, 2009).

In adolescent research studies pursuing the dispositional approach (Ben-Ari & Hirshberg, 2009; Ben-Zur, 2009; Dunkley, Zuroff, & Blankstein, 2003; Pritchard, Wilson, & Yamnitz, 2007; Sazaki, & Yamasaki, 2005; Smith & Dust, 2006), coping is seen as being stable across situations and over time. In fact, adolescents who might have learned to cope in a certain way in a variety of situations are typically asked to report their general coping tendencies when facing a problem. In contrast, in studies based on situation-specific approach (Bouteyre, Maurel, & Bernaud, 2007; Dyson & Renk, 2006; Gelhaar, Seiffge-Krenke, Borge, Cicognani, Cunha, Loncaric, Macek, Stein-hausen, & Metzke, 2007), adolescents are asked to report on coping responses pertaining to different kinds of stressful situations.

**Methodology.** Seven articles reported findings from intervention studies (9%), while the remaining articles were based on descriptive studies (91%; see Appendix H). Of the intervention studies, four assessed the effects of a cognitive-behavioral therapy intervention on coping and the remaining three described other intervention strategies designed to improve coping skills such as school-based stress management programs. Sixty-four (78%) of the studies employed a cross-sectional design and seven were longitudinal, including three-year and ten-year follow-up studies.

**Coping categorization.** There have been numerous instruments developed to measure coping in adolescence (see Appendix I) and the categorization of approaches to coping has ranged from the dichotomous grouping of strategies by Lazarus and Folkman

(Lazarus, 1984) which identifies problem-and emotion-focused coping, through groupings of three to 10 strategies (Cassidy, 2000; Garnefski, Legerstee, Kraaij, Van Den Kommer & Teerds, 2002; Jose & Schurer, 2010; Muris, Schmidt, Lambrichs, & Meesters, 2001; Szewczyk & Weinmuller, 2006) to the specificity of more than 15 strategies (Armeli, 2001; Ben-Zur, 2009; Frydenberg & Lewis, 2004; Frydenberg & Lewis, 2009; Gelhaar et al., 2007; Seiffge-Krenke, 2000; 2009).

**Coping measures.** A range of measures were used among the studies to assess adolescent coping, as conceptualized by the researcher (see Appendix I). Instruments most commonly used include the Adolescent Coping Orientation for Problem Strategies Questionnaire (A-COPE), the Adolescent Coping Scale (ACS), the Coping Response Inventory for Youth (CRI-Y), the Stress and Coping Questionnaire for Children (SCQC), Coping Strategy Inventory (CIS), Coping Across Situation Questionnaire (CASQ), and the Ways of Coping Checklist (WOCC). Reliability coefficients of internal consistency and number of items were reported for most measures of the samples studied. These measures each uniquely assess coping, yet all of them reflect theoretically sound and congruent conceptualizations of adolescent coping. Many of the measures are theoretically congruent with Lazarus and Folkman's theory of cognitive appraisal and coping, including A-COPE, ACS, CASQ and WOCC.

**Measurement modalities.** Most studies relied on retrospective, self-report data collection using a survey instrument (n=72; 88%). Two utilized computer-assisted technology to administer a survey. Six studies included parent data collection via survey and interview. Two studies employed a qualitative interview format. Additional

measurement of coping included data collected from participant-daily diaries (three studies) and participant-written imagined stressful daily scenarios (one study).

### **Gaps in the Lebanese Literature**

In Lebanon, there is lack of research on youth's perception of daily hassles, their use of internal and external resources and their coping mechanisms. Review of the Lebanese literature leads to assumptions regarding coping behaviors and well-being among college students, but does not provide conclusive evidence regarding the concepts of stress, coping and well-being and specifics such as what are the most stressful perceived situations for college students, how adolescents, who were experiencing political violence and uncertain future, actually adapt and go on with their life.

## CHAPTER THREE

### METHODOLOGY

The overall purposes of the study are:

1. To describe coping strategies used by Lebanese first-time college students and to determine their scores of well-being.
2. To determine if Lebanese first time college students use different coping responses in different problem areas (school, future, parents, peers, romantic relationship, and self-related problems).
3. To determine the relationships between stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (SES and social support) coping and well-being.
4. To determine whether stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (social support and socioeconomic status) and coping are predictors of well-being.
5. To test whether coping mediates the relationship between stress and the outcome of well-being in Lebanese first-time college students.

#### **Design**

For this study, a descriptive correlational cross-sectional design was used to investigate the relationships between coping, stress, resilience, social support, SES, religiosity, uncertainty, and well-being. Descriptive correlational, cross-sectional research

designs allow for the examination of relationships between variables versus being concerned with determining cause and effect relationships. According to Polit and Beck (2008), descriptive, correlational, cross-sectional research designs are important to nursing, medical, and social science research because: (a) they provide a mechanism to examine a large number of relationships among variables in a short period of time; (b) they are relatively economical and easy to manage; and (c) some phenomena or variables, such as well-being and religiosity are not amenable to experimental manipulation.

The research design selected for this study provided a means to examine relationships between variables and to provide a knowledge base for understanding these relationships without planned research interventions or control of independent variables. The descriptive design provided a statistical summary (e.g., percentages, means, and standard deviations) of the demographic data and the participants' responses. The correlational design served to examine relationships among the variables (coping, perceived stress, resilience, social support, religiosity, uncertainty, SES and well-being). The cross-sectional design allowed for assessment and measurement of variables at one point in time (i.e., beginning of the Fall term). According to Polit and Beck (2008), this design provides a means of collecting important information about relationships which may serve as a foundation for future theory development, hypothesis generation, and testing.

### **Sample**

A convenience sample of 250 college students taking English 009 and 101 courses during Fall 2011 term were recruited from a Lebanese university in Beirut to

participate in the study. The study participants included newly admitted college students aged 18 to 20 years, who attended college at the study site in Fall 2011 term, and who met the inclusion criteria.

### **Sample Size Determination**

A targeted sample size of 193 students was calculated to be able to run appropriate analyses for the proposed model (see Figure 2) with sufficient power. A power analysis calculation was performed employing PASS-11 computer software (Hintzer, 2011) and using coping and well-being as the dependent variables. However, this sample size was inflated to 250 participants to account for: (a) possible drop-out (10%) and (b) incomplete data (10%).

Polit and Hungler (1999) have indicated that approximate sample sizes can be determined based on previously published research or pilot studies that have examined conceptually related measures. To estimate sample size ( $N$ ), researchers must specify the significance criterion  $\alpha$ , the effect size (ES), and the power. With  $\alpha$  and power specified, the information needed to solve for  $N$  is ES, the estimated population effect size. ES is an estimate of how strong the relationship between the independent variable and the dependent variable in the population for each research question.

Quantitative research in the areas of well-being (Hendricks-Ferguson, 1997; Yarchesky et al., 1994; Yarchesky et al., 2000) and coping (Gelhaar et al., 2007; Haid et al., 2010; Seiffge-Krenke, 1995) showed a low to medium effect size for the aforementioned studies. Consequently, the specified sample size was computed using



PASS-11 computer software (Hintzer, 2011) for each of the five research aims depending on each statistical test.

For research aim 1, a minimum sample size of 157 subjects was required to build a 95% confidence interval with a width of 6 units which corresponded to an estimated effect size of 0.3.

For research aim 2, a minimum sample size of 183 students was required to detect an effect size of .23 and to achieve a power of 0.80 with an alpha of .05 for the analysis of variance. The effect size was calculated based on the standard deviations values of the internal, active and withdrawal coping strategies reported by Seiffge-Krenke (1995).

For research aim 3 and 4, a minimum sample size of 193 subjects was required to detect an effect size of .2 (low effect size) and to achieve a power of 0.80 with an alpha of .05 for a correlational test. The effect size was calculated based on the mean scores of the General Well-being for Adolescent Questionnaire (Hendricks-Ferguson, 1997; Yarchesky et al., 1994; Yarchesky et al., 2000). Giving this sample size and for a power of 0.80, power analysis computation showed that ANOVA procedures would be able to detect a small effect size.

For research aim 5, a minimum sample size of 116 students was required to detect a low effect size ( $R^2 = 0.1$ ) for multiple regression procedure and to achieve a power of 0.80 and an alpha level of 0.05.

In conclusion, research aim 4 yielded the highest sample size (193 students) among all other research aims. However, a sample size of 250 college students was collected in order to get the targeted sample size of 193 newly admitted college students.

### Description of Participants

The study participants in this research included newly admitted college students aged 18 to 20 years, who attended college at the study site in Fall 2011 term, and who met the inclusion criteria. Lebanese American University (LAU) students are a selective group and cannot be considered to represent all university students in Lebanon; it is commonly believed that the tuition fee at LAU is one of the highest among universities in the country, and hence, that LAU students generally tend to have high socioeconomic status.

Depending on English proficiency, newly entering students are required to take English 009 (lower level), English 101, English 102, English 202 and English 203 (highest level) in their first year (see Tables 1 and 2). The survey will be conducted among all students taking English 009 and 101 courses during Fall 2011 term at LAU. Furthermore, students taking English 102, 202, and 203, who represent less than 30% of all newly enrolled LAU students, will not be covered in the survey (see Tables 1 and 2). Recruitment of participants followed the university protocol for contacting professors teaching English classes during the planned data collection time.

Table 1. New First-Time Students – English Class Level – Fall 2010

	Number of Students	Percentage of Total
<b>Beirut Campus</b>		
ENG 002 (Intensive 2)	14	1.37%
ENG 003 (Intensive 3)	25	2.44%
ENG 009	418	40.86%
ENG 101	351	34.31%

Table 1 (continued)

ENG 102	175	17.11%
ENG 202	35	3.42%
ENG 203	5	0.49%
<b>Total by Campus</b>	<b>1,023</b>	<b>100.00%</b>
<b>Byblos Campus</b>		
ENG 002	6	1.78%
ENG 003	5	1.48%
ENG 009	105	31.07%
ENG 101	137	40.53%
ENG 102	56	16.57%
ENG 202	26	7.69%
ENG 203	3	0.89%
<b>Total by Campus</b>	<b>338</b>	<b>100.00%</b>
<b>University Wide</b>		
ENG 002	20	1.47%
ENG 003	30	2.20%
ENG 009	523	38.43%
ENG 101	488	35.86%
ENG 102	231	16.97%
ENG 202	61	4.48%
ENG 203	8	0.59%
<b>Total by University</b>	<b>1,361</b>	<b>100.00%</b>

Table 2. Student Enrollment in English Courses – Fall 2010

	Number of Students	Percentage of Total
<b>Beirut Campus</b>		
ENG 002	18	0.64%
ENG 003	35	1.24%
ENG 009	546	19.41%
ENG 101	550	19.55%
ENG 102	760	27.02%
ENG 202	489	17.38%
ENG 203	415	14.75%
<b>Total by Campus</b>	<b>2,813</b>	<b>100.00%</b>
<b>Byblos Campus</b>		
ENG 002	7	0.73%
ENG 003	5	0.52%
ENG 009	125	12.95%
ENG 101	221	22.90%
ENG 102	214	22.18%
ENG 202	238	24.66%
ENG 203	155	16.06%
<b>Total by Campus</b>	<b>965</b>	<b>100.00%</b>
<b>University Wide</b>		
ENG 002	25	0.66%
ENG 003	40	1.06%
ENG 009	671	17.76%
ENG 101	771	20.41%
ENG 102	974	25.78%
ENG 202	727	19.24%
ENG 203	570	15.09%
<b>Total by University</b>	<b>3,778</b>	<b>100.00%</b>

### **Inclusion Criteria**

Sample selection inclusion criteria included: (a) matriculating newly admitted Lebanese student at the designated site taking at least three credits in the current semester, (b) enrolled and present in the English 009 or 101 class on days of data collection, (c) Lebanese citizen who has lived in Lebanon for the last six years (2005-2011), (d) 18 to 20 years old, (e) able to read and write in English, and (f) physically able to complete a 30-minute survey.

### **Exclusion Criteria**

Exclusion criteria included: (a) not newly admitted college students. Those represented 36% of students enrolled in English 101 sections and 23% of students enrolled in English 009 sections (see Tables 1 and 2); (b) Non-Lebanese college students. Those represented 21% of newly admitted college students (see Tables 3 and 4); and (c) students aged above 20 years old. Those represented 15% of newly admitted college students (see Table 2).

### **Setting**

The study took place at the Lebanese American University on Beirut campus in Lebanon. The Lebanese American University (LAU) is a private university that serves as a leader in higher education and accommodates the cultural and religious diversity in the country and the Middle East at large (see Tables 3 and 4).

Table 3. New First-Time Students' Demographics Statistics – Fall 2010

<b>Gender</b>	<b>Beirut Campus</b>	<b>Byblos Campus</b>	<b>University Wide</b>
Female	591	211	802
Male	573	199	772
<b>Total</b>	<b>1,164</b>	<b>410</b>	<b>1,574</b>
<b>Nationality</b>	<b>Beirut Campus</b>	<b>Byblos Campus</b>	<b>University Wide</b>
Lebanese	917	337	1254
Arab	83	13	96
International	164	60	224
<b>Total</b>	<b>1,164</b>	<b>410</b>	<b>1,574</b>
<b>Age</b>	<b>Beirut Campus</b>	<b>Byblos Campus</b>	<b>University Wide</b>
17	6	0	6
18	149	39	188
19	830	345	1175
20	137	26	163
21	27	0	27
22	7	0	7
23	2	0	2
25	1	0	1
27	2	0	2
28	1	0	1
31	1	0	1
49	1	0	1
<b>Total</b>	<b>1,164</b>	<b>410</b>	<b>1,574</b>

Table 4. Enrollment by Place of Origin – Fall 2010

Place of Origin	Number of Students	Percentage of Total
<b>Beirut Campus</b>		
Lebanon	4,202	77.43%
Rest of Middle East	464	8.55%
North America	378	6.97%
Europe and Caucasus	206	3.80%
Central and South America	77	1.42%
Africa	69	1.27%
Australia	22	0.41%
Asia	8	0.15%
Others	1	0.02%
<b>Total by Campus</b>	<b>5,427</b>	<b>100.00%</b>
<b>Byblos Campus</b>		
Lebanon	2,287	86.63%
Rest of Middle East	96	3.64%
North America	146	5.53%
Europe and Caucasus	55	2.08%
Central and South America	24	0.91%
Africa	13	0.49%
Australia	19	0.72%
Asia	0	0.00%
Others	0	0.00%
<b>Total by Campus</b>	<b>2,640</b>	<b>100.00%</b>

Table 4 (continued)

<b>University Wide</b>		
Lebanon	6,489	80.44%
Rest of Middle East	560	6.94%
North America	524	6.50%
Europe and Caucasus	261	3.24%
Central and South America	101	1.25%
Africa	82	1.02%
Australia	41	0.51%
Asia	8	0.10%
Others	1	0.01%
<b>Total by University</b>	<b>8,067</b>	<b>100.00%</b>

LAU has two campuses, one campus in Beirut (Lebanon's capital and largest population hub) and another campus about 35 kilometers to the north, in Byblos. The Beirut campus is nestled in an urban setting, just steps away from the stimulating cultural, social, educational and recreational opportunities of Lebanon's capital. The campus is the university's foundation site as a women's college in the early 20<sup>th</sup> century. Its first building was Sage Hall, erected in 1933. Through the decades, nine other buildings were added over the central campus area that is beautifully landscaped with Mediterranean trees and foliage. The latest addition, which has significantly enlarged the campus expanse to 24,525 square meters, is an impressive complex housing the School of Business and the Riyad Nassar Library. Two schools operate on the Beirut campus: Arts and Sciences and Business. Students from other schools may take their freshman and



sophomore years in Beirut, and transfer to Byblos to complete their junior and senior years.

In the 2010-2011 academic year, more than 7,813 students were registered on both campuses, with over 5,390 students attending classes on the selected campus. Table 5 shows the number of freshman and sophomore students on Beirut campus in the fall 2010 term. During that term, 77.43% of LAU students were Lebanese citizens. Twenty-three percent (22.57%) of the student population was international, representing 83 different nationalities in the fall 2010 term (see Table 3).

Table 5. New First-Time Students' Academic Status – Fall 2010

	Beirut Campus	Byblos Campus
<b>Sophomore - Undergraduate</b>		
Received Applications	1,929	701
Accepted Applications	1,458	570
Enrolled Applicants	887	349
% Accepted of Applied	75.58%	81.31%
% Enrolled of Accepted	60.84%	61.23%
<b>Freshman - Undergraduate</b>		
Received Applications	726	111
Accepted Applications	420	90
Enrolled Applicants	256	61
% Accepted of Applied	57.85%	81.08%
% Enrolled of Accepted	60.95%	67.78%
<b>Transfers - Undergraduate</b>		
Received Applications	277	125
Accepted Applications	85	69
Enrolled Applicants	49	38

Table 5 (continued)

% Accepted of Applied	30.69%	55.20%
% Enrolled of Accepted	57.65%	55.07%
<b>Special - Undergraduate</b>		
Received Applications	80	8
Accepted Applications	66	8
Enrolled Applicants	56	8
% Accepted of Applied	82.50%	100.00%
% Enrolled of Accepted	84.85%	100.00%
<b>Master's Degree</b>		
Received Applications	320	96
Accepted Applications	179	47
Enrolled Applicants	119	30
% Accepted of Applied	55.94%	48.96%
% Enrolled of Accepted	66.48%	63.83%
<b>First Professional Degree</b>		
Received Applications	-	190
Accepted Applications	-	78
Enrolled Applicants	-	56
% Accepted of Applied	-	41.05%
% Enrolled of Accepted	-	71.79%
<b>Total Students</b>		
Received Applications	3,332	1,231
Accepted Applications	2,208	862
Enrolled Applicants	1,367	542
% Accepted of Applied	66.27%	70.02%
% Enrolled of Accepted	61.91%	62.88%

The Lebanese American University offers counseling services to full-time students as well as workshops every semester that are geared to help students cope with stress and transition to university for first-time students. The counseling office is staffed by one staff, who is a licensed clinical psychologist.

### **Ethical Considerations**

Approval was obtained from the Lebanese American University and the Loyola Review Board for the protection of human subjects prior to initiation of the study. Data were collected after students agreed to participate and signed an informed consent. Since students had a minimum age of 18, no parental consent was required for participation. Participants received a written explanation of the purpose and procedures of the study and were informed of the student's right to withdraw at any time without penalty. Students received the name and contact information of the investigator in case they have questions regarding the study.

Students were informed that their participation in the research would not affect their grades at the University. The data collection method for this investigation was through the use of self-report questionnaires. The variables in this study, diminished well-being, religiosity, perceived social support from friends, family, and peers, socioeconomic status, uncertainty, stress, resilience and coping may be sensitive issues for some individuals. Because the investigator was not familiar with the participants' personal histories prior to their participation in the investigation, and did not have the routine opportunity to interact with the participants on a clinical basis, a mechanism was in place to provide assistance for individuals experiencing emotional distress. The

investigator provided information to all participants about the campus counseling office as well as the local community mental health resources.

All of the data collected during this investigation remained confidential. To ensure confidentiality, the investigator assigned each data collection packet a number, and this number was used for all further data identification. The names of subjects were not collected, and thus, there was no mechanism to connect specific data to individual subjects. Secondly, all of the data was directly handled by the investigator, and all completed packets were stored in a locked file cabinet. Following final evaluation of the data, all data collection packets were destroyed. Finally, the results of this investigation were reported only as aggregate data to protect the confidentiality of the individual subjects.

Although this investigation did contain some inherent risk that some individuals that may develop emotional distress related to self-discovery while completing the questionnaires, the anticipated benefits from this investigation outweighed the potential risks. In order to develop appropriate nursing assessment and interventions to assist college students experiencing diminished well-being, there must be a clear understanding of factors that are predictive of diminished well-being in college students.

### **Recruitment of Participants**

The investigator worked with the faculty members at the English department for recruitment of students. There were approximately 24 sections of English 009 class and 25 sections of English 101 on Beirut campus, and each section consisted of approximately 25 to 35 students. Subjects for this study were recruited from convenient

sections of English 009 and 101 during the Fall 2011 semester. Surveys were administered in a classroom setting in one class period, during regular college hours. The investigator scheduled specific times with individual course faculty members to attend these classes during the Fall 2011 semester. During these classes, the investigator provided a brief presentation about the study to all of the students in the class. Students who did not meet the inclusion criteria remained in the classroom and were asked to conduct an alternative assignment (see Appendix D). Students were instructed to place the surveys in the envelope provided and seal the envelope before returning it to the researcher. The envelopes were collected from the participants immediately after the testing is completed. An information packet which includes a letter describing the study and a student consent form were distributed at that time (see Appendices B and C). After the signature of the consent form, each student was invited to take the survey. To maintain anonymity, student names or identifying information were not collected.

### **Variables and Instruments**

The independent variables are stress, resilience, social support, uncertainty, SES and religiosity. The dependent variables are coping and well-being. Operational definitions are outlined in Table 6.

Table 6. Operational Definitions

<b>Variable</b>	<b>Instrument/Measure</b>
Stress	Problem Questionnaire
Socioeconomic status	Parental monthly income level and Parents' level of education
Resilience	Resilience Scale
Social Support	Multidimensional Scale of Perceived Social Support
Uncertainty	Uncertainty Scale
Religiosity	Santa Clara Strength of Religious Faith Questionnaire
Coping	Coping Across Situations Questionnaire
General Well-being	General Well-being for Adolescents Questionnaire

Permissions to use the Problem Questionnaire, Coping Across Situations Questionnaire, Resilience Scale and Uncertainty scale were obtained from the authors of these instruments. The Multidimensional Scale of Perceived Social Support, General Well-being for Adolescents Questionnaire and Santa Clara Strength of Religious Faith Questionnaire are within the public domain and permissions were therefore not required. All those scales were chosen to be used in this study based on their conceptual framework, strong psychometric properties, length and concise language with acceptable readability level statistics and their multi-cultural group use in adolescent population. A panel of experts that consists of Dr. Rima Afifi and Dr. Hani Dimassi (biostatistician) reviewed the instruments and validated their use in a Lebanese context.

## Stress

Stress is defined as an internal or external demand, problem or encounter that represents a particular relationship between the person and the environment that is appraised by a person as taxing or exceeding his or her resources and endangering his or her well-being (Lazarus & Folkman, 1984).

The students' perception of everyday stress was assessed by the Problem Questionnaire (see Appendix F) developed by Seiffge-Krenke (1995). The Problem Questionnaire (PQ), a 61-item self-report questionnaire, assesses everyday stress across seven domains including academic stress, future-related stress, stress with parents, stress with peers, stress in leisure time, self-related stress, and stress in romantic relationships. Items included "My parents show little understanding for my problems in school" and "I am dissatisfied with my appearance". The synthesis of the literature revealed that adolescent stressors arise primarily from the following six domains: school, parents, peers, romantic relationship, future and self-related issues (Haid et al., 2010; Murff, 2005; Puskar et al., 1993; Seiffge-Krenke, 2006). Consequently, in the current study, two domains (leisure time and job) were not examined in the Problem Questionnaire and the Coping Across Situation Questionnaire. The deletion of the two domains in the Problem questionnaire yields to a 53-item scale. Permission to omit those domains was obtained from Dr. Seiffge-Krenke (personal communication, March 13, 2011).

Using a 5-point Likert scale, with answers ranging from (5) highly stressful to (1) not stressful at all, adolescents were asked to rate the perceived stressfulness of these items. Scales for each domain were constructed by computing mean values. Higher mean

values indicated higher stress perception in the problem domain (Seiffge-Krenke, personal communication, March, 2011). Additionally, a total problem score was obtained by calculating an average score of the scales with higher mean values also indicative of higher stress perception (Seiffge-Krenke, personal communication, March, 2011). Stress scores related to parents, peers, romantic interests, and myself were deviating from normality. Consequently, a mathematical transformation was performed and the transformed score distributions were considered appropriate as illustrated by the mean, standard deviations, and histograms (see Appendix A).

Several studies involving approximately 1,500 students aged between 12 and 17 were conducted in a German high school to develop the PQ and the Coping Across Situations Questionnaire (CASQ). Both instruments were developed simultaneously to focus on the daily hassles with which adolescents are confronted and to ascertain the choice of situation specific coping strategies and coping dimensions or styles used (Seiffge-Krenke, 1995). Therefore, both scales were employed in this study.

The Problem Questionnaire was tested for stability over time. The stability coefficients were sufficient and ranged from  $r = .54$  to  $r = .83$  (Seiffge-Krenke, 1995). Internal consistency ranged between  $.70$  and  $.84$ . Validity has been determined through multivariate analysis of variance (MANOVAs) (Seiffge-Krenke, 1995). In a first study, a MANOVA revealed that emotionally unstable and depressed adolescents experienced significantly more stressors across domains with greater stressors perceived in the area of self-related problems [ $F(2, 350) = 84.17, p < .001$ ]. A second study examined the relationship between family climate and stress. Four family climates or structures were



identified (achievement and control-oriented families, disengaged and conflict-oriented families, structured, cohesive, and moral oriented families, and cohesive, expressive, and individuated families) and a MANOVA was performed on these clusters across the seven scales of the PQ. With the exception of problems with school, results revealed significant differences in problems with future:  $F(3, 203) = 3.84, p < .05$ , problems with parents:  $F(3, 203) = 24.4, p < .001$ , problems with peers:  $F(3, 203) = 5.29, p < .05$ , problems with leisure time:  $F(3, 203) = 17.30, p < .001$ , problems with romantic relationships:  $F(3, 203) = 4.16, p < .05$ , and self-related problems:  $F(3, 203) = 8.51, p < .05$  (Seiffge-Krenke, 1995).

The instrument has also demonstrated satisfactory reliability that ranged from .66 to .94 with culturally diverse adolescents from Finland, Israel, the United States (Seiffge-Krenke, 1995), from Italy, Turkey and Germany (Haid et al., 2009), from China (Tam & Lam, 2005), and from Canada (Staempfli, 2007).

### **Uncertainty Scale**

The uncertainty scale (see Appendix G) is a 13-item scale that measures the level of uncertainty that an individual has about various aspects of life (Afifi, personal communication, March 14, 2011). Uncertainty is defined as a sense of not knowing what will happen. The scale that has not been published yet but was used on adolescents in Beirut refugee camps (Afifi & Afifi, 2011). The scale was based on a history of working with uncertainty measures in different contexts as validated by Dr. Afifi (personal communication, March 15, 2011). Predictive validity has been examined in the unpublished data (Afifi & Afifi, 2011). Internal consistency ranged from 0.78-0.88. Three

factors have emerged through exploratory factor analysis that represents three uncertainty domains: (a) uncertainty about well-being; (b) uncertainty about macro conditions; and (c) general uncertainty (personal communication with Dr. Afifi, 2011, March 15, 2011). Items #4 and 5 which are related to camp's security and camp's future were adapted to Lebanese college students and replaced by Lebanon's security and Lebanon's future. The time frame "past summer" and "next summer" in the last two questions were replaced by the 12 month-period due to its relevance to the Lebanese political context as validated by the panel of experts.

### **Resilience**

The 25-item Resilience Scale (RS) (see Appendix F) measures the degree of individual resilience, "considered to be a positive personality characteristic that increases an individual's adaptation" (Wagnild & Young, 1993, p. 167). The authors of the scale report that the "potential use of the RS is as a measure of internal resources and of the positive contribution of what one brings to a difficult life event" (Wagnild & Young, 1993, p.175). The scale items are scored on a 7-point scale from 1 (strongly disagree), to 7 (strongly agree). They are worded positively and reflect statements made by participants in the initial study on resilience conducted by Wagnild and Young. Scores on the RS can range from 25 to 175 with higher scores mean greater resilience. Wagnild (2003) categorizes the scores into high (147-175), medium (121-146), and low (less than 121) levels of resilience. Question 26 asks the study participants if they are resilient. This question is an optional measure of the concurrent validity of the RS which can be used at

the researcher's discretion. In the current study, this question was not administered to the study participants.

The authors developed the items reflecting five themes (equanimity, perseverance, self-reliance, meaningfulness, and existential aloneness) of resilience which were selected from a review of the literature. These items were validated a priori by content experts and further by interviewing 24 American women who were judged to have successfully adapted to major life events (Wagnild & Young, 1993). Psychometric evaluation of the initial tool was conducted with a sample of 810 community-dwelling adults. A factor analysis was performed for the determination of internal consistency of the instrument. According to the authors, the factor analysis of the RS in initial studies has validated that resilience is multidimensional. Subscales of this instrument include personal competence (factor one) and acceptance of self and life (factor two). Wagnild and Young report high reliability with a coefficient alpha of .91, item-to-item correlation ranges from .37 to .75 at  $p \leq .001$ ." Concurrent validity of the RS was evaluated by correlating the RS with theoretically relevant constructs of life satisfaction, morale, depression, and physical health. The researchers further reported test-retest correlations from other studies ranging from .67 to .84 ( $p < .01$ ) (Wagnild, 2009).

