AN EXAMINATION OF HAPPINESS IN ADOLESCENCE:
VALIDATION OF THE HUMBOLDT HAPPINESS SCALE

By
Amy Elizabeth Lowe

A Thesis Presented to
The Faculty of Humboldt State University
In Partial Fulfillment of the Requirements for the Degree
Masters of Arts in Psychology: Academic Research

Committee Members
Dr. William Reynolds, Committee Chair
Dr. Beth Eckerd, Committee Member
Dr. Christopher Aberson, Graduate Coordinator

May 2013
**ABSTRACT**

The current study examined the psychometric properties of the Humboldt Happiness Scale Adolescent Version (HHS-AV: Reynolds, 2011) on a sample of 159 high school adolescents from Northern California. This research was conducted because there are no psychometrically sound measures for assessing happiness in adolescents. Happiness research is being conducted with college students and adults with a plethora of instruments to choose from. The goal of this study was to demonstrate that the HHS-AV is a reliable and valid scale to measure happiness in the adolescent population by examining the scale’s internal consistency reliability, criterion validity, construct validity and factorial validity.

As predicted the HHS-AV exhibited adequate levels of internal consistency reliability with a Cronbach’s alpha coefficient of .92 suggesting that the HHS-AV has minimal error variance. The HHS-AV demonstrated a strong relationship ($r = .85$) with an already established measure of happiness, the Oxford Happiness Questionnaire (OHQ: Hills & Argyle, 2002) to demonstrate criterion related validity. Evidence for construct validity was demonstrated by examining the relationships between happiness and other theoretically related constructs (self-esteem, depression, loneliness, and optimism) and unrelated constructs (antisocial behavior and social desirability) based on an a priori nomological network. The magnitudes of these relationships are sufficient evidence for both kinds of construct validity, convergent and discriminant, indicating the HHS-AV is a valid scale for use with adolescents. Factorial validity on the other hand did not yield a
sound factor structure with this particular sample. A parallel analysis was conducted and both the principal component analysis and the principal axis factoring method yielded a different number of components/factors making the factor structure inconclusive for this sample.

Regression analyses demonstrated that all convergent validity variables were related to happiness but the strength of the predictions for the HHS-AV, which measures happiness as a state were different than the OHQ which measures happiness as a trait construct. Results from this study indicated that male and female adolescents do not differ in overall levels of happiness and there was a small but significant negative correlation between happiness and age using the HHS-AV.

Overall, this study indicates that the HHS-AV is a reliable and valid instrument for measuring happiness in adolescence. This is the first psychometric evaluation of the HHS-AV and more studies are needed to investigate this instrument and adolescent happiness further, but researchers can use this instrument with this age group with confidence that it is reliable and valid measure.
ACKNOWLEDGEMENTS

I would first and foremost like to thank and express gratitude to the schools and individual students that participated in this study, I know how limited school time is and how tight the schedule can be. Without your participation, this study would cease to exist. Next I would like to thank my committee members Dr. Chris Aberson and Dr. Beth Eckerd, for taking the time to be a part of this study and my Humboldt State Graduate career. I would also like to thank Dr. William Reynolds for his guidance and advising wisdom throughout this process and the willingness to let me use his scale, intended for adults and college students, for my thesis on adolescents. Again, without his participation this study would cease to exist. Lastly, but definitely not least, are my family and boyfriend for their incredible patience, support, and endless words of encouragement.
# TABLE OF CONTENTS

ABSTRACT ........................................................................................................................ ii

ACKNOWLEDGEMENTS ...................................................................................................... iv

TABLE OF CONTENTS .................................................................................................... v

LIST OF TABLES ........................................................................................................... viii

LIST OF APPENDICES ..................................................................................................... ix

INTRODUCTION .............................................................................................................. 1

Happiness Research and Adolescents .................................................................................. 1
Happiness Measures for Adolescents .................................................................................. 4
Purpose of the Current Study ............................................................................................ 4

LITERATURE REVIEW ................................................................................................... 6

Introduction ......................................................................................................................... 6
Adolescence ......................................................................................................................... 6
Happiness Conceptualizations ............................................................................................ 11
Measuring Happiness ........................................................................................................ 19
Happiness and Related Constructs ................................................................................... 28
Summary ............................................................................................................................ 40

STATEMENT OF THE PROBLEM ................................................................................ 42

Introduction ......................................................................................................................... 42
Research Questions and Hypotheses .................................................................................. 43
Research Question 1 and Rationale .................................................................................. 43
Hypothesis 1 and Rationale ............................................................................................... 43
Hypothesis 2 and Rationale ............................................................................................... 45
Hypothesis 3 and Rationale ............................................................................................... 46
Hypothesis 4 and Rationale ............................................................................................... 46
Hypothesis 5 and Rationale ............................................................................................... 47
Hypothesis 6 and Rationale ............................................................................................... 48
Hypothesis 7 and Rationale ............................................................................................... 49
Research Question 2 and Rationale .................................................................................. 50
Research Question 3 and Rationale .................................................................................. 51

METHOD ......................................................................................................................... 52

Participants ......................................................................................................................... 52
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumentation</td>
<td>52</td>
</tr>
<tr>
<td>Procedure</td>
<td>60</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>61</td>
</tr>
<tr>
<td>RESULTS</td>
<td>63</td>
</tr>
<tr>
<td>Descriptive Statistics</td>
<td>63</td>
</tr>
<tr>
<td>Reliability of the Humboldt Happiness Scale-Adolescent Version</td>
<td>63</td>
</tr>
<tr>
<td>Validity</td>
<td>63</td>
</tr>
<tr>
<td>Gender Differences</td>
<td>68</td>
</tr>
<tr>
<td>Supplemental Analyses</td>
<td>70</td>
</tr>
<tr>
<td>DISCUSSION</td>
<td>73</td>
</tr>
<tr>
<td>Introduction</td>
<td>73</td>
</tr>
<tr>
<td>Psychometric Properties of the HHS-AV</td>
<td>73</td>
</tr>
<tr>
<td>Construct Validity</td>
<td>76</td>
</tr>
<tr>
<td>Factorial Validity</td>
<td>81</td>
</tr>
<tr>
<td>Gender Differences</td>
<td>82</td>
</tr>
<tr>
<td>Supplemental Analyses</td>
<td>82</td>
</tr>
<tr>
<td>Limitations and Future Research</td>
<td>84</td>
</tr>
<tr>
<td>Conclusion</td>
<td>86</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>88</td>
</tr>
<tr>
<td>APPENDIX A</td>
<td>107</td>
</tr>
<tr>
<td>APPENDIX B</td>
<td>109</td>
</tr>
<tr>
<td>APPENDIX C</td>
<td>111</td>
</tr>
<tr>
<td>APPENDIX D</td>
<td>113</td>
</tr>
<tr>
<td>APPENDIX E</td>
<td>115</td>
</tr>
<tr>
<td>APPENDIX F</td>
<td>117</td>
</tr>
<tr>
<td>APPENDIX G</td>
<td>119</td>
</tr>
<tr>
<td>APPENDIX H</td>
<td>121</td>
</tr>
<tr>
<td>APPENDIX I</td>
<td>124</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1: Correlation Values for Hypothesized Relationships .................................. 44

Table 2: Demographic Information for Total Sample ............................................. 53

Table 3: Descriptive Statistics for all scales ........................................................... 64

Table 4: Item Content and Item-Total Correlations for Total Sample ....................... 65

Table 5: Hypothesized and Final Correlations between the HHS-AV

and Validity Scales .................................................................................................. 66

Table 6: Fit Indices for First Order Confirmatory Factor Analysis Models

of the HHS-AV ....................................................................................................... 69

Table 7: Multiple Regression Analyses Predicting Happiness on HHS-AV

and OHQ from Depression, Optimism, Loneliness, and Self-Esteem .............. 72
LIST OF APPENDICES

Appendix A: Demographic Form.................................................................107
Appendix B: Humboldt Happiness Scale- Adolescent Version (HHS-AV).........109
Appendix C: Oxford Happiness Questionnaire (OHQ).................................111
Appendix D: Rosenberg Self Esteem Scale (RSES)......................................113
Appendix E: Revised UCLA Loneliness Scale............................................115
Appendix F: Revised Life Orientation Test (LOT-R).....................................117
Appendix G: Marlowe-Crowne Social Desirability Scale.............................119
Appendix H: Consent Form.................................................................121
Appendix I: Recruitment Letter.............................................................124
Appendix J: Reynolds’ 3-Factor Model.....................................................126
INTRODUCTION

Some of the common words used by parents, teachers, and college students to describe adolescents are rebellious, risk-taking, materialistic, emotional, depressed, stubborn, and rude (Buchanan et al., 1990; Buchanan & Holmbeck, 1998). Adolescence has been defined as a time of storm and stress characterized by heightened periods of turmoil where several types of problems are more likely to develop and occur (Arnett, 1999). This belief that adolescence is a time of turmoil and rebellion has lead to an abundance of research on negative psychological constructs like depression and psychopathology with multiple psychometric measures to assess these pathologies (Peterson et al., 1993; Reynolds, 1990, 1998, 2001, 2008).

A Psych Info article search with the words adolescent and depression in the title yielded 1039 published articles or books. The same search engine generated 424 published works with the title words adolescent and psychopathology. On the contrary, the Psych Info search engine only generated nine published works when adolescent and happiness were used as title words. Although adolescents are at an increased risk for developing various kinds of internalizing or externalizing coping strategies (Hankin et al., 1998), research shows that most adolescents become fully functioning and adaptive adults (Arnett, 1999; Cicchetti & Rogosch, 2002).

Happiness Research and Adolescents

Previous happiness research focuses on young adults, namely college students, and happiness in adulthood (Argyle, 2001; Francis, Brown, Lester, & Philipchalk, 1998;
Francis, 1999; Furnham & Brewin, 1990; Hills & Argyle 2002; Reynolds, 2005), but it is important for researchers to look at happiness in adolescents because past research has indicated that experiences in adolescence have a profound impact in adulthood (Bergman & Scott 2001). Most happiness research uses definitions of subjective well-being (SWB; Diener, 1984; Diener & Diener, 1996; Diener, Suh, Lucas, & Smith, 1999) or life satisfaction (LS; Antaramian, Huebner, & Valois, 2008; Diener, 1994; Huebner, 1991a, 1991b; Neto, 1992; Pavot & Diener, 1993) and is conceptualized in various ways leading to a lack of cohesion among happiness research (Veenhoven 1994). These two terms are considered overall judgments and evaluations about the circumstances in life and the feelings associated with those circumstances (Kashdan, Biwas-Diener, & King, 2008; Natvig, Albrektsen, & Qvarnstrom, 2003) rather than examining happiness as an emotion or internal positive experience (Bekhet, Zauszniewski, & Nakhla, 2008; Magen, 1998; Reynolds, 2005).

Most adults report above average levels of happiness (Diener 1984; Myers & Diener, 1995; Reynolds, 2005) and most adolescents report above average LS levels (Gilman & Huebner, 2000, 2003; Huebner 1994). Of the few studies that have employed psychometrically sound happiness measures with adolescents, the trend is similar and demonstrates that the majority of adolescents are happy (Abdel-Khakel, 2006; Cheng & Furnham, 2002; Cheng & Furnham, 2003a; Lyubomirsky & Lepper, 1999).

