AN INVESTIGATION OF A THEORETICAL MODEL OF HEALTH-RELATED OUTCOMES OF RESILIENCE IN MIDDLE ADOLESCENTS

by

ROBERT L. SCOLOVENO

A Dissertation submitted to the

Graduate School-Newark

Rutgers, The State University of New Jersey

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Graduate Program in Nursing

written under the direction of

Professor Adela Yarcheski

and approved by

Newark, New Jersey

May, 2013

Copyright page:

© [2013]

Robert L. Scoloveno

ALL RIGHTS RESERVED

ABSTRACT OF THE DISSERTATION

An Investigation of a Theoretical Model of Health-Related Outcomes of Resilience in Middle Adolescents By Robert L. Scoloveno Dissertation Director Professor Adela Yarcheski

The purpose of this study was to develop a theory-based just-identified model to better understand resilience and its direct and indirect effects on theorized health outcomes in middle adolescents. The study empirically tested the direct effects of resilience on a) hope, b) well-being, and c) health-promoting lifestyles, and the direct effects of hope on (d) well-being and (e) health promoting lifestyles. The indirect effects of resilience on (a) well-being, and (b) health-promoting lifestyle through hope were also examined.

The final sample of 311 of middle-adolescents, aged 15 to 17, was recruited at a northern New Jersey public high school. Participants completed the demographic data sheet and four instruments measuring the study variables during their regularly scheduled health classes.

The structural equation model was tested with the LISREL 8.80 software program. Results indicated that resilience had a direct effect on hope (G*amma* = .66, p < .001), well-being (G*amma* = .44, p < .001), and health-promoting lifestyles (G*amma* = .56, p < .001). Hope also had a direct effect on well-being (Beta = .42, p < .001), and health-promoting lifestyle (Beta = .26, p < .001). Resilience had an indirect effect on

ii

both well-being and health-promoting lifestyle through hope. The unhypothesized correlated error term between well-being and health- promoting lifestyle, the two dependent variables, was psi = 0.13, p < .001.

All of the seven hypotheses in this study were derived from theory and were supported empirically, providing evidence of the predictive power of the theoretical propositions tested. Therefore, it can be concluded that resilience has direct positive effects on hope, well-being, and health-promoting lifestyle in middle adolescents, and that hope had direct positive effects on well-being and health-promoting lifestyle. Additionally, resilience has an indirect effect on well-being and health-promoting lifestyle through hope in middle adolescents. Finally, it can be concluded that resilience is a strong predictor of hope and that resilience is a better predictor than hope for the two health-related outcomes, well-being and health-promoting lifestyle.

Dedication

This dissertation is dedicated to my wife Maria, and my two sons, Alex and Jason, who each have overcome overwhelming adversity and taught me more about resilience than I ever thought possible.

Acknowledgements

I wish to thank my dissertation chair, Dr Adela Yarcheski, whose unrelenting support, patience, dedication, and guidance have allowed me to complete this arduous dissertation process. She has provided me with invaluable knowledge, tools, and the expertise necessary to complete this research project. She provided a shining example of commitment and enthusiasm to nursing research that has enabled me to complete the dissertation in a goal-oriented, directed manner. I am incredibly thankful, and fortunate to have been able to work under her tutelage, and will carry with me forever the lessons learned during this process. I am also incredibly thankful to Dr. Elsie E. Gulick for her expertise, statistical guidance, and her kind, gentle words during the dissertation process. Her assistance with the methodology of the study was paramount to the completion of the dissertation. I am indebted and honored to have had the opportunity to work under her tutelage. My sincere gratitude goes to Dr. Ganga Mahat for all of her support and assistance during this process. Her attention to detail was very much appreciated. I would also like to thank Dr. Noreen E. Mahon for providing her knowledge and expertise in theory development and structural equation modeling. I am blessed to have had these exemplary professors assist me with this process.

I would like to offer my sincere appreciation to Ms. Helene Feldman, Interim Superintendent of the public school system, Ms. Barbara Correnti, Director of Student Personnel Services, and Russell C. Pagano Jr., Principal of the public school for welcoming me and allowing me access to their school. The kindness and flexibility they showed allowed the data collection process to go much easier, and I am forever grateful. Further, I would like to thank all

۷

of the teachers for their help and support, and the students for their willingness to participate. My experience with all of these wonderful people provides proof that you can go home again.

My heartfelt appreciation goes out to Dr. Lucille Joel for her encouragement, advice, and expertise during this process. Her humorous anecdotes will not soon be forgotten. I also need to acknowledge the Robert Wood Johnson Foundation and New Jersey Nursing Initiative, especially Dr. Diane Billings, Dr. Susan Bakewell-Sachs, and Dr. Maryjoan D. Ladden for their visionary leadership and support.

I would like to express my appreciation to the many friends and family members who have supported and encouraged me during the past four years, especially the Scoloveno, DiChiara, DePalma, Ricciardi, Mango, and Shapiro families. Their patience while I tried to explain the process exactly, while also learning it myself, helped me immensely. A special thank you to Kathleen DiChiara, whose tenacity and generosity made it possible for me to secure a sample site to complete the research. I also need to recognize and thank my father, Robert Scoloveno, whose quiet, gentle, support and leadership made the entire process that much more tolerable. I am certain watching this process unfold for the second time brought back fond memories for him.

I would like to acknowledge the overwhelming support and love I received from my mother, Dr. Maryann Scoloveno throughout the entire process. Her absolute faith in me, and constant encouragement allowed me to persevere and finish the dissertation. A consummate professional nurse and educator, she is an inspiration to me as I embark on my own academic career, and will always carry with me, her shining example that I am first and foremost a nurse.

vi

To my two sons, Alex and Jason, who unselfishly put aside their own personal needs when their father was busy with school work, I am thankful. I am very proud to be their father and they both are, and always will be, my shining stars. They have taught me so much as I have watched them grow into fine young men before my eyes. I hope they will always know the value of education.

Finally, to my wife, Maria Scoloveno; always my true north, it would not have even been remotely possible for me to complete the dissertation without her tremendous support and encouragement. Her strength and passion are a true representation of resilience and an inspiration to me and the boys. Thank you Maria for always believing in me.

Table of Contents

Abstract		ii
Dedication		iv
Acknowledgements		V
List of Tables	List of Tables	
List of Figures		xii
Chapter		
I.	The Problem	
II	Statement of the Problem Sub Problems Definition of Terms Delimitations Significance of the Study Review of the Literature	4 4 4 5 6
	Developmental Theories of Resilience Personality Theories of Resilience Process Theories of Resilience Descriptive Theories of Adolescent Resilience Theories of Hope Empirical Studies of Resilience and Hope Theories of Well-Being Empirical Studies of Resilience and Well-Being Empirical Studies of Hope and Well-Being Theories of Health Behaviors Empirical Studies of Resilience and Health-Promoting Lifestyle Empirical Studies of Hope and Health Behaviors Theoretical Rationale Hypotheses	9 12 13 15 16 19 20 23 24 25 29 30 32 35
III.	Methods	

Research Setting	38
Sample	38

	Instruments	
	Resilience Scale for Adolescents	41
	Hopefulness Scale for Adolescents	45
	Adolescent General Well-Being Questionnaire	47
	Adolescent Lifestyle Profile	50
	Procedure for Date Collection	50
	Procedure for Data Conection	52
IV.	Analysis of the Data	55
	Statistical Description of the Variables	55
	Psychometric Properties of the Instruments	56
	Hypotheses	57
	Hypothesis 1	59
	Hypothesis 2	59
	Hypothesis 3	59
	Hypothesis 4	59
	Hypothesis 5	60
	Hypothesis 6	60
	Hypothesis 0 Hypothesis 7	60
	Additional Findings	63
V.	Discussion of the Findings	65
	Resilience and Hope in the Middle Adolescents	65
	Resilience and Well-Being in Middle Adolescents	66
	Resilience and Health-Promoting Lifestyle in	
	Middle Adolescents	68
	Hope and Well-Being in Middle Adolescents	69
	Hope and Health-Promoting Lifestyle in	
	Middle Adolescents	71
	Resilience and Well-Being through Hope in	
	Middle Adolescents	73
	Resilience and Health-Promoting Lifestyle through	
	Hope in Middle Adolescents	73
	Additional Findings	74
	Gender Differences	74
	Participation in Organized Sports/Activities	76
VI.	Summary, Conclusions, Implications, and Recommendations	78
	Summary	78
	Conclusions	83
	Implications for Nursing	83
	Recommendations	84
		01

References

Appendices

А	Resilience Scale for Adolescents	99
В	Hopefulness Scale for Adolescents	102
С	Adolescent General Well-Being Questionnaire	106
D	Adolescent Lifestyle Profile-Permission to Use Form	111
E	Demographic Data Sheet	112
F	Permission Letter From High School	114
G	Rutgers IRB Approval Letter	115
Η	Parental Consent Form	116
Ι	Student Consent Form	119

Vita

87

List of Tables

Table 1.	Frequency Distribution of Selected Demographic Variable	40
Table 2.	Descriptive Statistics of Study Variables	56
Table 3.	Coefficient Alpha Reliabilities for Study Variables	57
Table 4.	Correlation Matrix among Study Variables	58
Table 5.	Parameters and Standard Error Estimates for the Model of Figure 2	61

List of Figures

Figure 1.	. Apriori Just-Identified Model of Health-Related Outcomes of Resilience		
	in Middle Adolescents	37	
Figure 2.	Empirical Results of Just-Identified Model of Health-Related Outcomes of		
	Resilience in Middle Adolescents	62	

Chapter I

Problem

Adolescent resilience is a dynamic quality that varies in intensity and may or not be present to any great degree (Fergus & Zimmerman, 2005). When exposed to stress, some adolescents develop psychological difficulties while others faced with the same adversities develop into well-adapted individuals (Luthar, 1991). The literature is replete with studies testing explanatory theory using variables that explain and predict resilience in adolescents, and with investigations of psychosocial outcomes of resilience in adolescents (Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003). However, there is a dearth of knowledge about health outcomes of resilience during adolescence. A number of health-related outcomes have been identified in the theoretical literature, such as hope, well-being, and health-promoting lifestyle. Because health issues are a priority during adolescent development (Bowden & Greenberg, 2010), there is a need to create theoretical models of health-related outcomes of resilience in adolescents. In this study, the variables of hope, well-being, and health-promoting lifestyle were used to create and test a theoretical model of health outcomes of resilience.

Theorists have posited a relationship between resilience and hope (Butler, 1997; Dyer & McGuiness, 1996; Edward, Welch, & Chater, 2009; Garmezy, 1991; Scudder, Sullivan, & Copeland-Linder, 2006; Werner & Smith, 1992), suggesting that hope is an outcome of resilience. Researchers have found a moderately strong to strong relationship between resilience and hope in women with breast cancer (Craig, 2005), and undergraduate students (Collins, 2009). In the current study, assessing a theoretical model, the theoretical linkage between resilience and hope was examined in middle adolescents, which had not been done before.

Well-being is conceptualized as a complex state encompassing physical, social, and psychological dimensions (Columbo, 1984). Theorists proposed that resilience is related to well-being, that resilience enhances well-being and that resilience contributes to well-being (Edward, 2005; Haase, 2004; Knight, 2007; Masten, Best, & Garmezy, 1990; Srivastava & Sinha, 2005; Unger & Liebenberg, 2005). Theorists have also proposed that well-being is an outcome of hope, and that hope contributes to well-being (Dufault & Martocchio, 1985; Korner, 1970; Muyskens, 1979; Ojala, 2005; Snyder, 2002). Researchers have found a moderate positive relationship between resilience and psychological well-being (Christopher & Kulig, 2000), and a positive relationship between resilience and satisfaction with life, an index of well-being (Khan & Husain, 2010; Utsey, Hook, Fischer, & Belvet, 2008). Researchers have also found a moderate to fairly strong relationship between hope and well-being in early adolescents and middle adolescents, and college students (Magaletta & Oliver, 1999; Hendricks-Ferguson, 2001; Yarcheski, Scoloveno, & Mahon, 1994; Yarcheski, Mahon, & Yarcheski, 2001). In the current study, the theoretical linkages between resilience and well-being, as well as between hope and well-being, were examined.

Pender, Murdaugh, and Parsons (2010) defined health promotion as behaviors that include a healthy lifestyle, motivated by individuals' desire to increase their health potential for productive living and improved health. Theorists have suggested that resilience contributes to health behaviors and that health-promoting behavior is an outcome of resilience (Ahern, 2006; Benard, 2004; Edward, 2005; Stewart, Reid, & Mangham, 1997). Theorists have also proposed that hope influences the likelihood to practice a health-promoting lifestyle, and that health-promoting lifestyle is an outcome of hope (Brown, 1994; Dufault & Martocchio, 1985; Hendricks, 1998; Hinds, 1988). Researchers have reported a positive relationship between resilience and health practices using a variety of measures in adolescents and adults (Black & Ford-Gilboe, 2004; Monteith & Ford-Gilboe, 2002; Solem, 2001). Researchers have also found a moderate to moderately strong relationship between hope and health practices in high school students, urban adolescents, and early adolescents (Mahat, Scoloveno, & Whalen, 2002; Mahon, Yarcheski, & Yarcheski, 2004; Yarcheski et al., 1994). The theoretical links between resilience and health-promoting lifestyle as well as between hope and healthpromoting lifestyle, were examined in middle adolescents, aged 15 to 17, in the current study.

Adolescence has been characterized as having three distinct phases, early, middle, and late, each with its own developmental tasks and accomplishments (Bowden & Greenberg, 2010). During middle adolescence, salient developmental tasks include increasing independence from parental bonds, greater reliance on peers, achieving formal operational thinking, and reaching greater physical and sexual maturity (Steinberg, 2005). These tasks suggest that resilience is central to development during middle adolescence. Because the process of resilience is important to middle adolescent development, so too are health outcomes of resilience as conceptualized and investigated in this study. The focus of this study was to examine a theoretical model of health-related outcomes of resilience on middle adolescents. In summary, this research examined the direct effect of resilience on (a) hope, (b) well-being, and (c) health-promoting lifestyle and the direct effect of hope on (d) well-being, and (e) health-promoting lifestyle. In addition the indirect effect of resilience on (b) well-being, and (c) health-promoting lifestyle through hope were examined in high school students, aged 15-17.

Statement of the Problem

In middle adolescents:

1. What is the effect of the antecedent variable resilience on the outcome variables (a) hope, (b) well-being, and (c) health-promoting lifestyle?

2. What is the effect of the antecedent variable hope on the outcome variables (d) wellbeing, and (e) health-promoting lifestyle?

3. What is the indirect effect of resilience on (b) well-being and (c) health-promoting lifestyle through hope?

Sub problems.

1. What is the direct effect of resilience on hope?

2. What is the direct effect of resilience on well-being?

- 3. What is the direct effect of resilience on health-promoting lifestyle?
- 4. What is the direct effect of hope on well-being?
- 5. What is the direct effect of hope on health-promoting lifestyle?
- 6. What is the indirect effect of resilience on well-being through hope?
- 7. What is the indirect effect of resilience on health-promoting lifestyle through hope?

Definition of Terms

 Resilience was defined as multidimensional, consisting of protective factors and processes that contribute to successful outcomes in the face of adversity (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003). Resilience was operationalized by the participants' total score on the Resilience Scale for Adolescents (Hjemdal, Friborg, Stiles, Rosenvinge, & Martinussen, 2006).

- Hope was defined as "the degree to which an adolescent believes that a personal tomorrow exists…" (Hinds, 1984, p. 360). Hope was operationalized by the participants' total score on the Hopefulness Scale for Adolescents (Hinds, 1988).
- Well-being was defined as a dynamic state of wellness, which has physical, social, and psychological dimensions (Columbo, 1984). Well-being was operationalized by the participants' total score on the short form of the Adolescent Well-Being Scale (Columbo, 1984).
- 4. Health-promoting lifestyle was defined as behaviors that influence health status, encompassing health responsibility, physical activity, nutrition, spiritual growth, interpersonal relationships, and stress management (Hendricks, Murdaugh, & Pender, 2006). Health-promoting lifestyle was operationalized by the participants' total score on the Adolescent Lifestyle Profile R-2 (Hendricks et al., 2006).

Delimitations

The sample was delimited to a sample of urban middle adolescents, chronologically defined as ages 15-17 (Duncan & Shaw, 2007), and currently enrolled in an urban school system in northern New Jersey, who were mentally and physically able to complete the study instruments. To minimize error, only participants who were able to speak, read, and comprehend the English language, as evaluated by the teacher and conveyed to the researcher, were included in the study.

Significance

Olsson et al. (2003) have argued that theoretical accounts of adolescent resilience must differentiate between process and outcome. In this study, adolescent resilience is viewed primarily as a process. Hjemdal, Aune, Reinfjell, Stiles, and Friborg (2007) described adolescent resilience as protective factors and processes that contribute to good outcomes despite overwhelming stress. The process encompasses individual attributes, family and external support systems, all of which are considered in this study. In the interest of theory development, it is important to study variables that are outcomes of resilience. Three such variables are hope, well-being, and health-promoting lifestyle, which were included in the theoretical model of health-related outcomes examined in this study.

Theorists have linked hope to resilience, explaining that individuals who exhibit resilience are hopeful that they can surmount obstacles (Edward et al., 2009; Garmezy, 1991; Scudder et al., 2006; Werner & Smith, 1992). The relationship between resilience and hope has been empirically supported in college students (Collins, 2009), and women diagnosed with cancer (Craig, 2005). There is a lack of empirical evidence testing the relationship between resilience and hope in adolescents. In the current study, the theoretical linkage between resilience and hope was examined in middle adolescents, aged 15 to 17. The findings contribute to new knowledge and provide evidence for nurses working with middle adolescents.

Theorists have proposed that resilience is related to a sense of well-being, explaining that resilient individuals take care of themselves, thus promoting well-being, and that resilience contributes to well-being (Edward, 2005; Haase, 2004; Knight, 2007; Masten et al., 1990; Srivastava & Sinha. 2005; Unger & Liebenberg, 2005). Empirical studies have supported the relationship between resilience and well-being in African American college students (Utsey et al., 2008), Irish immigrants (Christopher & Kulig, 2000), and engineering students (Khan & Husain, 2010). In the current study, the theoretical linkage between resilience and well-being was examined in middle adolescents, aged 15 to 17. The findings contribute to new knowledge and provide evidence for nursing working with urban middle adolescents.

Theorists have proposed that resilience is antecedent to health practices and behaviors and that health-promoting lifestyle is an outcome of resilience, explaining that resilience contributes to health behaviors such as proper nutrition, exercise, and avoidance of smoking and alcohol use in children and adolescents (Ahern, 2006; Benard, 2004; Black & Ford-Gilboe, 2004; Stewart et al., 1997). The relationship between resilience and health-promoting lifestyle has been supported empirically in mothers of preschool children (Black & Ford-Gilboe, 2004), adolescent mothers (Monteith & Ford-Gilboe, 2002), and between resilience and self-care practices in adolescents, aged 13-18 (Solem, 2001). The findings in this study add to the current body of knowledge of the relationship between resilience and health-promoting lifestyle in middle adolescents.

Theorists have proposed that hope influences an individual's well-being (Dufault & Martocchio, 1985; Hinds, 1988; Korner, 1970; Miceli & Castelfranchi, 2011; Muyskens, 1979; Ojala 2005; Snyder 2002). Empirical studies have supported the theoretical relationship between hope and well-being in middle adolescents (Yarcheski et al., 1994), college students (Magaletta & Oliver, 1999), early adolescents (Yarcheski et al., 2001), and adolescents diagnosed with cancer (Hendricks-Ferguson, 2001). The

findings in this study add to the current body of knowledge regarding the relationship between hope and well-being in middle adolescents.

Theorists have proposed that health practices are an outcome of hope (Brown, 1994; Dufault & Martocchio, 1985; Hendricks, 1998; Kia-Keating, Dowdy, Morgan, & Noam, 2011). The theoretical relationship between hope and health practices has been supported in high school students and urban adolescents, aged 15 to 17 (Mahat et al., 2002; Yarcheski et al., 1994), and adolescents, aged 12 to 14 (Mahon et al., 2004). Researchers also have reported moderately strong positive relationships between hope and health-promoting behaviors in student athletes, aged 18 to 26 (Hendricks & Hendricks, 2005) and in early adolescents, aged 10 to 14 (Hendricks et al., 2006). The findings in this study add to the current body of knowledge of the relationship between hope and health-promoting lifestyle in middle adolescents.