Although initially used with adults, this instrument has subsequently been useful with the study adolescent populations (Black & Ford-Gilboe, 2004; Hunter & Chandler, 1999; Neill & Dias, 2001; Rew, Taylor-Sheefers, Thomas, & Yockey, 2001). The instrument has also been translated and psychometrically tested in other languages (Wagnild, 2009).

### **Multidimensional Scale of Perceived Social Support (MSPSS)**

The MSPSS is a 12-item scale developed to assess perceived social support from three different sources, namely family, friends, and a significant other (Zimet, Dahlem, Zimet, & Farley, 1988). The MSPSS is rated on a 7-point Likert-type scale (1 = Strongly disagree to 7 = Strongly agree). No items are reverse scored. Sample items include “There is a special person with whom I can share my joys and sorrows,” “My family really tries to help me,” and “I can talk about my problems with my friends.”

The initial investigation utilizing the MSPSS was completed using 275 students from an introductory psychology course at Duke University from 17 years to 22 years of age. Each of the 275 subjects completed the initial version of the MSPSS, which consisted of 24 items focused upon their perceptions of social support from their families, friends, and significant others. This initial version asked subjects to rate their agreement or disagreement to each statement on a 5-point Likert scale. Subjects were also asked to complete the Hopkins Symptom Checklist. The scores from two problem dimensions of the Hopkins Symptom Checklist, depression and anxiety, were evaluated for their correlation to perceived social support scores.

After evaluation of data from this initial investigation, two changes were implemented which resulted in the currently available version of the MSPSS. First, repeated factor analysis of the data from this initial investigation indicated that 12 of the items did not directly address social support. Therefore, these 12 items were removed from the instrument.

The current MSPSS consists of a total of 12 items with each of the three subscales consisting of four items. These three subscales include perceived social support from family, perceived social support from friends, and perceived social support from significant others (Zimet, Dahlem, Zimet, & Farley, 1988). The Cronbach's coefficient alpha values in Zimet et al. were .91, .87, and .85 for Significant Other, Family, and Friends subscales respectively. In Edwards' (2004) study with Mexican American high school students, Cronbach alpha values of .88 for the Family, .90 for the Friends, and .61 for the Significant Other subscales. Investigators can then calculate total scores for each of the subscales of the MSPSS as well as the total scale. There is no specific cut-off score for this instrument. The data can be interpreted, however, as the higher the score of an individual on each of the subscales and the total scale, the greater their perception of positive social support. This information can assist researchers to discriminate the amount of perceived social support among subjects in their investigations. It is stated in the initial article published on this instrument that this hypothesis was supported through evaluation of the data collected. The overall MSPSS score was significantly and negatively related to the scores from the depression subscale of the Hopkins Symptom Checklist,  $r = -.25$ ,  $p < .01$  (Zimet et al., 1988).

In the current study, social support subscales scores were deviating from normality. Consequently, a mathematical transformation was performed and the transformed score distributions were considered appropriate as illustrated by the mean, standard deviations, and histograms (see Appendix B).

The reliability of the scores obtained through use of the MSPSS in the initial investigation was addressed by the individuals who developed the instrument. The Cronbach's coefficient alpha, a measure of internal consistency, was calculated for each of the three subscales as well as the overall scale scores. The Cronbach's coefficient alpha coefficients for the perceived social support from a significant other subscale was 0.91, for the perceived social support from family subscale was 0.87, for the perceived social support from friends was 0.85, and the overall scale was 0.88. The authors felt this data indicated good internal consistency for the overall scale as well as the three subscales (Zimet et al., 1988).

Approximately two to three months following the initial investigation, 69 of the 275 subjects were asked to complete both the MSPSS and the Hopkins Symptom Checklist in an evaluation of test-retest reliability. The data from this second investigation were then evaluated to determine the test-retest reliability of the data. The Cronbach's coefficient alpha coefficients for the perceived social support from a significant other subscale was 0.72, for the perceived social support from family subscale was 0.85, for the perceived social support from friends was 0.75, and the overall scale was 0.85. The authors felt this data indicated good internal reliability and adequate stability over time for the overall scale as well as the three subscales (Zimet et al., 1988).

### **Socioeconomic Status (SES)**

SES is operationally defined by the interval-scale measurement used to measure the actual monthly earnings and the parents' education level. The magnitude of the household income, the family status in respect to other families and the highest level of

education received by the mother and father were collected from the student's response to the demographic questionnaire (see Appendix E).

Parents' education level was measured by the highest degree earned of the two parents (the father's education) and was coded into three categories: Low for middle school or below, Medium for high school or below, and High for college level (see Table 7). An additional question related to the student's perception of family income in respect to other families was used to replace the response of the parental monthly income in case the student did not know/answer the monetary income question.

Table 7. Parental Monthly Income vs. Father's Education Level

	less than \$1000	\$1000-2000	\$2001-3000	\$3001-4000	>\$4000	I don't know/ I prefer not to answer
Primary or below	Low	Low	Medium	Medium	Medium	Low
Secondary or below	Low	Medium	Medium	High	High	Medium
University	Medium	High	High	High	High	High

### Coping Across Situations Questionnaire

Coping is measured with the Coping Across Situations Questionnaire (CASQ) (see Appendix F; Seiffge-Krenke, 1995). This scale is specific to adolescents and measures 20 coping strategies across eight problem domains. These domains coincide with major adolescent stressors and include: school, parents, peers, romantic interests, self, job, leisure and future. The respondent chooses which of 20 coping strategies they

employ when problems occur in each domain. The sum of coping strategies across domains provides the frequency with which a coping strategy is used.

Test-retest reliability has been reported 0.53-0.83, internal consistency ranged from 0.60-0.88. Three factors have emerged through factor analysis that represents three coping styles: (a) active coping, involving activities such as seeking information or advice (e.g., strategy 1: “I discuss the problem with my parents”); (b) internal coping, emphasizing the adolescent’s appraisal of the situation and internal reflection about possible solutions; and (c) withdrawal, including defenses such as denial, regression, or withdrawal (e.g., strategy 20: “I withdraw because I cannot change anything anyway). Withdrawal may be regarded as dysfunctional in the sense that no immediate solution is reached. The active coping style and withdrawal each encompassed seven strategies, while internal coping covered six strategies.

The instrument has been used in multi-cultural adolescent populations (Haid et al., 2009; Gelhaar et al. 2007; Krenke, Aunola, & Numi, 2009; Krenke, 2006; Staempfli, 2007; Gomez & McLaren, 2006; Steinhausen, Eschmann, Heimgartner & Metzke, 2007).

The CASQ is scored by totaling the frequency of active, internal, and withdrawal coping strategies across the eight problem domains. This is obtained by counting the row sums for the subscale items:

Active coping	items 1, 2, 3, 6, 15, 18, 19
Internal coping	items 4, 5, 9, 10, 11, 13, 14
Withdrawal coping	items 7, 8, 12, 16, 17, 20



In the current study, two domains (leisure time and job) were not examined in the Coping Across Situation Questionnaire. The resulting 20 x 6 matrix was used to analyze the pattern of situation-specific coping strategies and general coping styles across situations. To determine the participants' use of the three coping styles, the sums of the eight columns were counted over all the 20 coping strategies – as each column stands for a special problem area. As the three scales include a different number of items (7 for active and internal coping, 6 for withdrawal), the sum was divided by this number in order to get comparable figures. Furthermore, to know the relative importance of one coping style compared with the two others, the sum of active, internal, and withdrawal was set 100 for each subject to compute the percentage of the three coping styles in respect to the overall coping value.

### **Santa Clara Strength of Religious Faith Questionnaire**

Religious faith is conceptually defined as the belief in a higher power that provides meaning and purpose in life. Faith is demonstrated through behaviors such as prayer and attending services (Edwards, Rinker, Rehfeldt, Ryder, & Lopez, 2002).

Religious faith is operationally defined as a subject's score on the Santa Clara Strength of Religious Faith (SCSORF) questionnaire (Appendix F; Plante & Boccaccini, 1997a). The SCSORF questionnaire contains 10 items (e.g., "I pray daily") that are scored on a four-point Likert scale, ranging from 'Strongly disagree' to "Strongly agree". The SCSORF was designed specifically to measure the respondent's strength of religious faith without assuming that the person is of a specific religious denomination. The SCSORF is easy to administer and score, making it suitable for researchers and clinicians who wish to

examine their client's strength of religious faith or who wish to use strength of religious faith as a variable in their research (Plante & Boccaccini, 1997a). Scores can range from 10 to 40 with higher scores indicating stronger religious faith.

The SCSORF is both reliable and valid. The validity of the ten-item survey has been supported by strong correlations between results of the SCSORF and other established measures of religiousness and religiosity, such as the Age Universal Religious Orientation (AURO), Intrinsic Religious Motivation Scale (IRMS) and Duke Religious Index (DRI). Reliability of the SCSORF was confirmed by high internal reliability (Cronbach's  $\alpha = .95$ ) and high split-half reliability ( $r = .92$ ) (Plante & Boccaccini, 1997a). Total scores range from 10 to 40, with higher scores indicating greater religiosity. Psychometric research demonstrates that scoring at or above 33 indicates "high religiosity" (Plante & Boccaccini, 1997a). The SCORF has good reliability ( $\alpha = .92-.95$ ) and converges with other valid measures of religiosity (Plante & Boccaccini, 1997b). The instrument was used in adolescent populations in Ireland (Lewis, Shevlin, McGuckin & Navr'atil, 2001) and in the US (Berman, Abramowitz, Pardue & Wheaton, 2010; Edwards et al., 2002; Freiheit, Sonstegard, Schmitt & Vye, 2006; Plante & Canchola, 2004; Plante, Saucedo & Rice, 2001; Plante, Yancey, Sherman, Guertin, 2000).

#### **General Well-being Questionnaire for Adolescents (QWBQA)**

Empirical investigation of general well-being among adolescents has been limited due to the lack of existing well-being instruments specific to adolescents. Currently, the QWBQA (Colombo, 1984) is the only adolescent instrument found that was designed to measure all four areas of well-being (i.e., physical, mental/psychological, social) among

adolescents (see Appendix F). Development of this scale was based on a review of literature that focused on well-being and adolescent development as well as on existing and reliable well-being instruments.

The GWBQA is a 5-point Likert scale designed to measure three dimensions of general well-being: (a) physical well-being (i.e., interpersonal interactions, social participation), (b) social well-being, and (c) mental/psychological well-being (i.e., self-esteem, locus of control, subjective life satisfaction and happiness, loneliness, anxiety, depression, psychiatric symptoms, life events) dimensions of GWB in adolescents. The GWBQA has three forms, the original 110-item scale, the revised 81-item scale, and the 39-item short-form. The 39-item short-form of the GWBQA was selected for this study partially because it requires less time to complete than the other forms that may also decrease the risk of fatigue experienced by the participants. Scores should be interpreted as follows: (a) the higher the total score on the GWBQA, the greater the adolescent's general well-being (GWB) and (b) the lower the total score, the lower the adolescent's GWB (Colombo, 1984). Based on this interpretation, Colombo proposed that the QWBQA is clearly able to discriminate between high and low scores for individual adolescents. Colombo also suggested that adolescents who respond to the GWBQA with low scores may be currently experiencing difficulties (i.e., in one or a combination of the three dimensions of the questionnaire) and/or may be at risk for future problems.

To establish content validity for the GWBQA, Colombo (1984) primarily generated items from his conceptual model of well-being in adolescents; secondarily, Colombo selected items from existing reliable and valid wellbeing instruments for

adolescents. Validity was assessed through multiple statistical analyses, such as item-to-total correlations and multiple factor analyses, all of which were conducted on data obtained from 940 adolescents, ages 14-18 years.

Colombo reported the following factor analysis for the QWBQA: (a) the principal factors (i.e., those with eigen values of 1.00 or greater) explained 55% of the total variance in scores for the 39-item short form; (b) the remaining factors indicated that the questionnaires is more than just the sum of its dimensions; and (c) a high reliability ( $\alpha = .95$ ) of the 39-item short-form was based on the first 10 factors.

Among item-to-to-total correlations, 91% of the items with the highest item-to-total correlations were from the mental/psychological dimension and 9% were from the physical dimension. The item-to-dimension correlations suggested that 88% of the dimensions were conceptually correct. Among dimension-to-total correlations, the mental/psychological dimension is the most closely related to the total well-being score ( $r = .97$ ); the physical dimension was the second highest of the three related to the total well-being score ( $r = .84$ ); the social dimension displayed the lowest of the three related to the total well-being score ( $r = .67$ ); and the mental and physical dimensions correlated the most highly with each other ( $r = .70$  to  $.72$ ).

The 39-item short form demonstrated an acceptable level of reliability in American adolescent populations that ranged from of .92 (Hendricks-Ferguson, 2001), .93 (Yarcheski, Scoloveno, & Mahon, 1994) to .95 (Mahon, Yarcheski, & Yarcheski, 2000). The instrument has not been used in other cultural group.

In the current study, the item number 26 (“I have frequent thoughts about death or suicide”) has been removed from the survey as a positive answer would ethically require follow-up and hence, would require a break of confidentiality.

### **Socio-Demographic Information**

Demographic variables were collected to describe the sample and to attempt to identify the characteristics of the population (e.g., personal characteristics) and to control for extraneous variables. The Demographic Questionnaire was developed by the investigator of this study (see Appendix E). The format was based on a review of the literature related to the background characteristics of Lebanese college students and will be validated by the panel of experts. Descriptive data included the following demographic variable: age, gender, education, nationality, parents’ nationalities, parents’ level of education, class, employment, parental income, financial support, living arrangement, housing, activities, study habits, perceived level of academic achievement, number of years lived in Lebanon and students’ academic level (Freshman or Sophomore level).

### **Preliminary Testing**

The booklet survey was administered to a small sample of adolescents through personal contact to test the instrument booklet for readability, comprehensibility and completion time. Eleven adolescents aged between 18 and 19 years volunteered for the preliminary testing. The students were provided verbal instructions on completion of the survey. They were asked to time the survey and were encouraged to ask any questions that they had as they filled out the booklet. All booklets were complete with no missing

data. At the end of the survey, the students were asked if they encountered any difficulty reading or understanding the questions.

The results of the testing showed that in regard to time of completion, 3 out of 11 adolescents completed the instrument booklet in 45 minutes; 9 out of 11 adolescents completed it between 30 and 35 minutes. In regard to difficulty, some words or expressions were difficult to understand such as "take things in stride", "comradeship", "enrage", "marks", "impersonal", "I hardly have any friends", "I sometimes have to pretend" and "resilient". Based on the results of the preliminary testing, changes were made to the instrument survey accordingly (see Figure 3). A panel of experts that consists of Dr. Rima Afifi and Ms. Mona Chahine (coordinator of the English department at LAU) validated the use of the words or expressions in the Lebanese sample population. Permissions to change the original terms were obtained from the Dr. Seiffge-Krenke, author of the Problem Questionnaire (personal communication, on April 7, 2011) and Dr. Wagnild, author of the Resilience scale (personal communication, on May 29, 2011). Item #26 ("I am resilient") is an optional question and hence, will not be administered to the study participants as it is unnecessary most of the time as validated by Dr. Wagnild (personal communication, on May 29, 2011).

Original terms	Suggested terms
“take things in stride”	“take things as they come”
“comradeship”	“sharing”
“enrage”	“makes me angry”
“marks”	“grades”
“impersonal”	“not personal”
“I hardly have any friends”	“I have very few friends”
“I sometimes have to pretend”	“I sometimes have to pretend about certain things”
“resilient”	Item #26 will be eliminated

Figure 3. Preliminary Testing

### Data Analysis Plan

Descriptive and inferential analysis was computed using the statistical program SPSS Sample Power 18. Prior to analysis, the data was entered and cleaned by conducting a review for missing data and data entry errors. Data analysis for this study consisted of both descriptive and inferential statistical analysis. Total scores for the seven instruments, Problem Questionnaire (Seiffge-Krenke, 1995), Resilience Scale (Wagnild & Yound, 1993), Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988), Uncertainty Scale (Afifi & Afifi, 2011), Santa Clara Strength of Religious Faith Questionnaire (Plante & Boccaccini, 1997), Coping Across Situations Questionnaire (Seiffge-Krenke, 1995) and General Well-being for Adolescents Questionnaire (Columbo, 1984) were calculated from the participants' responses. Internal consistency reliabilities were assessed by calculating Cronbach alpha correlation coefficients for each of the seven instruments. The dependent variables are coping and well-being. The independent variables are stress, uncertainty, resilience, religiosity, social

support and socioeconomic status (SES). The controlling variable is gender. The socioeconomic status was entered as a categorical variable for one of the three levels: low, medium and high depending on the students' responses on parental monthly income and father's education level (see Table 7). Descriptive analysis was used to describe the demographic variables of the sample and the scores on the seven instruments.

Each research aim (see Table 8) was examined using one of the following analyses: descriptive statistics, Pearson product moment correlation, Analysis of Variance techniques, multiple linear regression and mediational analyses.

Table 8. Research Aims, Hypotheses, and Statistical Analyses

<b>Research Aims</b>	<b>Hypotheses</b>	<b>Analysis</b>
1-To describe coping strategies used by Lebanese first-time college students and to determine their scores of well-being	No hypothesis	Descriptive statistics to estimate the average scores of coping and well-being with a 95% confidence interval.
2- To determine if Lebanese first time college students use different coping responses in different problem areas (school, future, parents, peers, romantic relationship, and self-related problems)	2- Lebanese first time college students use different coping strategies in different problem areas	ANOVA repeated measure was used to determine if there are differences among the three coping strategies (Internal, Active and Withdrawal) across the 6 domains



Table 8 (continued)

3- To determine the relationships between stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (SES and social support) coping and well-being	3- There will be a relationship between dysfunctional coping and increased well-being, high stress, low resilience, high uncertainty, low social support and low SES	a) Pearson product-moment correlations to determine relationships between scores on all variables  b) ANOVA was used to determine if there are differences in the independent variables with respect to gender
4- To determine whether stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (social support and socioeconomic status) and coping are predictors of well-being	4- Stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (social support and socioeconomic status) and coping differentially predict well-being in Lebanese first-time college students	a) Stepwise multiple regression was used to determine which factors are predictive of well-being while controlling for gender
5- To test whether coping mediates the relationship between stress and the outcome of well-being in Lebanese first-time college students	5- The relationship between stress and the outcome of well-being is mediated by coping	A series of linear regressions with mediational analysis

*Note:* Independent variables: stress, uncertainty, resilience, religiosity, social support and SES; Dependent variables: coping and well-being; Controlling variables: gender and educational level.

Research aim 1 focused on descriptive statistics to estimate the mean, standard deviation and range for the scores on each of the instruments utilized to measure the coping and well-being variables (CASQ and GWBQA questionnaires) among Lebanese first-time college students with a 95% confidence interval.

Research aim 2 focused on differences in the dependent variables (Active, Internal and Withdrawal coping strategies) in respect to the following six domains: school, future, parents, peers, romantic relationship, and self-related problems.

Differences in group means across the three dependent groups were examined using Analysis of Variance (ANOVA) repeated measure. The Bonferroni correction was then conducted to get the individual p-values.

Research aim 3 focused on determining the relationships between stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (SES and social support) coping and well-being. Pearson product-moment correlations were conducted to determine the relationships between all variables except for resilience, SES and gender. ANOVA was conducted to determine if there were differences in the independent variables with respect to gender and educational level. The Bonferroni correction was then conducted to get the individual p-values.

Correlations provide information about the relationship that exist between variables, such as if they are positively related, inversely related, or if no relationship exists. A positive correlation means that as one of the variables increases, the other also increases; a negative correlation means that as one of the variables increases, the other decreases; and no relationship means that there is no relationship between changes in the variables. Correlation coefficients range between negative one to positive one. The closer the correlational coefficient is to one, either positive or negative, the greater the strength of the correlation between the variables. Correlations do not provide information related to causality. The strength of the relationship between two variables can also be

determined using correlations. Correlations with values of  $\pm .1$  represent a low level of correlation between the variables,  $\pm .3$  represents a medium correlation, and  $\pm .5$  represents a large level of correlation between the variables (Field, 2005). Two-tailed tests were used in these analyses.

Research aim 4 focused on determining which factors best predict well-being in Lebanese first-time college students. In the first level of analysis, Pearson product-moment correlations were conducted to determine the relationships between the dependent variable (well-being) and each of the variables. In the second level of analysis, a stepwise multiple regression analysis was completed to determine the combination of factors that are most predictive of well-being. When completing a stepwise regression, the variables were entered into the model based upon mathematical criteria. The predictor demonstrating the highest prediction criteria was selected first, followed by the next highest predictor, and so on (Field, 2005).

In research aim 5, a multiple linear regression procedure with mediational analysis was performed to test whether coping mediated the relationship between stress and the outcome of well-being in Lebanese first-time college students.

### **Reliability**

The reliability of each instrument was analyzed using Cronbach's alpha measurements, as well as the subscales for PQ, MSPSS, US (see Table 9). The Cronbach's alpha for the total instruments ranged from .81 to .92 and from .71 to .91 for the subscales of PQ, MSPSS, US.

The reliability of the Problem Questionnaire (PQ) in this study measured using the Cronbach alpha ranged from .71 to .84 (see Table 9) and was comparable with reported Cronbach coefficient in other studies (Haid et al., 2009; Seiffge-Krenke, Aunola & Nurmi, 2009; Staempfli, 2007).

The reliability coefficients of the subscales for the CASQ questionnaire in this study ranged from .83 to .88 (see Table 9) and were comparable with reported Cronbach coefficient alphas of that range from .79 to .82 from other studies (Gelhaar & Seiffge-Krenke, 2007; Haid et al., 2009).

The reliability coefficient for the GWBQA questionnaire in this study, .87 (see Table 9) is comparable with reported Cronbach coefficient alphas of that range from .82 to .93 from other studies (Colombo, 1984; Hendricks-Ferguson, 2001; Yarcheski et al., 1994).

The reliability coefficients for the uncertainty scale in this study ranged from .71 to .91 (see Table 9) and were comparable with reported Cronbach coefficients alpha that ranged from .78 to .84 (Afifi & Afifi, 2011).

The reliability coefficient for the resilience scale in this study was .85 (see Table 9) and was comparable with reported Cronbach coefficients alpha from previous studies (Wagnild, 2009).

The reliability coefficient for the SCSORF scale in this study was .95 (see Table 9) and was comparable with reported Cronbach coefficients alpha from previous studies (Sherman et al., 2001; Strawser et al., 2004).

Table 9. Reliability of Instruments

<b>Instrument</b>	<b>Cronbach's Alpha</b>
Multidimensional Scale of Perceived Social Support	.88
Significant Other Subscale (N=4)	.87
Family Subscale (N=4)	.86
Friends Subscale (N=4)	.87
General Well-being Questionnaire for Adolescents	.87
Resilience Scale	.85
Santa Clara Strength of Religious Faith Questionnaire	.95
Uncertainty Scale	.81
General uncertainty (N=6)	.81
Uncertainty about well-being (N=3)	.71
Uncertainty about Lebanon (N=2)	.91
Problem Questionnaire (N=53)	.92
Stress related to School (N=7)	0.71
Stress related to Family (N=9)	0.83
Stress related to Friends (N=9)	0.81
Stress related to Romance (N=8)	0.76
Stress related to Self (N=12)	0.84
Stress related to Future (N=8)	0.72
Coping Across Situation Questionnaire	
Active coping (N=42)	0.85
Internal coping (N=42)	0.88
Withdrawal coping (N= 36)	0.83

The reliability coefficient for the MSPSS scale in this study was .88 (see Table 8) and was comparable with reported Cronbach coefficients alpha from previous studies (Ben Ari & Gil, 2004; Zimet, Dahlem, Zimet, & Farley, 1988).

### **Factor Analysis**

The factor analysis was not performed on the CASQ questionnaires due to the fact that the nature of the individual items (yes, no), does not meet the requirements for statistical methodology. For the other scales, factor analysis was performed (see Table 10). All instruments loaded on the factors related to their scales or subscales with the exception of three scales: Resilience scale, Problem Questionnaire and General Well-being for Adolescents Questionnaire (GWBAQ). The validity of the constructs was confirmed on all scales including those three scales. For the uncertainty scale, the factor analysis yielded to three loadings. Upon comparing our results to the developer of the scale (Afifi & Afifi, 2011), subscales were similar. The minor difference between the developer's factor analysis and the current study is that one item about Uncertainty related to Future loaded on the General Uncertainty in the current study whereas in the developer's study, it loaded on the Well-being factor. In addition, two items did not load on any factors in the developer's study whereas it loaded on the well-being factor in the current analysis. The problem Questionnaire, Resilience scale and GWBAQ loaded on more factors than expected. Nonetheless, the first factor explained the majority of variance making by far the most important factor by loading.

Table 10. Factor Analysis of Instruments

Problem Questionnaire	Loading	Eigen value	% of variance
Score for stress related to school	1	2.75	39.30%
Score for stress related to future	2	2.77	34.62%
		1.19	14.82%
Score for stress related to parents	2	3.96	43.98%
		1.04	11.60%
Score for stress related to peers/friends	2	3.71	41.20%
		1.15	12.80%
Score for stress related to romance	2	3.09	38.60%
		1.23	15.35%
Score for stress related to myself	2	4.52	37.67%
		1.27	10.57%
Resilience Scale	Loading	Eigen value	% of variance
	1	6.23	24.90
	2	1.57	6.27
	3	1.55	6.18
	4	1.37	5.49
	5	1.30	5.21
	6	1.18	4.70
	7	1.10	4.41
	8	1.01	4.04
Multidimensional Scale of Perceived Social Support	Loading	Eigen value	% of variance
Social Support Significant person	1	5.01	41.76
Social support from Family	2	2.22	18.51
Social support from Friends	3	1.51	12.56
General Well-Being Questionnaire for Adolescents	Loading	Eigen value	% of variance
Social	1	7.22	19.52
Psychological/mental	2	2.58	6.97
Physical	3	2.05	5.55
	4	1.69	4.56
	5	1.60	4.31
	6	1.48	4.00
	7	1.25	3.37
	8	1.21	3.26
	9	1.14	3.08
	10	1.07	2.90
	11	1.03	2.77

Table 10 (continued)

Uncertainty Scale	Loading	Eigen value	% of variance
General Uncertainty	1	3.95	35.92
Uncertainty about Well-being	2	1.83	16.60
Uncertainty about Lebanon	3	1.13	10.23
Santa Clara Strength of Religious Faith Questionnaire	Loading	Eigen value	% of variance
	1	6.81	68.18



## CHAPTER FOUR

### RESULTS

#### **Data Management and Cleaning**

All data were entered into the statistical analysis program SPSS 18. Data was cleaned by conducting a review for missing data and data entry errors. All errors were corrected. A quality control examination was performed using a double entry approach on 10% of the surveys. Results revealed that the quality of the data entry was appropriate.

The assistance of a professional statistician was enlisted to guide the analysis of the data. It was determined that the data collected met the appropriate assumptions to allow for the use of parametric analysis. These assumptions included: normally distributed data; homogeneity of variance and at least interval level data. It was determined that transformation of data prior to analysis was needed for two variables: stress and social support.

The data was screened for outliers that represented scores  $\geq 3$  standard deviations from the mean on the independent and dependent variables (Stevens, 1996). No outliers were found. Screening for normality was conducted by viewing frequency distributions and histogram plots. Mathematical tests such as normal log and square root were conducted on two variables (stress and social support) to make the data normal. All variables became normally distributed.

### Missing Data

Seven out of the original 300 surveys were deleted from data analysis: (a) two subjects were non-Lebanese; (b) one subject did not live in Lebanon for the past six years, and (c) four subjects reported an age above 20 years old. Therefore, a total of 293 usable booklets were utilized in the data analysis.

Upon examination, the missing data were randomly distributed among the tools and among the sample (see Figure 4). Any missing data in the key variables were replaced with the overall group mean for the missing item.