Happiness is related to other positive life areas such as self esteem (Cheng & Furnham 2003a, 2003b; Hills & Argyle, 2002; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995), optimism and hope for the future (Abdel-Khakel, 2006; Brebner,
Donaldson, Kirby, & Ward, 1995; Magaletta & Oliver, 1999), better coping with stressful life events (Suldo & Huebner, 2004), career success (Boehm & Lyubomirsky, 2008), and report fewer physical health symptoms (Natvig et al., 2003). Happiness is negatively related to various kinds of negative mental and life states like loneliness (Moore & Schultz, 1983; Russell, Peplau, & Cutrona, 1980), school distress and alienation (Natvig et al., 2003), and depression (Argyle, Martin, & Lu, 1995; Headey, Kelley, & Wearing, 1993; Reynolds, 2005).

Even though most happiness research has been studied with college students and adults, some studies have focused on adolescents and what makes them happy. Magen (1998) conducted a decade long study of happiness in adolescence. She was convinced that in order for adolescents to resolve this developmental stage’s identity crisis, adolescents need to know what it is that makes them happy and makes them feel good about themselves and the world they live in. She believed that if psychologists knew more about the make-up of happiness in adolescence, it would be beneficial in helping adolescents cope with the trials and tribulations of adolescent development. Her research demonstrated that adolescent happiness is composed of experiences with the self, other people and the external world around them. Chaplin (2009) also examined what made adolescents feel happy and discovered five common themes in three different age groups: time spent with friends and family, sports, hobbies, personal achievements, and material things.
Happiness Measures for Adolescents

Most of the research on happiness in adolescence has been conducted using life satisfaction (LS) definitions and measures (Dew & Huebner, 1994; Huebner, 1991a, 1991b, 1994, 2004), open-ended qualitative data questionnaires (Chaplin, 2009; Magen, 1998), or single item questions (Natvig et al., 2003; Neto, 1992). Although it is important to look at qualitative data to examine what is important to adolescent happiness, these measures are incapable of psychometric evaluations or determining who is and is not happy. Single item questions, although they may demonstrate strong correlations with longer happiness measures, also cannot be subjected to psychometric investigations. Some happiness measures with adequate psychometric properties have been used with adolescents (Abdel-Khakel, 2006; Cheng & Furnham, 2002; Fisher, 2006; Lyubomirsky & Lepper, 1999) but there are very few and the questions may not be appropriate for other age groups due to reading levels or subject content (Chaplin, 2009).

Purpose of the Current Study

The purpose of this study is to investigate the psychometric properties of the Humboldt Happiness Scale-Adolescent Version (HHS-AV: Reynolds, 2011). The original Humboldt Happiness Scale (HHS: Reynolds, 2002) has been used in research with college students, demonstrates sufficient psychometric qualities and consists of items that sample from various positive psychological domains: optimism, positive self worth, cheerfulness, and positive affect (Reynolds, 2005). Another interest of this study is to examine whether the factor model found by Reynolds (2005) is the same for adolescents in grades 9-12. Research also demonstrates that interest in the well-being
and happiness of adolescents is growing, but without an appropriate measure happiness research with this age group may continue to remain limited.
LITERATURE REVIEW

Introduction

The purpose of this thesis is to conduct a psychometric evaluation of a happiness measure with adolescents. This literature review begins with an overview of adolescence and what we know about happiness in adolescence. I will continue with a discussion about how happiness has been conceptualized and defined in psychological research. Next, a review of current happiness measures will be examined followed by happiness and different related constructs.

Adolescence

Adolescence is generally defined as the second decade of the life span and is regarded as a transitional period between the dependent child and the independent adult (Arnett, 1999; Cicchetti & Rogosch, 2002). Changes in multiple areas simultaneously occur and the adolescent either learns to adapt effectively to these changes or they don’t and may develop maladaptive coping strategies. Adolescence can be characterized as a period of healthy self-discovery, but there are certain vulnerabilities (social, environmental, behavioral, genetic) that can threaten the health and well-being for this age group (Antaramian et al., 2008; Cicchetti & Rogosch, 2002; Neumark-Sztainer, Stone, French, & Resnick, 1997). This developmental period can be a time of internal and external conflict due to the striving for independence within society while parental boundaries and societal demands do not allow for complete autonomy (Cicchetti & Rogosch, 2002).
Adolescent research focuses on the development and characteristics of mental illness because of the notion and commonly held belief that adolescence is a time of “storm and stress” characterized by increased moodiness, risk taking and conflict with parents (Arnett, 1999). Although the notion of adolescent “storm and stress” has been debated and largely refuted, studies show that parents and teachers agree with this “storm and stress” perspective by characterizing adolescence as a time of turmoil, rebellion and difficulty with a multitude of internalizing behavior problems (Buchanan et al., 1990; Buchanan & Holmbeck, 1998).

Compared to childhood, this life stage can consist of heightened turmoil and conflict with some adolescents developing long term psychopathologies and enter adulthood as maladaptive individuals, most adolescents continue to grow into fully functioning adults (Arnett, 1999; Cicchetti & Rogosch, 2002). Given that the majority of adolescents become healthy adults, developmental psychopathology researchers seek to answer questions about normal adolescent development and what skills or factors contribute to this normal development.

Adolescent happiness. The concern and interest in psychological health and well-being is not new, but research concerning positive psychological constructs such as happiness and optimism are being conducted with college student and adult populations (Argyle 2001; Francis et al., 1998; Francis, 1999; Hills & Argyle, 2002; Reynolds, 2005) and research with adolescents is limited. It is important to study happiness and well-being in adolescents because studies and reviews indicate that adolescents and children with lower levels of life satisfaction were more likely to develop externalizing behavior
problems in the presence of stressful life events than individuals with above average life satisfaction (Antaramian et al., 2008; Suldo & Huebner, 2004).

Based on previous research focused on happiness and optimal functioning with adults, Magen (1998) explored happiness in adolescents, in particular what contributed to their positive experiences. Magen believed that adolescents learn about the world and themselves by exploring what makes them happy, makes them sad, and what kinds of things they like to do in order to feel good and happy about themselves. The participants in her studies were from three culturally different backgrounds including American Christians, Israeli Arabs, and Israeli Jews, and were chosen because they represent modern and industrial society, traditional society, and a middle ground between the two respectively. A total of 2,500 adolescent males and females 14 to 16 years old with results from multiple research studies conducted between 1980 and 1993 are included in her book and in this discussion.

The studies employed the Positive Experience Questionnaire (PEQ: Landsman, 1969), an open-ended format questionnaire asking participants to describe in the greatest detail possible, “an experience where as a consequence you felt that life is wonderful” (Magen, 1998; p. 14). Using the PEQ allows participants to describe their subjective experience rather than objectively tell what happened or answer questions using fixed rating scales based on averages over time. The PEQ measures happiness as a distinct feeling of joy and elation stronger than everyday positive emotions where the individual feels that life is good and is worth living to the fullest. Magen scored the PEQ using a
four-point scale on the basis of emotion intensity ranging from shallow (barely positive experiences) to peak (inspiring, exciting and joy experiences).

Responses from the PEQ were categorized into three groups by trained judges: moments of intensified self-awareness, deep affective responses to nature or objects, and interpersonal experiences classified as a connection between the self and others. Experiences with the self included discoveries of personal strengths and wishes and involved descriptions of feeling fully alive and aware of positive attributes. Some examples include accomplishing a challenging task or overcoming an obstacle, having a profound religious experience, and being creative through art or music. Experiences with the external world involved an array of responses including encounters with pets, beauty in nature, moving to a new city, traveling somewhere for the first time, or a new outlook on previous experiences. Experiences with others including friends, family, romantic partners or even strangers, occurred most frequently and were described with the most emotional intensity. The most intense responses however, included aspects from all three categories.

Chaplin (2009) also investigated what activities make adolescents happy by asking participants to answer the open-ended question, “What makes me happy?” The first study involved 150 participants ages 8-18 years old and broke participants into three age group categories of fifty 3rd and 4th graders, fifty 7th and 8th graders, and fifty 11th and 12th graders. This breakdown allowed for a comparison between distinct age groups to explore age differences. An analysis of response content yielded five common themes: people and pets, achievements, material things, hobbies, and sports. There were no age
group differences in the number of thoughts or activities listed but there were some age differences in what kind of thoughts and activities were reported. Eleventh and 12th grade students reported more achievement and sport type responses compared to any other age group, 7th and 8th grade students reported people and pets (although for each age group, people and pets were central to happiness) and material things more often, and the youngest age group reported hobbies the most often.

Based on the first study’s theme results, a second study consisting of 150 different participants broken down the same way, was conducted using happiness collage methods. This method was used in order to reduce the possible cognitive strain on the youngest group of research participants. The collage method consisted of participants picking from a variety of 20 different pictures, all based on the five emergent themes from Study 1. After initial collages were decided upon, participants were asked to reduce the number of happy activities by half. Results for original collage and reduced collages demonstrated the same thematic trends and age differences were akin to those in the first study.

Natvig, Albrektsten, and Ovarnstrom (2003) examined the relationships between happiness and other psychosocial constructs including; school distress and alienation, psychosomatic symptoms, general and school related self-efficacy, and social support in 887 Norwegian students in the 7th, 8th and 9th grade. Happiness was measured by a single-item asking “In general, how do you feel about your life at present?” with a fixed response format consisting of four categories (I feel very happy, I feel quite happy, I don’t feel very happy, I don’t feel happy at all). Using ANOVA analysis, results
indicated that students who reported being very happy with their life at present reported
the lowest amount of school stress and alienation and the highest level of both types of
self-efficacy and social support from both peers and teachers.

**Happiness Conceptualizations**

Based on public opinion polls, happiness is a common goal in Western societies
(Peterson & Park, 2003; Seligman, 2002; Veenhoven, 1994) and there are three current
psychological journals devoted to happiness and positive construct research. The *Social
Indicators Research Journal*, first published in 1974, is a journal dedicated to studies
measuring the quality of life on individual and societal levels
(http://www.springer.com/social+sciences/journal/11205). Another journal committed to
studies on happiness, subjective well-being and life satisfaction is the *Journal of
Happiness Studies*. This journal first appeared in June of 2000 and publishes articles on
the speculation or cognitive appraisal of happiness as well as empirical research studies
on happiness (Argyle, 2001; http://www.springer.com/social+sciences/well-being/journal/10902). The most current is the *Journal of Positive Psychology*, first
published in 2006, and focuses on characteristics of the human experience that lead to
optimal functioning, happiness, fulfillment and well-being
(http://www.tandf.co.uk/journals/titles/17439760.asp).

Although happiness research is becoming more prominent in psychology, most of
the research on happiness has focused on adults and college students (Argyle, 2001;
Argyle et al., 1995; Francis et al., 1998; Francis, 1999; Hills & Argyle, 2002; Reynolds,
2005). Research in this area uses subjective well-being, life satisfaction, and happiness
interchangeably which contributes to the lack of coherence in happiness research (Veenhoven, 1994).

**Hedonism and eudaimonia.** A conceptualization debate has arisen in the literature between emotional happiness (hedonism) and happiness as being in sync with values and living life in accordance with one’s virtues (eudaimonia: Kashdan et al., 2008). Hedonism claims that people ultimately desire to feel pleasure, search for euphoria, and avoid pain. The hedonic approach believes that the ultimate goal in life is to experience intense moments of pleasure and happiness is the cumulative sum of all those pleasurable moments (Ryan & Deci, 2001). This perspective regards emotions as central to its conceptualization while eudaimonia postulates that objective values like knowledge, personnel growth, and positive relations with others are responsible for happiness (Kashdan et al., 2008; Ryan & Deci, 2001).