In summary, this study examined the direct effects of resilience on (a) hope, (b) well-being, and (c) health-promoting lifestyle, the direct effects of hope on (a) well-being and (b) health-promoting lifestyle, and indirect effects of resilience via hope on (a) well-being, and (b) health-promoting lifestyle, in a sample of middle adolescents. The testing of these relationships in the theoretical model of health-related outcomes of resilience contribute to the current limited body of knowledge on outcomes of resilience in middle adolescents, and also provide direction for future research in this area. This study also contributes to a substantive basis for nursing practice with middle adolescents by providing insights into the health outcomes of resilience.

Chapter II

Review of the Literature

This chapter presents descriptive theories of resilience and explanatory theories that link the concept of resilience to (a) hope, (b) well-being, (c) health-promoting lifestyle, as well as linking hope to (d) well-being and (e) health-promoting lifestyle. Empirical studies that provide support for the above theoretical linkages are presented. The theoretical rationale and hypotheses conclude the chapter.

Theories of Resilience

Developmental theories of resilience.

Masten, Best, and Garmezy (1990) defined resilience as the capacity for successful adaptation despite challenging or threatening situations. They described resilience as a developmental process that shifts relative to changes in cognition, emotion, and the social environment. Resilience is further described as three distinct phenomena (a) good developmental outcomes despite high cumulative risks, (b) sustained competence or functioning well, and (c) recovery from trauma to normal functioning. According to Masten et al., when faced with significant stress, resilient children successfully adapt despite the likelihood of poor developmental outcomes, such as psychological problems and unsuccessful school performance. Resilience is not a discrete personal quality that children either possess or do not possess. It is a dynamic quality that varies in intensity at different life points depending on the interaction with and accumulation of individual and environmental factors.

According to Garmezy (1991), resilience is the ability to spring back, recoil, and rebound from adversity. Garmezy (1991) described resilience as "functional adequacy

despite displaying a negative affect or interfering emotionality" (p. 463). According to Garmezy, the construct of resilience is designed to represent a developmental reality that many children exposed to adversities continue to strive to make positive adaptation to stress. For Garmezy, the benchmark of resilience is competent functioning under stress whereby individuals are able to return to pre-stress levels of adaptation when confronted with adversity. Resilience does not imply invulnerability to stress, but instead connotes the ability to recover from stressful situations.

Egeland, Carlson, and Sroufe (1993) described resilience as a transactional developmental process. Within an organizational-developmental framework, they conceptualized resilience as the ability to utilize internal resources, such as confidence, and external resources, such as family support, to successfully function in the face of adversity. According to Egeland et al., resilience occurs over time and across phases of development and in the context of environmental support. At any given point in the lifespan, individual or environmental factors may serve as vulnerabilities, risks, or protective factors.

Resilience is defined by Liddle (1994) as a contextual phenomenon that shapes the way individuals cope in the face of adversity. According to Liddle, resilience is individualized by such factors as culture, ethnicity, and stage of development. Liddle stated that resilience is not a personality trait but a series of coping responses of the individual as he or she interacts with the environment. Resilience is not uniform across developmental levels so that childhood resilience may differ from adolescent resilience and from adult resilience. Werner and Smith (2001) defined resilience as the "ability to bounce back" from adversity. Resilience is described as an innate self-righting mechanism. Resilience is further described as a dynamic process that includes an interaction between risk and protective factors that are both internal and external to the individual. Risk factors are biological, such as perinatal problems, psychological, such as parental alcoholism, and socioeconomic, such as chronic poverty. According to Werner and Smith, protective factors are found on individual, family, and community levels. Examples include an easy temperament, family support, and community support. Resilience occurs developmentally as early as infancy and occurs at different points in the developmental life cycle as individuals are confronted with adversity.

According to Masten (2001), resilience is defined as good outcomes in the face of serious threats to adaptation or development. Resilience is not an extraordinary coping ability. Instead, resilience is described as a process that is common and ordinary resulting from the operation of basic adaptation systems during different stages of development. Resilience implies that basic human adaptation systems are protected and that, despite adversity, there is robust development.

Bonanno (2004) defined adult resilience as the ability to maintain a stable trajectory of healthy psychological and physical functioning. Resilient adults who face risky experiences are able to adapt and function. Bonanno differentiates adult resilience from childhood resilience in that adult adversity may be more isolated, but highly disruptive. He also differentiated resilience from recovery in that recovery connotes a trajectory whereby normal functioning gives way to sub-threshold functioning and gradually returns to pre-event levels. Resilience, on the other hand, is described by Bonnano as the ability to maintain a stable equilibrium in the face of adversity.

Personality theories of resilience.

Wagnild and Young (1990) conceptualized resilience as a personality trait of personal strength. Resilient individuals possess: (a) equanimity, a balanced perspective of life; (b) perseverance, persistence despite adversity; (c) self-reliance, a belief in themselves; (d) meaningfulness, a purpose in life; and (e) existential aloneness, the realization that one is unique and must face some situations alone.

According to Connor and Davidson (2003), resilience is the embodiment of personal qualities that allow individuals to thrive in the face of adversity. It is a multidimensional characteristic that differs with context, age, as well as individuals as they are subjected to varying life events. Resilience is described as a stress-coping measure of the individual. When confronted with disruption, the individual re-integrates leading to successful adaptation.

Ong, Bergman, Bisconti, and Wallace (2006) defined resilience as the ability to recover effectively from daily stress. Resilience is described as an ego-resilient trait or an individual disposition that allows individuals to successfully adapt to daily adversities. According to Ong et al., positive emotions are an integral component of trait resilience and, positive emotions are described as determination, enthusiasm, and strength.

Roth and Von Colliani (2007) defined resilience as a personality trait that protects against the adversities of life. They described the resilient individual as flexible, resourceful, and inventive as they confront life distress.

Process theories of resilience.

Rutter (1987) described resilience as a dynamic process that incorporates risks and protective factors that may be internal or external to the individual. According to Rutter, resilience is not a fixed personality trait. Rutter described resilience as the ability of individuals to overcome risk and adversity. Resilience is not the avoidance of risks, but is the culmination of successfully coping with exposure to risk. Rutter theorized that resilience varies among individuals with some overcoming life's hazards while others succumbing to them. The process of resilience is also described as relative and developmental in that it may change according to the situation and the stage in life. Individuals who cope successfully with adversity at one point in life may react adversely to stressors at another point in life.

Dyer and McGuiness (1996) defined resilience as a global term indicating a rebounding from hardship. Dyer and McGuiness (1996) described resilience as a dynamic process influenced by protective factors such as (a) genetic endowment, (b) exposure to and experience with adversity or challenges, (c) a desire to make the best in life or to succeed, and (d) the presence of natural mentors or influential role models allowing individuals to "bounce back from adversity and go on with their lives" (p. 277). Thus, resilience provides a promise of something good happening in the midst of extreme stress. According to Dyer and McGuiness, protective factors are found within the individual or the interpersonal or family environment.

Hjemdal, Friborg, Stiles, Rosenvinge, and Martinussen (2006) defined resilience as the protective factors, processes and mechanisms that contribute to good outcomes despite adversity. They conceptualized resilience as a dynamic process that includes individual attributes, family support, and external support systems. According to Hjemdal et al., individual attributes included perception of self, a planned future, and social competence; family support included family cohesion; and, social resources are those supports found in the community. This conceptualization of resilience is the basis of this study.

Silk et al. (2007) described resilience as a dynamic process where positive adaptation occurs in the context of adversity. They conceptualized the process of resilience as continuous, active, and changing with developmental transitions when new risks, vulnerabilities, and emerging strengths emerge. Protective factors are biologic and social, including lower stress reactivity, and positive social interactions. According to Silk et al., resilience occurs when the individual confronts new risks and established protective factors are challenged leading to successful adaptation.

Lastly, Windle (2011) defined resilience as effectively negotiating, adapting to, or managing significant sources of stress or trauma. According to Windle, the experience of "bouncing back" or resilience varies along the lifespan. Assets within the individual and the environment facilitate adaptation.

In summary, developmental, personality, and process theorists agree that resilience is the capacity for successful adaptation despite adversity. Developmental theorists described resilience as the good developmental outcomes of competence and functional adequacy. They also described resilience as bouncing back, common and ordinary, and the ability to maintain equilibrium throughout development (Bonanno, 2004; Garmezy, 1991; Masten, 2001; Masten et al., 1990; Werner & Smith, 2001). Developmental theorists also stated that resilience develops over time, and is conceptualized as contextual and a series of coping strategies that changes according to developmental levels (Egeland et al., 1993; Liddle, 1994). Personality theorists defined resilience as a personality trait of strength, a multidimensional personality characteristic, and a personality type (Connor & Davidson, 2003; Roth & von Collani, 2007; Wagnild & Young, 1990). Finally, process theorists described resilience as a dynamic process incorporating risk and protective factors, relative to stress and stage in life, and varying along the lifespan (Dyer & McGuiness, 1996; Hjemdal et al., 2006; Rutter, 1987; Windle, 2011).

Descriptive Theories of Adolescent Resilience

Adolescent resilience is defined by Luthar (1991) as a continuum of successful experiences in negotiating developmental tasks in the face of adversity. When exposed to stressors, some adolescents develop psychological difficulties while others faced with the same adversities develop into well-adapted individuals. Resilient adolescents demonstrate successful coping regardless of the presence of distressing emotion.

Fergus and Zimmerman (2005) described adolescent resilience as a process of overcoming the negative effects of risks and coping successfully. Resilient adolescents utilize promotive factors after risks occur. Promotive factors are either assets internal to the individual such as competence, coping skills, and self-efficacy or resources external to the individual, such as community service organizations, and parental support. Fergus and Zimmerman described adolescent resilience as a dynamic characteristic that may or may not be present to any great degree. Conceptually, adolescent resilience is focused on strengths rather than deficits and on healthy development in spite of risk exposure. Ahern (2006) defined adolescent resilience as the process of adaptation to risk. Resilience is conceptualized as a combination of qualities, including individual attributes, sources of support, and available resources. Conceptually, Ahern described resilience as incorporating internal risk factors such as easy going temperament, intellectual capabilities, and self esteem, and external risk factors such as community resources, and positive family environment.

Zimmerman and Brenner (2010) defined adolescent resilience as the ability to successfully cope. Theoretically, adolescent resilience incorporates an experience of adversity and the use of promotive factors after risks occur. Further, resilience is common and not an extraordinary phenomenon. Hjemdal, Aune, Reinfjell, Stiles, and Friborg (2007) stated that adolescent resilience encompasses protective factors and processes that enable individuals to have good outcomes despite exposure to adversity.

In summary, adolescent resilience is described as a continuum of success in negotiating developmental tasks (Luthar, 1991). Resilience is conceptualized as incorporating internal and external risk factors and individual and socio-cultural protections (Ahern, 2006; Fergus & Zimmerman, 2005; Hjemdal et al., 2007; Zimmerman & Brenner, 2010). Thus, adolescent resilience is important to overcoming adversities and successful development and adaptation.

Theories of Hope

Korner (1970) defined hope as a positive occurrence, which is necessary for healthy coping. According to Korner, hope offers relief from despair, a power in coping with permanent stress, and a guideline to future events. Hinds (1984), using grounded theory methodology, defined adolescent hope as the belief "that a personal tomorrow exists" (p. 360). According to Hinds, adolescent hope spans four hierarchical levels: (a) forced effort, an attempt to take on a positive view; (b) personal possibilities, the belief that one has second chances; (c) expectation of a better tomorrow, a positive, but non-specific future orientation; and (d) anticipation of a personal future, the identification of constructive future possibilities. Hinds further described adolescent hope as occurring in incremental hierarchal levels proceeding from lower to higher degrees of functioning. This conceptualization of hope is the basis for studying hope in the present research study.

Dufault and Martocchio (1985) described hope as a complex of many thoughts, feelings, and actions. They conceptualized hope as process-oriented and multidimensional rather than trait-oriented or unidimensional. According to Dufault and Martocchio, hope engenders confidence of achieving a realistic and future goal that is possible and significant to the hoping individual.

Snyder (2002) defined hope as the capability to derive pathways to desired goals and motivate oneself via agency thinking to use those pathways. Snyder proposed that hope is goal-directed. According to Snyder, pathway thinking helps individuals link present goals to imagined futures. Agency thought is the capacity to use pathways to reach goals.

Hendricks and Hendricks (2005) described hope as a method of coping that helps individuals deal with stressful situations. According to Hendricks and Hendricks, hope is based on the perception of goals, solutions, and probabilities of success.

Sachse (2007) defined hope as a multidimensional construct arising from memories, beliefs, and values. Sachse stated that hope can be a genetically acquired temperament and a dynamic mental process that has emotional, behavioral, and physiological outcomes. According to Sachse, hope is unique to each individual while universal to all.

Scioli, Ricci, Nyugen, and Scioli (2011) defined hope as a future oriented, fourdimensional emotion network, arising from biological, psychological and social resources. Scioli et al. described hope as an emotion invariably associated with one or more of the following life systems: mastery, attachment, survival, or spirituality. They described hope as a network designed to regulate the aforementioned systems.

In summary, hope is defined as the belief in a personal future, occurring in incremental hierarchal levels proceeding from lower to higher degrees of functioning (Hinds, 1984). Additionally, hope has been described as a positive occurrence (Korner, 1970), a belief that a future goal is possible (Dufault & Martocchio, 1985; Hinds, 1984; Sachse, 2007; Scioli et al., 2011), and a method of coping (Hendricks & Hendricks, 2005). According to Snyder (2002), an assumption of hope theory is that it is goaldirected, containing pathway and agency thinking.

Explanatory theory suggests that resilient individuals are hopeful. Garmezy (1991) suggested that resilient adults who experienced childhood adversity often displayed personal strengths such as hope. Werner and Smith (1992) stated that individuals who exhibit resilience are hopeful in that no matter what the adversity, they believe it can be surmounted. Dyer and McGuiness (1996) suggested that resilience evokes a promise of something good resulting from adversity, and hope exists within

adversity. Butler (1997) stated that resilience is a visible sign of a network of relationships that teach people hope. Scudder, Sullivan, and Copeland-Linder (2006) suggested that resilient adolescents exhibit hope. Edward, Welch, and Chater (2009) stated that resilience enables individuals to maintain a sense of hopefulness.

In summary, theory suggests that hope is an outcome of resilience (Butler, 2007; Dyer & McGuiness, 1996; Edward et al., 2009; Garmezy, 1991; Scudder et al., 2006; Werner & Smith, 1992). Theorists posit that resilient individuals are hopeful (Dyer & McGuiness, 1996; Garmezy, 1991; Scudder et al., 2006; Werner & Smith, 1992). Resilient individuals are taught hope through a network of relationships (Butler, 1997). Resilience also allows individuals to maintain a sense of hopefulness (Edward et al., 2009).

Empirical Studies Linking Resilience to Hope

Polk (2000) examined the relationship between resilience and hopefulness in a sample of 232 undergraduate students, aged 18 to 25. The students completed the Personal Resilience Questionnaire and the Nowotny Hope Scale, which is designed to measure hope. Polk reversed scored the responses to the Nowotny Hope Scale in an effort to measure hopelessness. She reported a negative correlation between resilience and hopelessness (r = -.72, p < .001).

Craig (2005) studied the relationship between resilience and hope in a sample of 137 women, aged 40 to 70, diagnosed with breast cancer. The participants responded to the Resilience Scale and the Herth Hope Index. Craig found a positive relationship between resilience and hope (r = .72, p < .001).

Collins (2009) examined the relationship between resilience and hope in a sample of 537 undergraduate college students, aged 18 to 33. The participants responded to the Resilience Scale for Adults and The Hope Scale. Collins reported a positive relationship between resilience and hope (r = .57, p < .001).

In summary, several researchers have examined the relationship between resilience and hope and reported moderately strong to strong positive relationships between the two variables in women with breast cancer (Craig, 2005), and undergraduate students (Collins, 2009). These aforementioned findings lend support to theory proposing a relationship between resilience and hope. Polk (2000) found a strong negative relationship between resilience and hopelessness, after reverse scoring an instrument designed to measure hope. No studies had examined the relationship between resilience and hope in adolescents, which was done in the present study.

Theories of Well-Being

Columbo (1984) conceptualized adolescent general well-being as a complex construct having three indiscrete dimensions (a) physical, (b) social, and (c) psychological. He posited that relative well-being on one dimension may increase or decrease wellness on another dimension. According to Columbo, each of the dimensions of general well-being has subcomponents. He conceptualized physical well-being as physical health, and perceived health status. Social well-being was viewed as having the sub-area of interpersonal interactions and relationships. Mental/psychological well-being was conceptualized as positive well-being, less depression, and less anxiety. Columbo's conceptualization of well-being underlies the current study.

Diener (1998) described well-being as individuals' evaluation of their lives, including cognitive judgments and affective appraisals. He stated that subjective wellbeing (SWB) has several dimensions, including life satisfaction, the presence of positive affect, and the virtual absence of negative affect. According to Diener, these components of SWB may occur together to form a broad factor of SWB, or they may diverge and be evaluated separately.

Weisner (1998) defined child well-being as the ability to successfully and innovatively participate in routine activities that are deemed important by a community, such as attending school. Further, Weisner proposed that well-being is also a state of mind that is produced by participating in the routine activities of the community, such as participation in recreational athletics, and attending school.

Vernon (2008) defined well-being as "the search for a good life" (p. 6). Vernon described well-being as thriving in everyday circumstances and finding meaning in life. According to Vernon, well-being is cultivated by the search for the good life and encompasses transcendence beyond happiness, pleasure, duty, and virtue; this includes a search for a deeper purpose within oneself, which leads to well-being.

In summary, well-being is conceptualized as a complex state encompassing physical, social, and psychological dimensions (Columbo, 1984), a cognitive and affective appraisal of one's life (Diener, 1998), and as thriving and finding meaning in life (Vernon, 2008). Well-being has also been defined as a state of mind while participating in routine community activities (Weisner, 1998).

Explanatory theory suggests that well-being is an outcome of resilience. According to Masten et al. (1990), resilience is related to adaptation, usually defined as provisions of effective functioning and states of well-being. In her adolescent resilience model, Haase (2004) proposed that quality of life, conceptualized as a sense of wellbeing, is an outcome of resilience. Haase suggested that a resilient outcome enhances well-being. Srivastava and Sinha (2005) theorized that resilience might be considered an important variable that contributes to well-being and happiness. According to Unger and Liebenberg (2005), "...resilience is both the capacity of individuals to navigate their way to health-sustaining resources, including opportunities to experience feelings of well-being..." (p. 225). Edward (2005) proposed a theoretical link between resilience and well-being. Edward explained that resilient individuals take good care of themselves and the activities involved promote a sense of well-being. Finally, Knight (2007) theorized that resilience suggests that we can encounter adversity and achieve successful life outcomes, leading to a sense of well-being.

Explanatory theories also propose that well-being is an outcome of hope. Korner (1970) theorized that individuals perceive that hope must occur for their well-being. Muyskens (1979) proposed that hope is connected to and impacts individual's well-being. Dufault and Martocchio (1985) suggested that individuals who hope have a belief that hoped-for events have importance to their well-being. Hinds (1988) proposed that hopefulness contains biological and psychological factors, and that hopefulness influences well-being. Snyder (2002) theorized that hope is goal-directed and when there is lack of progress towards goals, there is less well-being. Ojala (2005) stated that the emotion of hope might function as a buffer preventing a high degree of worry and/or anxiety from turning into low well-being. Ojala explained that in the face of threats and worries, possessing hope is related to a high degree of well-being. Ojala posited that hope acts as a buffer against stress and having hope leads to a high degree of well-being.

Miceli and Castelfranchi (2011) suggested that the motivational aspects of hope seem to play a crucial role in fostering well-being.