Tool	Number of missing items	Percentage of missing items
Problem Questionnaire	45	15.4%
General Well-Being Questionnaire for Adolescents	34	11.6%
Multidimensional Scale of Perceived Social Support	4	1.4%
Resilience Scale	28	9.6%
Uncertainty Scale	7	2.4%
Santa Clara Strength of Religious Faith Questionnaire	6	2%
<b>TOTAL (1 or more missing items)</b>	<b>124</b>	
Number of missing items across the sample	Students	Percentage of students
One or more items	93	31.7%
Only 1 item	62	21.2%
Only 2 items	18	6.1%
Only 3 items	5	1.7%
Only 4 items	4	1.4%
From 5 to 17	4	1.4%

Figure 4. Missing Data

### Socio-Demographic Characteristics of the Sample

Students who participated in this study (N=293) were divided between Freshman (10.2%) and Sophomore (89.8%). Respondents had an average age of 18.12 (range 18-20; SD=.36) years, and 53.2% were male. The majority of the respondents were 18 years of age (88.7%), of Lebanese nationality (76.8%), sophomore students (89.8%), living with their family (92.5%) and not currently working (94.2%). Only 23.2% (N=68) had a second nationality, with the majority being either Lebanese American (N=15) or Lebanese Canadian (N=10). Less than 35% of students participated in an activity on or off- campus (sports team, university club, religious groups, volunteer or other community activities) (see Tables 11 and 12).

Socio-economic status (SES) was measured by a variety of variables. An index was created that combined father's education with parental income. In fact, approximately half of the sample (N=148) did not know (N=124) or preferred not to answer (N=24) the question on parental monthly income. For those who did, the majority of students (68.4%) came from families of high income range (see Table 12). Around 24% of the study sample was categorized in the middle income group and slightly less than 7% of the study sample was categorized in the low income group.

Table 11. Socio-Demographic Data

	N	%
<b>Gender</b>		
Female	137	46.8
Male	156	53.2
Total	293	100

Table 11 (continued)

<b>Age</b>		
18	260	88.7
19	30	10.2
20	3	1
Total	293	100
<b>English Class</b>		
00 9	115	39.2
101	178	60.8
Total	293	100
<b>Lebanese</b>		
	293	100
<b>Other nationality</b>		
None	225	76.8
Canadian	10	3.4
French	8	2.7
Australian	1	0.3
Colombian	2	0.7
Thai	1	0.3
Saudi Arabian	2	0.7
American	15	5.1
Serbian	1	0.3
Sierra Leonean	1	0.3
Swiss	1	0.3
Egyptian	1	0.3
Greek	1	0.3
British	3	1
Brazilian	4	1.4
African	4	1.4
Belgian	1	0.3
Spanish	2	0.7
Syrian	2	0.7
Cuban	1	0.3
Turkish	1	0.3
German	1	0.3
Russian	1	0.3

Table 11 (continued)

South African	2	0.7
Panamanian	1	0.3
Gabonese	1	0.3
Total	293	100
<b>Lebanese Official baccalaureate program</b>		
No	62	21.2
Yes	231	78.8
Total	293	100
<b>French Official baccalaureate program</b>		
No	221	75.4
Yes	72	24.6
Total	293	100
<b>International baccalaureate program</b>		
No	269	91.8
Yes	24	8.2
Total	293	100
<b>No baccalaureate program</b>		
No	288	98.3
Yes	5	1.7
Total	293	100
<b>Lived in Lebanon for the past six years</b>		
Yes	293	100
<b>With whom do you live?</b>		
Alone	9	3.1
With family	271	92.5
Friend, roommate	11	3.8
Other	2	0.7
Total	293	100
<b>Activity</b>		
No	194	66.2
Yes	99	33.8
Total	293	100

Table 12. Socio-Economic Status Data (N=293)

	N	%
<b>Socio-economic status</b>		
Low	20	6.9
Middle	71	24.7
High	197	68.4
Total	293	100
<b>Level of education (mother)</b>		
Middle school or below	13	4.4
Secondary/highschool/Technical	89	30.4
University	186	63.5
Total	288	98.3
<b>Level of education (father)</b>		
Middle school or below	22	7.5
Secondary/highschool/Technical	80	27.3
University	186	63.5
Total	288	98.3
<b>Parental monthly income</b>		
Less than 1000\$	5	1.7
1000-2000\$	26	8.9
2001-3000\$	21	7.2
3001-4000\$	20	6.8
More than 4000\$	69	23.5
I don't know	124	42.3
I prefer not to answer	28	9.6
Total	293	100
<b>Compared to other families</b>		
Less income than other families	24	8.2
About the same income than other families	191	65.2
More income than other families	76	25.9
Total	291	99.3
<b>Tuition fees payment by financial aid grants</b>		
No	261	89.1
Yes	32	10.9
Total	293	100

Table 12 (continued)

<b>Tuition fees payment by financial aid loans</b>		
No	238	81.2
yes	55	18.8
Total	293	100
<b>Tuition fees payment by scholarships</b>		
No	275	93.9
yes	18	6.1
Total	293	100
<b>Tuition fees payment by parental support</b>		
No	13	4.4
yes	280	95.6
Total	293	100
<b>Tuition fees payment by myself</b>		
No	285	97.3
Yes	8	2.7
Total	293	100
<b>Tuition fees payment by parents at LAU</b>		
No	292	99.7
Yes	1	0.3
Total	293	100
<b>Study work (financial aid work at LAU)</b>		
No	222	75.8
1-10 hours per week	68	23.2
11-20 hours per week	2	0.7
More than 20 hours per week	1	0.3
Total	293	100
<b>Work outside LAU</b>		
No	276	94.2
1-10 hours per week	11	3.8
11-20 hours per week	3	1
More than 20 hours per week	3	1
Total	293	100

This index was validated with four other items in the survey (questions D9, D15, D16, and D17). In question #D9 (see Appendix E), the respondent was asked to compare their family income to other families. Table 13 shows that 35% of the students in the low SES group perceive that their family income is less than the other families compared to 11.4% of the students in the middle SES group and 4.6% of the students in the high SES group ( $p < .001$ ).

The three SES range groups (low, middle and high) were also compared to the tuition fees payment and working outside college (see Table 14). Results showed that the majority of the students who benefit from the financial aid (grants, loans and aid work study) came from families with Low SES. Table 14 also revealed that more than 95% of students rely on parental support in all three SES groups (Low, Middle and High). Twenty percent of students in the low SES range group reported that they pay their tuition fees from their own pocket, compared to 2.80% in the Middle SES group and 1% in the High SES. On the other hand, 15% of students in the low SES range group reported that they work more than 20 hours per week compared to 10% in the Middle SES and less than 5% in the High SES working for less than 20 hours per week. Results showed in Tables 12, 13, and 14 validate the SES index. From herein, only the index will be used in further analyses.



Table 13. Income Compared to Other Families by SES Groups (N=293)

	SES							
	Low		Middle		High		Total	
	N	%	N	%	N	%	N	%
Less income than other families	7	35%	8	11.40%	9	4.60%	24	8.40%
About the same income than other families	11	55%	44	62.90%	133	67.90%	188	65.70%
More income than other families	2	10%	18	25.70%	54	27.60%	74	25.90%
Total	20	100%	70	100.00 %	196	100.00%	286	100.00%

$p < 0.001$

### Univariate and Bivariate Results

#### Socio-Economic Status

ANOVA was performed on the categorical variable SES. Results showed that SES is not related to any of the independent variables and hence, will be excluded from any further analysis (see Table 15).

#### Education Level

Differences in the independent variables were not performed in respect to educational level because since the majority of the sample are sophomore students (89.8%) (see Table 16), any results will be greatly influenced by the majority of the sophomore in the sample.

Table 14. Tuition Fees Payment by SES Groups (N=293)

Tuition fees payment by		SES of Respondents							
		Low		Middle		High		Total	
		N	%	N	%	N	%	N	%
Financial aid-grants	No	15	75.00%	57	80.30%	184	93.40%	256	88.9%
	Yes	5	25.00%	14	19.70%	13	6.60%	32	11.1%
Financial aid-loans	No	12	60.00%	47	66.20%	174	88.30%	233	80.9%
	Yes	8	40.00%	24	33.80%	23	11.70%	55	19.1%
Aid work study	No	11	55.00%	45	63.40%	169	85.80%	225	78.1%
	Yes	9	45.00%	26	36.60%	28	14.20%	63	21.9%
Scholarships	No	14	70.00%	68	95.80%	188	95.40%	270	93.8%
	Yes	6	30.00%	3	4.20%	9	4.60%	18	6.30%
Parental/family support	No	2	10.00%	4	5.60%	7	3.60%	13	4.50%
	Yes	18	90.00%	67	94.40%	190	96.40%	275	95.5%
Myself	No	16	80.00%	69	97.20%	195	99.00%	280	97.2%
	Yes	4	20.00%	2	2.80%	2	1.00%	8	2.80%
Do you work outside LAU? (hours per week)	No	17	85.00%	64	90.10%	190	96.40%	271	94.1%
	1-10	0	0.00%	5	7.00%	6	3.00%	11	3.80%
	11-20	0	0.00%	2	2.80%	1	0.50%	3	1.00%
	> 20	3	15.00%	0	0.00%	0	0.00%	3	1.00%

Table 15. Mean Scores and Standard Deviations of Stress, Social Support, Uncertainty, Religiosity, Coping and Well-being by SES Level (N=293)

Stress related to:	Low SES	Medium SES	High SES	Total SES	P-value
School	(2.21, SD= 0.65)	(2.31, SD= 0.72)	(2.26, SD= 0.72)	(2.27, SD= 0.71)	0.83
Future	(2.44, SD= 0.78)	(2.55, SD= 0.79)	(2.41, SD= 0.79)	(2.45, SD= 0.79)	0.42
Parents	(0.61, SD= 0.38)	(0.63, SD= 0.33)	(0.62, SD= 0.38)	(0.62, SD= 0.37)	0.97
Friends	(1.27, SD= 0.23)	(1.27, SD= 0.22)	(1.27, SD= 0.23)	(1.27, SD= 0.23)	0.99

Table 15 (continued)

Romance	(1.28, SD= 0.23)	(1.29, SD= 0.25)	(1.31, SD= 0.24)	(1.30, SD= 0.24)	0.73
Myself	(0.69, SD= 0.35)	(0.70, SD= 0.33)	(0.66, SD= 0.32)	(0.67, SD= 0.32)	0.58
Total Stress	(2.02, SD= 0.52)	(2.05, SD= 0.52)	(2.01, SD= 0.53)	(2.02, SD= 0.52)	0.86
Social Support from:					
Significant	(572.80, SD= 153.62)	(571.94, SD= 186.75)	(550.13, SD= 193.30)	(557.08, SD= 188.92)	0.66
Family	(534.66, SD= 218.44)	(534.58, SD= 196.28)	(544.38, SD= 191.73)	(541.29, SD= 194.12)	0.92
Friends	(502.70, SD= 185.27)	(482.24, SD= 170.18)	(491.88, SD= 191.54)	(490.26, SD= 185.52)	0.89
Total score	(4749.96, SD= 1390.95)	(4662.76, SD= 1166.99)	(4675.79, SD= 1382.61)	(4677.73, SD= 1328.97)	0.97
Uncertainty					
Uncertainty-General	(17.75, SD= 4.28)	(18.19, SD= 3.87)	(17.73, SD= 3.54)	(17.84, SD= 3.67)	0.67
Uncertainty-Wellbeing	(8.65, SD= 2.41)	(8.25, SD= 2.14)	(7.92, SD= 2.21)	(8.05, SD= 2.21)	0.26
Uncertainty-Lebanon	(6.65, SD= 1.81)	(6.65, SD= 1.79)	(6.60, SD= 1.77)	(6.61, SD= 1.77)	0.98
Uncertainty-Total	(33.05, SD= 6.79)	(33.09, SD= 5.73)	(32.26, SD= 5.52)	(32.52, SD= 5.66)	0.52
Religiosity Score	(28.11, SD= 9.37)	(29.98, SD= 8.10)	(29.27, SD= 6.89)	(29.36, SD= 7.38)	0.58
Resilience	(130.5, SD= 18.8)	(131.0, SD= 15.4)	(133.4, SD= 15.9)	(132.6, SD= 16.0)	0.46
Active coping	(38.95, SD= 15.89)	(38.63, SD= 12.74)	(37.27, SD= 12.49)	(37.72, SD= 12.78)	0.68
Internal coping	(38.89, SD= 13.66)	(37.27, SD= 13.84)	(37.27, SD= 11.55)	(37.38, SD= 12.26)	0.85
Withdrawal coping	(22.17, SD= 12.73)	(24.10, SD= 12.13)	(25.46, SD= 11.75)	(24.90, SD= 11.91)	0.41
Well-Being Score	(136.60, SD= 19.18)	(128.10, SD= 19.68)	(133.26, SD= 17.29)	(132.45, SD= 18.10)	0.13

Table 16. Education Data

<b>Education Status</b>	N	%
Below average student	2	0.7
Average student	192	65.5
above average student	98	33.4
Total	292	99.7
<b>Education Level</b>		
Freshman student	30	10.2
Sophomore student	263	89.8
Total	293	100
<b>Major</b>		
Engineering	40	13.7
Architecture	28	9.6
Communication arts, Radio/TV	13	4.4
Business, finance, banking, accounting	84	28.7
Nursing	3	1
Graphic design	8	2.7
Political sciences, International affairs	5	1.7
Pharmacy, nutrition	24	8.2
Chemistry, biology premed	25	8.5
Marketing	4	1.4
Social work	1	0.3
Education in early childhood	2	0.7
Journalism	1	0.3
Computer science	6	2
Management	1	0.3
English literature	1	0.3
Education	6	2
Psychology	2	0.7
Hospitality and tourism management	1	0.3
Mathematics	1	0.3
Total	256	87.4

Table 16 (continued)

Study hours per week		
0 Hour	7	2.4
1-10 hours	187	63.8
11-20 hours	83	28.3
More than 20 hours	14	4.8
Total	291	99.3

### Gender

Table 17 shows that a statistically significant relationships existed between gender and stress related to problems from school ( $p = .043$ ), stress related to problems with myself ( $p = .02$ ), uncertainty-general ( $p = .03$ ) and well-being ( $p < .01$ ).

### Stress

The mean stress level for the adolescents in this sample ( $N=293$ ) was low to moderate ( $M = 2.02$ ,  $SD = .52$ ). The highest reported stress levels were related to future ( $M = 2.45$ ,  $SD = .79$ ), school ( $M = 2.27$ ,  $SD = .71$ ), self ( $M = 2.06$ ,  $SD = .71$ ) and parents ( $M = 1.98$ ,  $SD = .78$ ). Situations with friends contributed to the least amount of stress ( $M = 1.67$ ,  $SD = .64$ ) (see Table 18).

### Coping

Results showed that active and internal coping strategies respectively comprised 37.78% and 37.32% of all coping strategies used; On the other hand, withdrawal coping comprised 24.90% of all coping strategies (see Table 19).

Table 17. Mean Scores and Standard Deviations of Stress, Social Support, Uncertainty, Religiosity, Coping and Well-being by Gender (N=293)

	Female	Male	p-value
Stress from School	(2.18, SD= 0.68)	(2.34, SD= 0.73)	0.043
Stress from Future	(2.45, SD= 0.81)	(2.45, SD= 0.77)	0.97
Stress from Parents	(0.59, SD= 0.37)	(0.63, SD= 0.37)	0.37
Stress from Friends	(1.27, SD= 0.23)	(1.27, SD= 0.23)	0.81
Stress from Romance	(1.27, SD= 0.23)	(1.33, SD= 0.24)	0.06
Stress to Myself	(0.71, SD= 0.32)	(0.63, SD= 0.32)	0.02
Total Stress	(2.01, SD= 0.52)	(2.03, SD= 0.52)	0.78
SS-Significant	(570.80, SD= 189.00)	(544.54, SD= 187.76)	0.24
SS-Family	(544.74, SD= 183.76)	(529.36, SD= 201.01)	0.26
SS-Friends	(490.33, SD= 196.34)	(491.04, SD= 175.82)	0.97
SS-Total score	(4749.23, SD= 1280.91)	(4617.91, SD= 1369.21)	0.4
Uncertainty-General	(18.34, SD= 3.74)	(17.41, SD= 3.71)	0.03
Uncertainty-Wellbeing	(8.24, SD= 2.34)	(7.91, SD= 2.14)	0.21
Uncertainty-Lebanon	(6.50, SD= 1.91)	(6.71, SD=1.64)	0.33
Uncertainty-Total	(33.10, SD= 5.84)	(32.03, SD= 5.75)	0.12
Religiosity Score	(30.17, SD= 6.95)	(28.67, SD= 7.69)	0.08
Active coping	(37.85, SD= 11.05)	(37.73, SD=14.28)	0.94
Internal coping	(36.16, SD= 12.69)	(38.34, SD= 11.76)	0.13
Withdrawal coping	(26.00, SD= 12.54)	(23.93, SD= 11.46)	0.14
Resilience	(131.26, SD= 17.30)	(133.76, SD= 14.52)	0.18
Well-Being Score	(128.31, SD= 17.51)	(136.16, SD= 17.90)	< .01

Table 18. Stress Score Levels across Domains (N=293)

Scores for Stress related to:	Mean*	SD	Minimum	Maximum
School	2.27	0.71	1.00	4.43
Future	2.45	0.79	1.00	4.88
Parents	1.98	0.78	1.00	4.78
Peers/Friends	1.67	0.64	1.00	4.56
Romantic Interests	1.75	0.66	1.00	4.13
Myself	2.06	0.71	1.00	4.58
<b>Transformed data</b>				
LN of Score for Stress related to Parents	0.61	0.37	0.00	1.56
SQRT of Score for Stress related to Peers/Friends	1.27	0.23	1.00	2.13
SQRT of Score for Stress related to Romantic Interests	1.30	0.24	1.00	2.03
LN Score for Stress related to Myself	0.67	0.32	0.00	1.52
Total Score for Stress	2.02	0.52	1.02	3.79

\*5= highly stressful

\*1= not stressful at all

Table 19. Mean Scores, Standard Deviations and Ranges of Coping Strategies (N=293)

	Mean	SD	95% CI	Range
Active coping (%)	37.78	12.85	(36.30 - 39.25)	0-76.36
Internal coping (%)	37.32	12.23	(35.91 - 38.72)	0-100
Withdrawal coping (%)	24.90	12.00	(23.51 - 26.27)	0-80.33

### General Well-Being

The GWBQA has a possible score range of 39 to 195. In this study, the GWBQA scores ranged from 69 to 169 with a mean GWB score of 132.49 (SD= 18.12) (see Table 20).

Table 20. Mean Score, Standard Deviation and Ranges for the GWBQA Scale (N=293)

	Mean	SD	Minimum	Maximum
Well-Being	132.49	18.12	69	169

### Uncertainty

The Uncertainty scale (US) was utilized to operationalize the concept of uncertainty in Lebanese first-time college students. US is a 13-item scale scored on a 4-point Likert scale from 4 (A lot of uncertainty) to 1 (no uncertainty). In this study, the mean total score of Uncertainty was 32.53 (range= 14-44, SD=5.80) (see Table 21).

Table 21. Mean Scores, Standard Deviations and Ranges for the Uncertainty Scale (N=293)

	Mean	SD	Minimum	Maximum
Uncertainty-General score	17.84	3.75	6	24
Uncertainty-Well Being score	8.06	2.23	3	12
Uncertainty- Lebanon score	6.61	1.77	2	8
Total Uncertainty Score	32.53	5.80	14	44

### Resilience

In this study, the mean total score of resilience was moderate (M = 132.59, SD = 15.90) (see Table 22). Table 23 shows that the majority of the Lebanese students (80.5%) ranked in the low and moderate resilience levels.



Table 22. Percentage and Frequency of Low, Moderate and High Resilience Groups (N=293)

	Low resilience (<121)	Moderate resilience (121-146)	High resilience (147-175)
%	41.10%	39.4%	19.5%
N	120	115	57

Table 23. Mean Score, Standard Deviation and Ranges for the Resilience Scale (N=293)

	Mean	SD	Minimum	Maximum
Resilience	132.59	15.90	79.00	175.00

### Religiosity

The Santa Clara Strength of Religious Faith Questionnaire (SCSORF) was utilized to operationalize the concept of religious faith in Lebanese first-time college students. In this study, the mean score of the SCSORF was 29.37 (SD = 7.38) indicating moderate religiosity (see Table 24).

Table 24. Mean Score, Standard Deviation and Ranges for the SCSORF Scale (N=293)

	Mean	SD	Minimum	Maximum
Religiosity score	29.37	7.38	10	40

### Social Support (SS)

The Multidimensional Scale of Perceived Social Support (MSPSS) was utilized to operationalize the concept of social support in Lebanese first-time college students. The mean social support score for the current sample was 67.60 (SD = 10.51) (see Table 25)

which is lower than other reported scores in student samples (Ben Ari & Gil, 2004; Clara et al., 2003; Koydemir-Özden, 2010).

Table 25. Mean Score, Standard Deviation and Ranges for the MSPSS Scale (N=293)

	Mean	SD	Minimum	Maximum
SS from Significant person	23.15	4.58	4	28
SS from Family	22.77	4.77	4	28
SS from Friends	21.67	4.58	4	28
Total Social support (SS)	67.60	10.51	26	84
<b>Transformed Data</b>				
Square of SS from Significant person	556.82	188.48	16.00	784.00
Square of SS from Family	541.23	193.23	16.00	784.00
Square of SS from Friends	490.71	185.37	16.00	784.00
Square of SS Total Score	4679.31	1328.02	676.00	7056.00

### Results by Aims

Aim 1: To describe coping strategies used by Lebanese first-time college students and to determine their scores of well-being. For the GWBQA and the CASQ, the results were addressed in the previous section.

Aim 2: To determine if Lebanese first time college students use different coping responses in different problem areas (school, parents, friends, romantic relationship, self-related and future problems).

Results in Table 26 and Figure 5 showed that across the six domains, students are as likely to use active and internal coping strategies ( $p= 0.999$ ) but significantly less

likely to use withdrawal ( $p$ -value  $< .001$  for internal vs. withdrawal and active vs. withdrawal).

The use of internal versus active versus withdrawal coping strategies varied by situation. Active strategies were mostly used in the same frequency with problems related to schools (43.9%), and future (46.5%) (school vs. future,  $p = 0.999$ ) but less likely to be used for other domains (school or future vs. other domains,  $p < 0.05$ ) (see Table 26 and Figure 5). The specific active coping strategies used most often in those domains were discussing the problem with parents or other adults (67.9%), trying to talk about the problem with the person concerned (59%) and trying to solve the problem with help from friends (53.6%) (see Table 26). Students rarely used active coping strategies when dealing with problems related to myself or to parents (myself vs. parents,  $p = 0.372$ ; myself or parents vs. other domains,  $p < 0.05$ ) (see Table 26).

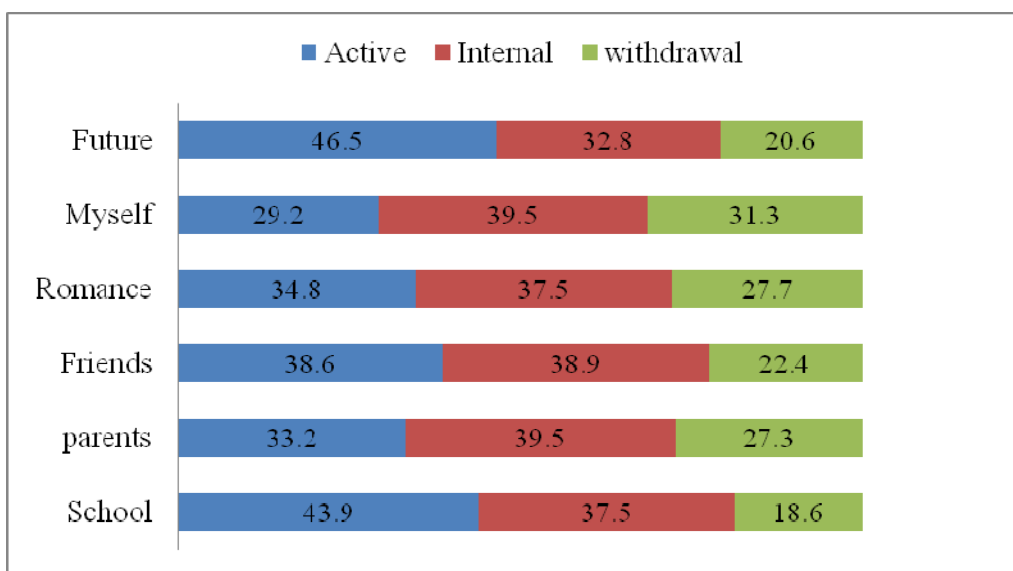


Figure 5. Percentage of Active vs. Internal vs. Withdrawal Coping Used by Situation

Table 26. Means, Standard Deviations and Confidence Intervals of Well-Being and Coping (N=293)

	Mean	SD	95% CI	Range	p-values	
Well Being	132.49	18.12	(130.40 - 134.56)	69-169		
<b>Total (%)</b>						
Active coping	37.78	12.85	(36.30 - 39.25)	0-76.36	0.999	Active vs. Internal
Internal coping	37.32	12.23	(35.91 - 38.72)	0-100	<.001	Active vs. Withdrawal
Withdrawal coping	24.90	12.00	(23.51 - 26.27)	0-80.33	<.001	Internal vs. Withdrawal
<b>School (%)</b>						
Active coping	43.87	21.40	(41.41 - 46.33)	0-100	0.012	Active vs. Internal
Internal coping	37.51	19.67	(35.24 - 39.76)	0-100	<.001	Active vs. Withdrawal
Withdrawal coping	18.62	16.56	(16.71 - 20.52)	0-70	<.001	Internal vs. Withdrawal
<b>Parents (%)</b>						
Active coping	33.19	22.00	(30.65 - 35.73)	0-100	0.015	Active vs. Internal
Internal coping	39.53	22.42	(36.94 - 42.12)	0-100	0.027	Active vs. Withdrawal
Withdrawal coping	27.27	22.43	(24.68 - 29.85)	0-100	<.001	Internal vs. Withdrawal
<b>Friends</b>						
Active coping	38.64	22.66	(36.02 - 41.25)	0-100	0.999	Active vs. Internal
Internal coping	38.94	22.96	(36.28 - 41.58)	0-100	<.001	Active vs. Withdrawal
Withdrawal coping	22.43	22.76	(19.79 - 25.05)	0-100	<.001	Internal vs. Withdrawal
<b>Romantic Interests</b>						
Active coping	34.77	24.47	(31.88 - 37.65)	0-100	0.805	Active vs. Internal
Internal coping	37.49	23.85	(34.67 - 40.30)	0-100	0.025	Active vs. Withdrawal
Withdrawal coping	27.74	25.73	(24.70 - 30.77)	0-100	0.001	Internal vs. Withdrawal

Table 26 (continued)

<b>Myself</b>						
Active coping	29.17	25.18	(26.24 - 32.09)	0-100	<.001	Active vs. Internal
Internal coping	39.49	27.37	(36.30 - 42.66)	0-100	0.999	Active vs. Withdrawal
Withdrawal coping	31.34	26.31	(28.28 - 34.40)	0-100	0.012	Internal vs. Withdrawal
<b>Future</b>						
Active coping	46.53	27.20	(43.39 - 49.66)	0-100	<.001	Active vs. Internal
Internal coping	32.85	23.98	(30.08 - 35.60)	0-100	<.001	Active vs. Withdrawal
Withdrawal coping	20.62	22.09	(18.07 - 23.16)	0-100	<.001	Internal vs. Withdrawal

Internal strategies were more likely to be used when dealing with problems related to parents (39.5%), friends (38.9%), romantic interests (37.5%) and self (39.5%) such as thinking about the problem and trying to find different solutions (58.4%) and not worrying because usually everything turns out alright (41%) (see Table 26 and Figure 5). Internal coping strategies were similarly used across domains except for the future domain (see Table 26 and Figure 5). Students were significantly less likely to use internal coping strategies when dealing with future problems (future vs. all domains except school,  $p < 0.05$ ; future vs. school,  $p = 0.067$ ).

Students used withdrawal coping strategies most frequently (31.3%) when dealing with problems with themselves but were equally likely to use them with issues related to parents and romantic interests ( $p > 0.05$ ). However, they were significantly more likely to use withdrawal with problems related to themselves than when dealing with issues related to school, future and friends ( $p < 0.05$ ). Adolescents commonly used energy-releasing

strategies, such as letting energy out with loud music and letting out anger by shouting and slamming doors (see Table 27).

In summary, the results of the current study indicated that most Lebanese first-time college students used a combination of internal, active and withdrawal coping strategies. The strategies varied with the situation. A greater proportion of overall strategies used were active and internal coping strategies which were focused on resolving the issue or problem. Overall, the greatest number of coping strategies were used when dealing with problems related to school (n=1998) and parents (n=1739) (see Table 27). While school was ranked as the second highest level of stress, parents were ranked in the third place (see Table 11).