Eudaimonia has been described as self-realization and self expressiveness because it is the potential of each individual to live life to the greatest potential and fulfillment they are capable of (Waterman, 1993). Research suggests that eudaimonia is more concerned with meaning in life and psychological growth (Kashdan et al., 2008; Ryan & Deci, 2001) because it is more objective and void of subjective emotional experiences; however, research studies demonstrate that hedonism (positive emotions and affect) and eudaimonia (meaning in life, psychological well-being, etc) are related to one another (Kashdan et al., 2008; King, Hicks, Krull, & Del Gaiso, 2006). For example, a study examined the relationship between positive moods/emotions and meaning in life (King et al., 2006) in a sample of 568 university students, and indicated that positive
mood, right at that moment and in general, was related to general meaning in life scores \(r = .45\) and \(r = .53\) and meaning in life for the past two days \(r = .38\) and \(r = .45\) respectively.

King and colleagues also investigated whether affect cues (negative, neutral, positive) effected scores on a meaning in life measure. Participants were prompted with one of three scenarios to induce particular moods and feelings. Following the scenario, participants wrote about their feelings and thoughts for three minutes and were asked to rate themselves on 20 adjectives. Participants were then asked to describe their lives in general to a multitude of questions with half of the directions cueing participants: “Please note that sometimes our moods affect how we think about our life in general—and the scenario you read may have influenced your current mood.” (p. 188) Results were analyzed with a 3 (scenario type) × 2 (cue or no cue) between subjects ANOVA and demonstrated a main effect for mood and was qualified by a mood × cue interaction effect. These data suggest that positive mood is used as an information tool when describing meaning in life and positive mood and emotions boost meaning in life evaluations.

**Positive affect.** Happiness has been defined as the affective balance between positive and negative affect with happiness resulting when positive affect outweighs the occurrence of negative affect (Bradburn, 1969). The presence of positive affect and relative absence of negative are regarded as essential components of happiness (Argyle 2001; Argyle, Martin, & Crossland, 1989; Furnham & Brewin, 1990; Reynolds, 2005). Positive affect refers to positive emotional states such as joy, cheerfulness, and
enjoyment while negative affect refers to emotional distress like anger, anxiety, and sadness (Argyle, 2001; Diener, Larsen, Levine, & Emmons, 1985; Watson, Clark, & Tellegen, 1988). Studies show that positive has several benefits in happiness, psychological health, and successful life outcomes (see Lyubomirsky, King, & Diener, 2005 for a review of 225 studies).

There has been some debate about how positive affect influences happiness. Do happy people experience more moments of happiness, even if only mild, or do they experience fewer but more intense or euphoric moments report being happier. Diener, Sandvik, and Pavot (1991) discuss two studies (Diener & Emmons, 1984; Diener et al., 1985) that assessed subjects’ moods for six to eight weeks at random moments throughout the day and at the end of the day asking about overall daily mood. Frequency of positive affect was calculated as the percentage of time a person was experiencing positive emotions and intensity was the average intensity of affect while experiencing those positive emotions. The relationship between happiness and positive emotional frequency and intensity was investigated with three different happiness measures. For all three samples ($n = 42, 62, 102$), frequency was moderately to strongly correlated with scores from each measure with $r$ ranging from .38 to .60 (median = .43). Even after controlling for positive emotional intensity, frequency was still related to happiness scores on two of the three measures (partial $r$ ranging from .25 to .34; median = .265).

Diener et al. (1991) proposed that measuring the frequency of positive affect is more accurate than trying to study intensity of positive emotions. Intense moments of happiness, although somewhat desired, are more individually subjective. These moments
can be few and far between, may be preceded by a negative event, or other extremely happy moments may leave people disappointed because they don’t compare to previous states of elation. The idea behind this frequency theory is that people who experience the most intense moments of happiness also experience the most intense moments of unhappiness, while those who are happy most of the time have less time to be unhappy or experience moments of unhappiness (Diener et al., 1985).

Other research has examined the strength of relationships between positive affect and happiness. These two constructs are moderately to strongly related, but are distinct and are often times used in validation studies to show convergent or construct validity (Argyle et al., 1989; Argyle et al., 1995; Lyubomirsky & Lepper, 1999) and in other happiness studies (Valiant, 1993). In a sample of 147 undergraduates the Oxford Happiness Inventory (OHI: Argyle et al., 1989) demonstrated positive relationships with a current happy mood index ($r = .54$), positive affect items of the Positive And Negative Affect Scale (PANAS: Watson et al., 1988: $r = .32$: Argyle et al., 1989) and with total percentage of time experiencing positive affect ($r = .45$) in 36 undergraduate students (Valiant, 1993). Lyubomirsky and Lepper (1999), in four subsamples of university and adult community members (total sample size = 1,217), found moderate to strong correlations ($r = .52$ to .64, median = .59) between positive affect and happiness.

**Trait happiness and state happiness.** Happiness has been defined and researched as both a trait and a state construct. Traits are generally defined as individual characteristics that remain relatively stable across situations and time, whereas states fluctuate and are dependent upon situations (Stones, Hadjistavropoulos, Tuuko,
A trait definition of happiness implies that levels of happiness are more dependent on internal characteristics (personality) than about external life events and that happy people will remain happy across situations and time (Bekhet et al., 2008; Costa, McCrae, & Zonderman, 1987; Suh, Diener, & Fujita, 1996; Veenhoven, 1994). The relationship between personality and happiness has been examined in various studies (Francis, 1999; Francis et al., 1998; Furnham & Brewin, 1990; Hills & Argyle, 2002) and results show that certain personality characteristics are related to individual levels of happiness.

Personality traits influence individuals’ reactions and judgments to situations (Diener, 1984) and make people more inclined to seek out specific kinds of experiences (Argyle, 2001). Scores on the OHI demonstrate moderately positive relationships with extraversion in a sample of 356 adults ($r = .40$: Francis, 1999), and in a sample of 101 adults ($r = .55$: Furnham & Brewin, 1990). In a cross-national sample using adult participants from the United Kingdom ($n = 378$), United States ($n = 212$), Australia ($n = 255$), and Canada ($n = 231$) extraversion and happiness were moderately related ($r = .49, .49, .41, .47$, respectively) across all four countries (Francis et al., 1998).

In a longitudinal study with 4,942 participants ranging in age from 32 to 85 years old, Costa, McCrae, and Zonderman (1987) examined the stability of well being in these participants over a 10 year period. They were interested in whether significant life changes (change in marital status, job employment or state of residence) during the past ten years significantly influenced overall levels of well-being from Time 1 to Time 2. Overall, total levels of well being ($r = .48$), positive affect ($r = .44$), and negative affect ($r$
at time 1 were moderately correlated with corresponding levels at time 2 suggesting stability of each. Correlation coefficients did not differ between individuals who had experienced any kind of significant life change and those who hadn’t. There were 49 individuals who had experienced all three types of life changes and their total well-being scores were positively related to one another ($r = .57$).

A state conceptualization of happiness implies that happiness is continually reproduced and reevaluated based on circumstantial changes at the individual level all the way to the societal and macro level (Cskiszentmihalyi & Wong, 1991; Veenhoven, 1994). A state definition defines happiness as an emotion or mood (Stones, et al., 1995). Many studies employing a state like definition of happiness use open-ended format questionnaires interested in what activities make people happy (Cskiszentmihalyi & Hunter, 2003; Magen, 1998). In Magen’s (1998) 12-year research study, she defined happiness as distinct feelings different from other everyday emotions that makes a person feel that life is good and worth living to the fullest and other studies use measures that ask participants about how happy they have been for a particular time period (Joseph & Lewis, 1998; Joseph, Linley, Harwood, Lewis, & McCollam, 2004; Reynolds, 2005).

The purpose of this investigation is to conduct a psychometric evaluation of the HHS-AV on a sample of adolescents using Reynolds’ (2005) state definition of happiness. The HHS and the HHS-AV ask respondents about their current levels of happiness by indicating how often they have been feeling what the statement implies for the previous two weeks.
Subjective well-being (SWB) and life satisfaction (LS). SWB is defined as a “longer term” evaluation of positive versus negative emotions, referred to as the affective component, with a cognitive, subjective judgment of satisfaction with life (Diener, 1984; Diener & Diener, 1996). This “longer term” perspective assumes that although life circumstances may momentarily change a person’s affective component or their satisfaction with current life, these temporary feelings of heightened pleasure or misery will taper and baseline levels will return (Myers & Diener, 1995). SWB is regarded as an “umbrella” term because it encompasses multiple subjective facets of life including overall life evaluations, emotional experiences, and current life circumstances such as work, relationships, and physical health (see Diener 1984; Diener et al., 1999 for a review). Research on SWB is concerned with answering the question: are the circumstances of an individual’s life in accordance with the life he or she would like to be living? It is also interested in why people experience their lives in positive ways or why most people report positive life evaluations and more frequent experiences of positive affect versus negative affect (Diener, 1984; Diener & Diener, 1996).

Although aspects of happiness and SWB overlap, SWB is broader than happiness and includes other dimensions of life that may or may not contribute to overall levels of happiness (Bekhet et al., 2008; Natvig et al., 2003). It is defined as “an area of general interest rather than a single specific construct” (Diener et al., 1999, p. 277) and levels of affect and satisfaction can lead to different conclusions (Kashdan et al., 2008).

LS is a subjective judgment about the overall quality of life based on a set of criteria, determined by the individual (Diener, Emmons, Larsen, & Griffin 1985; Diener,
1994; Pavot & Diener, 1993). LS is a comparison of one’s current life circumstances with a set of standards the individual has set forth for him or herself (Diener et al., 1985) and whether life’s conditions are meeting these standards (Pavot & Diener, 1993). LS is a component of SWB and is concerned with a cognitive appraisal of life’s circumstances void of an affective component but some research shows that positive affect and life satisfaction scores are moderately related.

Lucas, Diener, and Suh (1996) demonstrated that positive affect was moderately related to LS ($r = .43-.52$, median = .45) in a sample of 212 undergraduate university students. In the same study with 172 different college students, they found a similar relationship between positive affect and LS ($r = .42$). A problem with using a LS definition to measure happiness is that LS is void of mental states and affective experiences (Bekhet et al., 2008) and it is important to note that LS ratings may be contingent upon current situations and moods (Kashdan et al., 2008).

Measuring Happiness

It is evident from the previous section on conceptualizations of happiness that SWB, LS, and happiness have commonalities as well as differences in conceptualization specifics, and research continues to use these terms synonymously. Researching the literature on happiness makes it apparent that the definition specifics vary depending on what the research is interested in (Alfonso, Allison, & Rader, 1996; Diener, 1984) and what instrument is being used. There is an abundance of current assessment tools used to measure happiness, SWB and LS, (Fordyce, 1988; Kammann, Farry, & Herbison, 1984)
and akin to having multiple definitions, it seems these measures are used interchangeably as well.

Most happiness measurement tools are self-report surveys and range from a single item Likert-response question to multiple item questionnaires employing Likert, semantic differentials or multiple choice formats. Some of these assessment tools measure happiness as a single factor construct while other scales measure happiness as multiple faceted. Other scales use open-ended format questions but makes drawing psychometric conclusions about reliability or validity difficult or impossible. As discussed previously, most of the happiness research has focused on adult or college student samples resulting in most of the current instruments only being appropriate for these populations.

A difficulty arises when choosing what particular test to use because there are dozens of tests to choose from, some have multiple versions (i.e. short form or pick subscales from other instruments to measure happiness), and measurement evaluations are not always psychometrically sound (Argyle, 2001). Fordyce (1988) speculates that in happiness and well-being research, there is an “over-abundance” of instrumentation, with perhaps more scales to choose from than any other psychological discipline. This section will give a general over view of happiness measures used in current research as well as those that have been used with adolescents.