In summary, theoretical literature suggests that well-being is an outcome of resilience (Edward, 2005; Haase, 2004; Knight, 2007; Masten et al., 1990; Srivastava & Sinha, 2005; Unger & Liebenberg, 2005). Theory also suggests that well-being is an outcome of hope (Dufault & Martocchio, 1985; Korner, 1970; Muyskens, 1979). Hope is theorized as being related to an individual's well-being (Dufault & Martocchio, 1985; Snyder, 2002). Ojala (2005) proposed that hope is an individual's positive orientation contributing to well-being and is a buffer preventing worry and threat from turning into low well-being. These theories suggest that both resilience and hope are directly related to well-being and that resilience is indirectly related to well-being through hope.

Empirical Studies of Resilience and Well-Being

Christopher and Kulig (2000) examined the relationship between resilience and psychological well-being in a sample of 100 Irish immigrants, aged 18 to 44. The participants responded to the Resilience Scale and the General Well-Being Scale. The results showed a positive correlation between resilience and psychological well-being (r = .42, p < .01).

In a study of 215 African American college students, aged 18 to 26, Utsey, Hook, Fischer, and Belvet (2008) examined the relationship between ego resilience and subjective well-being. Participants responded to the Ego-Resiliency Scale, and the Satisfaction with Life Scale, measuring an index of subjective well-being. Results demonstrated a positive relationship between ego-resilience and satisfaction with life (r = .31, p < .01).
Khan and Husain (2010) investigated the relationship between positive psychological strengths, one of which was resilience, and subjective well-being in a sample of 180 engineering students, aged 18 to 23. Participants responded to a subscale of the Positive Psychological Strengths Questionnaire, measuring resilience, and the Satisfaction with Life Scale, measuring an index of subjective well-being. The results showed a weak, but statistically significant positive correlation between resilience and well-being (r = .21, p < .01).

In summary, one study examined the relationship between resilience and wellbeing (Christopher & Kulig, 2000). Christopher and Kulig (2010) found a moderate correlation between resilience and psychological well-being in adults. Researchers also found that resilience is weakly and positively associated with satisfaction with life, an index of well-being in college students (Khan & Husain, 2010; Utsey et al., 2008). These findings lend support to the theoretical relationship between resilience and well-being, or an index of well-being. No studies had examined the relationship between resilience and general well-being in adolescents, which was done in this study.

Empirical Studies of Hope and Well-Being

Yarcheski, Scoloveno, and Mahon (1994) studied the relationship between hope and general well-being, in a sample of 99 high school students, aged 15 to 17. Participants responded to the Hopefulness Scale for Adolescents (HSA) and the short version of the Colombo Adolescent General Well-Being (AGWB) Questionnaire. The results demonstrated a positive relationship between hopefulness and well-being (r = .60, p < .001). Magaletta and Oliver (1999) studied the relationship between hope and general well-being in a sample of 204 college students, aged 17 to 50. Participants responded to the Hope Scale and the General Well-Being Questionnaire. As predicted, the findings showed that hope was positively related to general well-being (r = .60, p < .001).

Yarcheski, Mahon, and Yarcheski (2001) examined the relationship between hope and well-being in a sample of 142 early adolescents, aged 12 to 14. Participants responded to the HSA and the short version of the Colombo AGWB Questionnaire. Yarcheski et al. found a strong positive relationship between hopefulness and well-being (r = .68, p < .001).

Hendricks-Ferguson (2001) studied the relationship between hope and general well-being, in a sample 78 adolescents diagnosed with cancer, aged 13 to 20. The subjects responded to the HSA and the AGWB Questionnaire for adolescents. The researcher found a statistically significant, positive correlation between hope and general well-being (r = .45, p < .01).

In summary, studies have supported a fairly strong relationship between hope and well-being in middle adolescents (Yarcheski et al., 1994), early adolescents (Yarcheski et al., 2001), college students (Magaletta & Oliver, 1999), and a moderate relationship in adolescents diagnosed with cancer (Hendricks-Ferguson, 2001). These findings support theories that propose a relationship between hope and well-being. This relationship was examined in middle adolescents in the present study.

Theories of Health Behaviors

Kasl and Cobb (1966) defined health behavior as "any activity undertaken by a person believing himself to be healthy, for the purposes of preventing disease or detecting

it in an asymptomatic stage" (p. 246). According to Kasl and Cobb, health behavior is distinguished from illness or sick-role behaviors in that individuals perceive themselves as healthy and engage in lifestyle behaviors to maintain health and prevent illness.

Harris and Guten (1979) expanded the definition to include health behavior of symptomatic individuals as well as asymptomatic individuals. Harris and Guten conceptually defined health behavior as a broad category of behaviors that protect, promote, or maintain general health. According to Harris and Guten, these behaviors, labeled health protective behaviors, are practiced by individuals because of the perception that the behavior has a health protective possibility. Harris and Guten proposed that health protective behaviors are found in five clusters: (a) health practices, composed of personal daily health activities; (b) safety practices, those that prevent or help one cope with accidents; (c) preventive health care, including physical and dental examinations; (d) environmental hazard avoidance, or avoidance of areas of high crime and pollution; and (e) harmful substance avoidance, such as drinking and smoking.

Brown, Muhlenkamp, Fox, and Osborn (1983) defined positive health practices as those behaviors that affect one's health. Brown et al. identified a cluster of behaviors that compose positive health practices, and conceptualized positive health practices as the composite of (a) exercise, (b) nutrition, (c) relaxation, (d) less substance use, (e) safety, and (f) prevention practices.

Allen and Warner (2002) suggested that health is fostered through lifestyle behaviors that enable individuals and families to function to their maximum potential. Allen and Warner posited that individuals learn how to be healthy through their coping and growth-seeking behaviors. These behaviors include seeking additional knowledge, goal setting, and practicing health behaviors such as increased physical activity, weight control, and relaxation.

Pender, Murdaugh, and Parsons (2010) defined health promotion as behaviors that include a healthy lifestyle, motivated by individuals' desire to increase their health potential for productive living and improved health. Pender et al. defined healthpromoting lifestyle as activities that influence health status and are conceptualized as encompassing health responsibility, physical activity, nutrition, spiritual growth, interpersonal relationships, and stress management. A tenet of Pender et al.'s conceptualization is that in all stages of development, individuals have the ability to improve their health by practicing a health-promoting lifestyle. This conceptualization underlies the present study.

In summary, health behaviors are conceptualized as health practices undertaken to prevent disease, promote and affect health in either symptomatic or asymptomatic individuals (Brown et al., 1983; Harris & Guten, 1979; Kasl & Cobb, 1966; Pender et al., 2010). Theorists have posited that health behaviors exist as a cluster of health-promoting behaviors or practices that affect health. These include a wide variety of activities that can be performed by all individuals, irrespective of their health status. Individuals learn to be healthy through positive lifestyle behaviors (Allen & Warner, 2002; Pender et al., 2010).

Explanatory theory suggests that health practices and behaviors are an outcome of resilience. Stewart, Reid, and Mangham (1997) suggested that resilience contributes to health behaviors such as proper nutrition, exercise, and avoidance of smoking and alcohol use in children and adolescents. According to Benard (2004), youth resilience is

comprised of protective factors, needs, and strengths leading to improved health practices. Black and Ford-Gilboe (2004) proposed that resilience leads to participation in health-promoting behaviors such as increased physical activity and proper nutrition in adolescent mothers. Edward (2005) described resilient individuals as those who care for themselves by exercising, relaxing, eating a balanced diet, and getting adequate sleep. Ahern (2006) proposed that resilience can be expressed in positive behaviors, such as health promotion. According to Ahern, the knowledge of positive health behavior protects the adolescent from participation in high risk health behaviors.

Explanatory theory also proposes that health practices are an outcome of hope. According to Dufault and Martocchio (1985), hope is a crucial resource throughout life in relation to the health or illness. They suggested that hope fosters action in individuals, such as fostering health-promoting practices. Brown (1994) stated that hope enables individuals to view situations as challenging rather than threatening leading to healthy lifestyle behaviors. Hendricks (1998) proposed that the level of adolescent hope influences the likelihood to practice a health-promoting lifestyle, such as safer sexual practices and proper nutrition. Kia-Keating, Dowdy, Morgan, and Noam (2011) posited that hope is a protective factor that increases the likelihood of adolescent positive health behaviors.

In summary, theoretical literature suggests that health practices are an outcome of resilience. Theorists have proposed that resilience is related to health-promoting behaviors (Ahern, 2006; Benard, 2004; Black & Ford-Gilboe, 2004; Edward, 2005; Stewart et al., 2007). Theory also suggests that health practices are an outcome of hope (Brown, 1994; Dufault & Martocchio, 1985; Hendricks, 1998; Kia-Keating et al., 2011).

Theorists have proposed that hope fosters health promotion, and directly influences health behaviors, enabling individuals to view situations as challenging rather than threatening (Brown, 1994; Dufault & Martocchio, 1985). These theories suggest that resilience is directly related to health practices and that hope is directly related to health practices. Therefore, resilience is indirectly related to health practices through hope.

Empirical Studies of Resilience and Health-Promoting Lifestyle

Several studies have examined the relationship between resilience and a variety of variables measuring health behaviors. They include self-care practices and healthpromoting lifestyle.

In a study of 100 adolescents, aged 13 to 18, Solem (2001) examined the relationship between self-care practices, such as eating breakfast and exercising, and resilience abilities. The participants responded to the Denyes Self-Care Practices Instrument and the Solem Adolescent Resilience Abilities Scale, which measures domains of the resilience concept such as rebounding, surviving, and persevering. Positive relationships between self-care practices and specific resilience abilities, such as the ability to confide in another were found ($r_s = .06 - .35$, $p_s < .05$). Specifically, in relation to self care practices, the strongest resilient indicators were "the ability to change decisions when needed" (r = .48, p < .05), "the ability to ask for help"

(r = .34, p < .05), and "the ability to depend on their own resources" (r = .34, p < .05).

Monteith and Ford-Gilboe (2002) examined the relationship between resilience and health-promoting practices in a sample of 67 mothers of preschool children, aged 27 to 44. The mothers responded to the Resilience Scale (RS) and the Health-Promoting Lifestyle Profile II (HPLP-II), a measure of health-promoting lifestyle, such as physical activity. A positive relationship was found between mothers' resilience and healthpromoting lifestyle (r = .42, p < .05).

Wagnild (2003) examined the relationship between resilience and healthpromoting practices in 342 adults with a mean age of 70.9 years. The participants responded to the RS and the HPLP-II. A strong positive relationship between resilience and health-promoting lifestyle was found (r = .53, p < .001).

Black and Ford-Gilboe (2004) studied the relationship between resilience and health-promoting practices in 41 adolescent mothers, aged 18 to 23. The participants responded to the RS and the HPLP-II. A moderately strong positive relationship was found between mother's resilience and health-promoting lifestyle (r = .62, p < .001).

In summary, studies have examined the relationship between resilience and health practices using several measures of health behaviors. Researchers have reported a positive relationship between resilience and health-promoting lifestyle in mothers of preschool children (Black & Ford-Gilboe, 2004), adolescent mothers (Monteith & Ford-Gilboe, 2002), and between resilience and self-care practices in adolescents, aged 13 to 18 (Solem, 2001). These findings give support to theories that suggest health practices are related to resilience. This relationship was examined in the present study.

Empirical Studies of Hope and Health Behaviors

Several studies have examined the relationship between hope and a variety of variables measuring health behaviors. They include positive health practices and health-promoting lifestyle.

Mahat, Scoloveno, and Whalen (2002) studied the relationship between hope and positive health practices in a sample of 65 urban adolescents, aged 15 to 17. The

participants responded to the Hopefulness Scale for Adolescents (HSA) and the Personal Lifestyle Questionnaire (PLQ). The results showed a positive correlation between hope and positive health practices (r = .35, p = .01).

In a sample of 134 adolescents, aged 12 to 14, Mahon, Yarcheski, and Yarcheski (2004) investigated the relationship between hope and positive health practices. The adolescents responded to the HSA and the PLQ. The findings revealed a positive relationship between hope and positive health practices (r = .54, p < .001.)

Hendricks and Hendricks (2005) studied the relationship of hope and healthpromoting lifestyle in a sample of 168 student athletes attending historically Black colleges, aged 18 to 26. The participants responded to the Adolescent Hope Scale (AHS) and the Adolescent Lifestyle Profile (ALP), which measures health-promoting behaviors. The results showed that hope was positively related to adolescent health-promoting lifestyle (*Beta* = .35, p < .001).

Hendricks, Murdaugh, and Pender (2006) examined the relationship between hope and health-promoting behaviors in a sample of 207 early adolescents, aged 10 to 15. The adolescents responded to the AHS and the ALP. The findings demonstrated a moderately strong positive correlation between hope and adolescent health-promoting lifestyle (r = .60, p = .001).

In summary, researchers have examined the relationship between hope and positive health practices and reported a moderate to moderately strong relationship between the two variables in high school students and urban adolescents, aged 15 to 17 (Mahat et al., 2002), and adolescents, aged 12 to 14 (Mahon et al., 2004). In addition, researchers have reported moderately strong positive correlations between hope and health-promoting lifestyle in student athletes, aged 18 to 26 (Hendricks & Hendricks, 2005) and in early adolescents, aged 10 to 14 (Hendricks et al., 2006). These findings give support to the theoretical relationship between hope and health behaviors, which was examined in the present study.

Theoretical Rationale

Resilience is defined as multidimensional, consisting of protective factors and processes that contribute to successful outcomes in the face of adversity (Friborg et al., 2003). Hjemdal et al. (2006) conceptualized resilience as a dynamic process that includes individual attributes, family support, and external support systems. Hjemdal et al. (2006) posited that resilience encompasses a perception of self, social competence, family cohesion, and support found in the community.

Adolescent resilience is described as a continuum of success in negotiating developmental tasks (Luthar, 1991). Adolescent resilience is conceptualized as incorporating internal and external risk factors and individual and socio-cultural protections (Ahern, 2006; Fergus & Zimmerman, 2005; Hjemdal et al., 2006; Zimmerman & Brenner, 2010).

Hope has been postulated to be an outcome of resilience. Hinds (1984) defined hope as the belief that a personal future is possible. Hinds conceptualized adolescent hope as having the hierarchal levels of forced effort, personal possibilities, expectation of a better tomorrow, and the anticipation of a personal future. Theorists have proposed that resilient individuals are hopeful (Butler, 1997; Dyer & McGuiness, 1996; Garmezy, 1991; Scudder et al., 2006; Werner & Smith, 1992). Edward et al. (2009) proposed that resilience enables individuals to maintain a sense of hopefulness. Empirical studies have supported a positive relationship between resilience and hope in various samples, such as women with breast cancer (Craig, 2005), and college students (Collins, 2009). Research findings also indicate that resilience is inversely correlated with hopelessness (Polk, 2000). Based on theory and research, resilience is hypothesized to have a positive relationship to hope.

Resilience has also been theorized to have a direct effect on well-being and that well-being is a consequence of resilience. Columbo (1984) conceptualized adolescent general well-being as a complex construct having three indiscrete dimensions (a) physical, (b) social, and (c) psychological. Theorists have proposed that resilience is directly related to states of well-being (Masten et al., 1990), and quality of life, conceptualized as a sense of well-being (Haase, 2004). Srivastava and Sinha (2005) posited that resilience contributes to well-being. Theorists have explained that resilient individuals take good care of themselves, which leads to well-being, that they create opportunities to experience well-being (Edward, 2005; Knight, 2007; Unger & Liebenberg, 2005). Empirical studies have provided support for the theorized relationship between resilience and well-being (Christopher & Kulig, 2000; Khan & Husain, 2010; Utsey et al., 2008). Based on theory and previous research, resilience is hypothesized to be positively related to well-being.

Explanatory theories also proposed that well-being is an outcome of hope. Theorists have proposed that individuals perceive that hope must occur for their wellbeing (Korner, 1970), that hope is connected to well-being (Muyskens, 1979), and that hopeful individuals have a belief that hoped-for events influence well-being (Dufault & Martocchio, 1985). Theorists have postulated that hope leads to a high degree of wellbeing (Ojala, 2005), that hope is goal- directed, leading to well-being (Snyder, 2002), that hope plays a crucial role in fostering well-being (Miceli & Castelfranchi 2011), and that adolescent hopefulness influences well-being (Hinds, 1988). Research has supported a fairly strong relationship between hope and well-being in middle adolescents (Yarcheski et al., 1994), early adolescents (Yarcheski et al., 2001), college students (Magaletta & Oliver, 1999), and a moderate relationship in adolescents diagnosed with cancer (Hendricks-Ferguson, 2001). Based on theory and research, hope is hypothesized to be positively related to well-being. Because resilience has a direct effect on hope, and hope has a direct effect on well-being, resilience has an indirect effect on well-being via hope.

Health practices are an outcome of resilience defined as activities that promote, protect, influence, or maintain health (Harris & Guten, 1979; Pender et al., 2010). Brown et al. (1983) conceptualized positive health practices as the composite of (a) exercise, (b) nutrition, (c) relaxation, (d) less substance use, (e) safety, and (f) prevention practices. Pender et al. (2010) conceptualized positive health practices as a health-promoting lifestyle, which includes (a) health responsibility, (b) physical activity, (c) nutrition, (d) interpersonal relationships, (e) spiritual growth, and (f) stress management.

Theorists have suggested that resilience contributes to health behaviors such as proper nutrition (Stewart et al., 1997), that resilient individuals care for themselves through exercise (Edward, 2005), and that resilience can be expressed in positive behaviors such as health promotion (Ahern, 2006). Benard (2004) proposed that youth resilience is comprised of protective factors, which lead to improved health practices. Empirical studies have supported a positive relationship between resilience and healthpromoting lifestyle in mothers of preschool children (Black & Ford-Gilboe, 2004), adolescent mothers (Monteith & Ford-Gilboe, 2002), and between resilience and self-care practices in adolescents (Solem, 2001). Based on theory and research, resilience is hypothesized to be positively related to health behaviors.

Explanatory theory also proposed that health practices are an outcome of hope. Dufault and Martocchio (1985) suggested that hope fosters action in individuals, such as performing health-promoting practices. Brown (1994) explained that hope enables individuals to view situations as challenging rather than threatening leading to healthy lifestyle behaviors. Hendricks (1998) proposed that the level of adolescent hope influences the likelihood to practice a health-promoting lifestyle. Kia-Keating et al. (2011) posited that hope is a protective factor that increases the likelihood of adolescent positive health behaviors. Empirical studies have provided support for the theorized relationship between hope and positive health practices in urban adolescents, aged 15 to 17 (Mahat et al., 2002), and early adolescents, aged 12 to 14 (Mahon et al., 2004). Research has also supported positive relationships between hope and health-promoting lifestyle in college students (Hendricks & Hendricks, 2005) and in adolescents (Hendricks et al., 2006). Based on theory and research, it is hypothesized that hope is positively related to health behaviors. Because resilience has a direct effect on hope and because hope has a direct effect on health behaviors, resilience has an indirect effect on health behaviors via hope. Figure 1 presents the just-identified model of the healthrelated outcomes of resilience.

Hypotheses

In middle adolescents:

1. Resilience has a direct positive effect on hope.

- 2. Resilience has a direct positive effect on well-being.
- 3. Resilience has a direct positive effect on health-promoting lifestyle.
- 4. Hope has a direct positive effect on well-being.
- 5. Hope has a direct positive effect on health-promoting lifestyle.
- 6. Resilience has an indirect effect on well-being through hope.
- 7. Resilience has an indirect effect on health-promoting lifestyle through hope.

.



Figure 1. Apriori Just-Identified Model of Health-Related Outcomes of Resilience

Chapter III

Methods

This chapter presents the research design of this study that examined the direct effect of resilience on (a) hope, (b) well-being, and (c) health-promoting lifestyle, and the direct effect of hope on (d) well-being, and (e) health-promoting lifestyle. Also, this research tested the indirect effect of resilience via hope on well-being and healthpromoting lifestyle. This chapter includes the discussion of (a) the research setting, (b) sample, (c) instruments, (d) and data collection methods.