Aim 3: To determine the relationships between stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (SES and social support) coping and well-being.

Pearson product-moment correlations were performed to determine relationships between scores on variables (stress, social support, uncertainty, religiosity, coping, well-being and resilience) (see Tables 16, 17, 18 and 28). The Bonferroni correction test was then conducted.

Table 27. Coping Strategies Used by Lebanese Students across Domains (N=293)

<b>Active Coping Strategies % (n)*</b>	<b>School (n=293)</b>	<b>Parents (n=293)</b>	<b>Friends (n=293)</b>	<b>Romantic Interests (n=293)</b>	<b>Self (n=293)</b>	<b>Future (n=293)</b>
I discuss the problem with my parents/other adults	67.9% (199)	58.4% (171)	33.8% (99)	22.2% (65)	43.7% (128)	76.8% (225)
I talk about the problem when it appears and don't worry much	38.9% (114)	26.3% (77)	31.7% (93)	20.1% (59)	13% (38)	24.9% (73)
I try to get help from institutions (job, center, school)	22.5% (66)	4.8% (14)	6.1% (18)	2% (6)	6.1% (18)	23.5% (69)
I try to talk about the problem with the person concerned	59% (173)	43.3% (127)	63.1% (185)	49.8% (146)	11.6% (34)	19.1% (56)
I try to get help and comfort from people who are in a similar situation	41.3% (121)	28% (82)	28.7% (84)	32.1% (94)	24.9% (73)	33.1% (97)
I try to solve the problem with help from my friends.	53.6% (157)	31.1% (91)	45.4% (133)	38.9% (114)	29.7% (87)	32.1% (94)
<b>Internal Coping Strategies % (n)*</b>	<b>School (n=293)</b>	<b>Parents (n=293)</b>	<b>Friends (n=293)</b>	<b>Romantic Interests (n=293)</b>	<b>Self (n=293)</b>	<b>Future (n=293)</b>
I expect the worst	29.7% (87)	18.1% (53)	17.1% (50)	21.5% (63)	14.7% (43)	22.2% (65)
I accept my limits	33.1% (97)	40.3% (118)	20.1% (59)	20.5% (60)	16.4% (48)	15.7% (46)
I do not worry because usually everything turns out alright	30.4% (89)	41% (120)	39.2% (115)	23.5% (69)	34.1% (100)	22.9% (67)
I think about the problem and try to find different solutions	71.3% (209)	57.7% (169)	58.4% (171)	53.6% (157)	51.9% (152)	58.4% (171)
I compromise	23.2% (68)	33.8% (99)	28% (82)	22.2% (65)	15.4% (45)	13% (38)
I tell myself that there always be problems	37.9% (111)	28.3% (83)	25.6% (75)	28.7% (84)	22.9% (67)	24.6% (72)

Table 27 (continued)

I only think about the problem when it appears	37.2% (109)	27% (79)	31.4% (92)	29% (85)	24.2% (71)	5.7% (17)
<b>Withdrawal Coping Strategies % (n)*</b>	<b>School (n=293)</b>	<b>Parents (n=293)</b>	<b>Friends (n=293)</b>	<b>Romantic Interests (n=293)</b>	<b>Self (n=293)</b>	<b>Future (n=293)</b>
I behave as if everything is alright	31.1% (91)	28% (82)	33.1% (97)	25.3% (74)	33.8% (99)	25.9% (76)
I try to let my energy out (with loud music, riding my bike, wild dancing, sports, etc.)	37.2% (109)	39.2% (115)	28.7% (84)	35.2% (103)	40.3% (118)	25.9% (76)
I let out my anger by shouting, crying, slamming doors, etc.	23.5% (69)	41.6% (122)	20.1% (59)	22.5% (66)	23.9% (70)	11.6% (34)
I look for information in magazines, internet or books.	9.2% (27)	5.8% (17)	4.4% (13)	13.7% (40)	12.3% (36)	22.2% (65)
I try not to think about the problem.	22.9% (67)	24.2% (71)	26.6% (78)	21.2% (62)	24.6% (72)	26.6% (78)
I try to forget the problem with alcohol or drugs	4.4% (13)	6.8% (20)	2.7% (8)	8.2% (24)	5.1% (15)	2.7% (8)
I withdraw because I cannot change anything anyway	7.5% (22)	9.9% (29)	5.8% (17)	12.6% (37)	9.2% (27)	9.2% (27)
<b>Total coping strategies used by domain</b>	1998	1739	1612	1473	1341	1454



Table 28. Correlations between Stress, Social Support, Uncertainty and Religiosity Scale Scores

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Stress related to School-Score	1	.471**	.395**	.336**	.355**	.373**	.633**	-.154***	-.120***	-.118***	-.172***	.132***	0.082	-0.053	0.1	-0.001
2 Stress related to Future-Score		1	.436**	.395**	.385**	.512**	.731**	-.139***	-.174***	0.105***	-.179***	.220**	0.114	0.105	.219**	0.001
3 Stress related to Parents-Score			1	.471**	.418**	.458**	.732**	-.215**	-.445**	-.143***	-.353**	.124***	0.1	-0.011	0.113	-0.084
4 Stress related to Peers/Friends-Score				1	.425**	.573**	.738**	-.165**	-.149***	-.310**	-.277**	0.023	0.078	-0.006	0.047	0.016
5 Stress related to Romantic Interests-Score					1	.494**	.675**	-.228**	-.210**	-.136***	-.244**	0.109	0.113	0.016	.119***	0.009
6 Stress related to Myself-Score						1	.812**	-.174***	-.242**	-.230**	-.284**	.311**	.230**	0.01	.294**	-0.011
7 Stress-Total Score							1	-.244**	-.325**	-.234**	-.353**	.226**	.172***	0.013	.217**	-0.025
8 SS-Significant others-Score								1	.403**	.446**	.800**	-0.05	-0.015	0.065	-0.017	.164***
9 SS-Family-Score									1	.244**	.727**	-0.005	0.017	-0.017	0	.242**
10 SS-Friends-Score										1	.739**	-0.056	-0.046	0.037	-0.045	0.049
11 SS-Total Score											1	-0.039	-0.025	0.047	-0.021	.215**
12 Uncertainty-General-Score												1	.476**	.244**	.904**	-0.028
13 Uncertainty-Well Being-Score													1	0.04	.705**	-0.021
14 Uncertainty-Lebanon-Score														1	.476**	0.069
15 Uncertainty-Total Score															1	-0.005
16 Religiosity- Total Score																1

\*\*Correlation is significant at the 0.01 level  
 \*\*\*P-value corrected using the Bonferroni test

### Stress and Other Variables

A significant and negative relationship existed between stress-related to school and well-being ( $r = -.279, p < .01$ ). This provides evidence that as an individual's academic stress increased, his or her well-being significantly decreased (see Table 30).

A significant and positive relationship existed between stress-related to future and uncertainty ( $r = .219, p < .01$ ). A significant and negative relationship existed between stress-related to future and well-being ( $r = -.396, p < .01$ ). This indicates that as an individual's stress-related to future increased, his or her uncertainty significantly increased and his or her well-being significantly decreased (see Table 30).

A significant and negative relationship existed between stress-related to parents and social support ( $r = -.353, p < .01$ ), well-being ( $r = -.334, p < .01$ ) and resilience ( $r = -.198, p < .01$ ). This documents that as an individuals' stress-related to parents increased, his or her social support and his or well-being significantly decreased. This also indicates that individuals with higher resilience level have lower score of stress-related to parents (see Table 28).

A significant and negative relationship existed between stress-related to peers and social support ( $r = -.277, p < .01$ ) and well-being ( $r = -.343, p < .01$ ). This provides evidence that as an individuals' stress-related to peers increased, his or her social support and his or well-being significantly decreased (see Table 28).

A significant and negative relationship existed between stress-related to romantic interests and social support ( $r = -.244, p < .01$ ), and with well-being ( $r = -.278, p < .01$ ).

This indicates that as an individual's stress-related to romantic interests increased, his or her social support and his or well-being significantly decreased (see Table 28).

A significant and negative relationship existed between stress-related to self and social support ( $r = -.284, p < .01$ ), well-being ( $r = -.621, p < .01$ ) and resilience ( $r = -.184, p < .01$ ). This indicates that as an individual's stress-related to self increased, his or her social support and his or well-being significantly decreased. This also provides evidence that individuals with higher resilience level have lower score of stress-related to self (see Table 28).

A significant and positive relationship existed between stress-related to self and uncertainty ( $r = .294, p < .01$ ). This shows that as an individual's stress-related to self increased, his or her uncertainty significantly increased (see Table 28).

A significant and negative relationship existed between stress-total score and social support ( $r = -.353, p < .01$ ), well-being ( $r = -.547, p < .01$ ) and resilience ( $r = -.222, p < .01$ ). This indicates that as an individual's stress increased, his or her social support and his or well-being significantly decreased. This also indicates that individuals with higher resilience level have lower score of stress (see Tables 28 and 30).

A significant and positive relationship existed between stress-total score and uncertainty ( $r = .217, p < .01$ ). This indicates that as an individual's stress increased, his or her uncertainty significantly increased (see Table 28).

### **Coping and Other Variables**

Non-significant relationships existed between coping, as measured by one of the three subscales of the CASQ questionnaire and other variables (see Table 29).

Table 29. Correlations between Stress, Social Support, Uncertainty, Religiosity, Resilience and Coping (N=293)

	Active coping	Internal coping	Withdrawal coping
1 Stress related to School-Score	0.046	-0.021	-0.028
2 Stress related to Future-Score	-0.021	-0.067	0.091
3 Score for Stress related to Parents	-0.053	-0.064	.122***
4 Score for Stress related to Peers/Friends	0.005	-0.1	0.097
5 Score for Stress related to Romantic Interests	0.003	-0.077	0.075
6 Score for Stress related to Myself	-0.046	-0.113	.164***
7 Stress-Total Score	-0.032	-0.101	.137***
8 SS-Significant others	0.058	0.047	-0.11
9 SS-Family	0.226**	0.019	-0.261**
10 SS-Friends	0.045	-0.023	-0.025
11 SS-Total Score	0.144***	0.023	-0.178***
12 Uncertainty-General	-0.031	0.018	0.015
13 Uncertainty-Well Being	0.003	-0.063	0.061
14 Uncertainty-Lebanon	-0.041	0.1	-0.059
15 Uncertainty-Total Score	-0.031	0.017	0.016
16 Religiosity- Total Score	0.120	0.043	-0.172***
17 Resilience- Total Score	0.048	0.025	-0.077

\*Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.01 level (2-tailed).

\*\*\*P-value corrected using the Bonferroni test

### Coping and Well-Being

A significant and negative correlation existed between withdrawal coping, as measured by one of the three subscales of the CASQ questionnaire, and well-being, as measured by GWBQA score, ( $r = -.243$ ,  $p < .01$ ). This indicates that as an individual's usage of internal coping strategies increased and an individual's usage of withdrawal coping strategies decreased, his or her well-being level significantly increased (see Table 30).

Table 30. Correlations between Stress, Social Support, Uncertainty, Religiosity, Resilience, Coping and Well-Being (N=293)

		Well Being-Total Score
1	Stress related to School-Score	-.279**
2	Stress related to Future-Score	-.396**
3	Stress related to Parents-Score	-.334**
4	Stress related to Peers/Friends-Score	-.343**
5	Stress related to Romantic Interests-Score	-.278**
6	Stress related to Myself-Score	-.621**
7	Stress-Total Score	-.547**
8	SS-Significant others-Score	.251**
9	SS-Family-Score	.321**
10	SS-Friends-Score	.283**
11	SS-Total Score	.377**
12	Uncertainty-General-Score	-.400**
13	Uncertainty-Well Being-Score	-.277**
14	Uncertainty-Lebanon-Score	.047
15	Uncertainty-Total Score	-.353**
16	Religiosity- Total Score	.178***
17	Resilience- Total Score	.366**
18	Active coping (%)	.069
19	Internal coping (%)	.166***
20	Withdrawal coping (%)	-.243**

\*Correlation is significant at the 0.05 level

\*\*Correlation is significant at the 0.01 level

\*\*\*P-value corrected using the Bonferroni test

### Social Support and Other Variables

#### Social Support and Well-Being

A significant and positive correlation existed between overall perceived social support, as measured by MSPSS questionnaire, and well-being, as measured by GWBQA score ( $r = .377, p < .01$ ). This indicates that as an individual's social support (overall as

well as from family, friends and significant others) increased, his or level of well-being also significantly increased (see Table 30).

### **Social Support and Stress**

A significant and negative correlation existed between social support, as measured by the MSPSS score and stress, as measured by the PQ score ( $r = -.353$ ,  $p < .01$ ). This indicates that as an individual's social support (overall as well as from family, friends and significant others) increased, her or his stress level significantly decreased (see Table 28).

### **Social Support and Religiosity**

A significant and positive correlation existed between social support, as measured by the MSPSS score and religiosity, as measured by the SCSORF score ( $r = .215$ ,  $p < .01$ ). The result indicates that as individual's level of religiosity increased, his or her social support (overall as well as from family, friends and significant others) significantly increased (see Table 28).

### **Social Support and Uncertainty**

No statistically significant relationship existed between uncertainty as measured by the uncertainty scale and social support, as measured by the MSPSS score (see Table 28).

## **Uncertainty and Other Variables**

### **Uncertainty and Stress**

A significant and positive correlation existed between the total score of uncertainty and total stress, as measured by the Problem questionnaire ( $r = .217$ ,  $p < .01$ ).

The result indicates that as an individual's level of uncertainty increased, her or his level of stress significantly increased (see Table 28).

### **Uncertainty and Religiosity**

No statistically significant relationship existed between uncertainty, as measured by the uncertainty scale and religiosity, as measured by the SCSORF score (see Table 28).

### **Uncertainty and Well-Being**

A significant and negative correlation existed between the total score of uncertainty and well-being, as measured by the GWBQA ( $r = -.353$ ,  $p < .01$ ). The result indicates that as an individual's level of uncertainty increased, her or his level of well-being significantly decreased (see Table 30).

## **Religiosity and Other Variables**

### **Religiosity and Stress**

No statistically significant relationship existed between stress, as measured by the problem questionnaire and religiosity, as measured by the SCSORF score (see Table 28).

### **Religiosity and Well-Being**

No statistically significant relationship existed between religiosity, as measured by the SCSORF score and well-being, as measured by the GWBQA (see Table 30).

### Well-Being and Other Variables

Statistically significant relationships existed between well-being and all variables except uncertainty-Lebanon, religiosity, active coping and internal coping (see Table 30).

### Resilience and Other Variables

Table 31 shows that there was no statistically significant relationship between resilience and stress-related to school, stress-related to future, stress-related to peers, coping and uncertainty. However, a statistically significant relationship existed between resilience and stress ( $r = -.222, p < .01$ ), resilience and social support ( $r = .389, p < .01$ ) and between resilience and well-being ( $r = .366, p < .01$ ).

**Aim 4:** To determine whether stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (social support and socioeconomic status) and coping are predictors of well-being.

The results revealed that all correlations between well-being and other variables (except socio-economic status, uncertainty-Lebanon, religiosity, active coping and internal coping) were significant. Stress ( $r = -.547, p < .01$ ) had the highest correlation with well-being followed by social support ( $r = .377, p < .01$ ), resilience ( $r = .366, p < .01$ ), uncertainty ( $r = -.353, p < .01$ ), withdrawal coping ( $r = -.243, p < .01$ ), and gender ( $p < .01$ ) as a controlling variable.

When considered all together, six variables in addition to gender as a controlling variable accounted for significant increments of variance in the level of well-being (Table 32). These six variables include stress related to myself, resilience, uncertainty, social support, withdrawal coping and gender. Four of the variables were significantly and



positively related to well-being: resilience ( $\beta = .212$ ), social support ( $\beta = .125$ ) and gender ( $\beta = .133$ ). This means that as resilience, social support and being male increased the well-being of Lebanese first-time College students also significantly increased. The other three variables were significantly and negatively related to well-being: stress related to myself ( $\beta = -.462$ ), uncertainty ( $\beta = -.214$ ) and withdrawal coping strategies ( $\beta = -.088$ ). Thus, as the usage of withdrawal coping strategies, being exposed to stress related to myself, and uncertainty increased, the well-being of Lebanese first-time College students significantly decreased. The final regression model accounted for 56.2% of the variance in well-being level (55.1% adjusted) ( $p < .001$ ) (see Table 33). An additional multiple regression was performed to determine if the first four variables with the highest standardized coefficients in the previous regression model (stress related to self, resilience, uncertainty and social support) would explain the majority of the variance in the model (56.2%). Results showed that the regression model accounted for 52.5% of the variance in well-being level ( $p < .001$ ). When gender was added to the model, results showed that the regression model accounted for 54.1% of the variance in well-being level ( $p < .001$ ). This leads to the conclusion that all the variables except withdrawal coping were important in the regression model.

Table 31. Mean Scores and Standard Deviations of Stress, Social Support, Uncertainty, Religiosity, Coping and Well-being with Resilience (N=293)

	Resilience score
Stress related to school- Score	-.169***
Stress related to future- Score	-.148***
Stress related to parents- LN of Score	-.198**
Stress related to peers/friends- SQRT of Score	-.173***
Stress related to romance- SQRT of Score	-.114
Stress related to myself- LN of Score	-.184**
Stress- Total score	-.222**
Square of SS significant others- Score	.327**
Square of SS family- Score	.260**
Square of SS friends- Score	.312**
Square of SS- Total Score	.389**
Uncertainty General-Score	-.023
Uncertainty-Well Being- Score	-.04
Uncertainty-Lebanon- Score	.204**
Uncertainty-Total Score	.033
Religiosity-Score	.146***
% Active coping	.048
% Internal coping	.025
% Withdrawal coping	-.077
Well Being-Total Score	.366**

\*\*Correlation is significant at the 0.01 level (2-tailed)

\*\*\*P-value corrected using the Bonferroni test

Table 32. Results of Stepwise Multiple Regression Analysis

	Coefficients(a)		Standardized Coefficients	t	P-value
	Unstandardized Coefficients	Std. Error			
	B	Std. Error	Beta	t	P-value
(Constant)	124.847	8.708		14.336	<.001
Score for stress related to myself	-11.764	1.112	-0.462	-10.579	<.001
Resilience-Total Score	0.242	0.049	0.212	4.961	<.001
Uncertainty total	-0.669	0.128	-0.214	-5.219	<.001
Social Support-Total score	0.216	0.078	0.125	2.788	0.006
Gender	4.828	1.463	0.133	3.301	0.001
% withdrawal coping	-0.134	0.062	-0.088	-2.165	0.031

Table 33. Model Summary of the Stepwise Multiple Regression Analysis

Model Summary	R	Adjusted R	Std. Error of the
	Square	Square	Estimate
0.750	0.562	0.551	12.14

**Aim 5:** To test whether coping mediates the relationship between stress and the outcome of well-being in Lebanese first-time college students.

A mediator is defined as a variable that directly affects the relationship between a predictor variable and the criterion. The function of a mediator variable is to, “explain

how external physical events take on internal psychological significance” (Baron & Kenny, 1986, p. 1176).

To determine the effect of stress on well-being as possibly being mediated by coping, the analysis followed the analytical recommendations of Baron and Kenny (1986) through multiple linear regression analysis.

The first condition to be met is that the independent variable, stress, needs to be significantly related to the proposed mediator coping. Active, internal and withdrawal coping were not related to stress (see Table 29); therefore the first condition was not met. Consequently, the other conditions were not examined as the finding of the first condition eliminated coping as a possible mediator between stress and well-being.

## CHAPTER FIVE

### DISCUSSION

The overall purposes of this study were: to describe the coping strategies used by Lebanese first-time college students and to determine their scores of well-being; to determine if Lebanese first time college students use different coping responses in different problem areas (school, future, parents, peers, romantic relationship, and self-related problems); to determine the relationships between stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (SES and social support) coping and well-being; to determine whether stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (social support and socioeconomic status) and coping are predictors of well-being and to test whether coping mediates the relationship between all variables and the outcome of well-being in Lebanese first-time college students. The data were obtained from the self-report scores of a nonrandomized sample of Lebanese first-time college students. A conceptual model (illustrated below) guided the aims, research questions and hypotheses.

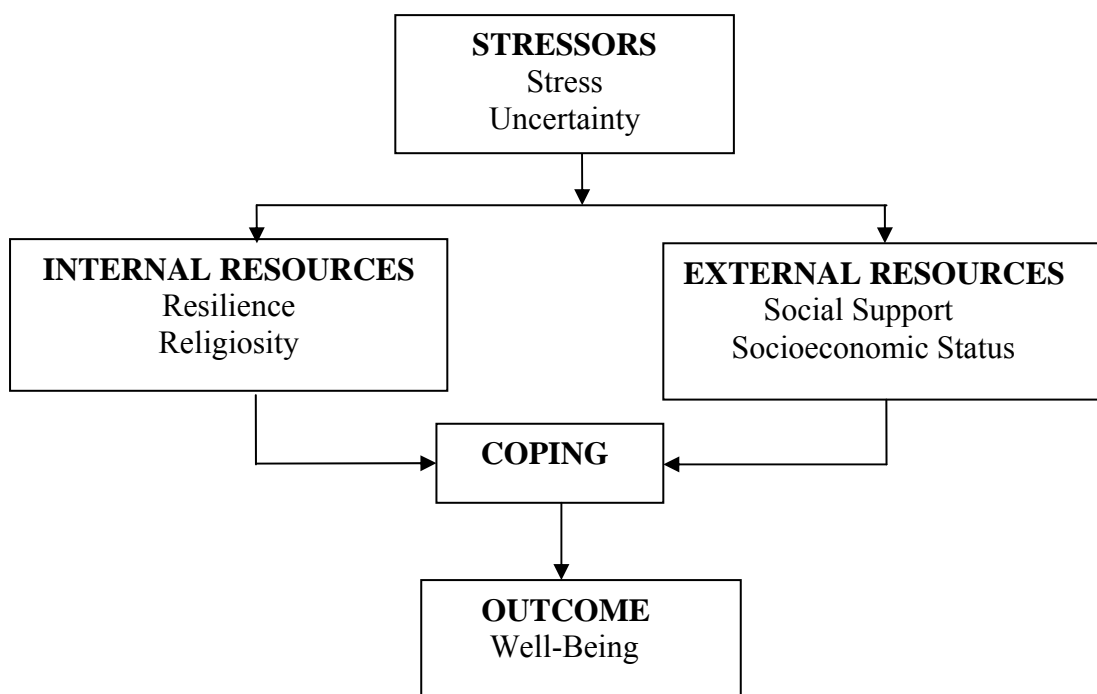


Figure 6. Conceptual Model

### **Aim 1: Description of the Coping Strategies and Scores of Well-Being of Lebanese First-Time College Students**

The first aim of this study sought to describe coping strategies used by Lebanese first-time college students and to determine their scores of well-being.

#### **Coping**

Coping Across Situation Questionnaire (CASQ) was used to operationalize the concept of coping in Lebanese first-time college students. Results showed that active and internal coping strategies respectively comprised 37.78% and 37.32% of all coping strategies used; On the other hand, withdrawal coping comprised 24.90% of all coping strategies. Similar to other studies utilizing the CASQ, the greatest proportion of coping strategies used by healthy adolescents were active and internal (Gelhaar & Seiffge-

Krenke et al., 2007; Martyn-Nemeth, 2006; Seiffge-Krenke, 1995). These findings also support Oweini's study (1995) that Lebanese college students predominantly rationalization and intellectualization strategies to cope with prolonged war hostilities at the American University of Beirut. Studies on normative samples revealed that most adolescents are competent copers, well able to deal with diverse normative stressors (Seiffge-Krenke, 1995).

Lebanese adolescents used less active coping strategies than German, Italian, Croatian, Czech, Norwegian and Swiss adolescents but more than Portuguese adolescents. Lebanese adolescents also used more internal coping strategies than German and Italian adolescents but less internal coping than Croatian, Czech, Norwegian, Portuguese and Swiss adolescents. Lebanese adolescents used more withdrawal strategies than German, Italian, Croatian, Czech, Norwegian and Swiss adolescents but less than Portuguese adolescents (Gelhaar & Seiffge-Krenke, 2007).

There were no statistically significant differences noted between male and female participants on the coping scores in this study. This finding is not consistent with previous studies. It has been noted in the literature that male and female students utilize different coping methods. Several studies have suggested that female college students exhibit higher levels of active coping strategies than male students (Compas et al., 2001; Frydenberg, 1997). Cross-cultural research has also confirmed the finding that female adolescents tend to cope more actively with their problems (Gelhaar et al., 2007). The findings of the current study might be explained by the socio-political context in which

Lebanese young men and women were equally exposed to the day to day hassles and to the traumatic war events. Consequently, they used similar coping strategies.

### **Well-Being**

General Well-Being Questionnaire for Adolescents (GWBQA) was used to operationalize the concept of well-being in Lebanese first-time college students. In this study, the GWBQA scores ranged from 69 to 169 with a mean GWB score of 132.49 (SD= 18.12). In the current study, the level of well-being among Lebanese first-time college students is lower than those levels reported by adolescents in other studies that used GWBQA. Yarcheski et al. (1994) reported a mean GWB score of (M= 141.10, SD =21.10) while Hendricks-Ferguson (2001) reported a mean (M= 147.13, SD = 18.94). An explanation for the finding of a lower level of well-being in the present study may be related to the socio-political context of this study. In Lebanon, findings are not conclusive regarding the mental health of the youth population. However, while limited, the existing adolescent literature showed college youth has lower subjective well-being scores than European American youth (Ayyash-Abdo, 2010).

In the present study, the level of well-being was significantly higher for adolescent boys than girls. This finding is consistent with Colombo's (1984) study but not with Hendricks-Ferguson's (2001) study in which the overall level of well-being did not significantly differ between the adolescent boys and girls. A possible explanation for the inconsistency in finding may be attributed to the fact that Lebanon, being a patriarchal society, females have fewer legal rights than males, and are thus considered to be inferior within the state (Ayyash-Abdo, 2010). In Lebanon, studies revealed that



female college students scored higher on negative emotions such as anger, fear, despair, outrage and nervousness while male college students scored higher on positive emotions (Ayyash-Abdo & Alamuddin, 2007).

**Aim 2: Coping Strategies Used by Lebanese First-Time  
College Students across Domains**

The second aim of this study sought to determine if Lebanese first time college students use different coping responses in different problem areas (school, parents, friends, romantic relationship, self-related and future problems).

Results in the current study indicated that future, school, self, and parents were the most stressful situations experienced. The domains identified as the highest sources of stress in this study were consistent with those reported in other studies (Martyn-Nemeth, 2006; Seiffge-Krenke, 1995) but rated differently. Problems related to friends that contributed to the lowest source of stress in this study were also identified as the lowest source of stress among high-school adolescents in the US (Martyn-Nemeth, 2006). In the US, the highest reported stress levels were related to school (26.3%), parents (21.6%), future (17.5%) and self (16%) among high-school adolescents. Seiffge-Krenke (1995), the developer of the Problem Questionnaire, reported the order of what was perceived as most stressful as follows: problems with future, self-related problems and problems with school among high-school students in Germany. Consistent with the findings of the current study, the results of Haid and her colleagues (2010) who observed that 3259 adolescents from Turkey, Germany and Italy experienced future concerns as most stressful. The findings of that study also demonstrated the universality of fearful

future anticipations among adolescents with different cultural backgrounds and underline the stressfulness of identity development during the transition to adulthood. Countries from Southern Europe (Italy, Spain, Portugal) tend to report total stress levels close to 3.00, while Northern European countries like Finland have a total stress level close to 2.00 (Personal communication with Seiffge-Krenke, December 10, 2011). In this study, the mean stress level for the adolescents in this sample (N=293) was low to moderate ( $M = 2.02$ ,  $SD = .52$ ).

The choice of particular strategies varied with the type of problem encountered. These varied approaches to different problems demonstrate a high level of discernment and coping ability in the majority of the adolescents sampled. This finding was in line with previous adolescent research (Gelhaar & Seiffge-Krenke et al., 2007; Seiffge-Krenke, 1995).

Most important, not only did adolescents prefer to use family and friends as support-providers in dealing with stress, they seldom used more maladaptive strategies (withdrawal coping). This suggests that the adolescents were very competent in dealing with problems across domains. This overall positive picture also applied to female and male adolescents equally. This finding may be explained by the fact that gender differences in Lebanon have narrowed nowadays due to the exposure of both young male and female adolescents to the daily hassles and war traumatic events in the country irrespective of gender (Abu-Saba, 1999).