**Humboldt Happiness Scale (HHS).** The scale under psychometric evaluation is the Humboldt Happiness Scale-Adolescent Version (HHS-AV) and is identical in format to the original HHS that was developed and used with college student samples at a university in Northern California. The HHS consists of 28 items and measures happiness
as a state construct by asking participants how they have been feeling for the past two weeks. The first 27 items use a four-point Likert-type response format (almost never, some of the time, often, almost always). There are nine reverse scored items and the last item shows a series of seven faces ranging from very happy to very sad with a neutral midpoint. Scores range from 28-115 and is scored in the positive direction with higher scores representing higher levels of happiness.

In Reynolds’ (2005) investigation of the HHS, it showed strong internal consistency reliability ($\alpha = .95$) with a sample of 579 college students and adequate test-retest reliability ($r_{tt} = .83$) in a subsample of 55 students. The HHS proved to be a valid measure for college students by demonstrating moderate to high correlations with other related constructs: depression ($r = -.70$), self-concept ($r = .65$), anxiety($r = -.60$), and social support ($r = .42$). The HHS was weakly correlated with social desirability ($r = .32$) suggesting it is not susceptible to response bias.

The factor structure of the HHS was evaluated using principle component analysis and produced three interpretable factors that accounted for 60% of the variance. These three factors measure aspects of 1) optimism and positive self worth, 2) positive affect (reverse keyed items), and 3) cheerfulness. Intercorrelations between these three components range from .43 to .66 and each demonstrate adequate reliability coefficients ($\alpha = .94$, $\alpha = .80$, and $\alpha = .90$, respectively).

**Oxford Happiness Inventory (OHI).** The OHI was created for research at Oxford University with college students (Hills & Argyle, 2002) as an overall measure of general happiness. The OHI is a 29 item multiple choice measure and each question
displays 4 choices for the respondents current happiness experience i.e. mildly depressed/unhappy (I do not feel happy), low levels of happiness (I feel fairly happy), high levels of happiness (I am very happy) and mania (I am incredibly happy). Scores on the OHI range from 14 to 80 and is scored in the positive direction with higher scores indicating higher levels of happiness. The OHI measures happiness as a state by asking the participant to pick the choice that best describes how the individual has been feeling for the past week, including the current day, but the OHI does prove to be very stable over time (Argyle et al., 1995).

In its original validation study, the OHI demonstrated strong internal consistency ($\alpha = .90$) and adequate test re-test reliability of .78 after a 7-week period (Argyle et al., 1989) in a sample of 347 university students. Concurrent validity was assessed by comparing scores obtained on the OHI with friends’ ratings of happiness in 147 of the original university sample university ($r = .43$). Construct validity was demonstrated by measuring the relationships of the OHI and its three hypothesized components: positive affect ($r = .32$), satisfaction ($r = .57$) and the absence of negative affect/depression ($r = -.52$: Argyle et al., 1989). The OHI demonstrated good internal consistency in a sample of 101 London college students ($\alpha = .87$: Furnham & Brewin, 1990) and in a sample of 456 university participants ($\alpha = .92$: Francis, 1999).

The OHI was used as a criterion measure in a psychometric study of the Depression-Happiness Scale (D-HS: Joseph & Lewis, 1998) in a sample of 100 full time undergraduate students from a university in England. This study found that higher scores of the D-HS were associated with higher scores on the OHI ($r = .59$) demonstrating
further construct validity evidence for the OHI. The D-HS also has a short form version (SDHS: Joseph et al., 2004) and when used with 61 undergraduate students and the OHI demonstrated strong reliability ($\alpha = .91$) and construct validity by positively correlating with the SDHS ($r = .69$) and negatively correlating ($r = -.60$) with the Beck Depression Inventory (BDI: Beck Ward, Mendelson, Hock, & Erbaugh, 1961).

A review of the literature revealed very few studies that used the OHI with adolescents. Cheng & Furnham (2002), employed the OHI as their measure of happiness and found a coefficient alpha value of .93 in their sample of 60 adolescents ages 16-18, suggesting good reliability and construct validity was demonstrated by appropriate relationships in magnitude and direction with other related constructs.

**The Oxford Happiness Questionnaire (OHQ).** The Oxford Happiness Questionnaire (OHQ: Hills & Argyle, 2002), was developed for use in larger research studies because it doesn’t take up as much time as the OHI. The OHQ consists of the original 29 items of the OHI but endorses a six point Likert-type response format rather than the multiple choice format of the OHI. The OHQ has no time reference in the directions, unlike the OHI which asks about the previous week, the OHQ instructs participants to think about how they feel in accordance with the statement “most of the time or in general.” The OHQ proved to be a reliable ($\alpha = .91$) measure in a sample of 172 university students. Construct validity was evaluated by investigating relationships between scores on the OHQ and related constructs as well as comparing the strength of the relationships with the OHI and the same related constructs.
**Oxford Happiness Questionnaire Short Form (OHQ-Short Form).** The original version of the OHQ was developed for research when time was limited but still consists of 29 items, so the authors decided to make a short form of the OHQ for better time efficiency. The Oxford Happiness Questionnaire Short Form (OHQ-Short Form: Hills & Argyle, 2002) consists of eight items derived from the original 29-item OHQ through a discriminant stepwise analysis. The original development study divided the sample of 172 participants who completed the full version of the OHQ into two groups, above the scale mean and below the scale mean. This discriminant analysis extracted eight items that predicted group membership at a 90% rate and the correlation between the full version and the eight-item version was .93 suggesting the short form is comparable to the full version. The OHQ-Short Form, akin to the original OHQ, doesn’t give a time reference in the directions and asks participants to think about themselves in general or how they feel most of the time. Scores range from 8 to 48 with higher scores indicative of higher levels of happiness.

Cruise, Lewis, and Mc Gunkin (2006) investigated the internal consistency reliability and test-retest reliability in a sample of 55 Northern Irish undergraduate students. The students took the test twice, two weeks apart. The internal consistencies of the test were below the .80 level for Time 1 ($\alpha = .62$) and Time 2 ($\alpha = .58$) and the deletion of the 8th item raised the alpha coefficients for Time 1 and Time 2 ($\alpha = .70$ and $\alpha = .64$, respectively). The total scores for Time 1 and Time 2 were significantly and moderately correlated ($r = .69$) suggesting good stability over a two week period.
Another study employing the OHQ-Short Form investigated the relationship between religiosity and happiness in a group of 138 adults from the community and various job sites (Lewis, Maltby, & Day, 2005). The internal consistency reliability coefficient ($\alpha = .74$) was consistent with other studies using the OHQ-Short Form and demonstrated construct validity evidence ($r = .76$) by positively correlating with scores on the D-HS. Maltby, Day, and Barber (2005) conducted a study looking at the relationship between forgiveness and happiness employing a two-dimensional model of happiness distinguishing between eudaimonic and hedonic happiness. This study consisted of 224 undergraduate students from the United Kingdom and administered the OHQ-Short Form, the D-HS and a forgiveness inventory. Reliability for the OHQ-Short Form was .73 and demonstrated construct validity evidence ($r = .60$) through its moderately positive relationship with the D-HS.

In a sample of 320 children from public schools aged 9-12, Holder and Klassen (2009) investigated the relationship between temperament and happiness. Children were administered the OHQ-Short Form, the Subjective Happiness Scale (SHS: Lyubomirsky & Lepper 1999: discussed below), a faces scale depicting seven different faces ranging from very sad to very happy, a self concept measure appropriate for children, and an emotional activity and temperament survey. Parents were also given the emotional activity and temperament survey and the faces scale to fill out about their child. The OHQ-Short Form demonstrated lower internal consistency reliability ($\alpha = .58$) than it did with college students and adults (Holder & Klassen, 2009) suggesting the OHQ-Short Form is less reliable when used with children. To my knowledge and after reviewing the
literature, the OHQ-Short Form has not been used with a sample of high school adolescents.

**Subjective Happiness Scale (SHS).** The SHS is a 4-item measurement tool that evaluates global subjective happiness defined by the authors as a “subjective assessment of whether one is happy or not” (Lyubomirsky & Lepper, p. 139). The SHS measures happiness from a global perspective directing participants to make an overall or general judgment about themselves, indicating that the SHS measures happiness as a trait construct. The SHS uses a seven-point Likert-type response format asking the participants to decide what point on the scale best describes them based on the corresponding statement. Scores range from one to seven with high scores indicating high levels of happiness. The initial development and validation study consisted of 2,732 participants from fourteen different samples; nine from three different university settings, four adult samples (three working and one retired group), and one high school sample. Only internal consistency reliability information was available for the high school sample (n = 36) and it was adequate (α = .81) suggesting this scale is reliable in its use with adolescents.

In the college student samples (n = 2191), the SHS demonstrated sufficient internal consistency reliability (α = .80 to .94, median = .88). The SHS exhibited sufficient test-retest reliabilities after a one month period with two of the United States college student samples (n = 86, r = .85; n = 81, r = .90), and adequate test-retest reliability after a 3 week period in a different U.S. college student sample (n = 43, r = .61). The article reported construct validity for four of the college student samples (n =
1101) by examining the relationships with a measure of self esteem ($r = .53$), depression ($r = - .49$) and optimism ($r = .47$ for one sample and .53 for one sample). In the four adult community samples ($n = 975$) the SHS exhibited strong internal consistency reliabilities for the three United States samples ($\alpha = .85$ to .86) and adequate for the Russian adult community sample ($\alpha = .79$). Construct validity for the adult samples was only reported for two of the samples ($N = 714$) and demonstrated appropriate relationship magnitudes with other related constructs: self esteem ($r = .58$), depression ($r = -.54$), and optimism ($r = .59$ to .60).

Lyubomirsky and Tucker (1998) investigated whether happiness influenced individuals’ interpretations and thinking about life events in undergraduate college students. They were particularly interested in whether happy people’s thinking about stressful life events or positive life events was different from unhappy people. The SHS demonstrated strong internal consistency reliabilities for the first sample of 137 participants ($\alpha = .89$) and the second sample of 190 students ($\alpha = .94$). A study examined the differences between maximizers, people who want intense or maximum levels of experience or choice and satisfiers, people who are looking for experiences that meet a level of acceptability or need (Schwartz, Ward, Monterosso, Lyubomirsky, White, & Lehman, 2002). The sample of 100 undergraduates from a university in California was administered the SHS along with five other questionnaires. The SHS was positively correlated with measures of optimism ($r = .74$) and LS ($r = .71$) and negatively correlated with a measure of depression ($r = -.66$). The SHS also demonstrated the appropriate hypothesized relationship with their measure of regret ($r = -.51$). In a study conducted
with 320 children aged 9-12, the SHS demonstrated an alpha coefficient of .67 when all four items were included and .71 when the last item was omitted (Holder & Klassen, 2009).

**Happiness and Related Constructs**

Most of the research on adolescent happiness has been conducted using LS measures (Dew & Huebner, 1994; Huebner, 1994; Huebner, Funk, & Gilman, 2000). For the purpose of this section, research findings using LS, SWB and happiness will all be included but terms will be differentiated and used depending on the measures employed by the researchers. Some of the measures used to assess the following constructs are used in this study and are discussed in greater detail in the methods section.