Research Setting

The study was conducted in a large public high school located in a Northern New Jersey city. This city has a population of about 36,000 people, of whom approximately 50% are White, 28% are Latino, 10% are Black, 8% are Asian, and 4% list themselves as other. The public high school has an enrollment of about 1400 students, of which approximately 52% are Latino, 27% are White, 13% Asian, 7% are Black, and 1% list themselves as other. Also, about 30% of the students enrolled in the school are classified as economically disadvantaged. All data collection was conducted in classroom settings in the high school.

Sample

A non-probability, convenience sample was used in this study. Participants were comprised of high school students between the ages of 15 to17 who volunteered to participate in this study, with written consent from a parent/guardian, and who currently were attending high school in a northern New Jersey urban setting. All participants met the delimitations of the study as follows (a) middle adolescents, aged 15 to 17 (Duncan & Shaw, 2007), (b) currently enrolled and attending high school in an urban high school in northern New Jersey, (c) mentally and physically able to complete the study instruments, and (d) were able to read and comprehend the English language as evaluated by the teacher and communicated to the researcher. During the data collection procedure, 355 students were recruited to participate in the study. The final sample included 311 middle-adolescents, aged 15 to 17, who met the delimitations of the study as outlined above.

Sample size for testing the proposed model considered small to medium effect size based on previously reported empirical findings for relationships in the model, an alpha of .05, power of .80 (Cohen, 1988; Tabachnick & Fidell, 2001), and a suggested ratio of number-of-subjects to number-of-free parameters (n = 10) as 20:1 for structural equation models (Kline, 2011). Based on the above criteria, a sample of 200 subjects was required for assessing the proposed model.

Of the 355 middle-adolescents who were approached to participate in the study, 330 met the delimitations of the study as assessed by the researcher. Of these 330 middle adolescents, 325 verbally agreed to participate in the study and were given information packets to take home for their parent/guardian. Of the 325 students who initially agreed to participate in the study, 12 students were unable to participate due to lack of parental consent. Also, 2 students were uncooperative and unable to complete the packet. The final sample consisted of 311 middle-adolescents who had parental consent as well as student consent.

Of the 311 respondents in the final sample, 163 were adolescent males, and 148 were adolescent females. Their ages ranged from 15 to 17 (M = 16.1, SD = 1.66). Of the 311 participants, 24.1% were sophomores, 46.6% were juniors, and 29.3% were seniors.

Of the 311 respondents, approximately 12.5% were White, 17.4% were Black, 8.3% were Asian, 54.4% were Latino, and 7.4% reported "Other". Additionally, 47.6% of the participants stated that they participated in some form of organized athletics, while 52.4% stated that they did not participate in organized athletics. Also, 93.9% of students reported that they had no medical condition, while 6.1% reported having a medical condition. Of the 19 students reporting medical conditions, 4 had diabetes, 9 had asthma, 4 had attention deficit hyperactivity disorder (ADHD), and 2 had athletic injuries. Of the 311 participants, 84% reported that they did not participate in health-risk behaviors, while 3.2% reported smoking, 8.9% reported drinking alcohol, .3% reported unsafe sexual practices, 1.3% reported having a bad diet, 1% reported recreational drug use, and 1.3% reported "other". The demographic characteristics of the sample are summarized in Table 1.

Table 1.

С	haracteristic	Ν	Percentage	
Gender	Male Female	163 148	52.4 47.6	
Age				
	15	53	17	
	16	129	41.5	
	17	129	41.5	

Frequency Distribution of Selected Demographic Variables

(continued)

Characteris	tic	Ν	Percentage	
Grade				
	Sophomore	75	24.1	
	Junior	145	46.6	
	Senior	91	29.3	
Medical Condition				
	No	292	93.9	
	Yes	19	6.1	

Instruments

Resilience Scale for Adolescents.

The Resilience Scale for Adolescence (READ; see Appendix A) developed by Hjemdal, Friborg, Stiles, Rosenvinge, and Martinussen (2006) is a 28-item summated self-report scale measuring adolescent resilience. Adolescents respond to items on a 5point scale from 1 (*totally disagree*) to 5 (*totally agree*). Scores on the summated scale range from 28 to 140, with higher scores indicating higher resilience. All of the items are positively worded. According to Hjemdal (2007), the positively worded items are consistent with resilience theory, which emphasizes protective factors, rather than absence of risk.

Resilience Scale for Adults Development.

Hjemdal et al. (2006) adapted items on the READ directly from items on the Resilience Scale for Adults (RSA). The RSA (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003) was based on the definition of resilience as protective factors and processes that contribute to adaptation in the face of adversity. Friborg et al. conceptualized resilience as the ability to use individual skills, family, social, and external support to cope with stress. The RSA was further conceptualized as having five factors (a) personal competence, (b) social competence, (c) structured style, (d) family cohesion, and (e) social resources.

Hjemdal (2007) later described the content validity of the RSA. Content validity of the RSA was obtained through a literature review of protective factors, which yielded 13 categories and the development of 295 items. The 295 items on the RSA were reviewed by three psychologists, university professors, eight psychology students, and five laypersons, which resulted in the elimination of 100 items. Hjemdal stated that the remaining 195 items were administered to 134 university students. Their responses were subjected to an exploratory principal component factor analysis, resulting in a five-factor solution consisting of 45 items.

Friborg et al. (2003) obtained construct validity of the RSA, in a sample of 335 Norwegian adults, aged 18 to 75, by correlating the subscales of the RSA with the Sense of Coherence Scale (SOC) and The Hopkins Symptom Checklist-25 (HSCL). The results demonstrated significant positive correlations between SOC and the RSA subscales of personal competence (r = .75, p < .01), social competence (r = .44, p < .01), family coherence (r = .45, p < .01), social support (r = .29, p < .01), and personal structure (r=.33, p < .01). The results also indicated significant negative correlations between HSCL and the RSA subscales of personal competence (r = .61, p < .01), social competence (r = .32, p < .01), family coherence (r = ..37, p < .01), social support (r = ..19, p < .01), personal structure (r = ..21, p < .01). Further evidence of construct validity of the RSA was obtained by Friborg et al. (2003) through principal component factor analysis with varimax rotation in a sample of 276 Norwegian adults, aged 18 to 75. The factor solution yielded 37 items loading on five dimensions labeled (a) personal competence, (b) social competence, (c) family coherence, (d) social support, and (e) personal structure.

READ Scale Development.

Relative to the content validity of the READ, Hjemdal et al. (2006) stated that 41 RSA items were adapted to measure adolescent resilience. The scale was reviewed by seven adolescents. The adolescents had difficulty with the semantic differential response format and the wording of some of the items. For example an item on the RSA "If I encounter significant obstacles, I can succeed by working hard" was changed to "I will reach my goal if I work hard" on the READ. The semantic differential response was changed to a 5 response format and the process yielded 39 items.

Hjemdal et al. (2006) obtained construct validity of the READ in a sample of 425 adolescents, aged 13 to 15, by correlating the Read with the Short Mood and Feelings Questionnaire (SMFQ), a measure of negative mood. The READ total score was negatively related to the SMFQ (r = -.65, p = .01). There were also statistically significant negative correlations between the SMFQ and the READ subscales of personal competence (r = -.65, p = .01), social competence (r = -.35, p = .01), structured style (r = -.46, p = .01), family cohesion (r = -.58, p = .01) and social resources (r = -.51, p = .01).

Hjemdal et al. (2006) performed confirmatory factor analysis on the READ in a sample of 425 adolescents, aged 13 to 15. The results showed a good relative fit for the five-factor model with 28 items loading on the factors of (a) personal competence

(8 items), (b) social competence (5 items), (c) structured style (4 items), (d) family cohesion (6 items), and (e) social resources (5 items). The 425 adolescents were then divided into 2 groups for a two-step model testing. In the first step, a post-hoc structural equation model was used by Hjemdal et al. to determine the best fit for the factored model in a group of 212 adolescents, aged 13 to 15. The confirmatory factor analysis resulted in an excellent model-data fit. The first READ factor, personal competence, consisting of 8 items, resulted in an excellent fit. The second 5-item factor, social competence, resulted in an absolute fit for the model. The family cohesion factor, consisting of 6 items, demonstrated a very strong fit for the model. The five item social resources factor resulted in an excellent support for this factor. Finally, the structured style factor, consisting of four items, fit the data adequately. In the second step, the identified measurement model was cross-validated by testing for model fit on the second sample of 213 adolescents, aged 13 to 15. The cross-validation test showed adequate fit for the model with the data.

Soest, Mossige, Stefansen, and Hjemdal (2010) provided further evidence of construct validity of the READ. Exploratory factor analyses were done on the READ in a sample of 6723 adolescents, aged 18 to 20. The exploratory factor analysis demonstrated that most of the items loaded on the hypothesized factors. However, 6 items demonstrated low factor loadings. Confirmatory factor analysis was done using a random subsample of 1000 participants. As a result of the analysis, two items of the original 28 items were removed because of inter-correlations of error-terms with other items' residual. Further model testing was done, resulting in elimination of an additional 3 items and a modified 23 item READ. However, O. Hjemdal (Personal communication March 24, 2012) supplied and recommended using the 28-item READ.

Relative to internal consistency reliability of the READ, Hjemdal et al. (2006) found a coefficient alpha of .94 on the total scale in a sample of 425 adolescents, aged 13 to 15. Coefficient alphas for the subscales included .85 for personal competence, .82 for social competence, .69 for structured style, .85 for family cohesion, and .78 for social resources. Using the READ in a sample of 6723 adolescents, aged 18 to 20, Von Soest et al. (2010) obtained coefficient alphas of the subscales of .76 for personal competence, .77 or social competence, .69 for structured style, .89 for family cohesion, and .79 for social resources.

Hopefulness Scale for Adolescents.

The Hopefulness Scale for Adolescents (HSA) (Hinds & Gattuso, 1991; see Appendix B) is a summated 24-item self-report visual analogue scale designed to measure the degree of positive future orientation adolescents feel at the time of measurement. Individuals respond to items on the HSA by placing a vertical mark on a 100 mm horizontal line between verbal anchor statements. HSA scores can possibly range from 0 to 2400, the higher the score on the summated rating scale, the higher the degree of adolescent hopefulness. Items on the scale represent each of the four hope levels as described by Hinds (1984) in a qualitative study. For example, according to Hinds (1984) the statement "I won't let myself spend all of my time feeling sorry for myself" represents the lowest level of hope, forced effort; and "I have the ability to change my destiny" represents expectation of a personal future, the highest level of hope. Prior to instrument development, and using the literature, Atwood and Hinds (1986) determined face and content validity of the hierarchal concepts in the conceptualization of hope. Face and content validity of the hierarchal concepts were further supported by a panel of 10 nurses and a panel of three doctoral students involved in providing care to adolescents. Panel members were asked if the categories and category definitions of hope matched. They provided unanimous agreement of the match for all categories. A consensus by the panel determined that a hierarchal relationship existed among the categories of hope.

Relative to content validity of the HSA, Hinds (1988) developed the items on the scale based on the conceptualization of hopefulness (hope) from three qualitative studies of adolescents. Hopefulness was described as having four hierarchical levels from the least level to the highest degree of hope, including: (a) forced effort, an attempt to take on a positive view; (b) personal possibilities, the belief one has second chances; (c) expectation of a better tomorrow, a positive, but non-specific future orientation; and (d) anticipation of a personal future, the identification of constructive future possibilities.

Construct validity of the HSA was supported in a study of 1,918 adolescents, located in Tehran, Iran (Rassouli, Gharebagh, Safavi, & Haghani, 2010). Rassouli et al. performed exploratory factor analysis on the HSA, which revealed two factors, optimistic and pessimistic thinking toward the future. Further evidence of construct validity was found in the positive relationship between the Self-Efficacy Scale and the HSA (r = .59, p < .001; Rassouli et al.).

Acceptable internal consistency reliabilities of the HSA scale have been reported in a number of studies using adolescent samples. Relative to internal consistency reliability, Hinds (1988), in a longitudinal study of 25 adolescents, reported coefficient alpha reliabilities of .82, .93, and .90 for the HSA at three collection points. Yarcheski, Scoloveno, and Mahon (1994) in their study of 99 high school students, aged 15 to 17, reported a coefficient alpha of .90. Hinds et al. (1999), in their longitudinal study of 78 adolescents with cancer, aged 12 to 21, reported internal consistency reliabilities ranging from .89 to .92. Ritchie (2001), in a study of 45 adolescents, aged 12-17, diagnosed with cancer found a coefficient alpha of .84. Yarcheski, Mahon, and Yarcheski (2001) in their study of 142 early adolescents, aged 12 to 14, reported a coefficient alpha of .73 for the scale. Mahat, Scoloveno, and Whalen (2001) found a coefficient alpha of .73 in a sample of 65 urban middle adolescents, aged 15to 17. Mahon, Yarcheski, and Yarcheski (2004) reported a coefficient alpha reliability of .71 in a sample of 134 early adolescents, aged 12 to 14. Rasoulli et al. (2010) found a coefficient alpha of .84 in a sample of 1,918 adolescents. Finally, Yarcheski, Mahon, and Yarcheski (2011) reported a coefficient alpha of .73 in a sample of .71 in a sample of .73 in a sample of .71 in a sample of .71 in a sample of .73 in a sample of .71 in a sample of .71 in a sample of .71 in a sample of .73 in a sample of .71 in a sample of .71 in a sample of .71 in a sample of .73 in a sample of .71 in a sample of .73 in a sample of .71 in a sample of .73 in a sample of .71 in a sample of .74 in a sample of .75 in a sample of .75 in a sample of .71 in a sample of .75 in a sample of .75 in a sample of .71 in a sample of .71 in a sample of .71 i

Adolescent General Well-Being Questionnaire.

The short form of Adolescent General Well-Being (AGWB) Questionnaire (see Appendix C) is a 39-item 5-point Likert scale, ranging from 5 (*strongly agree*) to 1 (*strongly disagree*), that assesses the general well-being of adolescents (Columbo, 1984). Adolescent well-being was conceptualized by Columbo as having three dimensions (a) social, (b) physical, and (c) mental/psychological. In an effort to minimize systematic response set, the AGWB Questionnaire includes 19 positively worded statements and 20 negatively worded statements. Examples of positively worded statements include "I like myself" and "enjoy competition." Examples of negatively worded statements include "often feel like crying" and "frequently fearful or worried." The negatively worded statements are reverse scored with possible composite scores of the AGWB Questionnaire ranging from 39 to 195; higher subject scores on the scale indicate higher perceived general well-being.

Relative to content validity, Columbo (1984) stated that the original 110 item AGWB Questionnaire was developed after an extensive literature review of adolescent, child and adult well-being. The items selected were identified from established instruments based on Columbo's conceptualized dimensions of well-being, such as selfestimates of physical health, social support, and anxiety. The 110 items were reviewed by a panel of professionals for content validity and were retained based on their assessment.

Evidence of construct validity of the 110-item AGWB scale was obtained by Columbo (1984) through principal-components factor analysis with varimax rotation. Seven factors emerged with factors 3, 4, and 7 corresponding to the physical dimension, factors 1, 2, and 5 corresponding to the mental/psychological dimension, and factor 6 representing the social dimension.

Further evidence of construct validity of the 110-item AGWB scale was assessed by Columbo (1984) in a sample of 940 adolescents, aged 14 to 18. Examination of each of the three dimensions to total index revealed that there were strong relationships between the total index score and the mental (r = .97), physical (r = .85), and social (r =.67) dimensions. Columbo (1984) found that item-to-item correlations and item-todimension correlations indicated that the three dimensions were related and convergent concepts. Eleven items were eliminated based on item-total and item-dimension correlations below r = .22. An additional 13 items were eliminated because of extreme deviation of the items from a normal distribution based on skewness or kurtosis, resulting in a revised 86-item scale. The revised 86-item scale was then subjected to a reliability analysis. Because 5 items reduced the coefficient alpha of the 86-item scale, they were eliminated resulting 81-item scale.

Construct validity of the revised 81-item questionnaire was obtained by Columbo (1984) through principal components factor analysis with varimax rotation in a sample of 988 adolescents, aged 14 to 18. According to Columbo, the initial principal component analysis resulted in eighteen factors that were generally consistent with the hypothesized dimensions and components of adolescent well-being. When the 18 factors were subjected to orthogonal rotation, 15 of the 18 had items that loaded significantly and were consistent with the Columbo's conceptualization of the dimensions of well-being.

Further evidence of construct validity of the 81-item AGWB scale was obtained by Columbo (1984) through the dimension-to-total correlations. The examination of dimension-to-total scores revealed strong correlations between the total score and the social dimension (r = .68), the physical dimension (r = .84), and the mental dimension (r = .92) of well-being.

Columbo (1984) shortened the 81-item instrument to the 39-item shortened version of the AGWB Questionnaire using items on the first 10 rotated factors. Each of these factors explained more than 1% of the total variance and together explained 48% of the variance of the total 81-item index. The 10 rotated factors represented Columbo's conceptualized dimensions of well-being. Relative to internal consistency reliability for the shortened 39-item AGWB Questionnaire, Columbo (1984) reported a coefficient alpha of .92 in a sample of 940 adolescents, aged 14 to 18. Yarcheski et al. (1994), in a sample of 99 adolescents, aged 15 to 17, reported a coefficient alpha of .93. Mahon, Yarcheski, and Yarcheski (2000) reported a coefficient alpha of .95 in a sample of 141 early adolescents, aged 12 to 14. Yarcheski et al. (2001) reported a coefficient alpha of .94 in their sample of 142 early adolescents, aged 12 to 14.

Adolescent Lifestyle Profile

The Adolescent Lifestyle Profile (ALP; see Appendix D), originally developed by Hendricks, Pender, and Hendricks (2001), is currently a 44-item self-report instrument (ALP-R2) designed to measure the frequency of health-promoting behaviors in adolescents. The health-promoting lifestyle behaviors are conceptualized in seven domains, (a) health responsibility, (b) physical activity, (c) nutrition, (d) positive life perspective, (c) interpersonal relations, (d) stress management, and (e) spiritual health, according to C. S. Hendricks (personal communication, January 26, 2012). The summated scale uses a 4-point response format from N (*never*) to A (*always*). The possible range of scores for the total scale is 44 to 176; the higher the score on the instrument, the greater the frequency of health-promoting behaviors.

Relative to content validity, Hendricks, Murdaugh, and Pender (2006) stated that items on the ALP were originally constructed using the revised Health-Promoting Lifestyle Profile II (HPLP II) as a prototype. Hendricks et al. (2006) stated that the original 91-item ALP was administered to small groups of middle school students, ranging in age from 11 to 13 years. Each student was asked to place a mark next to any item they did not understand. The students were then interviewed for clarity of items, recommended wording, and any additional items that they thought would explain adolescent-health-related life style. Based on student feedback, items were reworded, debated, and added, resulting in a 42 item ALP.

Hendricks et al. (2006) established construct (concurrent validity) by correlating scores on the total ALP with scores on scales measuring hope, self-efficacy, and self-esteem in a sample of 207 middle school students, aged 10 to 15. The total ALP positively correlated with hope (r = .60, p = .001), self-efficacy (r = .47, p = .001), and self-esteem (r = .35, p = .001).

Construct validity of the ALP was further examined by Hendricks et al. (2006) using principal components and varimax and promax rotations in a sample of 207 adolescents, aged 10 to 15. The varimax and promax rotations resulted in a six-factor solution based on the six subscales of (a) personal growth, (b) health responsibility, (c) nutrition, (d) physical activity, (e) interpersonal relations, and (f) stress management. Upon examination of the factors, 3 factors contained items from more than one subscale. Based on the factor loadings of 3 of the items and to avoid overlapping, Hendricks et al. (2006) revised the scale and reworded some of the items. Also, the personal growth subscale was renamed as positive life perspective, and an additional subscale labeled spiritual health was added from items on the personal growth subscale. This resulted in a 44-item scale with 7 subscales: (a) health responsibility, (b) physical activity, (c) nutrition, (d) positive life perspective, (e) interpersonal relations, (f) stress management, and (g) spiritual health. C. S. Hendricks (personal communication, January 26, 2012) reported that a principal axis factor analysis of the 44-item ALP-R2 supported the seven factors used as subscales in the instrument and that the ALP is now labeled the ALP-R2. The ALP-R2 will be used in this study.