Another notable finding of the current study was that the overall coping competence in adolescents was not affected by differences in socioeconomic status

(defined by parental monthly income and father's education level). This might be explained by the fact that the majority of the study sample came from families of high socioeconomic status.

Furthermore, the findings of the current study showed that coping strategies involving cognitive processes (internal coping) were quite frequently employed. The high percentage of internal coping found in this study matches with Garnefski et al.'s (2002) findings on the importance of cognitive coping in adolescent samples.

In the current study, Lebanese first-time college students used more withdrawal strategies when dealing with self-related issues or with problems related to parents and romantic interests. This finding is consistent with Seiffge-Krenke's (1995) studies in which adolescents used withdrawal strategies across three domains: parents, self and romantic interests. According to Compas et al. (2001), adolescents use withdrawal strategies when they encounter problems that they perceive are beyond their control. Problems involving parents may represent situations in which there is less freedom or control in solving the issue.

Another important and positive finding is the consistent use of withdrawal coping which has been linked with psychopathology (Seiffge-Krenke, 2000; Seiffge-Krenke, 2004; Seiffge-Krenke & Klessinger, 2000). An analysis of specific withdrawal coping strategies highlighted that adolescents rarely used alcohol and drugs to deal with stress, which is in accordance with findings obtained in other studies (Settertobulte et al., 2001). Letting anger out by shouting and slamming doors was the most frequently chosen withdrawal strategies in the current study. Letting energy out with loud music or athletic

activities ranked second in the current study but ranked first in a cross-cultural study of 3031 European adolescents from seven nations (Gelhaar & Seiffge-Krenke et al., 2007). In a more recent study of Seiffge-Krenke et al.'s (2009), trying not to think about the problem and behaving as if everything is alright were the most frequently chosen withdrawal strategies. According to Saarni (1997), the withdrawal coping strategies found in Seiffge-Krenke et al.'s (2009) study were adaptive ways of regulating emotions in uncontrollable situations, whereas the withdrawal coping strategies found in the current study and in Gelhaar and Seiffge-Krenke et al.'s study (2007) were considered as the worst coping strategies (aggressive externalizing actions). The use of maladaptive ways of coping strategies in this study might be explained by the lived experience of war and atrocities in the country and/or by some particular aspects of the Lebanese culture (e.g. child-rearing practices, parental modeling). In accordance with previous research (Gelhaar & Seiffge-Krenke et al., 2007; Seiffge-Krenke, 1995), this study revealed that drinking alcohol and using drugs in order to cope with normative stressors were not important strategies of Lebanese adolescents.

The results of the current study supported the hypothesis, as Lebanese first-time college students used a combination of internal, active and withdrawal coping strategies. The strategies varied with the situation. A greater proportion of overall strategies used were active and internal coping strategies which were focused on resolving the issue or problem.

**Aim 3: Relationships between Stress, Uncertainty, Resilience, Religiosity, Socio-Economic Status, Social Support, Coping and Well-Being**

The third aim of this study sought to identify the relationships between stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (SES and social support) coping and well-being in Lebanese first-time college students. The association of the eight key variables will be discussed in the following section in relation to their coherence with the theoretical framework (Seiffge-Krenke, 1995). Three major relationships were examined: (a) the antecedents: stress, uncertainty, resilience, religiosity, SES and social support and their relationship to coping; (b) the relationship of coping to the outcome of well-being; and (c) the relationships of the antecedents to well-being.

**Relationships of the Antecedents: Stress, Uncertainty, Resilience, Religiosity, Socio-Economic Status and Social Support and their Relationship to Coping**

**Stress and other variables.** Increased stress was significantly related to low social support, to high uncertainty, to withdrawal coping, to low resilience and to low well-being. Increased stress from school and from self issues were correlated with gender.

The relationship of stress to social support was an expected finding that supports the theoretical framework that stress appraisal is impacted by external coping resources such as social support (Seiffge-Krenke, 1995). The concept of social support as a stress buffer of the stress-health relationship has been well substantiated in many studies in adolescents (Charvoz,, Bodenmann & Herman, 2003; Grant et al., 2006; Stanton-Salazar

& Spina, 2005; Yarcheski & Mahon, 1999). In Lebanon, a study among adolescents showed that a strong social network played a critical role as a stress-buffering variable in reaction to war stress (Oweini, 1995).

The relationship of stress to uncertainty was an expected finding, given the fact that uncertainty is, by definition, a daily stressor related to the frequency of wars in Lebanon history. Uncertainty includes two elements that have an impact on the level of stress: the first is the probability that the threat will occur, and the second is the length of uncertainty period (Shamai, 1999). The length of the uncertainty period increases the level of stress, even if there is a relatively low probability that the threat will be implemented. Accordingly, there is a very high probability that people living for a long time under conditions of uncertainty with a threat to their physical existence and a threat of a forced relocation will be affected by these stressors and by the different demands derived from these stressors (Shamai, 2001).

Increased stress was significantly related to withdrawal coping. The relationship of stress to withdrawal coping was an expected finding substantiated by prior research that supports the theoretical framework that coping strategies may be viewed as either adaptive or maladaptive depending on the demands of the situation (Seiffge-Krenke, 1995). This increase in withdrawal coping strategies when faced with an overload of stress may be considered as maladaptive for Lebanese college students as substantiated by the literature. There is strong consensus in the literature reviewed (see Appendix N) that avoidant coping or withdrawal is not a meaningful mechanism in dealing with an overload of stress.

Total stress was not significantly correlated with gender. The relationship of stress to gender was not an expected finding. In fact, previous research has shown that girls report overall higher levels of stress than boys do (Petersen et al., 1991; Seiffge-Krenke, 1995; Simmons et al., 1987). In the current study, gender differences in Lebanese adolescents' perceived stress were limited to one stressful situation. Boys reported a relatively higher level of stress than girls when dealing with academic problems. This finding might be explained by the fact that both female and male Lebanese students face a highly stressful and competitive educational environment. Consequently, they have a strong drive to achieve academic excellence. However, Lebanon being a patriarchal society, male students might face a stronger pressure from their parents and themselves to excel academically than their female counterparts. Consequently, male students might be exposed to a higher academic stress than female students.

Stress was significantly correlated with resilience. This finding is consistent with the literature as researchers have determined that adolescents who are resilient are more likely to adapt to stressful conditions and to manage day to day challenges (Black & Ford-Gilboe, 2004; Hunter & Chandler, 1999; Wagnild, 2009).

**Religiosity and other variables.** Religiosity is only correlated to social support. The relationship of religiosity to social support was an expected finding, indicating that as an individual's level of religiosity increased, his or her social support increased. In the literature, this finding was substantiated by previous research. Higher levels of religiosity were found associated with greater perceived social support (Annalakshmi & Abeer, 2011).

The relationship of religiosity to well-being was not statistically significant. The lack of association was not an expected finding. Higher religiosity was found to be linked to lower anxiety, fewer negative health outcomes and enhanced well-being (Annalakshmi & Abeer, 2011; Cotton et al., 2006). A meta-analysis of 34 recent studies conducted between 1999 and 2002 revealed that personal devotion (subjective religious orientation) produces the strongest correlation with positive psychological functioning (happiness, life satisfaction) and that institutional religiosity (organizational religious orientation such as participation at church/mosque activities) creates the weakest correlation (Hackney & Snaders, 2003). More recent studies suggest a salutary effect of religion on mental health, with organizational religiosity having the highest impact (Parker et al., 2003). The lack of association between religiosity and well-being needs to be elucidated in further studies.

Non-significant relationships were found between religiosity and coping and resilience. The lack of associations was not an expecting finding as substantiated by the theoretical framework (Seiffge-Krenke, 1995) and previous research. Individuals with higher levels of religiosity had higher resilience level (Annalakshmi & Abeer, 2011) and were able to increase the use of adaptive coping strategies (active and internal coping) and decrease the use of maladaptive coping strategies (withdrawal coping) (Kane & Jacobs, 2010). A possible explanation for the lack of association between religiosity and coping might be due to the fact that religiosity might have helped Lebanese youth cope with war during political turmoil and violence in the country but not during peaceful



times. A possible explanation for the lack of association between religiosity and resilience might be due to the use of different measurements of religiosity across studies.

The relationships of religiosity to stress or to uncertainty were not statistically significant. Those relationships were not expected findings. In the literature, findings showed that religiosity was a protective factor against daily challenges (Annalakshmi & Abeer, 2011; Cotton et al., 2006). Religiosity had also provided a sense of confidence, assurance, and serenity in the face of negative events during war times in Lebanon (Oweini, 1995). A possible explanation for the lack of association between religiosity and stress and uncertainty in the current study might be due to the fact that religiosity helped Lebanese youth cope with war during political turmoil and violence in the country but did not lessen their acknowledgement of the political uncertainty in the country.

The relationship of religiosity to gender was not statistically significant although past studies have shown that females tend to be more religious than males. They are more likely to express a greater interest in religion (Sasaki, 1979), have a stronger personal religious commitment (Argyle & Beit-Hallahmi, 1975), and attend church more frequently (Batson, Schoenrade, & Ventis, 1993). Moreover, this appears to hold true over the life course and regardless of the type of religious organization or belief system (Glock, Ringer & Babbie, 1967). However, it is important to note that not all studies have found women to be more religious. Researchers who have treated religiosity as multidimensional construct have sometimes been able to find the expected gender difference for religious participation, but not for religious belief (Sloane & Botvin, 1983), which supports the scale used in the current study.

**Socio-economic status and other variables.** Socio-economic status was not significantly correlated with any variables (stress, coping, well-being, resilience, religiosity, uncertainty and social support). Those findings were not expected as substantiated by the literature (Ayyash-Abdo, 2003, 2010; Ayyash-Abdo & Alamuddin, 2007; Clark-Lempers, Jacques & Netusil, 1990; Conger et al., 1992; 1994; Finkelstein, Kubzansky, Capitman, & Goodman, 2007; Wadsworth & Compas, 2002). In Lebanon, College students in the low SES group scored significantly lower on SWB than did students in the upper-middle and upper SES groups (Ayyash-Abdo & Alamuddin, 2007). The lack of association between SES and other variables needs to be elucidated in future studies.

**Uncertainty and other variables.** A significant relationship existed between uncertainty and resilience. The relationship of uncertainty to resilience was an expected finding as substantiated by the literature (Griffith, 2002; Huebner, Mancini, Wilcox, Grass, & Grass, 2007).

No significant relationships existed between uncertainty and social support, uncertainty and coping, and uncertainty and gender. This makes intuitive sense in that uncertainty is beyond the individual's control in a socio-political context with a history of traumatic events.

**Social support.** The relationship between social support and coping was non-significant. The relationship of social support to coping was not an expected finding as substantiated by the literature. Social support is considered to be an external coping resource with Seiffge-Krenke theoretical model (1995). Active coping and social support

have been significantly correlated in prior research (Yarcheski & Mahon, 1986). Low levels of social support and avoidant coping moderated the impact of stress on psychological well-being in adolescents. The discrepancy in the findings might be explained by the use of different measurements of coping across studies.

**Gender.** No significant relationship existed between gender and coping. This finding is not consistent with previous studies. It has been noted in the literature that male and female students utilize different coping styles. Several studies have suggested that female student have less adaptive coping skills than male students (Chaplin, 2006; Dyson & Renk, 2006; Reed et al., 2006). However, females have higher scores in using social support (Frydenberg & Lewis, 1993; Seiffge-Krenke, 1998) and accepting therapeutic help (Seiffge-Krenke, 1995).

Regardless of the type of the problem, female adolescents addressed problems immediately, talked about them much more frequently with significant others than males, and usually try to solve the problem with the person concerned. In addition, they worried a lot about the problem, thought about possible solutions, and expected negative consequences much more frequently than boys. Male adolescents, on the other hand, presented themselves as less open and sociable, but evaluated the problem situation more optimistically and did not withdraw resignedly from a situation as frequently as females did. They only talked problems when imminently present, and did not subject themselves emotionally to as much pressure as females did. However, if a serious problem occurred that could not be solved easily, they tried more often to forget it with alcohol or drugs (Seiffge-Krenke, 1995).

Although the literature has noted that male and female adolescents may utilize different methods of coping, the results of this study did not support that difference. Eaton and Bradley (2008) noted that the results across studies can vary depending upon the methods utilized to measure coping. In a study examining the adaptation of freshmen students to college life, no differences were found in coping strategies between male and female students. A possible explanation provided by the authors for this finding was that college students, both men and women, may be more liberal on their behavioral based upon changing sex role expectations (Dyson & Renk, 2006).

The findings in this current study are not in line with Seiffge-Krenke (1995) results although the same coping instrument was used across the two studies. This inconsistency might be explained by the cultural differences between Lebanese adolescents and their counterparts in other countries or by the changing sex role expectations as explained by Dyson and Renk (2006).

### **Relationship of Coping to Well-Being**

Moderate relationship existed between withdrawal coping and well-being. The relationship of withdrawal coping to well-being in the current study was an expected finding that supports the theoretical framework of Seiffge-Krenke (1995) that poor coping can lead to poor psychological well-being. Psychological sequel of withdrawal coping among adolescents have included internalizing and externalizing symptoms (Seiffge-Krenke, 2000), distress (Frydenberg & Lewis, 2009), negative affect (Aldridge & Roesch, 2008), decreased emotional and psychological well-being (Fledderus, Bohlmeijer & Pieterse, 2010) and emotional and behavioral problems (Seiffge-Krenke,

2000). However, what is striking in the current study is the absence of significant relationship between active and internal coping and well-being. This finding was not in line with studies that showed that active and internal coping such as problem-solving, planning and positive thinking would be associated with increased positive affect and reduced negative affect (Aldridge & Roesch, 2008; Ben-Zur, 2009; Iwasaki, 2001), and negatively related to distress (Frydenberg & Lewis, 2009; Muris, Schmidt, Lambrichs, & Meesters, 2001; Ogul & Gencoz, 2003). The discrepancy in the findings might be explained by the use of different measurements of well-being across studies. Studies that have used the general well-being questionnaire for adolescents (Colombo, 1984) did not examine the relationship of well-being with coping.

### **Relationships of All Variables to Well-Being**

The relationship of increased stress to well-being exhibited the strongest correlation. This finding is supported by previous research that increased stress leads to poor psychological adjustment, decreased psychological well-being and depression (Compas, 1987; Martyn-Nemeth, 2006; Seiffge-Krenke, 1995). Adolescents experience stress when they are faced with demands that may exceed their ability to cope (Dyson & Renk, 2006). As noted in this study, high levels of stressors can place Lebanese college students at risk of decreased well-being.

A moderate relationship of high uncertainty to decreased well-being was shown in this study, which supports the work of previous studies. High uncertainty has been shown to negatively impact well-being in several studies. Exposure to political uncertainty affects the individuals' psychosocial development, and their ability to love, care, and feel

solidarity (Garbarino & Kostelny, 1996; Jensen 1996; Shamaï, 2000). In Lebanon, while limited, the existing adolescent literature showed that in spite of adverse circumstances, college youth did not experience post-traumatic stress disorder, are not at high risk for psychopathology and self-destructive behaviors and are enjoying a slightly above average score on well-being compared to other nations (Ayyash-Abdo, 2010).

The relationship of religiosity with well-being was not statistically significant which does not support the work of previous studies. Abdel Khalek and Naceur (2007) explored the association between religiosity and both positive and negative emotions and traits among a sample of Algerian Muslim college students. Findings revealed that religiosity was significantly correlated with mental health among men. However, in women, religiosity was significantly and positively correlated with physical health, mental health, happiness, satisfaction with life, and optimism, whereas religiosity correlated negatively with both anxiety and pessimism. In another study, Fatimah El-Jamil (2003) found that higher religiosity served as a protection against depression and anxiety in Lebanese and American undergraduate students aged 18 years and older. In Lebanon, research showed that religiosity might play critical role as a stress-buffer variable in reaction to stress among Lebanese youth (Soweid, Khawaja & Salem, 2004). The discrepancy in the findings might be explained by the use of different measurements of religiosity across studies.

The relationship of social support to well-being exhibited a moderate correlation. This finding supports a large body of knowledge that increased social support leads to increased well-being (Cohen & Wills, 1985; Dubois et al., 1992; Yarcheski & Mahon,

1999). During war times, Lebanese students sought strength from a strong support network of friends and family, deeply valued their nuclear and extended families, and felt a strong sense of belonging to their community.

A statistically significant correlation existed between resilience and well-being. This relationship showed that as students' level of resilience increased, their level of well-being also increased. Those findings were substantiated by previous research (Christopher, 2000; Humphreys, 2003; Wagnild, 2009). Christopher (2000) studied the relationship of demographic variables, life satisfaction, and psychological well-being to resilience among 100 Irish immigrants to the United States with an average age of 31 years. Resilience was positively associated with psychological well-being.

A statistically significant correlation existed between gender and well-being ( $p < .01$ ). This relationship showed that female adolescents have scored lower on the well-being scale than male adolescents. This finding was in line with other previous studies (Ayyash-Abdo, 2003, 2010; Ayyash-Abdo & Alamuddin, 2007). Ayyash-Abdo (2010) found that Lebanese male adolescents scored higher on positive affect than female adolescents. Lebanese female adolescents had higher scores on negative affect than Lebanese male adolescents. However, other researchers have reported inconsistent results on the relation of gender differences to positive affect (Diener & Suh, 2000). This relation seems to vary across studies and cultures. Evidence is more consistent as regards the finding that women seem to experience more negative affect than men (Costa et al., 2001). For young Lebanese males and females, this also seems to be the case (Ayyash-Abdo, 2010).

In summary, results revealed the following relationships:

1. Stress is correlated to social support (SS), uncertainty, well-being, resilience and gender.
2. Active coping is correlated to social support from family.
3. Internal coping is not correlated to any variables.
4. Withdrawal coping is correlated to SS from family.
5. Well-being is correlated with all variables except SES, uncertainty-Lebanon, religiosity and internal coping.
6. Social Support is correlated to all variables except uncertainty and coping.
7. Uncertainty is correlated to stress.
8. Religiosity is correlated to SS.
9. Resilience is correlated to stress, SS, uncertainty-Lebanon and well-being.
10. Gender is correlated to stress (from school and myself), uncertainty-general and well-being.
11. SES is not correlated to any variables.

Consequently, the aforementioned results partially supported the hypothesis and hence, partially followed the conceptual framework as presented by Seiffge-Krenke (1995).

#### **Aim 4: Predictors of Well-Being**

The fourth aim of this study sought to determine whether stressors (stress and uncertainty), internal resources (resilience and religiosity), external resources (social support and socioeconomic status) and coping are predictors of well-being.



Results indicated that six predictor variables in addition to gender as a controlling variable emerged as significant predictors of well-being and accounted for 56.2% of the variance in the dependent variable of well-being. These variables included stress related to myself, resilience, uncertainty, social support, withdrawal coping and gender. As resilience, social support and being male increased, the well-being of Lebanese college students also increased. This finding is consistent with previous research. Literature supportive of these relationships have already been described above.

As stress (related to myself), uncertainty and the use of withdrawal coping strategies increased, the well-being of Lebanese first-time college students decreased. This finding is consistent with previous research as described previously.

Consequently, the aforementioned results mostly supported the hypothesis and hence, mostly followed the conceptual framework as presented by Seiffge-Krenke (1995).

### **Aim 5: Coping as a Mediator of the Relationship between**

#### **All Variables and Well-Being**

The fifth aim of this study sought to test whether coping mediates the relationship between all variables and the outcome of well-being in Lebanese first-time college students. The theoretical framework guiding this study was based upon Seiffge-Krenke's (1995) developmental model for adolescent coping. Coping is not only a central construct in Seiffge-Krenke's research, but is also an important mediating variable in the interface between stress and outcome.

In the current study, the results of the mediation analysis indicated that coping did not mediate the relationship between stress and well-being. This result does not support

the hypothesis and hence, does not follow the conceptual framework as presented by Seiffge-Krenke (1995).

### **Limitations of this Study**

This investigation encompasses some potential limitations including threats to internal and external validity. Therefore, results of this study must be interpreted with caution. First, this study is cross-sectional in nature, and therefore any relationships suggested between variables are purely associations (not causation) for consideration in the generation of hypotheses to be tested with more rigorous (or longitudinal) studies. Second, this investigation is limited by history. This potential threat might affect the external validity of the study as any usual occurrences around the time of data collection could affect the ability to generalize the results to other periods in time. For example, if there was a recent political turmoil in the country, or if students had recently attended a campus presentation on coping and stress, these occurrences could affect the way they answer the questions presented during the data collection process. To our knowledge, none of these events took place.

### **Sample**

This study could have been strengthened if a random sample of adolescents was obtained. A convenience sample was recruited composed of individuals who volunteered to participate in the investigation. Selection bias may have affected the internal validity of this investigation. Caution must be utilized when reviewing the results, as volunteers may be selectively different from a random sample of individuals. However, the sample of the

current study included all students taking English 009 and 101 – enhancing the likelihood that the sample mimicked a more random sample.

A potential threat to the external validity has also been identified in this study. In fact, this investigation was limited by the fact that the sample of participants was recruited from one Lebanese college in one region of Lebanon. In addition, the survey was only conducted on students in their first semester of university and in a privileged population of study (LAU is one the private universities with the highest tuition fees in Lebanon). Consequently, the results of this study will be limited to this particular population and therefore cannot be generalized to Lebanese university students in general. A broader and more equal distribution of socio-demographic data is needed for future research. A broader geographic area would have strengthened the external validity and hence generalizability of the study. However, the results that are generally supportive of the literature provide more confidence in the generalizability of the study.

Another potential threat to external validity might be related to the fact the college life for Lebanese students is far different from their counterparts in other countries. Students in Lebanon do not experience the same stressors stemming from leaving their family, living on their own and working while studying that adolescents from different countries encounter during their transition from school to college. In the current study, the majority of the study sample live with their family (92.5%) and not currently working (94.2%).

## Measurements

Instrumentation may present a threat to internal validity. The use of non-validated scales to measure stress, coping, religiosity, resilience, and well-being in a Lebanese setting might exacerbate this threat. A thorough review of the literature, careful thought by the panel of experts and a pilot study have been completed prior to the selection of instruments to be utilized in the data collection process. The potential does exist, however, that the instruments did not perform as expected. Therefore, reliability was established using Cronbach's alpha for each tool in the study. Most of the measurement instruments performed well overall and had acceptable reliability statistics for the current study.

Another potential threat to internal validity might be related to the timing of the investigation. The data collection might have been better conducted during the spring semester. It would be worthwhile to allow participants for an exposure of one semester to the college life. The rationale behind that timing is supported by the fact that the participants have reported during the completion of the problem questionnaire that it was too early to encounter problems related to academic stress during the third week of the Fall semester (data collection period).

Further instrument development is needed to capture a wider range of the coping strategies and the perceived stress constructs in the general population of Lebanese healthy adolescents.

## Summary and Conclusions

Lebanon is a small country that has been ravaged by a civil war (1975-1990), by Israeli invasions in 1978, 1982 and 2006 and atrocities for a period of over three decades. Although the long civil war is over, Lebanon has witnessed a series of adverse events during the past five years. Demonstrations, street riots, rising religious tensions, political assassinations, a 34-day brutal war in July 2006, civil strife in May 2008, economic recession, and an uncertain future have all taken their toll on the everyday life of the average Lebanese.

In spite of life-threatening events, findings across Lebanese studies revealed that psychopathology occurs among a minority of individuals. However, Lebanese researchers know little of how adolescents, who live with uncertainty, approach normative daily experience, and use their internal and external resources to actually adapt and go on with their lives. This investigation is especially important because it looks at the association between concepts that have been sadly neglected so far in the Lebanese population, and particularly among Lebanese youth. Research that focus on the concept of stress, coping and well-being of the youth population is needed due to the phenomenon of war and violence in Lebanon. The need for research on coping and well-being is further accentuated by the lack of a surveillance system and a systematic planning and evaluation procedure to respond to emerging and changing students' needs.

The sample of adolescents studied is a convenience sample including 293 Lebanese first-time college students at the Lebanese American University on Beirut campus in Lebanon. Comparisons of the associations between the eight key variables

(stress, uncertainty, resilience, religiosity, social support, socio-economic status, coping and well-being) did demonstrate the expected direction of relationships based on Seiffge-Krenke's (1995) framework and prior research. Lebanese first-time college students were found to be competent copers, well able to deal with diverse normative stressors. Coping strategies varied depending on the nature of the problem or relationship with the person's involved. This suggests that Lebanese adolescents were very competent in dealing with problems across domains. Another notable finding of the current study was that the overall coping competence in adolescents was neither affected by gender nor by differences in socioeconomic status. Furthermore, Lebanese first-time college students scored lower on the well-being score than their counterparts in other studies.

The association of the eight key variables was discussed in relation to their coherence with the theoretical framework (Seiffge-Krenke, 1995). Most of the associations supported the theoretical framework whereas a few associations did not support it.

Six variables were predictors of well-being: Stress related to myself, resilience, uncertainty, social support, withdrawal coping and gender. It was postulated that coping would mediate the relationship between stress and well-being. However, this mediational hypothesis was not substantiated.

### **Implications for Clinical Practice and Future Research**

#### **Clinical Practice**

The current findings have significant implications for clinical practice and contribute to nursing science in several ways. The results of this investigation provide a

better understanding of factors that are predictive of well-being in Lebanese first-time college students. College and community settings are key places for nurses to provide preventive strategies targeted to the adolescent to promote adaptive coping behavior and enhance well-being. This study suggests that current coping skills should be assessed in adolescents along with their level of well-being in order to target education related to adaptive coping behavior.

Stress, social support, uncertainty, resilience, gender and withdrawal coping strategies emerged as significant predictors of well-being. Based on these findings, targeted interventions should begin with screening and assessment of adolescents for high perceived stress, low social support, high uncertainty, low resilience and high withdrawal coping strategies that may contribute to diminished well-being. Nurses should assess the types of strategies that college students are using related to problems at college, with parents, friends, romantic interests, self and future. Reinforcement of effective active and internal coping strategies may be beneficial; while identifying alternatives to withdrawal strategies.

The relationship of increased stress to well-being exhibited the strongest correlation. As noted in this study, high levels of stressors can place Lebanese college students at risk of decreased well-being. Nursing interventions are needed to focus on prevention and early identification of adolescents at risk for decreased well-being. In Lebanon, preventive college-based and community wide programs should be established that target the individual, family and community.

Fostering resilience is an important coping resource for adolescents. The adolescents in this study sample possessed low to moderate levels of resilience in spite of exposure to the stresses of daily hassles and exposure to war events in Lebanon. Regardless nurses and health care providers should be challenged to develop interventions to enhance resilience and diminish stress in adolescent college students.

Development of social support networks with parents, teachers and friends is an important coping resource for adolescents. Increased social support may help promote resilience and has been reported to be an important coping resource among Lebanese first-time college students. Many adolescents turn to friends or parents to effectively cope with problems in their lives. Support-seeking strategies should be promoted as positive ways of coping with stress.

Intervention approaches should consider the developmental context and be tailored towards the specific needs of Lebanese youths. This may entail, for example, helping adolescents to reframe stressors, supporting them in their attempts to seek support, even in extra-familial networks and offering alternatives to withdrawal coping.

### **Future Research**

Development of culturally sensitive instruments for stress, resilience, social support, religiosity, coping and well-being are needed in Lebanon.

Lebanese researchers should conduct longitudinal studies to further explore predictors of well-being among Lebanese adolescents. It would be of interest to study several aspects of well-being as well as to discern if there are positive and negative



adaptive outcomes such as subjective well-being, positive affect and negative effect in response to active, internal and withdrawal coping.

Future studies should endeavor to increase the validity of our findings, which were based on self-reports, by including reports of others and testing for the degree of correspondence between self-reported and observed coping behaviors. Further, future qualitative, interview approaches exploring young people's own perspectives and personal insights into their developmental plans and strategies could yield rich data that help explain the findings in the current study that were not consistent with the literature. Studies are needed to elucidate the lack of association between gender and coping and between socio-economic status and all the other variables (coping, stress, well-being, resilience, uncertainty, social support and religiosity).