**Self-esteem.** Self-esteem is defined by Rosenberg (1965) as an overall attitude and assessment of ones’ self worth and self acceptance. Self-esteem correlates more strongly with happiness and satisfaction than any other psychological variable and it is considered an essential component of happiness or psychological well-being (Argyle, 2001). Life span theories postulate that self-acceptance and positive feelings towards oneself are necessary for optimal functioning and is a “central characteristic” for positive mental health and psychological functioning (Rosenberg et al., 1995; Ryff, 1989). Research shows that individuals who are low in self-esteem are more likely to experience depressive symptoms, spend more time alone and doubt themselves in situations (Rosenberg, 1965). Low self-esteem in adolescence is related to low self esteem in adulthood and is associated with negative life outcomes (Trzesniewski et al., 2006).
A study conducted with a college student sample exhibited moderate to strong relationships using the Rosenberg Self-Esteem Scale (RSES: Rosenberg, 1965) and the OHI ($r = .66 - .67$: Cheng & Furnham, 2003a; Hills & Argyle, 2002). A regression analysis predicting happiness from attribution style, self-esteem, and other demographic variables indicated that self-esteem was a strong predictor of happiness ($b^* = .66$, $t = 7.14$, $p < .001$) and explained 50% of the variance in the total model (Cheng & Furnham, 2003b). Similarly, Cheng and Furnham (2004) examined the relationships between self-esteem, self-criticism, parenting style and happiness, in 356 participants ages 15-25 ($M = 17.62$). Regression analysis results, with happiness as the dependent variable, demonstrated that self-esteem was a strong predictor of happiness ($b^* = .54$, $t = 8.47$, $p < .001$). The SHS also demonstrated moderate, positive relationships with self-esteem ($r = .53-.58$) used with adult and college student samples (Lyubomirsky & Lepper, 1999).

Another study compared global self esteem and specific self esteem with other variables and found global self esteem was moderately related to happiness and well-being ($r = .53$: Rosenberg et al., 1995).

Huebner (1991b) developed the Student Life Satisfaction Scale (SLSS: Huebner, 1991a) to provide an appropriate instrument for measuring LS in children. In one of his validation studies with students in grades 5 through 7, self-esteem showed a strong positive relationship ($r = .65$) with LS. His initial validation study of the SLSS also demonstrated that self-concept was moderately related to LS ($r = .53$) in children ages 7-14 (Huebner, 1991a). Using a self-description questionnaire, general feelings about the
self were moderately correlated with LS scores in adolescents grades 8, 10 and 12, \((r = .52)\) using the SLSS (Huebner, 1994).

**Depression.** Research on adolescent depression indicates that individuals who display depressive symptoms and depressive mood are at an increased risk for suicide ideation or behaviors and may continue to develop mental illness into adulthood (Reynolds, 1990). Other research with adolescents show that depression is associated with low self-esteem, feelings of worthlessness, loneliness, feelings of guilt, emotional sensitivity and suicide ideation (Petersen et al., 1993) and that depression often co-occurs with psychopathologies like anxiety, high levels of aggression or other anti-social behaviors (Compas, Hinden, & Gerhardt, 1995). A ten year longitudinal study investigated the development of depression from preadolescence through young adulthood (Hankin et al., 1998). The results from this study indicate that 15 to 18 year old adolescents are at an increased risk of developing new depressive episodes and report more depressive symptoms than their younger or older selves. This risk is especially true for females who reported almost double the rates of their male counterparts.

Research shows that although depression and happiness don’t occur at the same time, people who score high on life satisfaction indices can also score high on anxiety (Headey et al., 1993) suggesting that happiness is more than just the absence of psychopathology. Data from studies looking at the relationship between depression and happiness indicate that they are related in a negative fashion, but the correlates, predictors and component structure of happiness are not just the opposites of depression (Cheng & Furnham, 2003a). The absence of negative affect or depression is regarded as an
essential component of happiness, but happiness is also comprised of other facets (Argyle et al., 1995; Joseph et al., 2004).

Cheng and Furnham (2003a) conducted a study that looked at the correlates and predictors of both depression and happiness to see if these two constructs were in fact mirror images of each other. They found a moderately strong correlation between them ($r = -.57$) but some of the variables’ predictive ability for happiness were different or unrelated to depression and vice versa. For example, we know that there are gender differences in the experience and prevalence of depression during adolescence that continue into adulthood with girls reporting higher rates than boys (Cheng & Furnham 2003a; Peterson et al., 1993) but studies on happiness show that males and females don’t significantly differ in their levels of happiness (Diener, 1984; Gilman & Huebner, 2003; Huebner, 1991a, 1991b, 2004; Proctor, Linley, & Maltby, 2008). Chaplin (2006) looked at the role happiness, sadness, and anger play in the development of depression in older adolescents and found students who were unhappy most of the time during the previous month displayed more depressive symptoms than their happier counterparts.

Results are consistent across research studies examining the relationship between depression and happiness and reveal that these two constructs are moderately to strongly related in a negative direction. Multiple measures exist to assess the severity of symptoms and identification of at risk adolescent populations for developing depression or who may already be depressed (Reynolds, 1990) and depression measures are commonly used in psychometric validation studies of happiness and LS measures to

**Loneliness.** There are two types of loneliness, emotional and social (Cheng & Furnham, 2002). Emotional loneliness is a lack of an intimate attachment with another specific individual and social loneliness is a lack of social support or a social network where one doesn’t feel connected to a group of people or friends. At some time or another, everyone feels a little lonely but the experience of loneliness is subjective and the level of loneliness is dependent upon on the expectations an individual has for themselves and their interpersonal relationships. The experience of loneliness also changes across different developmental periods. Younger children rely on their parents for most of their social activities and information gathering, adolescents place more weight on the peer group and they may begin to explore romantic relationships, and in adulthood, companionship, marriage and parenthood are highly valued (Corsano, Majorano, & Champretavy, 2006; Inderbitzen-Pisaruk, Clark, & Solano 1992).

Moore and Schultz (1983) examined loneliness in 99 high school adolescents, 14 to 19 years old. They were interested in how adolescents coped with loneliness and what personal characteristics contributed to adolescents experiencing loneliness. Loneliness, measured using the Revised UCLA Loneliness Scale (UCLA LS; Russell et al., 1980) was negatively correlated with self ratings of personal happiness \( (r = -.42) \) and LS \( (r = -.50) \). Loneliness was examined in 217 Portuguese adolescents ages 14 to 17 (Neto, 1992) using a Portuguese version of the Revised UCLA Loneliness Scale. The intention of the study was to provide validity and reliability evidence for this version of the scale by
examining its relationship with other related constructs. Happiness was among the related constructs and was measured using a single-item question on a seven-point rating scale ranging from not happy at all to highly happy. Loneliness and happiness ratings exhibited a moderate negative relationship ($r = -.49$) and using a stepwise regression analysis, happiness was a strong contributor of loneliness ($b^* = -.49$, $p < .01$).

In a study of 828 6th, 8th, 10th, and 12th grade adolescents, Csikszentmihalyi and Hunter (2003) used a sampling method that asks respondents to rate their momentary activities and emotions associated with that activity. Each adolescent was administered an electronic pager and each time the pager signaled, they completed a open-ended questionnaire about what they were doing, with whom, and indicated their feelings associated with the activity using a seven-point Likert-response format ranging from very sad to very happy. Scores were coded, converted into z-scores, and the results show that adolescents experience the lowest levels of happiness when they are alone and the highest levels of happiness when they are with friends.

In a study with older adolescents, ages 16-18, Cheng and Furnham (2002) investigated the predictive abilities personality, peer relations and self confidence have on happiness and loneliness. Friendship was positively correlated with happiness ($r = .33$), was a direct predictor of happiness ($b^* = .23$, $p < .05$) and was also correlated with positive affect ($r = .31$). Friendship was negatively correlated with both factors, social others and intimate others, on the UCLA Revised Loneliness Scale with correlation values of -.17 and -.24 respectively.
The experience of being alone is related to various mental ailments and may have long term psychological effects especially if loneliness is experienced early in the life span and sustained throughout development (Inderbitzen-Pisaruk et al., 1992; Mahon, Yarcheski, & Yarcheski, 1995). Loneliness or lack of social support is related to aspects of poor or maladaptive psychological functioning such as low self esteem ($r = -.49$), depression ($r = .51$) and anxiety ($r = .36$) in adults (Russell et al., 1980). Loneliness and unsatisfactory relationships with others in adolescence is related to a lack of self-confidence, (Cheng & Furnham, 2002) although the direction of this pathway could be bidirectional, and lonely adolescents have a more negative outlook on their future, aka lower levels of optimism ($r = -.43$: Mahon et al., 1995).

**Optimism.** Optimism is defined as a person’s general disposition and attitude (favorable or unfavorable) towards expected outcomes (Scheier & Carver, 1985) and is characterized by how people explain the causes and interpretations of positive and negative life events (Peterson, 2004). Optimists expect good things for the future, are hopeful they can achieve their goals, believe that with enough persistence they can overcome and adapt to defeat or other misfortune (Puskar, Sereika, Lamb, Tusaie-Mumford, & McGuinness, 1999), and generally believe they will experience more positive rather than negative outcomes (Scheier & Carver, 1985).

Optimism is regarded as a characteristic or trait of happy people (Argyle & Martin, 1991), is a central characteristic of people with extraverted personalities (Argyle, 2001), and studies show that extraversion and happiness are positively related in adults and college students (Brebner et al., 1995; Francis et al., 1998; Francis, 1999; Furnham &
Brewin, 1990). Magaletta and Oliver (1999) investigated the relationships between self-efficacy, hope and optimism and whether these constructs uniquely contributed to general well-being in a sample of 204 college students from a Catholic university. Optimism and well-being were strongly correlated ($r = .63$) and multiple regression analyses showed that optimism accounted for 8% of the variance in general well-being scores.

Ben-Zur (2003) conducted a study with 185 Hebrew-speaking Jewish adolescents 15-17 years old and examined the relationships between self mastery, optimism and subjective well-being, measured using the PANAS. Optimism was positively correlated with positive affect ($r = .45$) and negatively correlated with negative affect ($r = -.47$). Optimism was a strong predictor of positive affect ($b^* = .31, p < .0001$) and also predicted negative affect scores ($b^* = -.33, p < .0001$) when entered last. In a sample of 504 high school adolescents from Australia (8-12 grades), optimism was investigated in regards to career planning, career decision making, self-esteem and psychological distress (Creed, Patton, & Bartrum, 2002). Optimism, measured by the Revised Life Orientation Test (LOT-R: Scheier, Carver, & Bridges, 1994), was positively related to self-esteem ($r = .34$) and negatively related to psychological distress ($r = -.37$) Pessimism, also measured by the LOT-R, was negatively correlated with self-esteem ($r = -.45$) and positively related to psychological distress ($r = .19$). This study also showed that adolescents high on optimism were more apt to plan for their future career and were confident in their abilities to achieve their career goals.

A lack of optimism, on the other hand, has been linked to maladaptive coping strategies and other psychological maladjustments in adults (Scheier et al., 1994) and
adolescents (Chang & Sanna, 2003; Puskar et al., 1999) while optimistic individuals are better psychologically adjusted. In a sample of 263 high school adolescents, Chang and Sanna (2003) looked at the relationships between optimism, pessimism, life hassles and psychological maladjustment and examined whether optimism-pessimism is a moderator between life hassles and psychological maladjustment. Specifically, they expected pessimism to intensify the negative relationship between hassles and maladjustment, measured using measures of hopelessness and depression, whereas optimism was expected to buffer or lessen the relationship between hassles and maladjustment. Optimism-pessimism was measured using the LOT-R with high scores representing optimism and low scores indicative of pessimism. Results demonstrated that optimism was moderately and negatively related to all three constructs: life hassles ($r = -.45$), depression ($r = -.54$) and hopelessness ($r = -.67$).