Relative to reliability, Sapp (2003) reported a coefficient alpha of .90 for the ALP in a sample of 99 adolescents with asthma, aged 12 to 17. Hendricks and Hendricks (2005) reported a coefficient alpha of .93 on the ALP in a sample of students attending a black college, aged 18 to 26. Hendricks et al. (2006) reported a coefficient alpha for the ALP of .91 in a sample of 207 middle school students, aged 10 to 15 years.

Demographic Data Sheet

A Demographic Data Sheet (see Appendix E) was constructed to obtain data on gender, age, ethnicity, and grade level. Several questions were added to elicit relevant information such as organized sports participation and health practices.

Procedure for Data Collection

The study was conducted in a public high school located in a large school district in a northern city of New Jersey. The school has grade levels from 9th through 12th with approximately 1,400 students. Students in grades 10 to 12 were accessed. Written permission was been obtained from the interim superintendent of schools and the principal of the school to conduct the study (see Appendix F). Prior to data collection, approval to carry out the study was obtained from the Institutional Review Board (IRB) of Rutgers, the State University of New Jersey (see Appendix G).

Prior to conducting the study, the researcher met with the principal, head guidance counselor, and health education teachers for sophomore, junior, and senior students to discuss the study and procedures for data collection. One week prior to data collection, the researcher met with students in the health classes to explain the purpose of the study, the procedures, the rights of human subjects, and the need for student and one parent or guardian to consent for student participation. Students were given packets to take home to their parents/guardians which included a letter explaining the study, contact information for the researcher, and parent consent forms (see Appendix H), to be returned prior to the day the students were to fill out the questionnaires. Any student questions relative to the study and informed consent were answered by the researcher. Teachers were asked to collect the parental consent forms during the following week and lock them in a file with a list of consenting parents.

One week after the meeting with students, the researcher went to the designated classes to administer the instrument packets, which took about 35 minutes to complete. An IRB certified data collector assisted the researcher in obtaining data from students in classes running simultaneously. The assistant was trained to collect data in the same manner as the researcher. To protect anonymity, there was no identifying information placed on the instruments. Students with parental/guardian consent signed a written informed consent (see Appendix I) form prior to administration of the instrument packets, which were collected by the researcher and his assistant. Students who did not participate in the study were given alternate assignments by the teacher, and asked to complete them quietly in class. Instructions were given to the participating students relative to completing the forms and the anonymity of the data. Students were told that they could discontinue participation at anytime. Upon returning the instrument packets to the researcher and his assistant, the packets were checked for completeness and the students were thanked for their participation. This procedure was replicated until the required number of subjects were obtained and all subjects who agreed to participate did

so. The researcher was available in the school office at the end of the day to answer any questions the students may have had about the study.

The consent forms and completed instrument packets were secured in a locked, water and fire resistant box. The locked box will be stored a separate locked file cabinet in the researcher's locked office for a period of five years. After five years, they will be shredded, per IRB instructions.

Chapter IV

Analysis of the Data

The purpose of this study was to examine the direct effects of resilience on (a) hope, (b) well-being, and (c) health-promoting lifestyle, the direct effects of hope on (a) well-being and (b) health-promoting lifestyle, and indirect effects of resilience via hope on (a) well-being, and (b) health-promoting lifestyle, in a sample of middle adolescents. Data were analyzed on 311 middle-adolescents who completed the Resilience Scale for Adolescents (READ), the Hopefulness Scale for Adolescents (HSA), The Adolescent General Well-Being (AGWB) Questionnaire, and the Adolescent Lifestyle Profile-R2 (ALP-R2). This chapter presents findings from the analysis of the data.

Statistical Description of the Study Variables

The final sample consisted of 311 middle-adolescents, aged 15 to 17. Respondents scores on the READ, which measured resilience, ranged from 56 - 140 (M = 107.82, Mdn = 109, SD = 15.73). Participants' scores on the HSA, which measured hopefulness, ranged from 706 - 2353 (M = 1827.43, Mdn = 1909, SD = 362.39). Subjects' scores for the AGWB Questionnaire, which measured general well-being, ranged from 66 - 189 (M = 144.73, Mdn = 145, SD = 23.81). Participants' scores for the ALP-R2, which measured health-promoting lifestyle, ranged from 59 – 173 (M = 118.08, Mdn = 118, SD = 20.80). On average, this sample of middle adolescents had relatively high levels of resilience, fairly high levels of hope and general well-being, and moderate levels of health-promoting lifestyle. These findings are summarized in Table 2. Table 2.

Variable	Range	Mean	Median	SD
Resilience	56 - 140	107.82	109	15.73
Норе	706 - 2353	1827.43	1909	362.39
Well-Being	66 – 189	144.73	145	23.81
Health– Promoting Lifestyle	59 – 173	118.08	118	20.80

Descriptive Statistics of Study Variables

Psychometric Properties of the Instruments

All of the instruments used in this study demonstrated coefficient alphas above .89, which exceeded the acceptable levels of .70 (Nunnally & Bernstein, 1994). The Resilience Scale for Adolescents (READ) had a coefficient alpha of .90, which is similar to the reported values of Hjemdal, Friborg, Stiles, Rosenvinge, and Martinussen (2006), and Von Soest, Mossige, Stefansen, and Hjemdal (2010) in samples of adolescents. The Hopefulness Scale for Adolescents (HSA) had a coefficient alpha of .93, which is higher than those reported in prior studies of adolescents (Mahat, Scoloveno, & Whalen, 2004; Mahon, Yarcheski, & Yarcheski, 2004; Yarcheski, Mahon, & Yarcheski, 2011). The Adolescent General Well-Being (AGWB) Questionnaire had a coefficient alpha of .94, which is similar to the reported values of Columbo (1984), Yarcheski, Scoloveno, and Mahon (1994), and Mahon, Yarcheski, and Yarcheski (2000) in samples of adolescents. Finally, the Adolescent Lifestyle Profile (ALP-R2) had a coefficient alpha of .91 which is similar to the reported values of Sapp (2003), Hendricks and Hendricks (2005), and Hendricks, Murdaugh, and Pender (2006) in samples of adolescents who responded to the original version of the ALP. These findings are summarized in Table 3.

Table 3.

Coefficient Alpha Reliabilities for Study Variables

Instruments	Coefficient Alphas	
Resilience Scale for Adolescents	.90	
Hopefulness Scale for Adolescents	.93	
Adolescent General Well-Being Questionnaire	.94	
Adolescent Lifestyle Profile-R2	.91	

Hypotheses

Pearson Product-Moment correlation coefficients examined the hypothesized relationships in the structural equation model. Further, a Pearson Product- Moment correlation coefficient was used to determine the extent to which the two dependent variables, well-being and health-related lifestyle, are related. The Pearson Product-Moment correlation coefficients are presented in Table 4.

Table 4.

	Resilience	Hope	General Well- Being	Health- Promoting Lifestyle
Resilience	_			
Норе	.66**	—		
Well-Being	.71**	.71**	—	
Health-Promoting Lifestyle	.73**	.63**	.72**	_

Correlation Matrix among Study Variables

** p < .01, one-tailed

The LISREL 8.80 software program was used to examine the theoretical model (Jöreskog & Sörbom, 2006). According to Hoyle (1995), an exogenous variable is one that does not receive a directional influence in the model, while an endogenous variable is one that receives a directional influence in the model from either an endogenous or exogenous variable. The theoretical model in this study is just-identified because all the variables, resilience, hope, well-being, and health-promoting lifestyle, are interconnected by straight lines or paths. In addition, the dependent variables well-being and health-promoting lifestyle are connected by a curved line (Hoyle, 1995).

Bivariate regression analysis was done on the structural equation model to assess the hypothesized relationships; a correlated error term between the two dependent variables, well-being and health-promoting lifestyle, accounted for the unhypothesized relationship between the two dependent variables (Byrne, 1995). Path coefficients produced by the LISREL 8.80 structural equation modeling program (gammas, between exogenous and endogenous variables, or betas between endogenous variables) yielded a perfect fit of the model with the data because it was a just-identified model with zero degrees of freedom (Jöreskog & Sörbom, 2006). The LISREL structural equation modeling program provided direct effects for Hypotheses 1 through 5, and indirect effects for Hypotheses 6 and 7. Therefore, the path coefficients determined the influence of resilience (exogenous variable) on hope (endogenous variable) and the influence of both on each of the outcome variables of well-being and health-promoting lifestyle (endogenous variables) as shown in Table 5. The path diagram of the model with its respective path coefficients and squared multiple correlations are presented in Figure 2.

Hypothesis 1.

Hypothesis 1 stated that resilience has a direct positive effect on hope. The Gamma testing this relationship was .66, p < .001. Thus, the relationship was statistically significant and Hypothesis 1 was supported.

Hypothesis 2.

Hypothesis 2 stated that resilience has a direct positive effect on well-being. The Gamma testing this relationship was .44, p < .001. Thus, the relationship was statistically significant and Hypothesis 2 was supported.

Hypothesis 3.

Hypothesis 3 stated that resilience has a direct positive effect on health-promoting lifestyle. The Gamma testing this relationship was .56, p < .001. Thus, the relationship was statistically significant and Hypothesis 3 was supported.

Hypothesis 4.

Hypothesis 4 stated that hope has a direct positive effect on well-being. The Beta testing this relationship was .42, p < .001. Thus, the relationship was statistically significant and Hypothesis 4 was supported.
Hypothesis 5.

Hypothesis 5 stated that hope has a direct positive effect on health-promoting lifestyle. The Beta testing this relationship was .26, p < .001. Thus, the relationship was statistically significant and Hypothesis 5 was supported.

Hypothesis 6.

As hypothesized, resilience had a statistically significant indirect effect on wellbeing through hope (.27, p < .001). Thus, Hypothesis 6 was supported.

Hypothesis 7.

As hypothesized, resilience had an indirect effect on health-promoting lifestyle through hope (.17, p < .001). Thus, Hypothesis 7 was supported.

As reported in the LISREL results, the total effect of resilience on well-being was .71. The total effect is the sum of the direct and indirect effects of resilience on well-being. Further, the total effect of resilience on health-promoting lifestyle was .73. The total effect is the sum of the direct and indirect effect of resilience on health-promoting lifestyle. Relative to the unhypothesized relationship between the dependent variables, well-being and health-promoting lifestyle, the correlated error term was statistically significant (psi = .13, p < .001). The structural equation model was just-identified with zero degrees of freedom, demonstrating saturation and a perfect fit of the model with the data, as would be expected.

Table 5

Model Parameters	Unstandardized	Standard	Standardized	<i>t</i> -test	р
	Estimate	Error	Estimate	statistic	value
Hope \rightarrow + Well-being	0.03	0.01	0.42	8.78	<.001
Hope \rightarrow + Health Practices*	0.02	0.01	0.26	5.37	<.001
Resilience \rightarrow + Well- being	0.66	0.07	0.44	9.34	<.001
Resilience →+ Health Practices	0.73	0.06	0.56	11.36	<.001
Resilience \rightarrow + Hope	15.05	0.98	0.66	15.32	<.001
Resilience →Hope →Well-being	0.41	0.05	0.27	7.62	<.001
Resilience \rightarrow Hope \rightarrow Health Practices	0.23	0.04	0.17	5.07	<.001

Parameters and Standard Error Estimates for the Model of Figure 2

* Health practices are health-promoting lifestyle



**p* < .001

Figure 2. Empirical Results From a Just-Identified Model of Health-Related Outcomes of Resilience in Middle Adolescents

Additional Findings

The data collected were examined for additional findings. The study variables were examined for gender differences, using an independent *t*-test with a two-tailed test of significance. The findings demonstrated that there were statistically significant gender differences in resilience (t (df = 308) = 1.978, p = .05), whereby adolescent males (M = 109.6) reported higher levels of resilience than adolescent females (M = 106.5). Adolescent males (M = 1867.5) also reported higher levels of hope than adolescent females (M = 1783.5; t (df = 308) = 2.04, p = .04) at a statistically significant level. There was also a statistically significant difference between adolescent males and adolescent females in health-promoting lifestyle (t (df = 308) = 2.57, p = .01), whereby adolescent males (M = 114.9). Also, findings demonstrated that adolescent males (M = 150.3) had statistically significant higher reported well-being than adolescent females (M = 138.8; t (df = 308) = 4.39, p < .01).

The data were examined based on participation in organized sports, using an independent *t*-test with a two-tailed test of significance. Findings indicated that there were statistically significant differences in resilience (t (df = 308) = 2.198, p =.05), whereby those respondents who participated in organized sports (M = 109.9) had higher resilience than those who did not participate (M = 106.1). There was also a statistically significant difference in hope between those who participated (M = 1878.4) and those who did not participate (M = 1781.7; t (df = 308) = 2.37, p = .02). Those who participated in organized sports (M = 140.3; t (df = 308) = 3.58, p < .01) at a statistically significant level.

Finally, there was a difference in health-promoting lifestyle (t (df = 308) = 3.88), with those who participated in organized sports (M = 122.9) having higher scores than those who did not participate at a statistically significant level (M = 113.9).

Chapter V

Discussion of the Findings

The purpose of this research was to examine the direct effects of resilience on (a) hope, (b) well-being, and (c) health-promoting lifestyle, and the direct effect of hope on (d) well-being, and (e) health-promoting lifestyle. Also, this research tested the indirect effect of resilience via hope on well-being and health-promoting lifestyle. This chapter interprets the findings of hypothesis-testing relative to the theories that generated the propositions.

Resilience and Hope

Hypothesis 1 stated that resilience has a direct positive effect on hope. The hypothesis was derived from theory proposing that hope is an outcome of resilience (Butler, 1997; Dyer & McGuiness, 1996; Edward, Welch, & Chater, 2009; Garmezy, 1991; Scudder, Sullivan, & Copeland-Linder, 2006; Werner & Smith, 1992). The testing of Hypotheses 1 in this study demonstrated that the hypothesis and underlying theory were supported; the path coefficient linking resilience to hope was strong. Numerous theorists have linked resilience and hope. Garmezy (1991) suggested that children who are faced with adversity become resilient adults who are hopeful. Werner and Smith (1992) explained that resilient children who cope with adversity are hopeful. Dyer and McGuiness (1996) suggested that resilience evokes a promise of a good outcome resulting from adversity, developing hope within adversity. Butler (1997) stated that resilience is a visible sign of a network of relationships, which teaches people hope. Scudder et al. (2006) posited that adolescents who are resilient exhibit hope. Edward et al. (2009) stated that resilience enables individuals to maintain a sense of hopefulness. Notably, the relationship between resilience and hope in middle adolescents was the

strongest association in the just-identified model, providing predictive power to the aforementioned theoretical propositions linking the two variables.

Correlational analysis demonstrated a strong positive relationship between resilience and hope in middle adolescents (r = .66, p < .001). The relationship between resilience and hope in middle adolescents was the strongest association in the justidentified model. Using different instruments to measure the variables, previous studies examining the relationship between resilience and hope have yielded a correlation of r =.72, p < .001 in 137 adult women with breast cancer, aged 40 to 70 (Craig, 2005) and a correlation of r = .57, p < .001 in 537 undergraduate students, aged 18 to 33 (Collins, 2009). The magnitude of the correlation (r = .66, p < .001) between the two variables in the present study in middle adolescents is fairly comparable to that found on different samples in previous studies (Craig, 2005; Collins, 2009).

The findings in this study provide strong empirical support for the theoretical relationship between resilience and hope. The theoretical relationship between resilience and hope had not been examined previously in middle adolescents. Thus, the findings in the present study add to the body of knowledge linking resilience and hope for this age group.

Resilience and Well-Being

Hypothesis 2 stated that resilience has a direct positive effect on well-being. The hypothesis was derived from theory proposing that well-being is an outcome of resilience (Edward, 2005; Haase, 2004; Masten, Best, & Garmezy, 1990; Srivastava & Sinha, 2005; Unger & Liebenberg, 2005). The testing of Hypothesis 2 in this study demonstrated that the hypothesis and underlying theory were supported; the path coefficient between resilience and well-being was moderate. Masten et al. (1990) stated that resilience leads

to adaptation, usually defined as states of well-being. Haase (2004) suggested that a resilient outcome enhances well-being. Resilience has been theorized to be an important variable that contributes to well-being (Srivastava & Sinha, 2005). Unger and Liebenberg (2005) stated that resilience leads to feelings of well-being. Edward (2005) theorized a link between resilience and well-being, stating that resilient individuals have a sense of well-being. Furthermore, Knight (2007) theorized that resilience leads to a sense of well-being. The relationship between resilience and well-being in middle adolescents in this study was moderate, giving modest empirical support to the theoretical propositions linking the two variables.

Correlational analysis demonstrated a strong positive relationship between resilience and well-being (r = .71, p < .01). Using different instruments to operationalize the variables, previous studies examining the relationship between resilience and wellbeing revealed a correlation of r = .42, p < .01 in 100 adult Irish immigrants, aged 18 to 44 (Christopher & Kulig, 2000), a correlation of r = .31, p < .01, in 215 African American college students, aged 18 to 26 (Utsey, Hook, Fisher, & Belvet, 2008), and a correlation of r = .21, p < .01 in 180 students, aged 18 to 23 (Khan & Husain 2010). The magnitude of the correlation (r = .71, p < .001) between the two variables in the present study of middle adolescents was much stronger than those found in the aforementioned previous studies samples of different ages. The strength of the relationship in middle adolescents might be attributed to (a) the instruments used, (b) the size of the sample, and/or (c) the age of the sample. The theoretical relationship between resilience and well-being had not been examined previously in middle adolescents. Thus, the findings in the present study add to the body of knowledge linking resilience and well-being for this age group.

Resilience and Health-Promoting Lifestyle

Hypothesis 3 stated that resilience has a direct positive effect on health-promoting lifestyle. The hypothesis was derived from theory proposing that health-promoting lifestyle is an outcome of resilience (Ahern, 2006; Benard, 2004; Black & Ford-Gilboe, 2004; Stewart, Reid, & Mangham, 1977). The testing of Hypothesis 3 in this study demonstrated that the hypothesis and underlying theory were supported; the path coefficient between resilience and health-promoting lifestyle was moderately strong. According to Stewart et al. (1997), resilience contributes to health behaviors, such as proper nutrition, exercise, and avoidance of smoking and alcohol use in children and adolescents. Benard (2004) suggested that youth resilience is comprised of protective factors, needs, and strengths leading to improved health practices. Black and Ford-Gilboe (2004) proposed that resilience impacts participation in health-promoting behaviors, including increased physical activity and proper nutrition Edward (2005) described resilient individuals as those who care for themselves by exercising, relaxing, eating a balanced diet, and getting adequate sleep. Ahern (2006) proposed that resilience can be expressed in positive health promotion behaviors. The relationship between resilience and health-promoting lifestyle in middle adolescents in this study was moderate, giving modest empirical support to the theoretical propositions linking the two variables.

Correlational analysis showed a strong positive relationship between resilience and health-promoting lifestyle in this sample of middle adolescents (r = .73, p < .01). Using different instruments to operationalize the variables, previous studies examining the relationship between resilience and health behaviors revealed a correlation of r = .35, p < .05 in a sample of 100 adolescents, aged 13 to 18 (Solem, 2001), a correlation of r =.42, p < .05 in a sample of mothers of preschool children, aged 27 to 44 (Monteith & Ford-Gilboe, 2002), a correlation of r = .53, p < .001 in a sample of 342 adults with a mean age of 70.9 (Wagnild, 2003), and a correlation of r = .62, p < .001 in a sample of 41 adolescent mothers, aged 18 to 23 (Black & Ford-Gilboe, 2004). The magnitude of the correlation (r = .73, p < .01) between the two variables in the present study of middle adolescents was stronger than those found in the aforementioned previous studies using samples of different ages. The strength of the relationship in middle adolescents may be attributed to (a) the instruments used, and (b) the size of the sample, and/or (c) the phase of development of the sample.