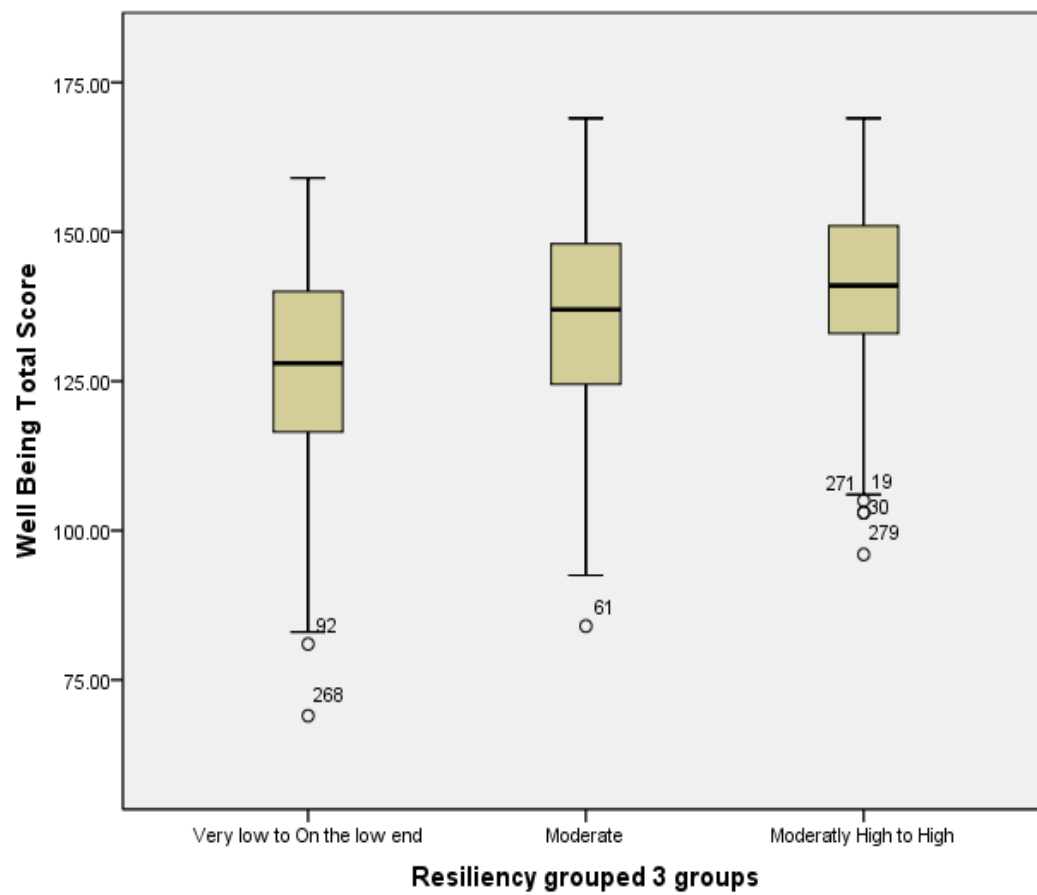
For young Lebanese males and females, the findings of the current study suggest that women seem to experience lower well-being than men. Future studies could explore further the possible impact of the patriarchal society and the structural gender inequalities in Lebanon on this result.

Finally, the present findings may open vistas for future cross-cultural research that compares coping and stress among Lebanese and adolescent samples globally.

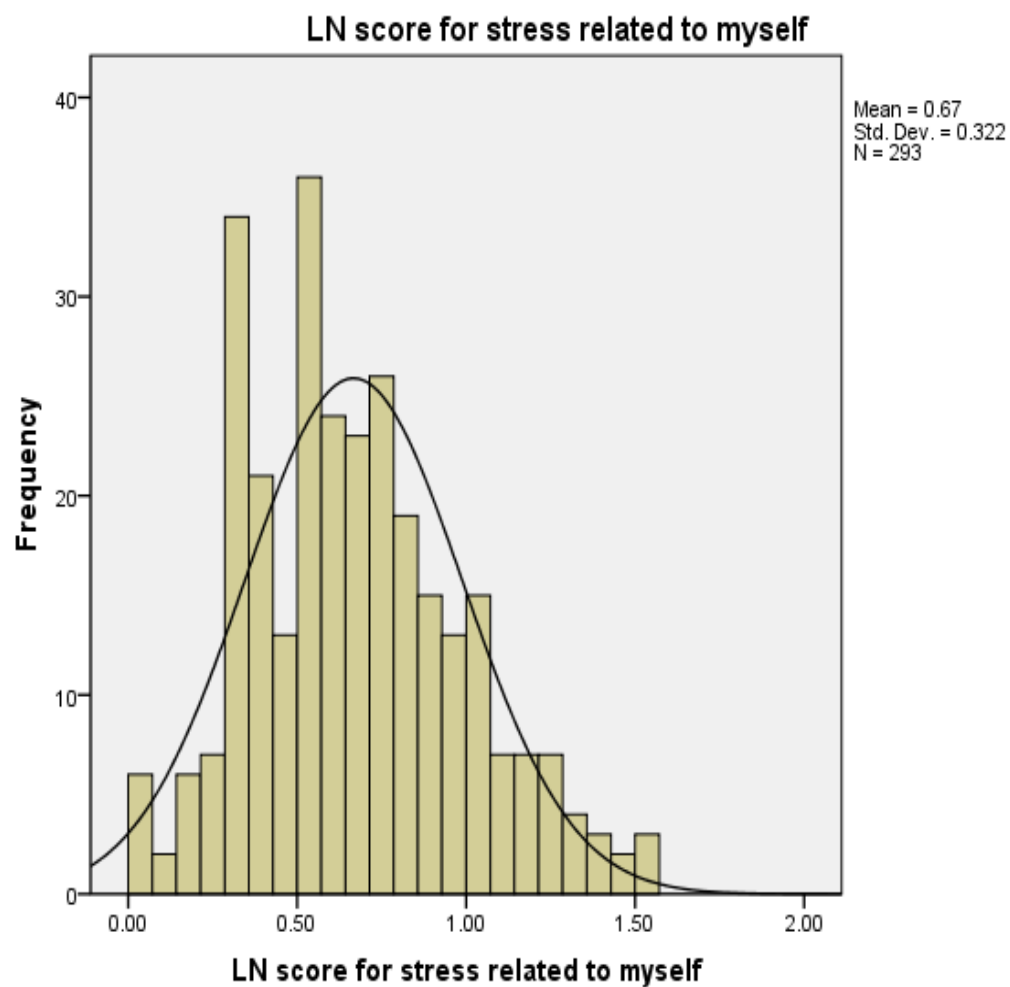
APPENDIX A

FIGURES

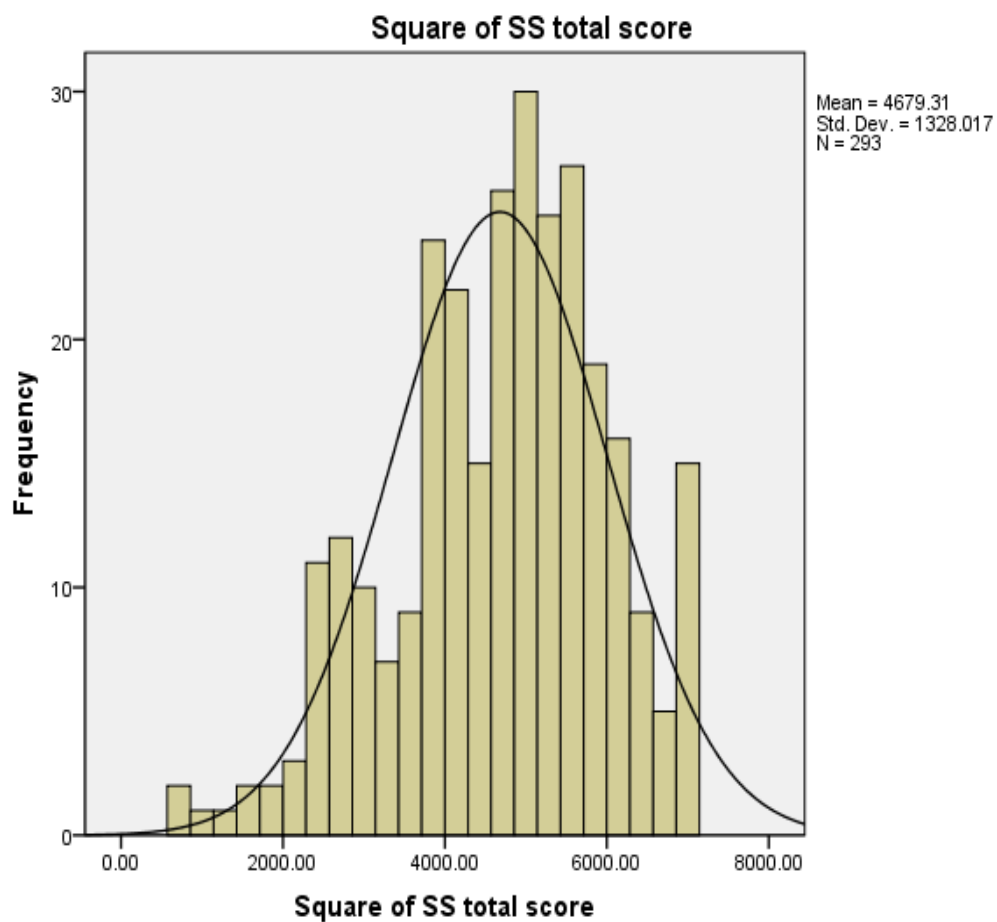
Scatter-plot of Well-being Score and Resilience Groups



## Distribution of Stress Related to Myself after Data Transformation



## Distribution of Social Support Total Score after Data Transformation



APPENDIX B  
COVER LETTER

## Description of Coping and Stress Research Project

Dear Student,

I am a nurse and a student in the doctoral nursing program at Loyola University Chicago. I am conducting a research study to better understand how stress and coping affect well-being among first-time college students. I will be conducting this research study at the Lebanese American University (LAU) on Beirut campus. Making the transition between high school and university and adjusting to the differences between home life and campus life sometimes produces feeling of stress and anxiety.

It is my goal that the information obtained from this study will help students in managing the changes they are going through. Promoting good coping strategies in youth has been found to be important for increased well-being.

I am asking your permission to participate in this research project. If you decide to participate, you would be asked to complete a survey that asks questions about your stress level, family difficulties, relationship problems and adjustment to daily life in Lebanon. The survey will be administered at LAU, during class time. There are a total of seven instruments included in the study booklet. It should take you approximately 30 minutes to complete the booklet.

The survey procedures are designed to protect your privacy. The survey is confidential. Your name will not be on the survey. All of the information obtained from the study will be analyzed as a group and no specific information will be related to any student. No identifying information of the students or university will appear in any reports or publications.

Details of the study are described in the consent form on the next page. If you agree to the participation in the study, please sign and return the consent form that is included with this survey. Participation is strictly voluntary. There will be no penalty if you do not participate. You may also withdraw from the study at any time.

If you would like to know the results of the study, you may contact me via my e-mail address to request a copy of the study results when they are available.

If you have any questions regarding this project, please feel free to contact me at the following email address: [rita.doumit@lau.edu.lb](mailto:rita.doumit@lau.edu.lb). Thank you very much for your consideration.

Sincerely,  
Rita Doumit, MPH, RN

APPENDIX C  
CONSENT FORM



Adolescent's Permission to Participate in a Research Project  
Loyola University Chicago

**Project Title:** Coping Mechanisms among Lebanese First-time College Students  
**Primary Investigator:** Rita Doumit

My name is Rita Doumit and I am a nurse, and a doctoral student in nursing at Loyola University Chicago. This study is being conducted as part of the requirement for my PhD degree.

You have been invited to take part in a research study entitled "Coping mechanisms of Lebanese First-time College Students" because you are first-time student at the Lebanese American University on Beirut campus.

Please read this form carefully and ask any questions you may have before deciding whether to participate in the study.

**PURPOSE**

The study seeks to look at how stress, coping ability, personal and social factors relate to well-being among Lebanese first-time students at the Lebanese American University.

**PROCEDURES**

You will be asked to complete a survey that will take approximately 30 minutes. The survey will ask you questions that relate to your stress level, how you usually cope with stress and how you feel about yourself.

**RISKS/BENEFITS**

There may be no direct benefits to you for participating in the study. However, participation in this project will give you a chance to learn about the research process and how to ask questions in a scientific way. The information that you provide may benefit other students in the future because the information you provide may be used to help develop a counseling program for youth at LAU.

**CONFIDENTIALITY**

All information regarding this study will be kept confidential. You will never be individually identified through any report of this study. Your name will not be on the survey. The consent form with your name will be collected and stored separately from the actual survey.

**VOLUNTARY PARTICIPATION**

Your participation in this study is voluntary. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty.

**CONTACT AND QUESTIONS**

If you have questions about this research study, please feel free to contact Rita Doumit at (rita.doumit@lau.edu.lb) or at 09-547254 ext. 2495.

If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

After completion, you will be provided with information on the counselor's office at the Lebanese American University, as well as local community mental health providers, should you feel the need to seek emotional assistance.

**STATEMENT OF CONSENT**

Your signature below indicates that you have read the information provided above, have had an opportunity to ask questions, and agree to participate in this research study. You will be given a copy of this form to keep for your records.

---

 Participant's Signature

---

 Date

---

 Researcher's Signature

---

 Date

APPENDIX D  
ALTERNATIVE ASSIGNMENT

Write a journal about your experience at the Lebanese American University for the last 3 weeks.

APPENDIX E  
DEMOGRAPHIC SHEET FORM

**First of all I want to thank you  
for your participation in my study!**

In the beginning, I would like to ask some additional information about yourself and your family. Of course this information will be anonymous.

D1. How old are you? I am \_\_\_\_\_ years old

D2. What is your gender?

1. Male  
 0. Female

D3. Are you Lebanese?

1. Yes  
 0. No

D4. For the following question, please indicate if you and your family are Lebanese and if you and your family hold any other nationality:

	Lebanese		Other	
You	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Specify: _____	
Father	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Specify: _____	
Mother	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Specify: _____	

D5. Did you take any of the following official baccalaureate programs?

1. Lebanese program  
 2. French program  
 3. International program  
 4. None

D6. Have you lived in Lebanon for the last 6 years (2005-2011)?

1. Yes  
 2. No

D7. What is the level of education that your parents received?

	Middle school or below	Secondary/high school/technical	University
Father			
Mother			

D8. What is the total monthly income of your parents?

1. Less than \$1000  
 2. \$1000-2000  
 3. \$2001-3000  
 4. \$3001-4000  
 5. More than \$4000  
 9. I don't know  
 10. I prefer not to answer

D9. Compared to other families, does your family have:

1. about the same income as other families  
 2. less income than other families  
 3. more income than other families

D10. Overall, are you:

1. a below average student  
 2. an average student  
 3. an above average student

D11. Are you:

1. A freshman student  
 2. A sophomore student. Please specify your major \_\_\_\_\_  
 3. Studying for a non-degree

D12. With whom do you live?

1. Alone  
 2. With family  
 3. With a friend/roommate  
 4. Other -----

D13. Which of the following activities do you participate in?

(Check all that apply):

1. Sports team  
 2. University club  
 3. Religious group  
 4. Volunteer  
 5. Other community activities  
 6. Other  
 7. None

D14. How much time do you spend studying each week?

0. None  
 1. Less than 10 hours per week  
 2. 1-10 hours per week  
 3. 11-20 hours per week  
 4. More than 20 hours per week

D15. Who pays for your tuition fees? (Check all that apply)

- |                             |                              |                             |
|-----------------------------|------------------------------|-----------------------------|
| 1. Financial aid-grants     | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Financial aid-loans      | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Financial aid-work study | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Scholarships             | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Parental/family support  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Myself                   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

D16. Do you have financial aid work?

0. No  
 1. 1-10 hours per week



- 2. 11-20 hours per week
- 3. More than 20 hours per week

D17. Do you work outside LAU?

- 0. No
- 1. 1-10 hours per week
- 2. 11-20 hours per week
- 3. More than 20 hours per week

APPENDIX F  
MEASUREMENT TOOLS

## Problem Questionnaire

On the following pages you will find a list of worries and difficulties that adolescents of your age have identified as their problems. Probably, some are more, others are less stressful for you. Please indicate honestly and spontaneously how stressful these problems are for you.

I found this problem to be...

	Highly Stressful	Very Stressful	Moderately Stressful	Minimally Stressful	Not Stressful at all
<b>Problems related to school</b>					
1. There is great pressure to get the best grades in university.	5	4	3	2	1
2. There is no sharing in my courses, only competition.	5	4	3	2	1
3. Interactions with other students and teachers are mostly not personal.	5	4	3	2	1
4. I can't do anything with the school's prescribed learning material.	5	4	3	2	1
5. The teachers aren't interested in my problems.	5	4	3	2	1
6. Differences in opinions with my teacher could result in bad grades.	5	4	3	2	1
7. Learning material is too difficult for me.	5	4	3	2	1
<b>Problems related to the future</b>					
8. I might not get into the training program or university of my choice.	5	4	3	2	1
9. The increasing destruction of the environment aggrieves me.	5	4	3	2	1
10. It may be difficult to combine my studies and job with marriage and family.	5	4	3	2	1
11. I might lose myself in the chaotic everyday life, in social norms and pressures.	5	4	3	2	1
12. I would like very much to discover my real interests.	5	4	3	2	1
13. I don't know what I am going to do after finishing university.	5	4	3	2	1
14. I am unsure which profession I am best suited for.	5	4	3	2	1
15. I might become unemployed.	5	4	3	2	1

	Highly Stressful	Very Stressful	Moderately Stressful	Minimally Stressful	Not Stressful at all
<b>Problems related to life with parents at home</b>					
16. My parents show little understanding for my problems in university.	5	4	3	2	1
17. My parents are only interested that I get good marks in university.	5	4	3	2	1
18. I fight with my parents because my opinions about many things differ from theirs.	5	4	3	2	1
19. I wish my parents let me make my own decisions.	5	4	3	2	1
20. I can't talk with my parents.	5	4	3	2	1
21. My parents don't approve of my friends.	5	4	3	2	1
22. My parents don't have much time for me.	5	4	3	2	1
23. It's difficult for me to pursue my own interests because I don't want to disappoint my parents.	5	4	3	2	1
24. I wish I wasn't so dependent on my parents.	5	4	3	2	1
<b>Problems related to relationships with peers</b>					
25. I have very few friends.	5	4	3	2	1
26. It's difficult for me to approach others.	5	4	3	2	1
27. I'm having difficulties combining my interests with those of my friends.	5	4	3	2	1
28. I don't have a real friend with whom I can talk about personal worries and problems.	5	4	3	2	1
29. Some of my peers are only willing to have superficial contact with me.	5	4	3	2	1
30. I am unsure if others will accept me.	5	4	3	2	1
31. I don't like the fact that outsiders can't join existing cliques.	5	4	3	2	1
32. My peers are often very stubborn and intolerant towards each other.	5	4	3	2	1
33. I have too little time for my friends.	5	4	3	2	1

	Highly Stressful	Very Stressful	Moderately Stressful	Minimally Stressful	Not Stressful at all
<b>Problems that are related to relationships with the opposite sex</b>					
34. I don't have a boyfriend/girlfriend.	5	4	3	2	1
35. I feel insecure in dealing with the opposite sex.	5	4	3	2	1
36. I am afraid of losing contact with my other friends if I pair up with a boyfriend/girlfriend.	5	4	3	2	1
37. I sometimes have to pretend about certain things just to please my boyfriend/girlfriend.	5	4	3	2	1
38. I am afraid of hurting my boyfriend/girlfriend because I am unsure of his/her feelings.	5	4	3	2	1
39. It's difficult for me to develop a truly equal and balanced romantic relationship.	5	4	3	2	1
40. My sexual wishes and expectations do not match with those of my boyfriend/girlfriend.	5	4	3	2	1
41. I am afraid that my jealousy could ruin my romantic relationships.	5	4	3	2	1
<b>Problems related to my own self</b>					
42. I feel lonely.	5	4	3	2	1
43. Even little things make me angry.	5	4	3	2	1
44. I am dissatisfied with my appearance.	5	4	3	2	1
45. I am often sad and dejected.	5	4	3	2	1
46. I find it difficult to talk about my feelings with others.	5	4	3	2	1
47. I am different than my friends.	5	4	3	2	1
48. I am dissatisfied with my behavior, my own traits and abilities.	5	4	3	2	1
49. I don't trust myself to say anything in the presence of others.	5	4	3	2	1
50. I have guilty feelings about a few things I have done.	5	4	3	2	1
51. I would like to discover what I really want.	5	4	3	2	1
52. I find it difficult to live up to my own decisions.	5	4	3	2	1
53. All new things make me afraid.	5	4	3	2	1

### GENERAL WELL-BEING FOR ADOLESCENTS QUESTIONNAIRE

Now, we would like to know how you feel, think, behave, and get along with others, as well as to some past experiences you may have had and some general information about you. Read each one carefully and decide how you feel or think about it and how strongly you agree or disagree with it. Then choose the response that best describes your feelings and fill in the letter of that response next to each statement.

- | Strongly<br>Disagree<br>A | Disagree<br>B | Neither Agree<br>Nor Disagree<br>C   | Agree<br>D | Strongly<br>Agree<br>E |
|---------------------------|---------------|--|------------|------------------------|
| 1.                        | -----         | I feel popular and that I am easy to like.   |            |                        |
| 2.                        | -----         | I have trouble making friends.   |            |                        |
| 3.                        | -----         | There is a lot of stress or tension in my life.  |            |                        |
| 4.                        | -----         | I feel dissatisfied with the way things are going.   |            |                        |
| 5.                        | -----         | I enjoy my life.   |            |                        |
| 6.                        | -----         | I feel as happy as others.   |            |                        |
| 7.                        | -----         | I feel my life has meaning and that I am living fully.   |            |                        |
| 8.                        | -----         | I frequently have headaches.   |            |                        |
| 9.                        | -----         | I feel successful and worthwhile.  |            |                        |
| 10.                       | -----         | I frequently feel sick to my stomach or have stomach aches or cramps.                              |            |                        |
| 11.                       | -----         | My heart usually beats fast.   |            |                        |
| 12.                       | -----         | Things usually turn out the way I want.  |            |                        |
| 13.                       | -----         | I occasionally feel faint, dizzy, or flushed/hot.  |            |                        |
| 14.                       | -----         | My body seems to cause me trouble or interferes with my life.                                      |            |                        |
| 15.                       | -----         | I am usually able to resist illness and avoid accidents.   |            |                        |
| 16.                       | -----         | I feel as strong and healthy as I should be  |            |                        |
| 17.                       | -----         | I am usually able to resist illness and avoid accidents  |            |                        |
| 18.                       | -----         | I smoke cigarettes regularly.  |            |                        |
| 19.                       | -----         | I am satisfied with my health and feel that it does not prevent me from doing things I like to do. |            |                        |
| 20.                       | -----         | I use drugs for reasons other than medical treatment   |            |                        |

21. ----- I take sleeping pills or tranquilizers.
22. ----- I maintain a consistently good body weight for my height and build.
23. ----- I get physical exercise regularly and stay in good physical condition.
24. ----- I am frequently sad, downhearted, or moody.
25. ----- I frequently feel guilty
26. ----- I am usually optimistic and look on the bright side of things.
27. ----- I often feel like crying.
28. ----- I like myself.
29. ----- I worry about the future or how things will turn out.
30. ----- I enjoy competition.
31. ----- I am frequently worried or fearful.
32. ----- I am able to concentrate and maintain a train of thought.
33. ----- My memory is good.
34. ----- I can usually think clearly.
35. ----- I wonder if I anything is worthwhile anymore.
36. ----- I am frequently irritable or angry.
37. ----- I handle my problems without frustration or getting upset.
38. ----- I usually get well balanced meals that contain items from the major food groups.

### MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT

We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**

Circle the "2" if you **Strongly Disagree**

Circle the "3" if you **Mildly Disagree**

Circle the "4" if you are **Neutral**

Circle the "5" if you **Mildly Agree**

Circle the "6" if you **Strongly Agree**

Circle the "7" if you **Very Strongly Agree**

1. There is a special person who is around when I am in need.

1      2      3      4      5      6      7

2. There is a special person with whom I can share my joys and sorrows.

1      2      3      4      5      6      7

3. My family really tries to help me.

1      2      3      4      5      6      7

4. I get the emotional help and support I need from my family.

1      2      3      4      5      6      7

5. I have a special person who is a real source of comfort to me.

1      2      3      4      5      6      7

6. My friends really try to help me.

1      2      3      4      5      6      7

7. I can count on my friends when things go wrong.

1      2      3      4      5      6      7

8. I can talk about my problems with my family.

1      2      3      4      5      6      7

9. I have friends with whom I can share my joys and sorrows.

1      2      3      4      5      6      7



10. There is a special person in my life who cares about my feelings.

1 2 3 4 5 6 7

11. My family is willing to help me make decisions.

1 2 3 4 5 6 7

12. I can talk about my problems with my friends.

1 2 3 4 5 6 7

## RESILIENCE SCALE

Please think about how the *last month* has been for you. Your thought and how you have felt about yourself and important people in your life. Please mark the option that best describes your thoughts and feelings. There are no right or wrong answers.

		<b>Strongly Agree</b>					<b>Strongly Disagree</b>	
1.	When I make plans, I follow through with them.	1	2	3	4	5	6	7
2.	I usually manage one way or another.	1	2	3	4	5	6	7
3.	I am able to depend on myself more than anyone else.	1	2	3	4	5	6	7
4.	Keeping interested in things is important to me.	1	2	3	4	5	6	7
5.	I can be on my own if I have to.	1	2	3	4	5	6	7
6.	I feel proud that I have accomplished things in life.	1	2	3	4	5	6	7
7.	I usually take things in good spirits.	1	2	3	4	5	6	7
8.	I am friends with myself.	1	2	3	4	5	6	7
9.	I feel that I can handle many things at a time.	1	2	3	4	5	6	7
10.	I am determined.	1	2	3	4	5	6	7
11.	I seldom wonder what the point of it all is.	1	2	3	4	5	6	7
12.	I take things one day at a time.	1	2	3	4	5	6	7
13.	I can get through difficult times because I've experienced difficulty before.	1	2	3	4	5	6	7

- |     |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|
| 14. | I have self-discipline.   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. | I keep interested in things.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. | I can usually find something to laugh about.                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. | My belief in myself gets me through hard times.                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. | In an emergency, I'm someone people can generally rely on.            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. | I can usually look at a situation in a number of ways.                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. | Sometimes I make myself do things whether I want to or not.           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. | My life has meaning.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. | I do not dwell on things that I can't do anything about.              | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. | When I'm in difficult situation, I can usually find my way out of it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. | I have enough energy to do what I have to do.                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25. | It's okay if there are people who don't like me.                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## UNCERTAINTY SCALE

The following questions ask you about the level of uncertainty you have about various aspects of your life. By uncertainty, we mean a sense of not knowing what will happen. For each statement, please check in the box that best reflects your level of uncertainty.

Overall, how much uncertainty do you have about \_\_\_\_\_?

- | None  | Very Little | Some Uncertainty | A lot of Uncertainty |
|---|-------------|------------------|----------------------|
| <b>1</b>  | <b>2</b>    | <b>3</b>         | <b>4</b>             |
| 1-You future-----   |             |                  |                      |
| 2-Your safety-----  |             |                  |                      |
| 3-Your health-----  |             |                  |                      |
| 4-Lebanon's security-----   |             |                  |                      |
| 5-Lebanon's future-----   |             |                  |                      |
| 6-Your family's safety-----   |             |                  |                      |
| 7-What life holds for you-----  |             |                  |                      |
| 8-What will happen in the near future-----  |             |                  |                      |
| 9- Overall, how much uncertainty is in your life now ?-----                             |             |                  |                      |
| 10- Overall, how much uncertainty was in your life in the past 12 months?-----          |             |                  |                      |
| 11-Overall, how much uncertainty do you expect in your life in the next 12 months?----- |             |                  |                      |

### SANTA CLARA STRENGTH OF RELIGIOUS FAITH QUESTIONNAIRE

Please answer the following questions about religious faith using the scale below.  
Indicate the level of agreement (or disagreement) for each statement.

1=strongly disagree      2=disagree      3= agree      4=strongly agree

- 1. My religious faith is extremely important to me.
- 2. I pray daily.
- 3. I look to my faith as a source of inspiration.
- 4. I look to my faith as providing meaning and purpose in my life.
- 5. I consider myself active in my faith or church.
- 6. My faith is an important part of who I am as a person.
- 7. My relationship with God is extremely important to me.
- 8. I enjoy being around others who share my faith.
- 9. I look to my faith as a source of comfort.
- 10. My faith impacts many of my decisions.

## COPING ACROSS SITUATION QUESTIONNAIRE

We want to find out what you do when there are problems in your life. Start with the first area “school” and mark all of the things you might find if there is a problem at school. Then continue with “parents” and so on...