To examine whether or not optimism-pessimism was a moderator variable, a series of hierarchical multiple regressions were conducted with the interaction variable entered last. Findings were consistent with their hypothesis and showed that optimism-pessimism interacted with life hassles for both depression and hopelessness. For pessimistic adolescents, the relationship between life hassles and both measures of maladjustment was significantly stronger than for optimistic adolescents. This suggests that pessimistic adolescents, who are experiencing the same amount of stress as their optimistic counterparts, are at an increased risk for developing maladaptive ways of coping with their stress.
**Individual difference variables.** A common theme throughout happiness and well-being research is that at different developmental stages different life aspects may become more or less important and meaningful, (i.e. job satisfaction, marriage, physical appearance) overall individual difference variables are not direct predictors or contributors to happiness (Diener, 1984; Gilman & Huebner, 2003; Huebner, 1991a, 1991b, 2004; Proctor et al., 2008).

Significant gender differences have been found for various psychological constructs such as depression, self-esteem, aggression and satisfaction with personal relationships (Cheng & Furnham, 2003a, 2004; Hankin et al., 1998; Reynolds, 1990). Happiness research findings don’t show significant gender differences across age groups demonstrated by studies that use LS measures (Ash & Huebner 2001; Huebner, 1991a, 1991b), the OHI (Cheng & Furnham, 2003a; Francis, 1999; Furnham & Brewin, 1990;) and SWB indices (Diener, 1984; Myers & Diener, 1995).

One interesting finding for gender and happiness or well-being is that females generally report more instances of negative affect, but they also report more instances or moments of intense joy and positive affect (Myers & Diener, 1995; Neto, 1993). Specifically for adolescents, no gender differences were found using general well-being indices with seventh and eighth grade adolescents (Mahon, Yarcheski, & Yarcheski, 2005), in LS studies with high school students (Dew & Huebner, 1994; Funk, Huebner, & Valois, 2006) or in children’s LS (Huebner, 1994). Contrary to the majority of the literature however, the HHS demonstrated a small but significant difference between
males and females at the university level in two different studies \( (d = 0.21): \) Reynolds, 2005; Reynolds & Loveless, 2005).

As previously discussed, the predictors of LS and happiness do change relative to age (Chaplin, 2009; Holder & Coleman, 2008) but research shows that even though some developmental periods may be full of crisis and stress, there isn’t a particular age that is happier than another (Diener & Diener, 1996; Lyubomirsky & Lepper, 1999; Myers & Diener, 1995). Studies demonstrate similar results between age and global LS ratings with all age groups reporting positive levels of LS (Dew & Huebner, 1994; Funk et al., 2006; Seligson, Huebner, & Valois, 2003). Consistent with other studies, the HHS didn’t demonstrate any significant age differences in college students 18 to 29 years old (Reynolds, 2005).

Another demographic variable of interest is socioeconomic status. Studies and reviews concerning money, income, and SWB show mixed findings. In a literature review conducted by Diener and Biswas-Diener (2009), four conclusions regarding money and subjective well-being were discussed. First, the socioeconomic status of the nation influences overall SWB levels resulting in large correlation coefficients. Second, there is little difference between SWB levels and income within the same nation or country. Third, large economic growth in the wealthiest countries hasn’t resulted in a significant rise in overall SWB levels of the nation but individual income increases show heterogeneous results. Lastly, income levels and SWB are influenced by differences in material desires where people who value materialism are less happy unless they are very well off.
Socioeconomic status in studies with adolescents has been measured and studied in different ways because SES is usually contingent on their parents or household income. This characteristic has been measured by years of parental education and occupations (Neto, 1993) or lunch program involvement (i.e. whether or not they receive government funding for lunch at school: Antarmian et al., 2008). In a British household panel survey 1994-1997, socioeconomic status was investigated along with well-being, risk behaviors, age and gender in adolescents 11-15 years old. This study found no significant relationship between household income or parental occupation on reported well-being (Bergman & Scott, 2001). Some studies on adolescent LS in report opposite findings where individuals from lower SES households report lower levels of LS (Ash & Huebner, 2001; Neto, 1993; Seligson et al., 2003).

Cultural and national differences have also been examined in happiness studies and demonstrate mixed findings. Culture and cultural values influence levels of happiness and what comprises it. For example, in the previous section on self-esteem and happiness it is evident that high levels of self esteem are moderately and sometimes strongly related to happiness and well-being. This finding is true across studies in individualistic nations, but in collectivist countries the relationship between well-being and self-esteem was significantly less (Diener & Diener, 1996). Although there were differences in the magnitude of this relationship, all 31 nations examined in the study reported positive levels of SWB, consistent with findings from other studies and reviews (Diener, 1984; Diener & Biwas-Diener, 2009; Myers & Diener, 1995) suggesting that happiness is an important life goal across cultures.
Summary

It is clear from the evidence and research with adolescents that this is a developmental period where specific vulnerabilities and new situations are abundant. While some adolescents may leave adolescence with maladaptive coping strategies, most will enter adulthood as normal adults and continue to function within the normal demands of society (Arnett, 1999, Ciccetti & Rogosch, 2002; Compas et al., 1995). Evidence shows that most adults are happy and satisfied with their lives (Argyle, 2001; Diener, 1984; Myers & Diener 1995; Pavot & Diener, 1993), but there are many different happiness conceptualizations leading to a lack of cohesion among happiness researchers (Bekhet et al., 2008; Mahon et al., 2005; Veenhoven, 1991, 1994). As previously discussed, happiness research focuses on adults and college students and is usually conducted using definitions and measures of SWB or LS. There remains an over-abundance of happiness measures to choose from for use with older age groups, but the definition of happiness changes from study to study depending on the interest of the researcher, and on what measure is used (Argyle, 2001; Fordyce, 1988).

Most of the research that has been done with adolescents uses open-ended questionnaire formats that gather qualitative data about what makes adolescents happy (Chaplin, 2009; Csikszentmihalyi & Hunter, 2003; Magen, 1998) but don’t allow for drawing overall conclusions about happiness levels and its relationship to other related constructs. Other research with adolescents uses single-item questions asking about happiness in general (Abdel-Khalek, 2006; Natvig et al., 2003; Neto, 1992) which are not suitable for psychometric evaluations and measures happiness as an overall evaluation or
trait like construct. Evidence shows that happiness is related to other positive individual and external circumstances and negatively related to maladaptive behaviors or negative psychological constructs.

The current study will investigate the reliability, criterion-related validity, construct validity, discriminant validity, and factorial validity of the HHS-AV. A confirmatory factor analysis will examine whether the factor structure of the HHS found by Reynolds (2005) with college students is the model of best fit for high school students.
STATEMENT OF THE PROBLEM

Introduction

Most of the previous research on happiness has focused on adults and college students and uses measures of LS, SWB or psychological well-being (Argyle, 2001; Chaplin, 2009; Cheng & Furnham, 2002; Diener, 1984; Diener et al., 1985; Francis et al., 1998; Francis, 1999; Hills & Argyle, 2002; Larsen, Diener, & Emmons, 1985; Reynolds, 2005; Ryff & Keyes, 1995). Current scales used to measure these positive psychological constructs were developed for adults or college students and may not be appropriate for children or adolescents because of advanced reading levels (Chaplin, 2009) or may contain irrelevant content for younger age groups (e.g. marriage, job success, etc.). Studies show that children and adolescents usually report positive levels of LS, but these levels begin to decline with the onset and progression of adolescence (Proctor et al., 2008). Suldo and Huebner (2004) report that adolescents who have higher LS levels are less likely to develop psychopathologies when faced with adverse life conditions than their cohorts who report lower LS levels.

The goal of the current investigation is to evaluate the psychometric properties of the HHS-AV. The HHS-AV uses a state definition of happiness, looking at the present level of happiness based on the previous two weeks. A state definition of happiness assumes happiness is an emotional state and can change based on individual life conditions (Csikszentmihalyi & Wong, 1991). This study will examine criterion, construct, and factorial validity of the HHS-AV in a sample of high school adolescents. Factorial validity will be evaluated using a measurement model and confirmatory factor
analysis to test the fit of the three-factor model of happiness found by Reynolds (2005).

Reynolds’ three factor model of happiness, based on his sample of college students, is comprised of (1) optimism and positive self worth, (2) positive affect, and (3) cheerfulness.

**Research Questions and Hypotheses**

Hypothesized relationships are presented in Table 1

**Research Question 1 and Rationale**

Research Question 1: Is the Humboldt Happiness Scale Adolescent Version a reliable measure for adolescents?

The HHS is a reliable measure when used with college students. Using a sample of 579 college student participants, the HHS demonstrated an internal consistency of $\alpha = .95$ (Reynolds, 2005). It is expected that the HHS-AV will prove to be a highly reliable measure by demonstrating sufficient internal consistency with a coefficient alpha of at least .80.

**Hypothesis 1 and Rationale**

Hypothesis 2: Scores on the HHS-AV will demonstrate a strong positive relationship, $r \approx .70$, with another measure of happiness to show criterion-related validity.

Criterion-related validity is used to compare a newly developed scale to an already established and well-used measure of the same construct to demonstrate that the current scale is assessing the construct of interest. The type of criterion related validity of interest is concurrent validity because scores on the HHS-AV will be compared to scores on the OHQ. The OHQ and the OHI were strongly correlated with D-HS scores ($r = .90$
<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HHS-AV</td>
<td><strong>.70</strong></td>
<td><strong>.50</strong></td>
<td>-.60</td>
<td>-.40</td>
<td>.60</td>
<td>-.30</td>
<td>.20</td>
<td></td>
</tr>
<tr>
<td>2. OHQ</td>
<td>.50</td>
<td>-.60</td>
<td>-.40</td>
<td>.60</td>
<td>-.30</td>
<td>.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. RSES</td>
<td>-.50</td>
<td>-.40</td>
<td>.40</td>
<td>-.30</td>
<td>.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. RADS-2SF</td>
<td><strong>.50</strong></td>
<td>-.50</td>
<td>.30</td>
<td>.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. UCLA-RLS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. LOT-R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. RAASI-AB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. MCSD-SF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Hypothesized $r$ values are in bold, and all other included $r$ values are based on previous research findings. HHS-AV = Humboldt Happiness Scale-Adolescent Version; OHQ = Oxford Happiness Questionnaire; RSES = Rosenberg Self Esteem Scale; RADS-2SF = Reynolds Adolescent Depression Scale-2nd Edition Short Form; UCLA-RLS = UCLA Revised Loneliness Scale; RAASI-AB = Reynolds Adolescent Adjust Screening Inventory-Antisocial Behavior Subscale; MCSD-SF = Marlowe-Crown Social Desirability Scale- Short Form.
and .79, respectively) in the original evaluation and development study of the OHQ to
demonstrate concurrent validity (Hills & Arygle, 2002).

**Hypothesis 2 and Rationale**

Hypothesis 2: Scores on the HHS-AV will demonstrate a moderately strong
positive relationship, \( r \approx .50 \), with a measure of self-esteem to show convergent validity.

Global self-esteem is an individual’s overall attitude towards themselves or an
individual’s personal assessment of their self worth and self-acceptance (Cheng &
Furnham, 2003b; Rosenberg, 1965). It can be positive or negative and is related to levels
of overall psychological well-being (Rosenberg, 1965; Rosenberg et al., 1995). Global
self-esteem is a strong predictor of happiness (Furnham & Cheng, 2000; Rosenberg et al.,
1995) and some researchers propose that high levels of self-esteem are a necessary
component of happiness (Argyle, 2001). Previous research indicates that self-esteem and
happiness are strongly related with correlation values ranging from .67 (Hills & Argyle,
2002) to .72 (Cheng & Furnham, 2003b) and the HHS demonstrated a strong relationship
with self-esteem (\( r = .65 \)) in college students (Reynolds, 2005). Numerous studies have
examined the relationship between self-esteem and LS in children and adolescents and
have found moderate to strong, positive correlations between them with r-values ranging
from .51 to .81, median = .65 (Dew & Huebner, 1994; Huebner, 1991; Neto, 1993).
Young and middle adolescents, 11-15 years old, who reported higher levels of self-
esteeem reported lower levels of unhappiness regardless of gender (Bergman & Scott,
2001). Numerous studies have investigated the relationship between self-esteem and
negative psychological states such as anxiety, social competence and depression and
show adolescents with lower self esteem report more psychopathological symptoms (Bergman & Scott, 2001; Cheng & Furnham, 2002; Rosenberg et al., 1995).