The findings in this study give fairly strong empirical support to the theoretical relationship between resilience and health-promoting lifestyle, which were more powerful than those found for the relationship between resilience and the other dependent variable, well-being. The theoretical relationship between resilience and health-promoting lifestyle had not been examined previously in middle adolescents, aged 15 to 17, using the instruments administered in the study. Thus, the findings in the present study add to the body of knowledge linking resilience and health-promoting lifestyle for this age group.

Hope and Well-Being

Hypothesis 4 stated that hope has a direct positive effect on well-being. This hypothesis was derived from theory proposing that well-being is an outcome of hope (Dufault & Martocchio 1985; Hinds 1988; Korner, 1970; Miceli & Castelfranchi, 2011;

Muyskens, 1979; Ojala 2005; Snyder, 2002). The testing of Hypothesis 4 in this study demonstrated that the hypothesis and underlying theory were supported; the path coefficient between hope and well-being was moderate. Theorists have proposed that hope impacts well-being (Korner, 1970; Muyskens, 1979; Snyder, 2002). Dufault and Martocchio (1985) posited that individuals who hope believe that hope influences well-being. Hinds (1988) proposed that hopefulness influences well-being. Ojala (2005) theorized that hope might function as a buffer, preventing anxiety from turning into low well-being. Ojala posited that having hope leads to a high degree of well-being. Finally, Miceli and Castelfranchi (2011) suggested that the motivational aspects of hope seem to play a crucial role in fostering well-being. The relationship between hope and well-being in middle adolescents in this study was moderate, giving modest empirical support to the theoretical propositions linking the two variables.

Correlational analysis demonstrated a strong positive relationship between hope and well-being. (r = .71, p < .01). Previous studies examining the relationship between hope and well-being revealed a correlation of r = .60, p < .001 in high school students, aged 15 to 17 (Yarcheski, Scoloveno, & Mahon 1994), a correlation of r = .60, p < .001in a sample of college students, aged 17 to 50 (Magaletta & Oliver, 1999), a correlation of r = .68, p < .001in a sample of early adolescents, aged 12 to 14 (Yarcheski, Mahon, & Yarcheski, 2001), and a correlation of r = .45, p < .01in a sample of adolescents diagnosed with cancer, aged 13 to 20 (Hendricks-Ferguson, 2001). The magnitude of the correlation (r = .71, p < .01) is comparable to or stronger than those found in the aforementioned previous studies. The strength of the relationship between hope and well being in middle adolescents in this study is comparable to several previous studies that used the same instruments (Yarcheski et al., 1994; Yarcheski et al., 2001), but stronger than previous studies that used different instruments (Magaletta & Oliver, 1999). However, the strength of the relationship between hope and well-being in middle adolescents in this study is much stronger than a previous study of adolescents diagnosed with cancer, using the same instruments (Hendricks-Ferguson, 2001), which may be attributed to (a) the size of the sample, and/or (b) the health status of the sample.

The findings in the present study of adolescents add to those found previously in middle adolescents (Yarcheski et al., 1994), and early adolescents (Yarcheski et al., 2001). Notably, of the two outcome variables in this study, hope had a stronger relationship to well-being than to health-promoting lifestyle, which will be discussed next.

Hope and Health-Promoting Lifestyle

Hypothesis 5 stated that hope has a direct positive effect on health-promoting lifestyle. This hypothesis was derived from theory proposing that health-promoting lifestyle is positively influenced by hope (Brown, 1994; Dufault & Martocchio, 1985; Kia-Keating, Dowdy, Morgan, & Noam, 2011). The testing of Hypothesis 5 in this study demonstrated that the hypothesis and underlying theory were supported; the path coefficient between hope and health-promoting lifestyle was weak, but statistically significant. Dufault and Martocchio (1985) proposed that hope is a crucial resource throughout life relative to health or illness. Dufault and Martocchio suggested that hope promotes action in individuals, such as fostering health-promoting practices. Brown (1994) proposed that hope allows individuals to view situations as challenging rather than threatening leading to healthy lifestyle behaviors. Hendricks (1998) posited that the level of adolescent hope influences the likelihood of practicing a health-promoting lifestyle, such as safer sexual practices and proper nutrition. Kia-Keating et al. (2011) proposed that hope is a protective factor that increases the likelihood of adolescent positive health behaviors. The relationship between hope and health-promoting lifestyle in middle adolescents in this study was weak, giving modest empirical support to the theoretical propositions linking the two variables.

Correlational analysis demonstrated a moderately strong positive relationship between hope and health-promoting lifestyle (r = .63, p < .01). Using different instruments to operationalize the variables, previous studies examining the relationship between hope and health behaviors revealed a correlation of r = .35, p = .01, in a sample of urban adolescents, aged 15 to 17 (Mahat, Scoloveno, & Whalen, 2002), a correlation of r = .54, p < .001 in a sample of early adolescents, aged, 12 to 14 (Mahon, Yarcheski, & Yarcheski, 2004), a correlation of r = .43, p < .001 in a sample of college students, aged 18 to 26 (Hendricks & Hendricks, 2005), and a correlation of r = .60, p = .001 in a sample of early adolescents, aged 10 to 15 (Hendricks, Murdaugh, & Pender, 2006). The magnitude of the relationship (r = .63, p < .01) found in middle adolescents in this study is stronger than those found in the aforementioned previous studies. The strength of the relationship between hope and health-promoting lifestyle in middle adolescents may be attributed to (a) the instruments used, and/or (b) the size of the sample, and/or (c) the cultural background of the sample, who were predominantly Latino.

The findings in the present study of middle adolescents add to the body of knowledge concerning the relationship between hope and well-being. However, the

relationship between hope and the outcome variable of health-promoting lifestyle was weaker than the relationship between hope and the outcome variable of well-being.

Resilience and Well-Being through Hope

Hypothesis 6 stated that resilience has an indirect effect on well-being through hope. The hypothesis was derived from theoretical propositions suggesting that resilience has a direct effect on well-being ((Edward, 2005; Haase, 2004; Knight, 2007; Masten et al., 1990; Srivastava & Sinha, 2005; Unger & Liebenberg, 2005) and that hope has a direct effect on well-being (Dufault & Martocchio, 1985; Korner, 1970; Muyskens, 1979). Therefore, it was reasoned that resilience would have an indirect effect on wellbeing through hope. The findings of the present study demonstrated that resilience has a small indirect effect on well-being through hope. Therefore, this hypothesis and underlying theories linked in the model were weakly supported when testing Hypothesis 6 in this study.

Resilience and Health-Promoting Lifestyle through Hope

Hypothesis 7 stated that resilience has an indirect effect on health-promoting lifestyle through hope. The hypothesis was derived from theoretical propositions suggesting that resilience has a direct effect on health-promoting lifestyle (Ahern, 2006; Benard, 2004; Black & Ford-Gilboe, 2004; Edward, 2005; Stewart et al., 2007) and that hope has a direct effect on health-promoting lifestyle (Brown, 1994; Dufault & Martocchio, 1985; Hendricks, 1998; Kia-Keating et al., 2011). Therefore, it was reasoned that resilience would have an indirect effect on health-promoting lifestyle through hope. The findings of the present study demonstrated that resilience has a very small indirect effect on well-being through hope. Thus, the hypothesis and the underlying theories linked in the model were weakly supported when testing Hypothesis 7 in this study.

Additional Findings

Gender differences.

In the present study, adolescent males reported higher levels of resilience than adolescent females. This was consistent with a previous study reporting gender differences in resilience. Soest, Mossige, Stefansen, & Hjemdal (2010) in a sample of 6723 adolescents who completed the Resilience Scale for Adolescents (READ) found that adolescent males (M = 3.79) scored higher than adolescent females (M = 3.49) on the READ factor of Personal Competence (t = 16.26, p < .01). Adolescent males (M = 4.08) also scored higher than adolescent females (M = 4.03) on the READ factor of family cohesion (t = 2.42, p < .05). Adolescent males (M = 4.06) scored higher on the READ factor of social competence than adolescent females (M = 4.00; t = 3.06, p < .01). Adolescent females (M = 3.54), however, scored higher than adolescent males (M = 3.43) on the READ factor of structured style (t = 5.28, p < .01). Adolescent females (M = 4.51) also scored higher than adolescent males (M = 4.45) on the READ factor of Social Resources (t = 4.05, p < .01). Unfortunately, Soest et al. (2010) did not analyze gender differences in resilience based on total scores on the READ; however, adolescent males scored higher on three of the five subscales of resilience than did adolescent females. Yu, Lau, Mak, Zhang, and Lui (2011) in a sample of 2914 adolescents found that male participants (M = 70.5) had higher levels of resilience than females (M = 68.8; t = 3.58, p =.001) using the Conner-Davidson Resilience Scale (CD-RISC). Thus, there is some

evidence that adolescent males may have higher resilience than adolescent females; however, theory is needed to help explain these accrued findings.

In the present study, adolescent males reported higher levels of hope than adolescent females. This finding differed from previous research. In a study of 78 adolescents with cancer, who completed the HSA, Hendricks-Ferguson (2001) found that adolescent girls (M = 1676.06) reported higher levels of hope than adolescent boys (M =1572.22; F(1) = 12.31, p < .01). Theories are needed to help explain gender differences in hope and to help explain conflicting findings.

In the present study, adolescent males reported higher levels of well-being than adolescent females. Using the Adolescent General Well-Being (AGWB) Questionnaire, Columbo (1984), in a sample of 940 high school adolescents, aged 14 to 18, found that adolescent boys had significantly higher levels of well-being than adolescent girls (p < .01). However, Hendricks-Ferguson (2001) found no differences in general well-being between 78 girls and boys diagnosed with cancer, aged 13 to 20, who completed the AGWB Questionnaire, which might be attributed to small sample size and/or health status of her sample.

The present study indicated that adolescent boys reported higher scores in healthpromoting lifestyle than did adolescent girls. This finding is not consistent with findings from a previous study. In a sample of 793 Black university students, Pelzer (2001) found that males (M = 7.2) reported lower health practice behaviors than females (M = 7.8; t =-4.388, p < .001). Johnson (2005) found no differences in health-promoting lifestyle between African-American males and females. Again, theories are needed to help explain gender differences in health practices and to help explain conflicting findings.

Participation in Organized Sports/Activities.

When the data were analyzed relative to participation in organized sports, the results in the present study showed that adolescents who participated in sports had higher resilience than those who did not participate. This finding was consistent with previous research that tested the relationship between resilience and physical activity. Sanchez-Lopez, Salcedo-Aquilar, Solera-Martinez, Notario-Pacheco, and Martinez-Vizcaino (2009) found that resilience scores of adolescents who engaged in physical activity (M = 4.35) were higher than those who were sedentary (M = 3.84; F(1) = 20, p < .001).

The present study found that adolescents who participated in sports were more hopeful than those who did not participate. This finding was similar to a study of 7748 undergraduate students that found student athletes (M = 56.6) had higher hope than nonathletic students (M = 51.7; F(154) = 15.76, p < .01; Curry, Snyder, Cook, Ruby, & Rehm, 1997). Therefore, as the literature suggests, adolescents who participate in sports were found to be more hopeful.

The present study found that adolescents who participated in organized sports reported higher levels of well-being than those who did not participate. This finding was consistent with Bagoien, Halvari, and Nesheim's (2010) study testing a structural equation model. In a sample of 329 adolescents, aged 16 to 18, Bagoien et al. found that physical activity had a direct positive effect on well-being (*Beta* = .51, p < .01). As reported in the literature adolescent well-being is positively related to physical activity.

The present study found that adolescents who participated in sports had higher scores on health-promoting lifestyle compared to those adolescents who did not participate in organized sports. This finding is consistent with previous research that examined health-promoting lifestyle and physical activity. In a study of 822 11th and 12th grade high school students, Delisle, Werch, Wong, Bian, and Weller (2010) found that adolescents who participated in vigorous physical activities were more likely to engage in health-promoting behaviors than those who participated in low or moderate physical activity, F(6, 1622) = 3.63, p < .01. Thus, as reported in the literature, adolescent health-promoting lifestyle is positively related to increased physical activity, such as sports participation.

Chapter VI

Summary, Conclusions, Implications, and Recommendations

Summary

This study developed and tested theory to gain insight into resilience and health outcomes of resilience in a sample of middle adolescents, aged 15 to 17. The study empirically tested direct effects of resilience and each of its theorized outcomes (a) hope, (b) well-being, and (c) health-promoting lifestyle, as well as the direct effects of hope on (d) well-being, and (e) health-promoting lifestyle. The indirect effects of resilience on (a) well-being and (b) health-promoting lifestyle via hope were also examined.

Resilience is defined as a multidimensional concept, consisting of protective factors and processes that contribute to successful outcomes in the face of adversity (Friborg, Hjemdal, Rosenvinge, & Martinussen, 2003). Adolescent resilience is described as a continuum of success in negotiating developmental tasks (Luthar, 1991) and a dynamic quality that varies in intensity and may or not be present to any great degree (Fergus & Zimmerman, 2005). Resilience is conceptualized as incorporating internal and external risk factors and individual and socio-cultural protections (Ahern, 2006; Fergus & Zimmerman, 2005; Hjemdal, Aune, Reinfjell, Stiles, & Friborg, 2007; Zimmerman & Brenner, 2010).

Hope is defined hope as a positive occurrence, which is necessary for healthy coping (Korner, 1970). Hinds (1984) conceptualized adolescent hope as the belief in a personal future, occurring in incremental hierarchal levels proceeding from lower to higher degrees of functioning. Theorists have posited a positive relationship between resilience and hope (Butler, 1997; Dyer & McGuiness, 1996; Edward, Welch, & Chater, 2009; Garmezy, 1991; Scudder, Sullivan, & Copeland-Linder, 2006; Werner & Smith, 1992), suggesting that hope is an outcome of resilience. Researchers have found a moderately strong to strong positive relationship between resilience and hope in women with breast cancer (Craig, 2005), and undergraduate students (Collins, 2009). Therefore, this study tested theory that proposed that resilience has a direct positive effect on hope.

Well-being is conceptualized as a complex state encompassing physical, social, and psychological dimensions (Columbo, 1984). Theorists proposed that resilience is positively related to well-being, that resilience enhances well-being, and that resilience contributes to well-being (Edward, 2005; Haase, 2004; Knight, 2007; Masten, Best, & Garmezy,1990; Srivastava & Sinha, 2005; Unger & Liebenberg, 2005). Previous research suggested a moderate positive relationship between resilience and psychological well-being (Christopher & Kulig, 2010), and a positive relationship between resilience and satisfaction with life, an index of well-being (Khan & Husain, 2010; Utsey, Hook, Fischer, & Belvet, 2008). Hope is also theorized to be positively related to an individual's well-being (Dufault & Martocchio, 1985; Snyder, 2002). Researchers have found a moderate to fairly strong positive relationship between hope and well-being in early adolescents and middle adolescents, and college students (Magaletta & Oliver, 1999; Hendricks-Ferguson, 2001; Yarcheski, Scoloveno, & Mahon, 1994; Yarcheski, Mahon, & Yarcheski, 2001). Based on the aforementioned theories, resilience was postulated to have an indirect effect on well-being through hope.

Health-promoting lifestyle is defined as behaviors that influence health status, encompassing health responsibility, physical activity, nutrition, spiritual growth, interpersonal relationships, and stress management (Hendricks, Murdaugh, & Pender, 2006). Pender, Murdaugh, and Parsons (2010) conceptualized health promotion as

behaviors that include a healthy lifestyle, motivated by individuals' desire to increase their health potential for productive living and improved health. Individuals learn to be healthy through positive lifestyle behaviors (Allen & Warner, 2002; Pender et al., 2010). Theorists have proposed that resilience is positively related to health-promoting behaviors (Ahern, 2006; Benard, 2004; Black & Ford-Gilboe, 2004; Edward, 2005; Stewart, Reid, & Mangham, 1997). Researchers have reported a positive relationship between resilience and health practices using a variety of measures in samples of adolescents and adults (Black & Ford-Gilboe, 2004; Monteith & Ford-Gilboe, 2002; Solem, 2001). Theory also suggests that health practices are an outcome of hope (Brown, 1994; Dufault & Martocchio, 1985; Hendricks, 1998; Kia-Keating, Dowdy, Morgan, & Noam, 2011). Theorists have proposed that hope fosters health promotion, and directly influences health behaviors, enabling individuals to view situations as challenging rather than threatening, leading to healthy lifestyle behaviors (Brown, 1994; Dufault & Martocchio, 1985). Researchers have found a moderate to moderately strong positive relationship between hope and health-promoting lifestyle in high school students, urban adolescents, and early adolescents (Mahat, Scoloveno, & Whalen, 2002; Mahon, Yarcheski, & Yarcheski, 2004; Yarcheski et al., 1994). Based on the aforementioned theories, resilience was postulated to affect health-promoting lifestyle indirectly through hope.

The following hypotheses were formulated from the aforementioned theory and tested in this study:

1. Resilience has a direct positive effect on hope.

2. Resilience has a direct positive effect on well-being.

- 3. Resilience has a direct positive effect on health-promoting lifestyle.
- 4. Hope has a direct positive effect on well-being.
- 5. Hope has a direct positive effect on health-promoting lifestyle.
- 6. Resilience has an indirect effect on well-being through hope.
- 7. Resilience has an indirect effect on health-promoting lifestyle through hope.

The final sample included 311 middle-adolescents as defined chronologically by Duncan and Shaw (2007), as ages 15 to 17. Of the 311 respondents, 163 were adolescent males, and 148 were adolescent females. Their ages ranged from 15 to 17 and 24.1% were sophomores, 46.6% were juniors, and 29.3% were seniors. Of the 311 respondents, approximately 12.5% were White, 17.4% were Black, 8.3% were Asian, 54.4% were Latino, and 7.4% reported "Other". Additionally, 47.6% of the participants stated that they participated in some form of organized athletics, while 52.4% stated that they did not participate in organized athletics. Also, a large majority (93.9%) reported that they had no medical condition, while 6.1% reported having a medical condition. Of the 19 students reporting medical conditions, 4 had diabetes, 9 had asthma, 4 had attention deficit hyperactivity disorder, and 2 had athletic injuries. Of the 311 participants, 84% reported that they did not participate in health-risk behaviors, while 3.2% reported smoking, 8.9% reported drinking alcohol, .3% reported unsafe sexual practices, 1.3%

The 311 respondents completed the Resilience Scale for Adolescents (READ), the Hopefulness Scale for Adolescents (HSA), the Adolescent General Well-Being (AGWB) Questionnaire, and the Adolescent Lifestyle Profile (ALP-R2). All of the instruments used in this study demonstrated coefficient alphas above .89, which exceeded the acceptable levels of .70 (Nunnally & Bernstein 1994).

The LISREL 8.80 software program was used to examine the theoretical model (Jöreskog & Sörbom, 2006). Hypothesis 1, which states that resilience has a direct positive effect on hope in middle adolescents was supported (Gamma = .66, p < .001). Hypothesis 2, which states that resilience has a direct positive effect on well-being in middle adolescents was supported (Gamma = .44, p < .001). Hypothesis 3, which states that resilience has a direct positive effect on health-promoting lifestyle in middle adolescents was supported (Gamma = .56, p < .001). Hypothesis 4, which states that hope has a direct positive effect on well-being in middle adolescents was supported (Beta = .42, p < .001). Hypothesis 5, which states that hope has a direct positive effect on health-promoting lifestyle in middle adolescents was supported (Beta = .26, p < .001). The last two hypotheses tested the indirect effect of resilience via hope on well-being and health-promoting lifestyle. Hypothesis 6, which states that resilience had a statistically significant indirect effect on well-being (.27, p < .001) through hope in middle adolescents, was supported. Finally, Hypothesis 7, which states that resilience has a statistically significant indirect relationship on health promoting lifestyle (.17, p < .001)through hope in middle adolescents, was supported. The total effect of resilience on wellbeing was .71; the total effect of resilience on health-promoting lifestyle was .73. Relative to the unhypothesized relationship between the dependent variables, well-being and health-promoting lifestyle, the correlated error term was statistically significant (psi =.13, p < .001). In summary, resilience had statistically significant direct positive effects on hope, well-being, and health-promoting lifestyle. Hope had a statistically significant

direct positive effect on well-being and health-promoting lifestyle. Resilience had an indirect effect on both well-being and health-promoting lifestyle through hope.