	<b>When I have a problem at school</b>	<b>When I have problems with my parents</b>	<b>When I have problems with friends</b>	<b>When I have problems in my romantic interests</b>	<b>When I have problems with myself</b>	<b>When I have concerns about my future</b>
1. I discuss the problem with my parents/other adults.						
2. I talk about the problem when it appears and don't worry much.						
3. I try to get help from institutions (job, center, school).						
4. I expect the worst.						
5. I accept my limits.						
6. I try to talk about the problem with the person concerned.						
7. I behave as if everything is alright.						

8. I try to let my energy out (with loud music, riding my bike, wild dancing, sports, etc.).						
9. I do not worry because usually everything turns out alright.						
10. I think about the problem and try to find different solutions.						
11. I compromise.						
12. I let out my anger by shouting, crying, slamming doors, etc.						
13. I tell myself that there always be problems.						
14. I only think about the problem when it appears.						
15. I look for information in magazines, internet or books.						

16. I try not to think about the problem.						
17. I try to forget the problem with alcohol or drugs						
18. I try to get help and comfort from people who are in a similar situation.						
19. I try to solve the problem with help from my friends.						
20. I withdraw because I cannot change anything anyway.						



APPENDIX G  
LITERATURE MATRIX

<u>Authors</u>	<u>Year</u>	<u>Purpose/Aim</u>	<u>Sample Female/ Male</u>	<u>Age</u> (mean range or years of age)	<u>Coping</u> as primary outcome?	<u>Dependent variables</u>	<u>Coping results</u>
Alridge & Roesch	2008	To document and model the coping preferences and the related affect on Mexican American adolescents coping with daily stressors	F/M	14-17	Y	Coping, affective states	Significant intra-individual and inter-individual variability was found for each coping strategy and psychological health. When this variability was modeled, adolescents who reported using more direct problem solving, positive thinking, acceptance, and humor reported more positive affect. Adolescents, who reported using more religious coping, distancing, and acceptance, reported more negative affect.
Argyropoulo, Sidiropoulo, Dimakakou, & Besevegis	2007	To investigate the relationship between career decision status groups and generalized self-efficacy, coping strategies, and vocational interests	F/M	17-18	N	Career decision status, coping, self-efficacy, and vocational choices	The clustering procedure indicates that the students could be classified in three career indecision cluster groups: decided, exploring possibilities and undecided. These groups differ in all four career indecision factors, generalized self-efficacy, coping strategies, and vocational interests.
Armeli	2001	To evaluate the dimensionality and the appraisal and coping antecedents of stress-related growth	F/M	21-65	N	Coping, stressor appraisals, & stress-related growth	Stress-related growth was highest for individuals who reported highly stressful events, for which they had adequate coping and support resources and for which they used adaptive coping strategies.
Ben-Ari & Hirshberg	2009	To examine the relationship between and among junior	F/M	14-16	Y	Conflict coping style, conflict perceptions,	Results showed strong statistically significant correlations between attachment style, coping strategy, and conflict perception. Participants whose secure attachment scores were higher

		high school students' attachment styles, conflict perceptions, and strategies for coping with conflicts with their peers				attachment style	reported that they held more positive attitudes toward conflict, used more cooperative strategies to cope with conflicts, and were involved in conflicts less often. They also seemed to be less obliging and more dominating in their coping strategies. Avoidant attachment adolescents displayed more negative conflict perceptions and made greater use of dominating strategies. Participants' conflict perceptions mediated the relationship between their attachment styles and coping styles.
Ben-Zur	2009	To test the effect of coping strategies on the affective components of subjective well-being	F/M	Mean age = 16.50-24.52	Y	Affective components of subjective well-being	Problem-focused coping was positively related to positive affect and negatively related to negative affect; Whereas avoidance coping showed the opposite pattern of associations with positive and negative effect. Problem-focused coping was found to be a moderator of avoidance coping effects on both positive and negative affect
Bouteyre, Maurel, & Bernaud	2007	To examine the prevalence of depressive symptoms, daily hassles, & coping processes in French students	F/M	Mean= 20.48	N	Depression, coping strategies, social support, daily hassles	Not all coping strategies work equally well. Only task-centered & active coping strategies were effective.
Brady & Donenberg	2006	To examine two potential mechanisms linking violence exposure and health risk behavior among	F/M	12-19	Y	Family demographic, violence exposure, risky sexual behavior and substance	Motivation to cope through escape was associated with a greater likelihood of substance use and sexual risk taking.

		adolescents in psychiatric care: sensation seeking and coping with stress through escape behavior				use, motivation to cope through escape, sensation seeking	
Braun-Lewensohn, Celestin-Westreich, Celstin, Verleye, Verte, & Ponjaert-Kristoffersen	2009	To explore use of coping strategies among adolescents and their relationship with well-being in the context of ongoing terrorism To strengthen insight into the process of adjustment cognitively and emotionally to ongoing terror risks by investigating relationships between coping styles and mental health outcomes	F/M	12-18	Y	Coping, Post traumatic stress, exposure to terror, well-being	Adolescents employed mainly problem solving strategies which mean they have the capacity to cope well in spite of stressful vents. Emotional focused coping was associated with post traumatic stress and mental health problems. Exposure, appraisal and coping styles explained 26-37% of the variance of different psychological problems.
Braun-Lewensohn, Sagy, & Roth*	2010	To examine the use of coping strategies among Israeli Jewish and	F/M	12-19	Y	Age, gender, ethnicity, health outcomes,	Both Jewish and Arabs adolescents mostly used problem-solving coping strategies and reported relatively low levels of psychological distress. Differences among them were indicated in the use

		Arab adolescents who were exposed to terrorism				coping strategies,	of “reference to others’ and “non-productive” coping strategies.
Cash, Santos, & Williams	2005	To examine the reliability and validity of the newly developed Body Image Coping Strategies Inventory in college students	F/M	18-29	Y	Psychometric properties	Results revealed a 29-item measure consisting of three internally consistent body-image coping factors: avoidance, appearance fixing, and positive rational acceptance. Multiple coping strategies predicted individual’s body-image quality of life and their eating attitudes. Compared with men, women used all coping strategies more, especially appearance-fixing strategies.
Cassidy	2000	To investigate the relationship between life events, daily hassles, cognitive appraisal and coping, stress, and general healthiness	F/M	17-43	N	Life events, daily hassles, cognitive appraisal and coping, stress, and general healthiness	The different aspects of healthiness and health behavior/lifestyle appear to be related to different appraisal and coping styles.
Christiansen, Copeland, & Stapert	2008	To investigate the presence and strength of the relationship between daily hassles, coping style, negative mood regulations, and somatic	F/M	12-15	N	daily hassles, coping style, negative mood regulations, and somatic symptoms	Interpersonal relationship was the only coping factor that significantly reduced the prediction of symptomatology.

		symptoms in junior high rural adolescents					
Clark	2005	To explore the concept of strategies as a means for understanding how first-year college students negotiate the transition to college	F/M	18-19	Y	Qualitative	Challenges and influences ranged from negative to positive and occurred both inside and outside college.
Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman	2000	To describe the development of a measure of coping and involuntary stress responses in adolescences and to examine its psychometric properties	F/M	17-19	Y	Psychometric properties	Internal consistencies ranged from moderate to high (.49 to .81), demonstrating consistency with an involuntary engagement coping categorization approach
Dinsmore & Stormshak	2003	To examine the relation between perceived family functioning, intra-personal competence, and eating attitudes and behaviors	F/M	11-13	Y	Intrapersonal competencies (defined as self-control, negative and positive coping), perceived family	Adolescent intra-personal competencies mediated the relationship between family functioning and eating attitudes and behaviors. By early adolescence, important aspects of family environment have consolidated into individual differences in competence and/or personality.

						functioning, eating attitudes and behaviors	
Dunkley, Zuroff, & Blankstein	2003	To examine both dispositional and situational influences of self-critical (SC) perfectionism on stress and coping	F/M	M= 20.02	N	Perfectionism, daily affect, hassles, event appraisals, coping, social support	Certain coping strategies (e.g. problem-focused coping) were ineffective for high-SC perfectionists relative to low-SC perfectionists.
Dyson & Renk	2006	To examine the relationship among college freshmen's sex, their gender role, the levels of stress during first-year at a university, the types of coping strategies used and the level of depressive symptomatology experienced	F/M	18-22	Y	Coping strategies, depressive symptomatology, levels of stress, sex, gender role	Masculinity and femininity significantly predicted problem-focused coping, and femininity significantly predicted emotion-focused coping. The levels of family and college stress as well as the endorsement of avoidant coping significantly predicted the levels of depressive symptoms of first-year students.

Edmondson, & Park	2009	To examine the prevalence of religious belief change and its relationship to religiosity and coping variables in college students	F/M	M= 19.2	Y	Religious belief change, religious variables, coping, adjustment	Significant differences in coping strategies were noted, with the change group using more religious coping and alcohol and drugs to cope. Within the change group a higher degree of change was related to higher levels of religiousness and religious coping, and poorer adjustment at baseline and follow-up
Eschenbeck, Kohlmann, & Lohaus	2007	To examine gender effects and interactions between gender, type of stressful situation, and age-group in coping strategies and children and adolescents students	F/M	7-16	Y	Coping	Girls scored higher in seeking social support and problem solving, whereas boys scored higher in avoidant coping
Ewart, Jorgensen, Suchday, Chen, & Matthews	2002	To measure and test a brief interview on stress coping capabilities in low-income AA and White adolescents	F/M	M=14	Y	Components of social-emotional competence	A new behavioral coding system using audiotapes permits reliable and valid assessment of components of social competence, including interpersonal skills, goal-oriented strivings in coping, and social impact.
Finkelstein, Kubzansky, Capitman, & Goodman	2007	To investigate whether psychological resources	F/M	Junior and senior high school	N	Coping, optimism, stress	Higher optimism ( $\beta = .58, p < .0001$ ) and engagement coping ( $\beta = .19, p < .0001$ ) were associated with less stress and higher disengagement coping was associated with more



		influenced the association between parent education a marker of socioeconomic status, and perceived stress To evaluate the psychometric properties of A-COPE		students			stress ( $\beta = .09, p < .01$ )
Forman, Hoffman, McGrath, Herbert, Brandsma, & Lowe	2007	To investigate the effectiveness of two strategies for coping with food cravings among undergraduate students	F/M	M=19.6	Y	Coping strategies, power of food, craving, chocolate consumption	The effect of the intervention depended on baseline power of food scale levels, such that acceptance-based strategies were associated with better outcomes (cravings, consumption) among those reported
Forns, Amador, Krichner, Gomez & Muro	2005	To examine the psychometric properties of the Spanish version of the Moos coping response inventory for youth	F/M	12-16	Y	Psychometric properties	The internal consistency was low to moderate (correlations ranging from .06 to .40), demonstrating consistency with an approach-avoidance coping categorization strategy
Franko, Thompson, Affenito, Barton, & Striegel-	2008	To determine whether the frequency of family meals n childhood is	F	9-19	N	Coping, family cohesion, frequency of family meals,	More frequent family meals in the first 3 study years predicted greater family cohesion and problem- and emotion-focused coping in years 7 and 8. Problem-focused coping mediated family meals and both stress and disordered eating-

Moore		associated with positive health outcomes in adolescence through the mediating links of increased family cohesion and positive coping skills				health outcomes, eating disorders behaviors, perceived stress, number of days of tobacco and alcohol consumption	related attitudes and behaviors in year 10.
Frydenberg & Lewis	2009	To examine the relations between frequency of use and perceived efficacy of two coping styles, and their relationship to well-being and distress among Australian adolescents	F/M	12-16	Y	Coping, well-being	Greater use of negative avoidant coping correlated with less well-being and greater distress, and active coping correlated positively with greater well-being and positively with distress for girls only. However, relations with active coping became non-significant once coping efficacy was statistically controlled.
Frydenberg & Lewis	2004	To examine coping strategies characterizing self-professed weak copers	F/M	11-18	Y	Coping strategies	The least able copers used non-productive strategies such as tension reduction, self-blame, ignore, keep to self and, most noticeably, worry and wishful thinking.

Fuhr	2002	To examine the appearance of humor as a coping tool in early adolescence	F/M	10-16	Y	Coping, humor	Boys tend to use more aggressive and sexual related coping humor. Girls prefer to get cheered up by humor. This trend increased with age for girls but not for boys
Garcia-Grau, Fuste, Miro, Saldana, & Bados	2004	To analyze the relationship between coping styles and the predisposition to eating disorders	M	M=15.74	Y	Eating disorders, coping	Self-blame, strategy within an avoidance dimension, accounted for the most variance in the boys' eating disorders predisposition (18%)
Garnefski, Legerstee, Kraaij, Van Den Kommer & Teerds	2002	To compare the reporting of cognitive coping strategies and their relationship to symptoms of depression and anxiety between secondary school students and adults	F/M	Group 1: 12-16 Group 2: 18-71	Y	Cognitive coping strategies, symptoms of depression and anxiety	All cognitive coping strategies were reported by adolescents to a significantly lesser extent than adults. In both populations, a considerable percentage of the variance in symptomatology was explained by the use of cognitive coping strategies. Although adolescents and adults differed in relative strength of the relationships, conclusions were the same: in both groups, the cognitive coping strategies self-blame, rumination, catastrophizing and positive reappraisal were shown to play the most important role in the reporting of symptoms of psychopathology, showing the importance of introducing prevention and intervention programmes at an early stage
Gelhaar, Seiffge-Krenke, Borge, Cicognani, Cunha,	2007	To compare problem-specific coping strategies and coping styles of European adolescents from	F/M	11-20	Y	coping	Adolescents from all seven nations predominantly employed functional forms of coping, i.e. active coping, internal coping, and withdrawal. The pattern of frequently and rarely applied coping strategies was similar across cultures. Differences in coping style were revealed for some, but not all

Loncaric, Macek, Steinhausen, & Metzke		seven nations.					problem domains, suggesting that cross-cultural similarity in coping exists for specific stressors.
Gidron & Nyklicek	2010	To test the effects of a stressful event, primary appraisal, coping, external resources and internal impediments on estimated distress in written imagined stressful daily scenarios among Dutch students	F/M	M=20.31	N	Event, appraisal social support	The variables event, appraisal, and social support significantly and independently affected estimated distress. Event and appraisal synergistically interacted in relation to estimated distress. Appraisal interacted with coping such that the distress-reducing effects of problem-focused coping occurred only in benign events, while coping did not affect estimated distress in severely appraised events.
Haid, Seiffge-Krenke, Molinar, Ciairano, Karaman, & Cok	2010	To investigate stress perception and coping styles in Turkish, Italian, and German adolescents	F/M	M= 14.97	Y	Coping, stress perception	Adolescents from all countries experienced future concerns as most stressful. Identity-related stressors showed a greater inter-country variation. The coping behavior was strikingly similar among Turkish, Italian, and German adolescents. Whereas active coping styles dominated in dealing with future-related stressors, relatively high withdrawal rated occurred in all three countries when identity problems have to be dealt with.

Hess & Copeland	2001	To investigate the relationship between two intrapersonal variables-stressful life change events and reported coping strategies	F/M	9 <sup>th</sup> grade	Y	Coping, stress	The coping factors of social activities and seeking professional support significantly predicted high school dropout status, whereas family involvement was negatively related to this outcome
Jose & Huntsinger	2005	To determine whether second-generation Chinese American adolescents and European American adolescents experience stress, cope with stress, and manifest outcomes in different ways	F/M	M=16.8	Y	Stress, coping strategies, psychological outcomes, and grades	Problem-focused and avoidance coping behaviors moderated the effect of stress on negative adjustment for Chinese American Youth (CAY) but not for European American youth (EAY). Avoidance coping behavior partially mediated the stress-to-negative adjustment relationship for CAY but not for EAY.
Jose & Schurer	2010	To determine whether idiocentrism and allocentrism moderate the relationship between coping strategies and psychological	F/M	10-18	N	Coping strategies, psychological maladjustment, idiocentrism, allocentrism	Rumination and externalization were found to be positively related. Rumination differed across the 3 groups. In Maori Youth, idiocentrism was found to exacerbate the association among rumination, externalization, and problem-solving with maladjustment.

		maladjustment in 3 cultural groups of New Zealand adolescents					
Kane & Jacobs	2010	To investigate the importance of spiritual and religious beliefs among university students	F/M	M=21.7	N	religion/spirituality variables, coping	Most students agreed that Spirituality/religious values were important, and they relied on these values to problem solve and cope
Kariv & Heiman	2005	To examine the relationships between stress and coping strategies among college students	F/M	20-61	Y	Coping strategies, stress perceptions, actual academic loads, demographic parameters	Students coping behaviors could be predicted from their reported stress perceptions and their appraisal of academic-related stress levels. Students employed mainly task- and emotion-oriented coping strategies; students' age was a significant factor in determining their coping behavior.
Kendall, Safford, Flannery-Schroeder, & Webb	2004	To evaluate the maintenance of outcomes of children who received a 16-week cognitive behavioral treatment for anxiety	F/M	15-22	Y	Coping, anxiety	Significant improvements in coping were observed over time, $F(2, 68) = 32.78, p < .001$ ; and improvements in anxiety that were sustained over time

Kuo, Roysircar, & Newby-Clark	2006	To report findings from three studies utilizing the Cross-Cultural Coping Scale (CCCS) instrument: development, factor analysis and use	F/M	Study 1: 12-19 Study 2: M=22 Study 3: M=23	Y	Coping, Acculturation, Stress	Less acculturated cohorts report higher collective and avoidance coping scores. Coping strategies varied by spiritual/religious affiliation
Lapointe & Marcotte	2000	To examine depression during adolescence in relationship with gender-typed characteristics.	F/M	13-18	N	coping, depression	Depressed adolescents reported fewer positive appraisal/problem solving coping strategies and more distraction/avoidance coping strategies than non-depressed adolescents
Lewis & Frydenberg	2002	To examine the relationship between young people's declared failure to cope and the many coping styles that are reported concomitantly	F/M	17-19	Y	Coping	Young people who were coping successfully were those utilizing more emotion-focused strategies. Further, students' use of emotion and problem-focused strategies was inter-correlated
Magaya, Asner-Self, & Schreiber	2005	To examine the coping strategies and the major stressors, of Zimbabwean adolescents	F/M	16-19	Y	Coping strategies, stress, social support	Adolescents used emotion-focused strategies more frequently than problem-solving strategies

Martyn-Nemeth, Penckofer, Gulanick, Velsor-Friedrich, & Bryant	2009	To examine relationships among self-esteem, stress, social support and coping; and test a model of their effects on eating behavior and depressive mood in high school students	F/M	M= 16.8	N	Self-esteem, stress, social support and coping	Stress and low self-esteem were related to avoidant coping and depressive mood. Low self-esteem and avoidant coping were related to unhealthy eating behavior.
Murberg & Bru	2005	To prospectively explore the main and interactive effect of approach and avoidant like coping styles, as well as school-related stress on depressive symptoms in Norwegian secondary schools	F/M	13-16	Y	Depressive symptoms, coping styles, stress	Seeking parental support as a coping style served as a negative predictor of later depression, and results give support for aggressive coping styles being a risk factor for depressive symptoms. A significant interaction between aggressive coping style and stress in relation to depressive symptoms was found.
Muris, Schmidt, Lambrichs, & Meesters	2001	To investigate the role of various protective and vulnerability factors in the development of	F/M	13-19	N	Depression, positive and negative events, self-efficacy and coping	Depression was accompanied by high levels of parental rejection, negative attributions, and passive coping, and by low levels of active coping and self-efficacy.



		depressive symptoms					
Ogul & Gencoz	2003	To test the importance of the match between control appraisals and coping responses as relating to the psychological symptoms of anxiety and depression in Turkish adolescents	F/M	11-18	N	Perceived control, coping strategies, depressive and anxiety symptoms	Adolescents' use of emotion-focused strategies more frequently than problem-solving strategies was associated with alleviation of depressive symptoms. The preferring coping strategies were not related to anxiety symptoms.
Oweini	1998	To understand coping mechanisms in reaction to prolonged hostilities among Lebanese college students	F/M	22-43	Y	Qualitative study	Students reported using denial, rationalization and intellectualization strategies
Park, Armeli, & Tennen	2003	To examine whether students drink more alcohol on higher-stress days than on lower-stress days; whether daily coping	F	M= 18.72	Y	Daily stress, coping process, alcohol use, affective states	Students drank more on days characterized by relatively lower problem-focused coping and relatively higher positive and negative effect. The effect of stress and drinking was not fully mediated by coping and affect. Individual differences in several links in the daily stress coping-drinking process were noted.

		strategies and affective states mediate the within-person relationship between stress and drinking					
Park & Levenson	2002	To examine college-students' drinking prevalence, problems and coping processes	F/M	M=19.8	Y	Prevalence of drinking, alcohol-related outcomes, coping processes, gender	Situational drinking to cope is a fairly strong predictor of most of the alcohol-use indicators. Men rely on alcohol to cope more than women.
Patty, Blanchard, & Mask	2007	To integrate knowledge regarding leisure coping and the coping research to better understand how individuals use leisure in a more or less adaptive way while attempting to regulate a difficult task	F/M	M= 20.82	Y	Leisure coping, Leisure coping styles	Regulatory orientation in a particular context was distinctively associated with the two proposed leisure coping styles and to different affective consequences following the regulation of a difficult task
Pritchard, Wilson, & Yamnitz	2007	To examine first-year students' experience in	F/M	M= 18.02	N	Physical health, alcohol use	Negative coping tactics and perfectionism predicted poorer physical health and alcohol use at the end of the year. However, self-esteem and

		relation to adjustment to college				& smoking, stress, perfectionism, self-esteem, coping tactics, optimism/pessimism, psychological adaptation, personality	optimism predicted better physical and psychological outcomes.
Puskar & Grabiak	2008	To identify coping responses of rural adolescents	F/M	Group 1: 10-14 Group 2: 15-17	Y	Coping responses	Males most often report the coping response of logical analysis and females report the coping response of cognitive avoidance.
Puskar, Sereika, & Tusaie-Mumford	2003	To test the effectiveness of a group-administered, cognitive-behavioral interventions method, TKC, on rural adolescents.	F/M	M=16	Y	Coping, depression	Results indicated improvement in depressive symptomatology and certain coping skills. Students in the intervention reported a higher use of cognitive problem-solving coping strategies
Reid, Kauer, Dudgeon, Sanci, Shrier, & Patton	2009	To develop, pilot, and evaluate a youth-friendly mobile phone	F/M	9-17	N	Mood, stress, coping behaviours	The <i>mobiletype</i> program captured a range meaningful and analyzable data on the way young people's moods, stresses, coping strategies, and alcohol and cannabis use, vary between and

		program to monitor, in real-time, young people's everyday experiences of mood, stress, and their coping behaviors					within individuals.
Rexrode, Petersen, & O'Toole	2008	To reexamine the psychometric properties of the Ways of Coping Scale (WOCS) utilizing the enormous body of research generated on the WOCS	NA	NA	Y	Psychometric properties	Typical reliability across subscale scores ranged from 0.60 to 0.75 with positive reappraisal showing the least variability and self-controlling showing the most. Factors related to this variability were age and format of administration
Rodrigues & Kitzmann	2007	To examine the association between interparental conflict and late adolescents' romantic attachment through analyses of mediating and moderating coping effects	F/M	18-19	N	Coping, interparental conflict, attachment in romantic relationship	The association between higher conflict and higher levels of anxious attachment in relationships was mediated by involuntary disengagement coping, but not by other coping responses

Roesch, Duangado, Vaughn, Aldridge, & Villodas	2010	To examine the predictive ability of dispositional hope components in explaining minority high school students' use of daily coping strategies	F/M	14-18	Y	Dispositional hope, coping measure	Hope-pathways was uniquely and positively related to direct problem-solving, planning, positive thinking, religious coping, distracting action, and overall coping use.
Sarid, Anson, Yaari, & Margalith	2004	To explore the relationship between coping styles and the changes in Epstein-Barr virus (EBV), and human cytomegalovirus (HCMV) specific salivary antibodies caused by academic stress	F/M	20-25	Y	Coping resources, physical and psychological well-being	denial coping style seemed to moderate the modulation of HCMV IgG salivary antibodies; while emotion-focused coping was less effective and problem-focused coping was unrelated to changes in specific salivary antibodies
Sazaki & Yamasaki	2005	To examine whether dispositional and situational coping can predict health status or whether dispositional	F/M	M=21	Y	Dispositional coping, situational coping, mental health status,	Dispositional Coping (DC) predicted situational coping (SC) for some coping strategies. In women, an increase in dispositional problem-solving predicted a reduction in mental distress via situational problem-solving

		coping can predict situational coping in college students in Japan					
Seiffge-Krenke	2000	To investigate the causal links between different types of stressors, coping styles and adolescent symptomatology	F/ M	M= 13.9	Y	adolescent symptomatology, stressors, adolescent coping	Withdrawal, a form of avoidant coping, emerged as a significant predictor of adolescent symptomatology across all times. Emotional and behavioral problems led to a time-lagged increase in withdrawal, creating a vicious circle.
Seiffge-Krenke, Aunola, & Nurmi	2009	To investigate the interplay between developmental changes in stress and coping during early and late adolescents	F/M	12-19	Y	stress perception, coping styles	Stress perception decreased during late adolescence, whereas active and internal coping increased continuously from ages 12 to 19. Adolescents' high levels of perceived stress in a particular situation were associated with a high level of active coping but a low level of internal coping in that same situation.
Sheu & Sedlacek	2004	To examine coping styles of AA first-year students and investigate interracial subgroups differences	F/M	M=17.92	Y	Help-seeking attitudes, coping strategies,	First-year students demonstrated differences on help-seeking attitudes and coping strategies by gender and race. AA had more positive attitudes toward seeking help for impersonal issues, whereas Asian Americans were more likely to use avoidant coping strategies. Women were more receptive to professional help than were men.
Sideridis	2006	To examine the association between coping, affect, and stress during	F/M	Not reported/ Under-graduate students	Y	Study 1: Positive and negative effect, coping strategies	Study 1: emotion-focused coping was associated with significantly elevated negative affect compared to problem-focused coping. Study 2: neither problem-focused nor emotion-

		demanding, stressful tasks; and examine the presence of a synergy between coping strategies towards regulating stress, affect and performance				Study 2: Affect, physiological stress response, behavioral indicators of stress, coping strategies, presentation quality	focused coping were associated with stress levels. However, the interaction of problem-focused and emotion-focused strategies was associated with significantly lessened stress. The presence of more than one coping strategy at a given time may be more adaptive compared to the adoption of one type of strategy
Smith & Dust	2006	To explore the correlates of self-reported coping strategies from both an appraisal and a dispositional perspective among AA undergraduate and graduate students	F/M	18-59	Y	Preferred coping styles, self-esteem, self-concept clarity, problem-solving style, emotional regulation, anxiety, ongoing situations, situation coping measures, perceived stress	Dispositional traits (especially problem-solving style) are associated uniquely with preferred/typical coping styles. The results also provided modest evidence that dispositional traits and subjects' appraisal (e.g. challenge, harm/threat, impact) are predictive of subjects' coping strategies in specific ongoing stressful situations.
Smith & Renk	2007	To examine potential predictors of the	F/M	19-25	Y	Academic-related stress, coping	Anxiety, problem-focused coping, and support from significant others may serve as potentially important predictors of the academic-related

		academic-related stress experienced by college students. In particular, the relationships among the coping strategies used by college students, social support, the parenting style, experience of anxiety, and academic stress				strategies, parental and social support, parenting styles, anxiety	stress experienced by college students.
Steiner, Erickson, Hernandez, & Pavelski	2002	To examine the relationship of coping and health outcomes	F/M	M=15.9	Y	Coping styles, risk taking behavior	Approach coping correlated negatively with indicators of health problems and health risk behaviors whereas avoidance coping correlated with these outcomes
Steinhardt & Dolbier	2008	To examine the effectiveness of a 4-week resilience intervention to enhance resilience, coping strategies, and protective factors, as well as decrease symptomatology during a period of increased academic stress	F/M	18-53	N	Resilience, coping strategies, protective factors, decrease symptomatology	The experimental group had significantly higher resilience scores, more effective coping strategies (higher problem-solving, lower avoidant), higher scores on protective factors, and lower scores on symptomatology post-intervention than did the wait-list control group.