**Hypothesis 3 and Rationale**

Hypothesis 3: Scores on the HHS-AV will demonstrate a moderately strong negative relationship, \( r \approx -0.60 \), with a measure of depression to show convergent validity.

Two main variables related to individual unhappiness are depression and anxiety (Cheng & Furnham, 2003a). The OHI demonstrates negative relationships with depression measures and exhibit correlations ranging from -0.52 (Argyle et al., 1995) to -0.60, conducted during validation studies on the D-HS (Joseph & Lewis, 1998; Joseph, Lewis, & Olsen, 1996; Joseph et al., 2004). Older adolescents (ages 18-20) who report having more depressive symptoms report lower levels of internal happiness, with these lower levels of experienced happiness being a potential risk factor for depression (Chaplin, 2006). In younger adolescents, studies have shown happiness and depression are strongly related in a negative direction with \( r \)-values ranging from -0.49 to -0.69, median = -0.57 (Cheng & Furnham, 2003a; Funk et al., 2006; Headey et al., 1993). The HHS demonstrated a strong, negative relationship (\( r = -0.70 \)) with scores on a measure of depression (Reynolds, 2005).

**Hypothesis 4 and Rationale**

Hypothesis 4: Scores on the HHS-AV will demonstrate a low to moderate, negative relationship, \( r \approx -0.40 \), with a measure of loneliness to show convergent validity.

Previous research suggests popularity or being liked by their peers is a predictor of happiness in children (Holder & Coleman, 2008) and that strong social relationships
are associated with happiness in adults (Argyle, 2001; Myers & Diener, 1995). At the same time, strong peer friendships are important for adolescents and are related to their reported levels of happiness (Cheng & Furnham, 2003a). The HHS demonstrates a positive relationship with social support \( r = .42 \) (Reynolds, 2005) so an inverse relationship is expected for loneliness. Previous research on adolescent loneliness exhibits negative, moderate relationships between loneliness and LS \( r = -.49 \) (Moore & Schultz, 1983) \( r = -.50 \) (Neto, 1993) and happiness \( r = -.42 \) (Moore & Schultz, 1983).

**Hypothesis 5 and Rationale**

Hypothesis 5: Scores on the HHS-AV will demonstrate a moderately strong positive relationship with a measure of dispositional optimism, \( r \approx .60 \), to demonstrate convergent validity.

Dispositional optimism is defined as an individual’s general approach to situational and life outcomes (Scheier & Carver 1985; Scheier et al., 1994) and is described as a stable personality characteristic. People who score high on measures of optimism exhibit more adaptive coping strategies to stressful or negative life events than their pessimistic counterparts (Chang & Sanna, 2003). The OHI and the OHQ demonstrated strong positive relationships with optimism \( r = .70 \) and \( r = .79 \), respectively: Hills & Argyle, 2002) in a sample of 172 college students. The OHI demonstrated a strong positive relationship with optimism \( r = .62 \) in a study examining the relationship between happiness and personality characteristics in student volunteers (Brebner et al., 1995). Optimism was positively related \( r = .54 \) to scores on the SHS in a sample of 82 college students and in a sample of 100 college students \( r = .74 \), and was
negatively related to depression ($r = -.54$: Schwartz et al., 2002). Similarly, in another study with college students ($n = 190$) employing a single item happiness rating scale, happiness and optimism were positively related ($r = .52$: Abdel-Khakel, 2006). In a sample of 263 adolescents, 14 to 19 years old, optimism was negatively linked to depression ($r = -.54$) and hopelessness ($r = -.67$: Chang & Sanna, 2003). Optimism and positive self worth is one of the factors of the HHS found through exploratory factor analysis in Reynolds (2005) study with college students.

**Hypothesis 6 and Rationale**

Hypothesis 6: Scores on the HHS-AV will demonstrate a low relationship with a measure of antisocial behavior, $r \approx -.30$, to demonstrate discriminant validity.

Discriminant validity is used in psychometric evaluations to demonstrate that the construct of interest is unrelated to a theoretically different concept. Antisocial behaviors are behaviors that are considered abnormal or unexpected based on societal norms (Reynolds, 2001) and may include early sexual experimentation, rule violations, substance abuse, etc. In a study examining the correlates of health and problem behaviors in 123,132 adolescents in sixth, ninth, and 12th grade, Neumark-Sztainer, Story, French, and Resnick (1997) looked at five different problem behaviors including: suicide risk, substance abuse, delinquency, unhealthy weight loss, and sexual activity. The students’ emotional well-being was also assessed with six questions asking about mood, stress, hopelessness, sadness, nervousness and personal satisfaction over the past month. Of interest for this hypothesis are substance abuse (the frequency and quantity of cigarette, alcohol and marijuana use), delinquency (frequency of damaging property,
shoplifting, or hitting/beating someone up), and sexual activity (sexually active or not, how many opposite gender partners, and birth control/STI protection methods). For males and females, emotional well-being was weakly correlated with substance abuse \((r = -.21 \text{ and } -.27, \text{ respectively})\), delinquency \((r = -.25 \text{ and } -.26, \text{ respectively})\), and sexual activity \((r = -.05 \text{ and } -.06, \text{ respectively})\).

**Hypothesis 7 and Rationale**

Hypothesis 7: Scores on the HHS will demonstrate a low relationship with a measure of social desirability, \(r \approx .30\) to demonstrate discriminant validity.

Social desire responding reflects an individual’s need for approval or a tendency to respond in a way that is considered socially acceptable (Furnham, 1986; Reynolds, 2001). Specifically, it is a tendency to respond in a way that makes the individual look good and is achieved through faking responses on self-report questionnaires by denying undesirable characteristics or promoting desirable ones (Furnham, 1986). Social desire responding is a major issue in the construction of psychological assessments and if test scores demonstrate moderate to strong correlations with measures of social desirability the test’s validity is questionable (Furnham, 1986; Reynolds 1982, 2001, 2008). In Reynolds’ (2005) study with college students, the HHS demonstrated a weak relationship \((r = .31)\) with the Marlowe-Crowne Social Desirability Scale Short Form (MCSDS-SF: Reynolds, 1982).
Research Question 2 and Rationale

Research Question 2: Does the three-factor model of happiness found by Reynolds (2005) with the Humboldt Happiness Scale with college students provide the model of best fit for adolescents?

Argyle, Martin, and Crossland (1989) propose that happiness is made up of three factors; the frequency and degree of positive affect or joy, an average of satisfaction over a particular period of time, and an absence of depression or negative affect. SWB researchers (Diener et al., 1985) also propose a 3-factor model including positive affect, absence of negative affect and LS. Huebner, Suldo, Smith, and McKnight (2004) propose that SWB is comprised of the two affective components with a third factor labeled perceived quality of life.

Reynolds’ 3-factor model observed in college students is consistent with other 3-factor models found in studies using other positive psychological constructs and is comprised of optimism and positive self worth, positive affect, and cheerfulness (Reynolds, 2005). Optimism and positive self worth is comprised of 12 items and has adequate levels of internal consistency reliability ($\alpha = .94$), and test-retest reliability ($r_{tt} = .82$). Item to total correlations for all 12 items ranged from .52 to .86 (median = .725). The positive affect factor consists of the nine reverse coded items and also demonstrates adequate reliability ($\alpha = .80$) and test-retest reliability ($r_{tt} = .70$). Item to total correlations for the nine positive affect items ranged from .31 to .81 (median = .65). Cheerfulness consists of seven items and shows adequate internal consistency reliability ($\alpha = .90$) and test-retest reliability ($r_{tt} = .71$). Item to total correlations ranged from .47 to
Intercorrelations between the factors ranged from .43 to .66 suggesting that each factor measures a different aspect of happiness and each item on the HHS loaded high on only one factor leading to an interpretable factor structure.

**Research Question 3 and Rationale**

Research Question 3: Is there a difference between boys and girls in their reported levels of happiness?

Previous adolescent research demonstrates significant differences between males and females on numerous constructs, however there are conflicting results in the happiness literature regarding gender differences in happiness. Bergman and Scott (2001) found that females reported significantly lower levels of happiness, self-esteem, self-efficacy, and significantly higher rates of depression. Cheng and Furnham (2002) on the other hand, used the OHI on a sample of adolescents and didn’t find any significant differences between males and females. Previous research using the HHS on college students found a small but significant gender difference with males reporting higher levels of happiness than females (Reynolds, 2005).

Research on adolescent depression reveals that female adolescents report significantly higher levels than their male counterparts (Chaplin, 2006; Chaplin, 2009; Hankin et al., 1998; Reynolds, 1990) and what influences these differences also varies between genders (Bergman & Scott, 2001). Although the presence of depression doesn’t indicate the absence of happiness, the two constructs show a strong, negative relationship indicating a need to investigate gender differences in happiness.
METHOD

Participants

One hundred fifty-nine high school students, ages 13 to 19 years, participated in this study by completing a packet of surveys during school hours. The sample consisted of 86 males (54.1%) and sixty four females (40.3%) with eight participants (5%) not declaring a gender. This sample consisted of three high schools located in northern California. Thirty participants (18.9%) attended a secular public high school and 129 (81.1%) students were from private Catholic high schools. The public high school and one of the Catholic schools participated during the regular school year and the other Catholic school’s data was collected during summer school 2012. All participant recruitment procedures were approved by the Institutional Review Board (#10-204). A participant demographic sheet was included in the protocol packet and asked a variety of questions including race, grade and age (see Table 2 for demographic details).

Instrumentation

Humboldt Happiness Scale-Adolescent Version. The Humboldt Happiness Scale-Adolescent Version (HHS-AV; Reynolds, 2011: Appendix B) is similar in format to the HHS. The HHS-AV measures adolescent happiness levels by asking participants how frequently they have been experiencing certain feelings over the past two weeks. The first 27 items use a four-point Likert scale ranging from almost never to almost always and the 28th item is a set of 5 faces depicting very happy to a very sad with a neutral face in the middle and asks participants to circle the face that best describes them. Scores on the HHS-AV range from 28-113 with lower scores indicating lower levels of
Table 2
Demographic Information for total sample (N = 159)

<table>
<thead>
<tr>
<th></th>
<th>Total (n = 159)</th>
<th>Females (n = 64)</th>
<th>Males (n = 86)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean and standard deviation)</td>
<td>16.34(1.5)</td>
<td>16.33(1.4)</td>
<td>16.31(1.5)</td>
</tr>
<tr>
<td>Grade (percent)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshmen</td>
<td>23.9</td>
<td>20.3</td>
<td>26.4</td>
</tr>
<tr>
<td>Sophomore</td>
<td>15.7</td>
<td>17.2</td>
<td>16.1</td>
</tr>
<tr>
<td>Junior</td>
<td>22.0</td>
<td>25.0</td>
<td>19.5</td>
</tr>
<tr>
<td>Senior</td>
<td>37.1</td>
<td>37.5</td>
<td>36.8</td>
</tr>
<tr>
<td>Undeclared/Missing</td>
<td>1.3</td>
<td>--</td>
<td>1.1</td>
</tr>
<tr>
<td>Ethnicity (percent)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>54.1</td>
<td>60.9</td>
<td>51.7</td>
</tr>
<tr>
<td>Asian</td>
<td>21.4</td>
<td>20.3</td>
<td>21.8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4.4</td>
<td>4.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Native American</td>
<td>3.8</td>
<td>--</td>
<td>6.9</td>
</tr>
<tr>
<td>Bi-Racial</td>
<td>8.2</td>
<td>8.1</td>
<td>9.1</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>1.9</td>
<td>3.1</td>
<td>1.1</td>
</tr>
<tr>
<td>African American</td>
<td>1.3</td>
<td>--</td>
<td>2.3</td>
</tr>
<tr>
<td>Multiracial</td>
<td>1.2</td>
<td>--</td>
<td>2.2</td>
</tr>
<tr>
<td>Asian American</td>
<td>0.6</td>
<td>--</td>
<td>1.1</td>
</tr>
<tr>
<td>Undeclared/Missing</td>
<td>3.1</td>
<td>3.1</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*Note.* Nine participants did not declare a gender and two participants did not indicate their age.
happiness and higher scores show more frequent feelings of happiness. Items on the HHS are positively keyed with nine reverse scored items.