Conclusions

All of the seven hypotheses in this study were derived from theory and were supported empirically, providing evidence of the predictive power of the theoretical propositions tested. Therefore, based on the empirical support for these seven hypotheses, it can be concluded that resilience has direct positive effects on hope, wellbeing, and health-promoting lifestyle in middle adolescents, and that hope had direct positive effects on well-being and health-promoting lifestyle. Additionally, it can be concluded that resilience has an indirect effect on well-being and health-promoting lifestyle through hope in middle adolescents. Based on the entire set of findings, it can be concluded that resilience is a strong predictor of hope, and that resilience is a better predictor than hope for the two health-related outcomes, well-being and health-promoting lifestyle.

In conclusion, the five asymmetrical theoretical propositions were supported in the just-identified model of health-related outcomes of resilience in adolescents in this study. Alternate just-identified models can be constructed to test asymmetrical theoretical propositions that explain other health-related outcomes of resilience in adolescents.

Implications for Nursing

In the present study, resilience was studied as processes and mechanisms that contribute to good outcomes despite adversity (Hjemdal, Friborg, Stiles, Rosenvinge, & Martinussen, 2006). Studying resilience as a process-oriented variable allows nurses to develop strategies to help increase adolescent resilience in order to experience good outcomes despite adversity. The findings in this study indicate that resilience contributes positively to the outcomes of hope, well-being, and health-promoting lifestyle in middle adolescents; hopefulness demonstrated the strongest association with resilience, and it played a direct and indirect role in the outcomes of well-being and health-promoting lifestyle.

Both well-being and a health-promoting lifestyle are desirable goals to achieve in nursing practice with middle adolescents (Pender et al., 2010). Helping adolescents to strengthen and improve their resilience in the face of the challenges and adversities of this phase of development will help achieve these goals, while also improving adolescent hopefulness. Resilience-enhancing interventions can be developed and used by nurses working with middle adolescents in schools, clinics, acute-care settings, and chronic care settings. These interventions can focus on creating socially supportive environments, a protective factor of resilience, as theorized by Werner and Smith (2001).

Important information has been gained by examining the health-related outcomes of resilience in middle adolescents. The findings contribute to a comprehensive knowledge base that sheds light on the "good" outcomes of resilience in middle adolescents that can be used by professional nurses in a variety of healthcare settings.

Recommendations

The theoretical and empirical findings of this study provide the direction for future research. Recommendations for subsequent studies include the following:

1. The current study was the first to examine the direct effect of resilience on hope, well-being, and health-promoting lifestyle, the direct effects of hope on well-being and

health-promoting lifestyle, and indirect effects of resilience on well-being and healthpromoting lifestyle through hope. Replication and validation of the findings in the present study of middle adolescents, using the same design and variables, would be useful in supporting current findings and theories upon which this study was developed.

2. The sample for the current study included participants who were chronologically identified as middle adolescents, aged 15 to 17. Conducting the same studies in samples of early and late adolescents, using the same design and variables as in the present study, would add to the current body of knowledge.

3. In this study, only outcomes of resilience were examined. In order to better understand resilience and its processes, theoretical variables that are antecedent to resilience, such as temperment need to be examined in future research using structural equation modeling.

4. Gender differences in resilience were found in the current study whereby adolescent males reported higher levels of resilience than adolescent females. To better understand the reasons for these differences, more theory-testing research examining gender differences in resilience should be conducted.

5. In the current study, the majority of the sample (87.5 %) identified themselves as other than white; most of the participants identified themselves as Latino (54.4%), and this may have had some influence on the results of the study. Therefore, further research on resilience should focus on different ethnic/racial groups of adolescents.

6. In the current study, the majority of the sample (93.9%) reported having no existing medical condition. Further research with samples diagnosed with acute or

chronic illnesses may provide more insight into the effects of resilience on the outcome variables of hope, well-being, and health-promoting lifestyle.

References

- Ahern, N. R. (2006). Adolescent resilience: An evolutionary concept analysis. Journal of Pediatric Nursing, 21, 175-185.
- Allen, M. F., & Warner, M. (2002). A developmental model of health and nursing. *Journal of Family Nursing*, 8, 96-135.
- Atwood, J. R., & Hinds, P. (1986). Heuristic heresy: Application of reliability and validity criteria to products of grounded theory. Western Journal of Nursing Research, 8, 135-154.
- Bagoien, T. E., Halvari, H., & Nesheim, H. (2010). Self-determined motivation in physical education and its links to motivation for leisure-time physical activity, physical activity, and general well-being in general. *Perceptual and Motor Skills*, 111, 407-432.
- Benard, B. (2004). Resiliency: What we have learned. San Francisco: WestEd.
- Black, C., & Ford-Gilboe, M. (2004). Adolescent mothers: Resilience, family health work and health-promoting practices. *Journal of Advanced Nursing*, *48*, 351-360.
- Bonanno, G. A. (2004). Loss, trauma, and human resilience. *American Psychologist*, 59, 20-28.
- Bowden, V. R., & Greenberg, C. S. (2010). *Children and their families: The continuum of care (2nd ed.)*. Philadelphia: Wolters Kluwer | Lippincott Williams & Wilkens.
- Brown, L. (1994). Hope as healing: Patient voices. In D. Gaul & A. Boykin (Eds.), *Caring as healing: Renewal through hope* (pp. 167-177). New York: National League for Nurses.

- Brown, N., Muhlenkamp, A., Fox, L., & Osborn, M. (1983). The relationship among health beliefs, health values, and health promotion activity. Western Journal of Nursing Research, 5, 155-163.
- Butler, K. (1997). The anatomy of resilience. Family Therapy Networker, 21 (2), N/A.
- Byrne, B. (1995). One application of structural equation modeling from two perspectives: Exploring the EQS and LISREL strategies. In R. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 140-141). Thousand Oaks, CA: Sage.
- Christopher, K., & Kulig, J. (2000). Determinants of psychological well-being in Irish immigrants. *Western Journal of Nursing Research*, 22, 123-143.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Collins, A. B. (2009). Life experiences and resilience in college students: A relationship influenced by hope and mindfulness (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3384214)
- Columbo, S. A. (1984). *General well-being in adolescents: Its nature and measurement*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 8520101).
- Connor, K., & Davidson, J. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, *18*, 76-82.
- Craig, J. (2005). An investigation of the mediators of hope in women diagnosed with breast cancer (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3170748)

- Curry, L.A., Snyder, C. R., Cook, D.L., Ruby, B., & Rehm, M. (1997). Role of hope in academic and sport achievement. *Journal of Personality and Social Psychology*, 73,1257-1267.
- Delisle, T. T., Werch, C. E., Wong, A. H., Bian, H., & Weller, R. (2010). Relationship between frequency and intensity of physical activity and health behaviors of adolescents. *Journal of School Health*, 80, 134-140.
- Diener, E. (1998). Subjective well-being and personality. In D. Barone, M. Hersen, & V. Van Hasselt (Eds.), *Advanced Personality* (pp. 311-334). New York: Plenum.
- Dufault, K., & Martocchio, B. C. (1985). Hope: Its spheres and dimensions. *Nursing Clinics of North America*, 20, 379-391.
- Duncan, P. M., & Shaw, J. (Eds.). (2007). Bright futures guidelines for health supervision of infants, children, and adolescents pocket guide (3rd ed). Evanston, II: American Academy of Pediatrics.
- Dyer, T., & McGuiness, J. (1996). Resilience: Analysis of the concept. *Archives of Psychiatric Nursing, X*, 276-282.
- Edward, K. (2005). The phenomenon of resilience in crisis care mental health clinicians. International Journal of Mental Health Nursing, 14, 142-148.
- Edward, K., Welch, A., & Chater, K. (2009). The phenomenon of resilience as described by adults who have experienced mental illness. *Journal of Advanced Nursing*, 65, 587-594.
- Egeland, B., Carlson, E., & Sroufe, A. (1993). Resilience as a process. *Development and Psychopathology*, *5*, 517-528.

- Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health*, 26, 399-419.
- Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2003). A new rating scale for adult resilience: What are the central protective resources behind healthy adjustment? *International Journal of Methods in Psychiatric Research*, 12, 65-76.
- Garmezy, N. (1991). Resilience in children's adaptation to negative life events and stressed environments. *Pediatric Annals*, 20, 459-466.
- Haase, J. E. (2004). The adolescent resilience model as a guide to interventions. *Journal* of Pediatric Oncology Nursing, 21, 289-299.
- Harris, D. M., & Guten, S. (1979). Health protective behavior: An exploratory study. Journal of Health and Social Behavior, 20, 17-29.
- Hendricks, C., Pender, N., & Hendricks D. L. (2001). The Adolescent Lifestyle Profile (ALP- R2). Copyrighted with the National Library of Congress.
- Hendricks. C. S. (1998). Perceptual determinants of early adolescent health-promoting behaviors: Model development. *Journal of Theory Construction and Testing*, 2, 13-22.
- Hendricks, C., Murdaugh, C., & Pender, N. (2006). The Adolescent Lifestyle Profile:
 Development and psychometric properties. *Journal of National Black Nurses*Association, 17, 1-5.

- Hendricks, D. L., & Hendricks, C. S. (2005). The relationship of hope and self-efficacy to health-promoting behaviors among student-athletes attending historically Black colleges and universities. *The Journal of Multicultural Nursing and Health*, 11, 23-34.
- Hendricks-Ferguson, V. L. (2001). Hope, spiritual well-being, and general well-being among adolescents with cancer (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3004035)
- Hinds, P. S. (1984). Inducing a definition of 'hope' through the use of grounded theory methodology. *Journal of Advanced Nursing*, *9*, 357-362.
- Hinds, P. S. (1988). Adolescent hopefulness in illness and health. *Advances in Nursing Science*, *10*, 79-88.
- Hinds, P., & Gattuso, J. S. (1991). Measuring hopefulness in adolescents. Journal of Pediatric Oncology Nursing, 8, 92-94.
- Hinds, P. S., Quargnenti, A., Fairclough, D., Bush, A. J., Betcher, D., Rissmiller,G.,... McCown, F. (1999). Hopefulness and its characteristics in adolescentswith cancer. *Western Journal of Nursing Research*, 21, 600–620.
- Hjemdal, O., Friborg, O., Stiles, T. C., Rosenvinge, J. H., & Martinussen, M. (2006).
 Resilience predicting psychiatric symptoms: A prospective study of protective factors and their role in adjustment to stressful life events. *Clinical Psychology and Psychotherapy*, *13*, 194-201.
- Hjemdal, O. (2007). Measuring protective factors: The development of two resilience scales in Norway. *Child and Adolescent Psychiatric Clinics of North America*, 16, 303-321.

- Hjemdal, O., Aune, T., Reinfjell, T., Stiles, T. C., & Friborg, O. (2007). Resilience as a predictor of depressive symptoms: A correlational study with young adolescents. *Clinical Child Psychology and Psychiatry*, 12, 91-104.
- Hoyle, R. (1995). The Structural Equation Modeling Approach: Basic concepts and fundamental issues. In R. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 1-15). Thousand Oaks, CA: Sage.
- Johnson, R. L. (2005). Gender differences in health-promoting lifestyle of African Americans. *Public Health Nursing*, 22, 130-137.
- Jöreskog, K. G., & Sörbom, D. (2006). *LISREL 8.80 for Windows [Computer Software]*. Lincolnwood, IL: Scientific Software International.
- Kasl, S.V., & Cobb, S. (1966). Health behavior, illness behavior, and sick role behavior. *Archives of Environmental Health*, *12*, 246-266.
- Kia-Keating, M., Dowdy, E., Morgan, M. L., & Noam, G. G. (2011). Protecting and promoting: An integrative conceptual model for health development of adolescents. *Journal of Adolescent Health*, 48, 220-228.
- Khan, A., & Husain, A. (2010). Social support as a moderator of positive psychological strengths and subjective well-being. *Psychological Reports, 106*, 534-538.
- Kline, R. B. (2011). *Principals and practice of structural equation modeling (3rd ed.)*. New York: The Guilford Press.
- Korner, I. N. (1970). Hope as a method of coping. *Journal of Counseling and Clinical Psychology*, *34*, 134-139.
- Knight, C. (2007). A resilience framework: Perspectives for educators. *Health Education*, 107, 543-556.

- Liddle, H. A. (1994). Contextualizing resilience. In M. C. Wang & E. W. Gordon (Eds.), *Educational resilience in inner-city America: Challenges and prospects* (pp. 167-177). Hillsdale, NJ: Lawrence Erlbaum.
- Luthar, S. S. (1991). Vulnerability and resilience: A study of high risk adolescents. *Child Development*, 62, 600-616.
- Magaletta, P. R., & Oliver, J. M. (1999). The hope construct, will and ways: Their relations with self-efficacy, optimism, and general well-being. *Journal of Clinical Psychology*, 55, 539-551.
- Mahat, G., Scoloveno, M. A., & Whalen, C. (2002). Positive health practices of urban minority adolescents. *Journal of School Nursing*, *18*, 163-169.
- Mahon, N. E., Yarcheski, A., & Yarcheski, T. J. (2000). Positive and negative outcomes of anger in early adolescents. *Research in Nursing & Health*, 23, 17-24.
- Mahon, N. E., Yarcheski, A., & Yarcheski, T. J. (2004). Social support and positive health practices in early adolescents: A test of mediating variables. *Clinical Nursing Research*, 13, 216 - 236.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56, 227-238.
- Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development* and Psychopathology, 2, 425-444.
- Miceli, M., & Castelfranchi, C. (2011). Hope: The power of wish and possibility. *Theory and Psychology*, 20, 251-276.

- Monteith, B., & Ford-Gilboe, M. (2002). The relationships among mother's resilience, family health work, and mother's health-promoting lifestyle practices in families with preschool children. *Journal of Family Nursing*, *8*, 383-407.
- Muyskens, J. L. (1979). The sufficiency of hope. Philadelphia: Temple University Press.
- Nunnally, J., & Bernstein, I. (1994). *Psychometric theory* (3rd ed.). New York: McGraw Hill.
- Ojala, A. (2005). Adolescents' worries about environmental risks: Subjective well-being, values, and existential dimensions. *Journal of Youth Studies*, *8*, *331-347*.
- Olsson, C. A., Bond, L., Burns, J. M., Vella-Brodrick, D. A., & Sawyer, S. M. (2003). Adolescent resilience: A concept analysis. *Journal of Adolescence*, *26*, 1-11.
- Ong, A. D., Bergman, C. S., Bisconti, T. L., & Wallace, K. A. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of Personalityand Social Psychology*, 91, 730-749.
- Peltzer, K. (2001). Psychosocial correlates of health practices in Black South African university students. *Health SA Gesondheid*, *6*, 68-74.
- Pender, N. J., Murdaugh, C., & Parsons, M. A. (2010). *Health promotion in nursing* practice (6th ed.). Upper Saddle River, NJ: Pearson/Prentice-Hall.
- Polk, L.V. (2000). Development and validation of the Polk Resilience Patterns Scale
 (Doctoral dissertation). Available from ProQuest Dissertations and Theses
 database. (UMI No. 9969559)
- Rassouli, M., Gharebagh, Z., Safavi, M., & Haghani, H. (2010). Psychometric properties of "Hopefulness Scale for Adolescents" (HSA). *Journal of Nursing and Midwifery*, 20, 43-50.

Ritchie, M. A. (2001). Self-esteem and hopefulness in adolescents with cancer, *Journal* of *Pediatric Nursing*, *16*, 35-42.

- Roth, M., & Von Colliani, G. (2007). A head-to-head comparison of big-five types and traits in the prediction of social attitudes. *Journal of Individual Differences*, 28, 138-149.
- Rutter, M. (1987). *Developmental psychiatry*. Washington, DC: American Psychiatric Press.
- Sachse, D. (2007). Hope: More than a refuge in a storm. a concept analysis using the Wilson method and the Norris method. *International Journal of Psychiatric Nursing Research*, 13, 1546-1553.
- Sapp, C. J. (2003). Adolescents with asthma: Effects of personal characteristics and health promoting lifestyle behaviors on health related quality of life (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3092071)
- Sanchez-Lopez, M., Salcedo-Aquilar, F., Solera-Martinez, P., Notario-Pacheco, B., & Martinez-Vizcaino, V. (2009). Physical activity and quality of life in school children aged 11-13 years of Cuenca, Spain. *Scandinavian Journal of Medicine & Science in Sports, 19*, 879-884.
- Scioli, A., Ricci, M., Nyugen, T., & Scioli, E. (2011). Hope: Its nature and measurement. *Psychology of Religion and Spirituality*, *3*(2), 78-97.
- Scudder, L., Sullivan, K., & Copeland-Linder, N. (2006). Adolescent resilience: Lesson for care. *The Journal for Nurse Practitioners*, *4*, 535-543.
- Silk, J. S., Vanderbilt-Andriance, E., Shaw, D. S., Forbes, E. E., Whalen, D. J., Ryan, N. D., & Dahl, R. E. (2007). Resilience among children and adolescents at risk for depression: Mediation and moderation across social and neurobiological contexts. *Development and Psychopathology, 19*, 841-865.
- Soest, T., Mossige, S., Stefansen, K., & Hjemdal, O. (2010). A validation study of the Resilience Scale for Adolescents. *Journal of Psychopathology and Behavioral Assessment*, 32, 215-225.
- Solem, S. (2001). Factors related to resilience abilities and self-care practices in Adolescents (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3065508)
- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, *13*, 249-275.
- Steinberg, L. (2005). Adolescence (7th ed.). New York: McGraw Hill.
- Stewart, M., Reid, G., & Mangham, C. (1997). Fostering children's resilience. Journal of Pediatric Nursing, 12, 21-31.
- Srivastava, S., & Sinha, A. K. (2005). Resilience for well-being: The role of experiential learning. *Psychological Studies*, 50, 40-49.
- Tabachnick, B. G., & Fidell, L. S. (2001). Using multivariate statistics (4th ed.). Needham Heights, MA: Allyn & Bacon.
- Ungar, M., & Liebenberg, L. (2005). The International Resilience Project: A mixed methods approach to the study of resilience across cultures. In M. Ungar (Ed.), *Handbook for working with children and youth: Pathways to resilience across cultures and context* (pp. 21-26). Thousand Oaks, Ca: Sage.

- Utsey, S. O., Hook, J. N., Fischer, N., & Belvet, B. (2008). Cultural orientation, ego resilience, and optimism as predictors of subjective well-being in African Americans. *The Journal of Positive Psychology*, *3*, 202-210.
- Vernon, M. (2008). Well-being. Stocksfield: Acumen.
- Wagnild, G. (2003). Resilience and successful aging: Comparison among low and high Income older adults. *Journal of Gerontological Nursing*, 29, 42-49.
- Wagnild, G., & Young, H. M. (1990). Resilience among older women. *Image: Journal of Nursing Scholarship*, 22, 254-255.
- Weisner, T. S. (1998). Human development, child well-being, and the cultural project of development. *New Directions for Child Development*, 81, 69-85.
- Werner, E., & Smith, R. (1992). Overcoming the odds: High- risk children from birth to adulthood. New York: Cornell University Press.
- Werner, E., & Smith, R. (2001). Journeys from childhood to midlife: Risk, resilience, and recovery: Ithaca, NY: Cornell University Press.
- Windle, G. (2011). What is resilience? A review and concept analysis. *Reviews in ClinicalGerontology*, 21, 152-169.
- Yarcheski, A., Mahon, N. E., & Yarcheski, T. (2001). Social support and well-being in early adolescents: The role of mediating variables. *Clinical Nursing Research*, 10, 163-181.
- Yarcheski, A., Mahon, N. E., & Yarcheski, T. J. (2011). Stress, hope, and loneliness in young adolescents. *Psychological Reports*, 108, 919-922.