Struthers, Perry, & Menec	2000	To examine the extent to which college students' academic coping style and motivation mediate their academic stress and performance	F/M	Not reported/ college students	N	Academic stress, coping, motivation, performance	The relationship between college students' academic stress and course grade was influenced by problem-focused coping and motivation but not emotion-focused coping. Students who engaged in problem-focused coping were more likely to be motivated and perform better than students who engaged in emotion-focused coping.
Sun, Tao, Hao, & Wan	2010	To explore gender differences in Chinese High school and college students depression related to the mediating effects of stress and coping	F/M	11-22	N	Depression, stressful life events, coping, psychological adaptation	Boys experienced high levels of stress from school, family, health, and romantic domains, while girls suffered a higher level of peer stress
Sung, Puskar, & Sereika	2006	To evaluate the coping levels of rural adolescents and gender differences of coping strategies and psychosocial factors in High school students	F/M	Grades 9-11	Y	Coping strategies, anger, anxiety, depression, self-esteem	Several significant relationships were observed between coping strategies and psychosocial factors. Students endorsed higher levels of avoidance coping than normative samples.
Szewczyk & Weinmuller	2006	To examine disparities between two	F/M	17-19	Y	Religious coping	Adolescents from alcoholic families, compared to non-alcoholic families, more often perceived their situation as the Act of the Devil. Individuals

		groups of adolescents from alcoholic and non-alcoholic families regarding religious coping strategies					engaged religiously and girls used religious coping strategies more often than those not engaged and more often than boys
Tatar & Amram	2007	To examine coping strategies in relation to terrorist attacks in Israeli junior-high students	F/M	12-18	Y	Coping strategies	Adolescents utilize more productive than non-productive coping strategies when dealing with terrorist attacks. Male adolescents use more non-productive coping strategies and female adolescents seek more social support as a coping strategy.
VanBoven & Espelage	2006		F	M= 19.66	Y	Depressive symptoms, coping strategies and disordered eating	Depressive symptoms did not mediate the association between the ability to generate competent solutions to hypothetical stressful situations and disordered eating. Depressive symptoms appeared to influence responses to problem-solving inventories/coping checklists but had less of an influence on open-ended problem solving measures
Vaughin & Roesch	2003	To investigate the relations between coping and psychological/ physical health in college students	F/M	14-18	Y	Coping, health, stress-related growth, depression, quality of life	For Mexican-Americans, positive reinterpretation, focusing and venting emotions, instrumental social support, acceptance and planning forms of coping were all associated with positive psychological and physical health; for AA, coping methods were not significantly associated with psychological or physical health; for Asian-Americans, positive reinterpretation, active coping, religious coping, restraint, acceptance and planning forms of coping were associated with

							only psychological health. Cultural-specific (rather than gender-specific) socialization is identified as a potential explanation of these results.
Wadsworth & Compas	2004	To examine how poor adolescents cope with economic strain and family conflict, and to observe how coping is related to psychological adjustment	F/M	7 <sup>th</sup> to 12 <sup>th</sup> grades	Y	Coping, responses to stress, emotional and behavioral problems	Coping mediated the relationship between family conflict and adjustment. Primary and secondary coping were associated with fewer adjustment problems
Wichianson, Bughi, Unger, Spruijt-Metz, & Nguyen-Roigriez	2009	To investigate the role of coping in the relationship between perceived stress and night-eating syndrome (NES) in college students	F/M	18-29	Y	NES, coping styles, level of perceived stress	Significant associations were found between perceived stress and maladaptive coping ( $\beta = 0.575$ , $p < 0.001$ ) and maladaptive coping and NES ( $\beta = 0.252$ , $p < 0.05$ ). Experiencing higher levels of stress may lead to night-eating behaviours because of use of maladaptive coping strategies. Individuals who experienced stress and engaged in less adaptive coping were more likely to exhibit night-eating behaviours versus those who engaged in more adaptive coping
Williams, Arnold, & Mills	2005	To investigate the levels and causes of stress among and the frequency and type of coping strategies used by students	F/M	20-42	Y	Stressors, stress levels, coping strategies	Students faced frequent stressors and felt at least moderately stressed but did not routinely and systematically use a range of coping strategies

Wills, Sandy & Yaeger	2002	To identify factors that moderate the relationship between substance use levels and related problems	F/M	Study 1: M= 15.4  Study 2: M= 15.5	N	Substance use, self-control	Coping motives had a moderating effect on self-control. Additional moderation effects described the correlation of substance use and conduct problems
Wills, Sandy, Yaeger, Cleary, & Shinar	2001	To examine how coping dimensions operate to affect liability to substance use in early adolescence	F/M	12.5	N	Coping dimensions, substance use	Anger coping, helpless coping, and hangout coping were positively related to initial levels for pee use and adolescent use and to growth in adolescent use. Effects of coping were significantly greater at higher level of stress; behavioral coping buffered the effects of disengagement.
Wilson, Pritchard, & Revalee	2004	To compare adolescent males and females in order to examine gender differences affecting physical and psychological health symptoms; to examine gender differences affecting coping styles; Ascertain	F/M	10-19	Y	Coping, physical health symptoms, psychological health symptoms	Gender differences were found in coping styles. The relation between health symptoms and coping varied significantly by gender.

		the relationship between coping styles and both physical and psychological health symptoms, in both female and male adolescents					
Yahav & Cohen	2008	To evaluate the effect of a cognitive-behavioral, biofeedback-assisted intervention to impart skills for coping with stressful encounters in a nonclinical adolescent population	F/M	14-16	N	Coping, State anxiety, test anxiety, behavior symptoms, hostility, and self-esteem	The intervention was effective in reducing state anxiety, test anxiety, and behavior symptoms in the intervention groups as compared with the control group
Yamasaki & Uchida	2006	To examine the relationships between coping and positive affect and sex differences in those relationships, focusing on	F/M	18-20	Y	Positive effect, coping	A positive relationship was found between positive affect and both problem-solving and cognitive reinterpretation, but only for men, while a positive relation between positive affect and emotional expression was found only for women

		emotional expression as an emotion-focused coping strategy					
Yarcheski, Mahon, Yarcheski, & Hanks	2010	To examine the relationship between perceived stress and wellness in early adolescents and to test primary appraisal as a mediator of this relationship using the Neuman Systems Model	F/M	12-14	Y	Perceived stress, primary appraisal, and wellness in classroom settings	Primary appraisal was a weak mediator of the relationship between perceived stress and wellness.
Zanini, Forns, & Kirchner	2005	To examine coping behavior in Spanish adolescents	F/M	12-16	Y	Coping responses	Girls used more approach, avoidance, and behavioral responses than boys, especially Logical Analysis, Seeking guidance and Support, and Emotional discharge strategies. At older ages, Logical Analysis, and Emotional Discharge became more frequent in girls and cognitive avoidance less frequent in boys. Problem-appraisal has only limited effect on the selection of coping strategies and that only few strategies are related to the problems' outcomes

APPENDIX H  
COPING MEASURES

Authors	Year	Coping measures (number of items, Cronbach's alpha, if provided )	Coping: definition or/and description	Theory used
Alridge, & Roesch	2008	- Daily diaries - Children's Coping Strategies Checklist -How I Coped Under Pressure Scale	No definition provided  Approach-oriented coping strategies: direct problem-solving, planning, social support  Avoidant-oriented coping strategies: distancing, acceptance	No theory identified  To document and establish a normative coping model for the underrepresented and minority adolescent group
Argyropoulo, Sidiropoulo-Dimakakou, & Besevegis	2007	Athens Coping Scale 35 items; .59-.91	Coping: as defined by Lazarus & Folkman (1980)	No theory identified
Armeli	2001	COPE 60-item	No definition provided	-Lazarus & Folkman transactional model -Cluster-analytic approach
Ben-Ari & Hirshberg	2009	The Rahim Organizational Conflict Inventory (ROC II) 28 items	Coping is the dynamic process of responding to external events that are highly stressful or negative.  Five-style model, coping is characterized by 5 principal styles: -obliging -dominating -compromising -avoiding -integrating	No theory identified
Ben-Zur	2009	The Hebrew version of the COPE scale 60-item .69 to .86	Coping: stable cognitive and behavioral disposition of the individual, following the trait approach to coping	Carver et al. Coping model



Bouteyre, Maurel, & Bernaud	2007	Coping Inventory of Stressful Situations (CISS) 45 items; .72-.86	No definition provided  Engagement strategies Disengagement strategies  task-oriented emotion-oriented avoidance distraction social diversion	No theory identified
Brady, & Donenberg	2006	Motivation to Cope Through Escape 4 items .86=males .84=females	Coping strategy through: -Avoidance -Escape  No definition provided	Testing of 2 alternative models: -Stress-coping model -Problem-behavior syndrome model
Braun-Lewensohn, Celestin-Westreich, Celstin, Verleye, Verte, & Ponjaert-Kristoffersen	2009	Adolescent Coping Scale (ACS) .56-.91  Youth Self Report 112 items	Coping is defined as the actual effort that is made in the attempt to render a perceived stressor more tolerable and minimize the distress induced by the situation	Theory not identified
Braun-Lewensohn, Sagy, & Roth	2010	Adolescent Coping Scale (ACS)  18 items; .49-.63	Interactionist approach: coping is a function of the interaction between the situation and the individual background which may include ethnicity, gender and age  No definition provided	Folkman & Lazarus
Cash, Santos, & Williams	2005	Body Image Coping Strategies Inventory (BICSI) 23-item Men: .74-.91 women: .74-.90	Coping is a survival mechanism conceptualized as a transaction between an individual and the environment in which a response is directed at minimizing the psychological, emotional, and physical burdens associated with a stressful situation	To validate BICSI
Cassidy	2000	Problem-solving style	Seven factors of cognitive style and coping	Ecological model of stress

		questionnaire 24 items	No definition provided	
Christiansen, Copeland, & Stapert	2008	A modified version of the Adolescent Coping Orientation for Problem Experiences (A- COPE) 12 coping factors; .35-.83	Coping refers to cognitive and behavioral efforts which serve to manage environmental demands that exceed an individual's resources	No theory identified
Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman	2000	Responses to Stress Questionnaire (RSQ) 47 items sample 1: .59 sample 2: .68 sample 3: .57	Coping refers to responses that are experienced as voluntary, under the individual's control, and involving conscious effort. Voluntary efforts are within conscious awareness and are oriented toward regulation one's cognitive, behavioral, emotional, or physiological responses to a stressor or toward the stressor itself. Involuntary responses to stress include temperamentally based and conditioned reactions that may or may not be within conscious awareness and are not under volitional control, such as emotional and physiological arousal, intrusive thoughts and rumination, and emotional numbing -Primary control coping: problem-solving -Secondary control coping: acceptance	Development and testing of RSQ=a measure of coping and involuntary stress responses in adolescence
Dinsmore, & Stormshak	2003	The Coping Scale: is a subscale of the Life Events and Coping Inventory (52 items; 0.68- 0.89)	The wide range of cognitive and behavioral strategies that have both problem-solving and emotional-regulating functions	No theory identified

Dunkley, Zuroff, & Blankstein	2003	Daily diary COPE .52-.87	Problem-focused coping Positive reinterpretation Avoidant coping  No definition provided	Dunkley et al. Meditational model
Dyson & Renk	2006	COPE scale .79-.87	Coping can be defined as cognitive and behavioral attempts to alter events or circumstances that are threatening	No theory identified
Edmondson, & Park	2009	Subscales from the Brief COPE 8 items .67-.89	Active coping Positive reinterpretation Use of alcohol or drugs Use of religious coping  No definition provided	No theory identified
Eschenbeck, Kohlmann, & Lohaus	2007	German Stress and Coping Questionnaire for Children and Adolescents 30 items .68-.88	Coping: defined by 5 dimensions: - Seeking social support -Problem-solving -Avoidant coping -Palliative emotion regulation -Anger-related emotion regulation  No definition provided	No theory identified
Ewart, Jorgensen, Suchday, Chen, & Matthews	2002	Social Competence Interview	Social Competence: stress coping capabilities -Interpersonal skills -Goal-oriented strivings in coping -Social Impact  No definition provided	Social competence framework
Finkelstein, Kubzansky, Capitman, & Goodman	2007	A-COPE 54-item	Engagement coping: responses that acknowledge thoughts and emotions Disengagement coping: responses that are oriented away from thoughts and emotions  No definition provided	No theory identified  "Reserve capacity" hypothesis
Forman, Hoffman, McGrath, Herbert, Brandsma, &	2007	No instrument identified	Coping defined in the context of managing food craving such they do not lead to problematic emotional	No theory identified

Lowe			distress or unhealthy food consumption	
Forns, Amador, Krichner, Gomez & Muro	2005	Moos' Coping Response Inventory Youth (CRI-Y) (.40-.63)	Cognition as a coping method: reflecting or thinking; action or behavioral coping; emotional discharge or seeking alternative rewards  No definition provided	Moos' coping responses
Franko, Thompson, Affenito, Barton, & Striegel-Moore	2008	Coping Strategy Inventory (CSI) .79-.90	No definition provided	No theory identified
Frydenberg & Lewis	2009	Adolescent Coping Scale 18 items; $\alpha > .70$	Coping typically refers to cognitive and affective responses used by an individual to deal with problems encountered in everyday life. Coping is defined in terms of Active or Negative avoidant strategies	No theory identified
Frydenberg & Lewis	2004	Adolescent Coping Scale 80 items; .70	-Problem-Focused coping -Emotion-focused coping -Non-productive strategies: self-blame, worries  No definition provided	Individual differences model
Fuhr	2002	Coping Humor Scale (CHS; 7 items; .60-.70)	Humor serves as a device for contending with unpleasant aspects of reality; however, unlike defense mechanism, it is based on cognitive processes that do not reject or ignore the demands of reality  No definition provided	Coping humor

Garcia-Grau, Fuste, Miro, Saldana, & Bados	2004	ACS (.54-.80)	Intropunitive avoidance: a style characterized by avoiding the problem and coping nonadaptively with the motions that the problems generate	No theory identified
Garnefski, Legerstee, Kraaij, Van Den Kommer & Teerds	2002	Cognitive Emotion Regulation Questionnaire  36 items; 0.68-0.83	Cognitive coping strategies: the cognitive way of managing the intake of emotionally arousing information, involving thoughts or cognitions that help to manage or regulate the emotions  No definition provided	Nine conceptually different cognitive coping strategies identified in previous research (Garnefski et al.)
Gelhaar, Seiffge-Krenke, Borge, Cicognani, Cunha, Loncaric, Macek, Steinhäusen, & Metzke	2007	Coping Across Situation Questionnaire (CASQ)  20 items -Active coping: $\alpha = .82$ -Internal coping: $\alpha = .79$ -Withdrawal coping: $\alpha = .80$	Seiffge-Krenke's definition of coping as Lazaus & Folkman  -Active coping: Actively approaching the problem -Internal coping: Thinking about the problem and cognitively reflecting about possible solutions -Withdrawal coping: withdrawing from the problem and looking for distraction	A situation-specific approach is adopted  Seiffge-Krenke Model
Gidron, & Nyklicek	2010	Internet-based software program: scenarios on coping PFC and EFC were matched across specific context	Coping efforts, either alter a stressful situation {Problem-Focused Coping (PFC)} or help tolerate and minimize its impact {Emotion-Focused Coping (EFC)}	Taylor's stress, coping and adaptation framework
Haid, Seiffge-Krenke, Molinar, Ciairano, Karaman, & Cok	2010	Coping Across Situations Questionnaire (CASQ)	Coping: No definition provided 3 dimensions: 1-Active approach and problem solving (active coping), 2-Thinking about the problem and reflecting	Seiffge-Krenke model

			about possible solutions (Internal coping), 3-Distracting or withdrawing from the problem (Withdrawal coping)	
Hess, & Copeland	2001	Adolescent Coping Orientation for Problem Experiences (A-COPE) 54-item; .45-.80	-Functional coping styles: active efforts to manage a problem or think of a solution -Dysfunctional coping styles: efforts to deny or avoid the problem and attempting to regulate the emotions  No definition provided	A prediction model is built and tested through discriminant analysis
Jose & Huntsinger	2005	Adolescent Coping Efforts Scale (ACES) 21 items; 0.83 (Problem-Focused); 0.73 (Emotion-Focused); 0.74 (avoidance)	Coping efforts: cognitive or behavioral efforts to manage specific external or internal demands (and conflicts between them) that are appraised as taxing or exceeding the resources of the person	Lazarus & Folkman
Jose & Schurer	2010	Modified version of the original Children's Coping Strategies Scale  Total=44 items .72-.89	Coping as defined by Lazarus & Folkman  Social support Problem-solving Rumination Externalization	To test a model to study cultural differences in coping
Kane & Jacobs	2010	Not mentioned	No definition provided	No theory identified
Kariv & Heiman	2005	Coping Inventory for Stressful Situations 53-item -Task orientation: .89 -Emotional orientation: .87 -Avoidance: .83	Coping strategies: manage the problem causing stress and govern emotions relating to those stressors  Coping: -Task-oriented coping strategies: Pb-focused -Emotion-oriented coping strategies	A proposed multilevel structural model of coping

			-Avoidance-oriented coping	
Kendall, Safford, Flannery-Schroeder, & Webb	2004	Coping questionnaire for children (CQC)	No definition provided	Cognitive behavioral treatment: RCT
Kuo, Roysircar, & Newby-Clark	2006	-Stress Coping Scale (SCS) {24 items; .74} -Cross-Cultural Coping Scale (CCCS; 34 items; .88)	No definition provided	No theory identified
Lapointe & Marcotte	2000	Ways of Coping Questionnaire	Lazarus & Folkman definition	Lazarus and Folkman model
Lewis & Frydenberg	2002	ACS (.56-.86)	Coping is defined as behaviors and actions which arise in response to demands placed upon an individual	Frydenberg & Lewis model
Magaya, Asner-Self, & Schreiber	2005	Ways of coping scale (WCS) 66-item; .82-.91	Problem-focused coping strategies Emotion-focused coping strategies  No definition provided	No theory identified
Martyn-Nemeth, Penckofer, Gulanick, Velsor-Friedrich, & Bryant	2009	Coping Across Situation Questionnaire (CASQ) 6 items; .94	Approach: active problem solving Avoidant: Passive responses to withdraw  No definition provided	Seiffge-Krenke framework
Murberg, & Bru	2005	Selection of items from Adolescent Orientation for Problem Experiences dispositional inventory (A-COPE) 16 items; 0.67-0.77	Coping: the changing thoughts and acts the individual uses to manage the external and/or internal demands of a specific person-environment transaction that is appraised as stressful Approach and Avoidance coping	Lazarus & Folkman
Muris, Schmidt, Lambrichs, & Meesters	2001	Adolescent version of the Utrecht Coping List (UCL-A) 44 items	No definition provided  7 types of coping styles: -active coping, distraction, avoidance, social support	No theory identified

		0.75-.78	seeking, expression of emotions, passive coping, & comforting thoughts	
Ogul, & Gencoz	2003	Ways of coping scale (WCS) 68-item; .87	Coping refers to cognitive or behavioral actions either toward or away from threat -Action-oriented coping strategies -Non-productive coping strategies	To test the goodness of fit model
Oweini	1998	qualitative study	Lazarus & Folkman definition	Lazarus & Folkman
Park, & Levenson	2002	-Constructive thinking Inventory (CTI) 29 items; .87  -COPE 60 items- $\alpha = .74$ (PFC) $\alpha = .67$ (EFC) $\alpha = .69$ (AC)	Coping ability: assessed by constructive thinking, a style of appraising and approaching stressors that involves adaptive reasoning and control of negative emotions to allow appropriate problem-solving actions  Coping activities: refer to the specific coping strategies individuals use when confronted with stressors. Problem-focused coping (PFC) Emotion-focused coping (EFC) Avoidant coping (AC)	No theory identified
Patry, Blanchard, & Mask	2007	Study 1: Regulatory Leisure Coping Styles 14 items  Study 2: Regulatory Leisure Coping Styles 14 items $\alpha = .73$ (for subscale 1) $\alpha = .90$ (for subscale 2)	Leisure coping: role of coping as a coping strategy or resources in helping individuals regulate a demanding academic task  Leisure coping styles: -Planned-Breather Leisure Coping Style: Focusing on temporary distraction -Avoidant Leisure Coping Style: using leisure predominantly as an avoidance tactic	Self-determination theory



Pritchard, Wilson, & Yamnitz	2007	Brief COPE: 14 tactics	Tactics used to respond to stressful events	No theory identified
Puskar, & Grabiak	2008	Coping Responses Inventory-Youth Form (CRI-Y) 48 items $\alpha = 0.69-0.79$	-Approach coping responses: problem-focused -Avoidance coping responses: emotion-focused  No definition provided	No theory identified
Puskar, Sereika, & Tusaie-Mumford	2003	Coping Response Inventory Youth (CRI-Y) .69-.79	Responses to stress  No definition provided	No theory identified
Reid, Kauer, Dudgeon, Sanci, Shrier, & Patton	2009	<i>Mobilitytype</i> program designed using open source software (J2ME)	No definition provided	To develop, pilot and evaluate a youth-friendly mobile phone program
Rexrode, Petersen, & O'Toole	2008	Ways of Coping Scale (WOCS) .60 to .75	When stress occurs, individuals cope by using cognitive or behavioral strategies to deal with internal and external demands as well as conflicts between these two things (Folkman & Lazarus, 1980). problem focused and emotion focused	To examine psychometric properties of WOCS Based on transactional theory
Rodrigues, & Kitzmann	2007	Modified version of Response to Stress Questionnaire: Family Conflict Version (RSQ) 57 items; .76-.91	Coping is defined as conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances	Attachment theory
Roesch, Duangado, Vaughn, Aldridge, & Villodas	2010	- Daily diaries - Children's Coping Strategies Checklist - How I Coped Under Pressure Scale	-Approach coping responses: problem-focused -Avoidance coping responses: emotion-focused  No definition provided	Hope Theory

Sarid, Anson, Yaari, & Margalith	2004	Ways of Coping Questionnaire $\alpha=0.70$ (for PF) $\alpha=0.76$ $\alpha=0.75$	Classification of coping styles according to the functions they serve: -Problem-focused (PF) -Emotion-focused (EF) -Denial-focused (DF) No definition provided	No theory identified
Sazaki, & Yamasaki	2005	General Coping Questionnaire	As per Carver et al., 1989,  -Situational coping: based on context approach -Dispositional coping: based on trait approach  No definition provided	A directional model constructed and tested using path analysis
Seiffge-Krenke	2000	Coping Across Situations Questionnaire (CASQ) 20 coping strategies; (0.82-0.88): for active coping (0.78, 0.82): for internal coping (0.76-0.84): for withdrawal coping	Functional coping: active coping and internal coping Dysfunctional coping: withdrawal  No definition provided	Seiffge-Krenke Theory
Seiffge-Krenke, Aunola, & Nurmi	2009	Coping Across Situations Questionnaire (CASQ) 20 coping strategies; (0.82-0.88): for active coping (0.78, 0.82): for internal coping (0.76-0.84): for withdrawal coping	First style: Active coping Second style: Internal coping Third style: Withdrawal coping  No definition provided	Seiffge-Krenke Theory
Sheu, & Sedlacek	2004	Helping-Seeking Attitudes and Coping Strategies Survey (4 items for coping; $\alpha = .52$ )	Approach coping: the use of strategies that focus on both the source of stress and reactions to it  Avoidant coping: the use of strategies that place the	No theory identified

			focus away from both the sources of stress and reactions to it  No definition provided	
Sideridis	2006	Ways of Coping Questionnaire (WOCQ) PF= 19 items, $\alpha=0.74$ EF= 9 items, $\alpha=0.72$	Coping strategies: represent cognitive and behavioral efforts so that the person can cope with the demands of the environment	Lazarus transactional theory of coping
Smith, & Dust	2006	A modified version of COPE inventory 44 items  Personal Problem Solving Inventory 13 items scale 1: $\alpha = .80$ scale 2: $\alpha = .71$	Coping: examined in the context of an ongoing situation that began between Time 1 and Time 2 data collection. It was also assessed from the perspective of:  Cognitive coping strategies: What you think vs Behavioral coping strategies: What you do	No theory identified
Smith & Renk	2007	COPE scale (60 items; .62-.92)	Cognitive and behavioral efforts an individual uses to manage specific demands or stressors	No theory identified
Steiner, Erickson, Hernandez, & Pavelski	2002	Coping Reactions Inventory-Youth version (CRI-Y) (.46-.54)	The conscious cognitive and behavioral efforts activated to mediate a challenge given specific demands	Moos' model
Steinhardt, & Dolbier	2008	Brief Coping Orientations to Problems Experienced	Coping strategies: individual's behavioral and cognitive responses to stressful situations.	Transactional model of stress and coping and resilience and thriving models

		(Brief COPE) scale. 14 items; .62-.80		
Struthers, Perry, & Menec	2000	SCOPE (Student Coping Instrument) 48 items; $\alpha = .80$	Problem-Focused coping Emotion-Focused coping  No definition provided	A model was designed and tested through a structural equation model
Sun, Tao, Hao, & Wan	2010	Trait Coping Style Questionnaire (TCSQ), a Chinese general measure of coping strategies 16 items	No definition provided  -Positive coping consists of eight items: take it out of mind; act as if nothing has happened; focus on the positive aspects; compare with other less fortunate peers; try to improve the problem situation; seek understanding or help; avoid the problem situation; and make fun of situation humorously. -Negative coping also consists of eight items: intrusive thought; get angry; get upset/depressed; keep feelings to self; cry by self; smoke/use alcohol; ambivalence/hesitate; and stay away from other people.	Vulnerability-stress framework
Sung, Puskar, & Sereika	2006	CRI-Y 48 items .69-.79	No definition provided  -Adaptive coping strategies: Approach or active coping strategies -Maladaptive coping strategies: predisposing variables or precipitating factors	No theory identified
Szewczyk & Weinmuller	2006	Revised version of the Religious Coping Questionnaire	No definition provided  -Universal strategies -Specific strategies	Pargament's conception of religion

		(RCOPE) 63 items $\alpha=.94$	- Non-Specific strategies -Religious coping strategies	
Tatar, & Amram	2007	Adolescent Coping Scale (ACS) 28 items	No definition provided  Productive coping strategies Non-productive coping strategies	No theory identified
VanBoven, & Espelage	2006	Ways of Coping Questionnaire (WCQ) 66 items; .61-.79	No definition provided Three types of coping assessment methods: -a problem-solving inventory -a coping checklist -a verbal, open-ended, problem-solving measure	No theory identified
Vaughin, & Roesch	2003	COPE 60-item .38-.87	No definition provided	No theory identified
Wadsworth, & Compas	2002	Response to Stress Questionnaire (RSQ; 18 items; .80-.88)	Coping is defined as conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances	Conger & Elder (1994) model
Wichianson, Bughi, Unger, Spruijt-Metz, & Nguyen-Roigriez	2009	Brief COPE 28 items .81 .83	No definition provided Adaptive coping Maladaptive coping	No theory identified
Williams, Arnold, & Mills	2005	Coping mechanisms scale developed by the primary author: 26 items	No definition provided  -Adaptive coping: coping mechanisms are seen as adaptive when they act to reduce stress and promote long-term benefits -Maladaptive coping: Coping mechanisms are seen as maladaptive when they reduce the level of stress in the short term through the use of alcohol or drugs, or through withdrawal from social	No theory identified

			interaction but threaten physical and psychological health in the long term	
Wills, Sandy & Yaeger	2002	-Study 1: Intention-based inventory .76-.85  -Study 2: Response-based inventory (not named) .70-.92	Indicators of problem-solving and planning, dependability and attention control, and having a future-oriented time perspective  No definition provided	Study 1: Stress-coping model Study 2: Self-regulation model  Escaping the triple trap
Wills, Sandy, Yaeger, Cleary, & Shinar	2001	The coping measures used the intention-based assessment method -engagement -disengagement 7 items .75-.87	Coping: the way persons respond to problems makes a difference in relation to subsequent outcomes. Anger coping Helpless coping Hangout coping	Carver et al. model
Wilson, Pritchard, & Revalee	2004	Brief COPE 28 items	A set of behavioral and cognitive responses that are designed to minimize the demands of a stressful situation	No theory identified
Yahav, & Cohen	2008	No coping instrument used	Behavioral and cognitive efforts to deal with stressful encounters	Cognitive-behavioral model; Stress management model
Yamasaki, & Uchida	2006	General Coping Questionnaire 32 items .86-.92	No definition provided  According to Sasaki & Yamasaki (2002), coping has 4 dimensions:  -Problem-focused - Cognitive reinterpretation for problem-focused coping - Emotion expression - Emotional support-seeking	No theory identified
Yarcheski, Mahon, Yarcheski, & Hanks	2010	The Primary Appraisal Scale 13 items .87	As defined by Lazarus & Folkman,	Neuman Systems Model

Zanini, Forns, & Kirchner	2005	CRI-Y (Moos) 48-item .82	Coping as defined by Lazarus & Folkman Classification of coping as proposed by Moos: -the focus of coping: refers to the person's orientation and activity in response to a stressor -the method of coping: refers to cognitive and behavioral efforts used to master life stressors	Moos' model
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## VITA

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