- Yarcheski, A., Scoloveno, M. A., & Mahon, N. E. (1994). Social support and well-being in adolescents: The mediating role of hopefulness. *Nursing Research*, 43, 288-292.
- Yu, X., Lau, J. T., Mak, W. W., Zhang, J., & Lui W. W. (2011). Factor structure and psychometric properties of the Connor-Davidson Resilience Scale among Chinese adolescents. *Comprehensive Psychiatry*, 52, 218-24.
- Zimmerman, M.A., & Brenner, A.B. (2010). Resilience in adolescence: Overcoming neighborhood disadvantage. In J.W. Reich, A. J. Zautra, & J. S. Hall (Eds.), *Handbook of adolescent resilience* (pp. 283-308). New York: The Guilford Press.

Appendix A Resilience Scale for Adolescents (READ)

Directions: Please think about how the last month has been for you. Your thoughts 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.

(Developed by Odin Hjemdal & Oddgeir Friborg)

	Totally	Agree	Average	Disagree	Totally
	Agree				Disagree
1. I reach my goals if I work hard.					
2. I am at my best when I have clear aims and objectives.					
3. I have some friends/family members that usually encourage me.					
4. I am satisfied with my life up till now.					
5. In my family we share views of what is important in life.					
6. I easily make others feel comfortable around me.					
7. I know how to reach my goals.					
8. I always make a plan before I start something new.					
9. My friends always stick together.					

READ cont.	Totally Agree	Agree	Average	Disagree	Totally Disagree
10. I feel comfortable with my family.					
11. I easily find new friends.					
12. When it is impossible for me to change certain things I stop worrying about them.					
13. I am good at organizing my time.					
14. I have some close friends/family members that really care about me.					
15. In my family we agree on most things.					
16. I am good at talking to new people.					
17. I feel competent.					
18. In my family we have rules that simplify everyday life.					
19. I always have someone that can help me when I need it.					
20. When I have to choose between several options I almost always know what will be right for me.					

READ cont.	Totally Agree	Agree	Average	Disagree	Totally Disagree
21. My family views the future as positive, even when very sad things happen.					
22. I always find something fun to talk about.					
23. My belief in myself gets me through difficult times.					
24. In my family we support each other.					
25. I always find something comforting to say to others when they are sad.					
26. When things go badly I have a tendency to find something good that can come out of it.					
27. In my family we like to do things together.					
28. I have some close friends/family members that value my qualities.					

		Appendix B	
	Hopefuln	ess Scale for Adolescents	
DIRECTIONS:	Answer each quest	tion by placing a vertical mark across t	the answer line
	at a		
	point which BEST R	REFLECTS YOUR OPINION	
Example:	Нарру		Sad
	Answer all of the	 e following questions about how	<i>ı</i> you feel
now.			
1. I see diffe	rent ways to look at	a problem.	
I never think			I alwavs
this way			think this way
2. There are	great things yet to c	come for me.	
I never think			I always
this way _			think this way
3. I'm not go	oing to get any bette	er than I already am.	
I never think			I always
this way			think this way
4. I won't le	t myself spend all of	my time feeling sorry for myself.	
I never think			I always
this way			think this way
5. I let myse	If focus on the bad.		
I never think			I always
this way _			think this way
6. I have the	ability to change m	y future.	
I never think			l always
this way			think this way

Answer all of the following questions about how you feel now.

7. Things really won't get better for me.	
I never think	l always
this way	think this way
8. I'm getting some self-confidence.	
I never think	l always
this way	think this way
9. I won't let myself keep worrying about things I c	an't fix.
I never think	l always
this way	think this way
10. Someday I'm going to find someone to love.	
I never think	l always
this way	think this way
11. I'm pretty sure I can't make problems turn out o	kay.
I never think	l always
this way	think this way
12. I make myself do something to get my mind off I	bad thoughts.
l never think	l always
this way	think this way
13. I try to make myself believe things will get bette	r.
I never think	l always
this way	think this way

Answer all of the following questions about how you feel now.

14. I'm starting to come up with possibilities for me.

I never think	l always
this way	think this way
15. Maybe there will be something going for me.	
I never think	l always
this way	think this way
16. There's no light at the end of the tunnel.	
I never think	l always
this way	think this way
17. I force myself to try harder.	
I never think	l always
this way	think this way
18. Things will always get better.	
I never think	l always
this way	think this way
19. I make myself think positive thoughts.	
l never think	l always
this way	think this way
20. I believe there is a chance for me.	
l never think	l always
this way	think this way

Answer all of the following questions about how you feel now.

21. Good can come.

I never think	l always
this way	think this way
22. I can't handle problems.	
I never think	I always
this way	think this way
23. I'm not positive about my life becoming	a good one.
l never think	I always
this way	think this way
24. I know I'll do okay in life.	
I never think	I always
this way	think this way

Appendix C

ADOLESCENT GENERAL WELL-BEING QUESTIONNAIRE

Below are some statements with which people agree and others disagree. Please read each statement and <u>circle</u> the response most appropriate for you.

	STATEMENT	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE
1.	I feel popular and that I am easy to like.	5	4	3	2	1
2.	I have trouble making friends.	5	4	3	2	1
3.	There is a lot of stress or tension in my life.	5	4	3	2	1
4.	I feel dissatisfied with the way things are going.	5	4	3	2	1
5.	I enjoy my life.	5	4	3	2	1
6.	I feel as happy as others.	5	4	3	2	1
7.	I feel my life has meaning and that I am living fully.	5	4	3	2	1
8.	I frequently have headaches.	5	4	3	2	1
9.	I feel successful and worthwhile.	5	4	3	2	1

	STATEMENT	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE
10.	I frequently feel sick to my stomach or have stomach aches or cramps.	5	4	3	2	1
11.	My heart frequently beats fast.	5	4	3	2	1
12.	Things usually turn out the way I want.	5	4	3	2	1
13.	I occasionally feel faint, dizzy, or flushed/hot.	5	4	3	2	1
14.	My body seems to cause me trouble or interferes with my life.	5	4	3	2	1
15.	I am usually free from colds and other illnesses.	5	4	3	2	1
16.	I feel as strong and healthy as I should be.	5	4	3	2	1
17.	I am usually able to resist illness and avoid accidents.	5	4	3	2	1
18.	I smoke cigarettes regularly.	5	4	3	2	1

	GWB cont. STATEMENT	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE
19.	I am satisfied with my health and feel that it does not prevent me from doing things I like to do.	5	4	3	2	1
20.	I use drugs for reasons <u>other</u> <u>than</u> medical reasons.	5	4	3	2	1
21.	I take sleeping pills or tranquilizers.	5	4	3	2	1
22.	I maintain a consistently good body weight for my height and build.	5	4	3	2	1
23.	I get physical exercise regularly and stay in good shape for my height and build.	5	4	3	2	1
24.	I am frequently sad, downhearted, and moody.	5	4	3	2	1
25.	I frequently feel guilty.	5	4	3	2	1
26.	I have frequent thoughts about death.	5	4	3	2	1

	GWB cont. STATEMENTS	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE
27.	I am usually optimistic and look on the bright side of things.	5	4	3	2	1
28.	I often feel like crying.	5	4	3	2	1
29.	I like myself.	5	4	3	2	1
30.	I worry about the future or how things will turn out.	5	4	3	2	1
31.	l enjoy competition.	5	4	3	2	1
32.	I am frequently worried or fearful.	5	4	3	2	1
33.	I am able to concentrate and maintain a train of thought.	5	4	3	2	1
34.	My memory is good.	5	4	3	2	1
35.	I can usually think clearly.	5	4	3	2	1
36.	I wonder if anything is worthwhile anymore.	5	4	3	2	1

	STATEMENTS	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE
37.	I am frequently irritable or angry.	5	4	3	2	1
38.	I handle my problems without frustration or getting upset.	5	4	3	2	1
39.	I get in trouble with the police.	5	4	3	2	1

GWB cont.

110

Appendix D



Permission to Use the Adolescent Lifestyle Profile©

I plan to use the Adolescent Lifestyle Profile[®] in a research or evaluation project entitled: omes ence IN URBAN Ne5i Adolescen I am enclosing a check/money order for ten dollars (\$10.00) payable to the **Adolescent Health Promotion Project** I agree to provide a copy of the psychometric properties of the ALP from my research when completed. I understand that the instrument may not be produced in the appendix of a thesis, dissertation or research grant proposal without further permission. Reproduction for any other purpose, including the publication of study results, is prohibited without specific permission. Sco , OVENO Kobert Signature rint Name Me <u>908-507-6788</u> Area Code Telephone# Neshavi Stativ NT (Position/Institution Wursing Mailing Address Scoloue <u>& S. 2D4</u> Email Permission is granted to the above investigator to copy and use the Adolescent Lifestyle Profile© for non-commercial data collection purposes such as research or evaluation projects provided that content is not altered in anyway and the copyright/permission statement at the end is setained.

Otros NV Constance S. Hendricks, PhD

2012 Date

Please send two signed copies of this page to: Constance S. Hendricks, PHD, RN, FAAN 300 North Dean Road, Suite 5-118 Auburn, AL 36830 334-844-6749 ; FAX 334-844-5654

Appendix E

DEMOGRAPHIC DATA SHEET

DIRECTIONS: Please check one response to each question and/or fill in the missing blanks.

1. Gender (check one):

1.1 _____Male

1.2____ Female

- 2. How old are you? _____
- 3. What grade are you in (check one)?
 - 3.1 _____ Sophomore
 - 3.2 _____ Junior
 - 3.3 _____ Senior

4. What do you consider yourself (check one)?

- 4.1 _____ White
- 4.2 _____ Black or African American
- 4.3 _____ Asian/Pacific Islander
- 4.4 _____ Latino
- 4.5 _____ Other (please specify): ______
- 5. Do you currently have a medical condition that requires you to limit or restrict normal activity?
 - 5.1 _____No 5.2 _____Yes 5.3 *If yes, what is the condition*? _____
- 6. List two activities that you currently carry out to stay healthy (e.g. good diet)

6.1		
6.2		
6.3	None	

Demographic Data Sheet (cont)

7. What health risk behaviors (e.g. smoking) do you get involved in?

6.7		 	
6.8			
6.9	None		

8. Do you participate in Organized Sports?

7.0	No
7.1	_Yes
7.2 If Yes,	, Please list

9a. Please give an example of a behavior that would put your health at risk

7.3_____

9b. Provide an example of how to avoid this health risk

7.4_____



BELLEVILLE PUBLIC SCHOOLS

102 Passaic Avenue Belleville, New Jersey 07109 Web Site: www.bellevilleschools.org

 Phone:
 973 450-3500 x3446

 Fax:
 973 450-3504

 E-mail:
 helene.feldman@belleville.k12.nj.us

Helene A. Feldman Interim Superintendent of Schools

November 15, 2012

Dear Mr. Scoloveno:

This letter is pursuant to your request to conduct your doctoral dissertation research in Belleville High School. I understand the research focuses on a Theoretical Model of Health-Related Outcomes of Resilience in Adolescents. As Interim Superintendent of the Belleville Public Schools, I am in full support of your using our high school and students to conduct your research. You have my permission to conduct your research at Belleville High School in late November, 2012. As we discussed, the sample for your research will be obtained from sophomore, junior, and senior level students in the classroom setting. Ms. Barbara Correnti, Director of Student Personnel Services, will help to facilitate the process.

Sincerely

Helene A. Feldman Interim Superintendent of Schools 973-450-3500 EXT.3446

Appendix G

RUTGERS UNIVERSITY Office of Research and Sponsored Programs ASB III, 3 Rutgers Plaza, Cook Campus New Brunswick, NJ 08901

June 19, 2012

Robert L. Scoloveno 207 Grandview Drive Neshanic Station NJ 08853

Dear Robert Scoloveno:

(Initial / Amendment / Continuation / Continuation w/ Amendment)

Protocol Title: "An Investigation of a Theoretical Model of Health-Related Outcomes of Resiliance in Middle Adolescents"

This is to advise you that the above-referenced study has been presented to the Institutional Review Board for the Protection of Human Subjects in Research, and the following action was taken subject to the conditions and explanations provided below:

Approval Date:	5/24/2012	Expiration Date:	5/23/2013
Expedited Category:	7	Approved # of Subject(s):	180

This approval is based on the assumption that the materials you submitted to the Office of Research and Sponsored Programs (ORSP) contain a complete and accurate description of the ways in which human subjects are involved in your research. The following conditions apply:

- This Approval-The research will be conducted according to the most recent version of the protocol that was submitted. This approval is valid ONLY for the dates listed above;
- **Reporting-**ORSP must be immediately informed of any injuries to subjects that occur and/or problems that arise, in the course of your research;
- Modifications-Any proposed changes MUST be submitted to the IRB as an amendment for review and approval prior to implementation;
- **Consent Form(s)**-Each person who signs a consent document will be given a copy of that document, if you are using such documents in your research. The Principal Investigator must retain all signed documents for at least three years after the conclusion of the research;
- **Continuing Review-**You should receive a courtesy e-mail renewal notice for a Request for Continuing Review before the expiration of this project's approval. However, it is <u>your responsibility</u> to ensure that an application for continuing review has been submitted to the IRB for review and approval prior to the expiration date to extend the approval period;

Additional Condition: Approval from the IRB at Newark Public Schools Research & Evaluation Panel

Additional Notes: Expedited Approval per 45 CFR 46.110

Failure to comply with these conditions will result in withdrawal of this approval.

Please note that the IRB has the authority to observe, or have a third party observe, the consent process or the research itself. The Federal-wide Assurance (FWA) number for the Rutgers University IRB is FWA00003913; this number may be requested on funding applications or by collaborators.

Goldber

Director of Office of Research and Sponsored Programs gibel@grants.rutgers.edu

cc: Adela Yarcheski

P.I. Name: Scoloveno Protocol #: 12-723Mc

Appendix H Conditions that Influence Adolescent Health

Parental Permission Form

Dear Parents/Guardians:

I am a doctoral student and a PhD candidate at Rutgers University. I have been given permission to conduct my dissertation research study at Belleville High School, and the principal of Belleville High School and the superintendent of the Belleville Public Schools have allowed me to contact you to request permission for your child to participate in the study about various conditions that influence health. I will briefly explain the study to the students who have returned this permission slip, and also ask for their agreement to participate.

Description of the Study

Students who participate in this study will be given four brief questionnaires that ask them in general about their ability to deal with challenges, their future outlook, and their health practices and sense of feeling good. They will also be given a demographic data sheet that asks their age, grade and gender, but no identifiable information, such as name, or social security numbers will be solicited. The packet of four questionnaires and one demographic data sheet will take about 40 minutes to complete during the time that the students are in a classroom setting. Prior to data collection, there will be a 40 minute class period where the study and the instructions will be explained to students. If the student indicates at any time that they want to stop filling out the questionnaires, they will be thanked for their participation and allowed to discontinue their participation immediately.

Risks, Inconveniences, and Discomforts

There are no foreseeable physical risks to participation in this study. Your child's grade will not be affected in any way, whether or not he/she participates in the study.

Benefits

Your child will not benefit directly from participation in this study. However, the information collected may lead to increased understanding of the factors that influence how adolescents feel about themselves and how they relate to others.

If you would like to have a report of the study when it is completed, please indicate this at the bottom of this form and return a self-addressed envelope to be used

to send you a summary of the study. Also, please retain the attached copy of this consent form for your record.

Anonymity of Participant Information

This research is anonymous. Anonymous means that I will ask for no information about your child that could identify him/her. This means that the study participants' names, addresses, phone numbers, date of birth, etc. will not be submitted by them. The research team and the Institutional Review Board (a committee that reviews research studies in order to protect research participants) at Rutgers University are the only parties that will be allowed to see student responses to the questionnaires, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only group results will be stated, and reported.

Questions

If you have any questions about the research, you may contact me at (908) 507-6788 or by email, <u>rscolove@rutgers.edu</u>. If you have any questions about your child's rights as a research participant, you may contact the Rutgers University Sponsored Programs Administrator at:

Rutgers University Institutional Review Board for the Protection of Human Subjects Office of Research and Sponsored Program 3 Rutgers Plaza New Brunswick, NJ 08901-8559 Tel: 848-932-0150

Email: <u>humansubjects@orsp.rutgers.edu</u>

You can also contact my faculty advisor, Dr. Adela Yarcheski, PhD, RN, FAAN, if you have questions. She can be reached at:

180 University Ave Ackerson Hall Newark, NJ 07102 Tel: 973-353-3842 Email: yarchesk@rutgers.edu.

Consent

Your child's participation in this study is completely voluntary. Please sign and return the attached permission slip if you are willing to have your child participate. Your support is greatly appreciated.

Sincerely,

Robert Scoloveno, RN, MS, PhD(c)

Your child will also be asked if they wish to participate in this study. You will be given a copy of this consent form for your records.

Sign below if you agree to allow your child to participate in this research study:

Name of Child (Print) ______

Name of Parent/LegalGuardian(Print)

Parent/Legal Guardian's Signature	Date
-----------------------------------	------

Principal Investigator Signature ______ Date _____

Appendix I

Student Consent Form

You are invited to take part in a research study that examines the health issues of high school students. My name is Robert Scoloveno, and I am a doctoral student at Rutgers University, and am conducting this study as a requirement for graduation. I am doing the study to complete requirements for a PhD degree, and a minimum of 200 participants will be recruited for the study.

If you agree to participate, you will be asked to fill out four questionnaires that will take about 40 minutes in total to complete. There will also be a 40 minute information session explaining the process for completing the instrument packet. The questionnaires ask about one's ability to adapt to challenging situations, having a positive outlook, finding meaning in life and practicing healthful behaviors. Your name will NOT be on the questionnaires, but you will be asked to write your age, grade, and gender (whether you are male or female) on the form. The research is anonymous. Anonymous means that I will record no information about you that could identify you. This means that I will not record your name, address, phone number, date of birth, etc. There will be no way to link your responses back to you. Therefore, data collection is anonymous.

Your grades will not be affected in any way by your decision to participate or not participate in the study. You will not receive any benefit from taking part in this study: however, your answers may increase understanding of the factors influencing students' health behaviors.

Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

If you feel distressed after completing the instrument packet, let the investigator or teacher know and arrangements will be made for you to see the school nurse. One of your parents will also be required to provide permission for you to participate in the study, and they will be given my phone number, in case you or your parents have any questions about the research. They will also have a phone number for the Office of Research and Sponsored Programs at Rutgers University, in case there are any questions about your rights as a research subject. You will be given a copy of this form to keep.

If you have any questions about your rights as a research subject, you may contact the IRB Administrator at Rutgers University at:

Rutgers University, the State University of New Jersey Institutional Review Board for the Protection of Human Subjects Office of Research and Sponsored Programs 3 Rutgers Plaza New Brunswick, NJ 08901-8559 Tel: 848-932-0150 Email: humansubjects@orsp.rutgers.edu

If you agree to participate in the study, please sign below:

Student signature	Date:
Student name (printed)	Date:
Investigator signature	Date:
Witness signature	Date:

Vita

Robert L. Scoloveno

1968	Born in Belleville, New Jersey
1986	Graduated Bridgewater-Raritan High School West
1991	AAS Essex County Community College, Ophthalmic Science
1999	AAS Raritan Valley Community College, Nursing
1999	Recipient Joanne Sergeant Award for Excellence in Bedside Nursing, Raritan Valley Community College
1999	Recipient Army Corp of Engineers Spirit of Nursing Award
1999-2000	Registered Nurse, Robert Wood Johnson University Hospital
2000-2002	Head Nurse, Robert Wood Johnson (RWJ) University Hospital, Cardiothoracic Step Down Unit
2001	BS, Rutgers, College of Nursing
2001	Admitted to membership Sigma Theta Tau, Alpha Tau Chapter
2002-2010	Registered Nurse, RWJ University Hospital, Cardiothoracic Intensive Care Unit
2005	MS, Rutgers, Graduate School-Newark
2005-2009	Clinical Instructor, Rutgers, College of Nursing
2009	Recipient RWJ Foundation Fellowship for PhD program
2009-2013	Simulation Coordinator- Rutgers, College of Nursing
2012	Recipient Dorothy J. DeMaio Research Award
2013	Integrative Review of Hope in Adolescents, Journal of Pediatric Nursing, 28, 105-113
2013	PhD, Rutgers, Graduate School-Newark