**Oxford Happiness Questionnaire.** The Oxford Happiness Questionnaire (OHQ: Hills & Argyle, 2002: Appendix C) uses the same 29 items of the OHI but uses a six-point Likert-type response format (strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly disagree). The OHQ has no time reference and instructs participants to think about how they feel in accordance with the statement “most of the time or in general.” For the purpose of using this measure for criterion related validity, the directions will mimic those of the OHI asking about the previous week and used a four-point Likert-type response format. The OHQ proved to be a reliable ($\alpha = .91$) measure in a sample of 172 university students. Construct validity was evaluated by investigating relationships between scores on the OHQ and related constructs as well as comparing these relationships with the OHI and the same related constructs (Hills & Argyle, 2002). Cronbach’s alpha for this study was .90 demonstrating it is a reliable scale for use with high school students.

**Rosenberg Self Esteem Scale.** The Rosenberg Self-Esteem Scale (RSES: Rosenberg, 1965: Appendix D) is a self-report questionnaire that measures global self-esteem. The RSES is a ten-item scale and uses a four-point Likert-type response format ranging from 1, strongly disagree to 4, strongly agree. Items are positively keyed with six reverse scored items. Scores on the RSES range from 10-40, higher scores representing higher levels of self-esteem. The RSES, originally designed for high school
students, demonstrates adequate internal consistency reliability ($\alpha = .83$: Reynolds & Zorich, 1988) when used with undergraduate college students and has been used with multiple adolescent samples ($\alpha = .89$: Hagborg, 1993). The RSES consistently shows adequate reliability and validity (Rosenberg, 1965; Kashdan & Yuen, 2007). The RSES correlates strongly with other measures of self-esteem and in the negative direction with measures of anxiety and depression (Rosenberg, 1979). The RSES also demonstrated adequate internal consistency for this study ($\alpha = .85$).

**Reynolds Adolescent Depression Scale-Second Edition Short Form.** The Reynolds Adolescent Depression Scale-Second Edition Short Form (RADS-2SF: Reynolds, 2008) measures the severity of depression symptoms in adolescents, ages 11-20, and requires a third grade reading level. The RADS-2SF is a ten-item self report measure with possible scores ranging from 10 to 40. Higher scores are a sign of more depressive symptomatology with a cutoff score of 26 indicating levels of clinical depression based on the symptoms and criteria in the Diagnostic and Statistical Manual for mental disorders. The RADS-2SF demonstrated adequate internal consistency ($\alpha = .87$) in a school sample of 5,017 adolescents, ages 14-16. The RADS-2SF is also a reliable measure ($\alpha = .87$) for 17 to 20 year old adolescents ($n = 1,822$). The RADS-2SF proved to be a valid measure in the initial validation and development study. The RADS-2SF was strongly correlated with another measure of depression ($r = .80$), moderately correlated with a measure of anxiety ($r = .57$) and demonstrated a moderately strong negative relationship ($r = -.69$) with a measure of self-esteem. The RADS-2SF proved to be a reliable measure of depression ($\alpha = .87$) for this study.
Revised UCLA Loneliness Scale. The Revised UCLA Loneliness Scale (Russell et al., 1980: Appendix E) was developed to measure loneliness. This scale consists of 20 items with ten items keyed in the positive direction measuring satisfaction with social relationships and the other ten negatively keyed measuring an individual’s dissatisfaction with social relationships. This instrument uses a four-point Likert-type response format asking how often the participant feels the way the item describes ranging from never to often. Possible scores range from 20-80 with higher scores representing higher levels of loneliness. There is sufficient reliability evidence with coefficient alpha values ranging from .81 to .89 with adolescents (Inderbitzen-Pisaruk et al., 1992; Mahon & Yarcheski, 1990; Neto, 1992) and .94 when used with college students (Russell et al., 1980). The Revised UCLA Loneliness Scale demonstrates sufficient validity evidence by demonstrating positive relationships with anxiety ($r = .36$) and depression ($r = .51$), and negative relationships with self esteem measures ($r = -.49$: Russell et al., 1980). Numerous studies have validated this scale with early adolescents ages 12-14 (Mahon & Yarcheski, 1990) and older adolescents ages 15-21 (Inderbitzen-Pisaruk et al., 1992; Mahon et al., 1995; Neto, 1992). Cronbach’s coefficient alpha for this study was .83.

Revised Life Orientation Test. The Revised Life Orientation Test (LOT-R: Scheier, Carver, & Bridges, 1994: Appendix F) is a measure of dispositional optimism and assesses whether an individual generally expects positive or negative outcomes. The LOT-R is a ten-item measure and includes six items used to measure and compute an optimism score and four filler items not used for scoring. Three of the six items are positively keyed and the other three are negatively keyed. The LOT-R uses a five-point
Likert-type response format (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree), scores range from 0 to 24, with high scores representing higher levels of optimism. The original development study yielded a coefficient alpha of .86 with all 2,055 undergraduate participants and test re-test reliability was examined using subsamples after four months (N = 96, r_{tt} = .68), 12 months (N = 96, r_{tt} = .60), 24 months, (N = 52, r_{tt} = .56), and 28 months (N= 21, r_{tt} = .79) suggesting that the LOT-R is fairly stable over time with college students. Validity evidence was exhibited by examining the relationship between the LOT-R and a measure of trait anxiety (r = -.53) and the RSES (r = .50). The factor structure of the LOT-R was thoroughly examined in the original evaluation study and revealed that a one factor solution and a two factor solution fit the data equally well. The authors recommend using a one factor solution but subsequent analyses may be appropriate depending on content and context of study.

In a sample of 263 high school students grades 9-11, the LOT-R proved to be adequately reliable (\(\alpha = .79\)) and valid evidenced by its negative relationship to depression (r = -.54) and hopelessness (r = -.67: Chang & Sanna, 2003). Further validation evidence for the LOT-R and its use with adolescents is supported from a study of 624 high school adolescents and the observed moderately negative relationship with a measure of depression (r = -.55: Puskar et al., 1999). These results indicate that the LOT-R is an appropriate measure of optimism for adolescents. The LOT-R demonstrated low reliability for this study (\(\alpha = .62\)).

**Reynolds Adolescent Adjustment Screening Inventory Antisocial Behavior Subscale.** The Reynolds Adolescent Adjustment Screening Inventory Antisocial
Behavior subscale (RAASI-AB: Reynolds, 2000) consists of eight items that assess various antisocial behaviors characterized as behaviors that deviate from expected social norms and asks about risky behaviors and instances of rule violations. The RAASI-AB uses a three-point Likert-type response format (1 = never or almost never, 2 = sometimes, 3 = nearly all the time) and is scored in the positive direction where higher scores indicate higher rates of antisocial behavior. Scores range from 8 to 24 and the RAASI-AB was psychometrically validated with adolescents 12 to 19 years of age. The original development and psychometric evaluation included a standardization sample of 1,827 adolescents as well as a clinical sample of 504 adolescents recruited from different types of clinical sites.

The RAASI-AB was a reliable measure for both the standardization ($\alpha = .81$) and the clinical ($\alpha = .82$) samples and demonstrated good test-retest reliability ($r_{tt} = .83$) after two weeks. Scores on the RAASI-AB strongly correlated with the Oppositional Defiant Disorder ($r = .76$), Conduct Disorder ($r = .76$), and Adjustment Disorder ($r = .80$) scales from the Adolescent Psychopathology Scale (Reynolds, 1998). The RAASI-AB also correlated with the anger control scale of the RAASI for both the standardization sample and the clinical sample ($r = .65$ and .61, respectively). Discriminant validity was exhibited by the weak relationship ($r = -.37$) between RAASI-AB scores and scores on the MCSDS-Short Form and the nonexistent relationship between RAASI-AB scores and IQ ($r = -.01$). Internal consistency for the antisocial behavior subscale was $\alpha = .87$ for this study.
Marlowe-Crowne Social Desirability Scale-Short Form. The MCSD-SF (Appendix G) measures the tendency of an individual to respond in a social desirable way and is used in many psychometric evaluations as a measure of discriminant validity (Reynolds, 2001, 2008; Reynolds & Kobak, 1995). The MCSD-SF is a 13-item scale and uses a true/false response format. Items are positively keyed with higher scores indicative of more social desirable responding. The MCSD-SF shows adequate internal consistency reliability \( r_{KR-20} = .76 \) with college students and strongly correlates \( r = .93 \) with the original 33-item scale (Reynolds, 1982). In a reliability study with three different university samples the MCSD-SF demonstrated adequate reliability for the introductory psychology class sample \( n = 233, r_{KR-20} = .71 \), the upper level undergraduate sample \( n = 72, r_{KR-20} = .78 \), and the graduate student sample \( n = 132, r_{KR-20} = .77 \) (Zook & Sipps, 2006).

Since the MCSD-SF is generally used in studies to demonstrate discriminant validity, correlation coefficients are expected to be weak between social desirability and scores on other psychometric measures. This relationship has been observed in studies with adolescents in psychometric evaluations of the RADS2-SF \( r = -.38 \) (Reynolds, 2008) and the RAASI \( r = -.36 \) using the total score of the RAASI and \( r = -.11 \) to \(-.37\), median \( = -.35 \) for each of the four subscales (Reynolds, 2001). Further validity evidence was exhibited in 364 undergraduates using a measure of social self-concept \( r = .11 \) (Zorich & Reynolds, 1988). Internal consistency was \( \alpha = .68 \) for this study.
Procedure

All participant recruitment and data collection procedures were approved by the Institutional Review Board (IRB) using approval number 10-204. Schools were recruited in one of three ways; 1- phone calls and emails were sent to the principals and school psychologists, 2- I went to the school and met with the principal about conducting research with their students, or 3- typed letters were mailed to 75 different schools with a self-addressed envelope and postage included with a response letter indicating their level of interest. For this study every school was recruited through one of these different methods.

Parental and individual consent was obtained for all students under the age of 18 who participated in the study, prior to the start of data collection. If the participant was over the age of 18, then only individual consent was obtained for participation. Consent forms (Appendix H) were sent home to each potential participant and only those students who returned their consent form signed by a parent or legal guardian and themself saying they were voluntarily participating were allowed to participate in the study.

Due to the time constraints and different curriculums at each school the data was collected in one of three ways as well. The school psychologist recruited participants and administered the survey during regular school hours at the secular public high school. At one of the Catholic high schools the Dean of Academics and I administered the survey during regular class time during the normal school year. We administered the survey to different classrooms at the same time in order for data collection to be completed in one day. The other Catholic high school administered the survey during summer school and
the principal and other teachers administered the survey. Regardless of who administered
the survey, instructions were read out loud and participants were assured that
participation in the survey was completely voluntary, anonymous, and they could end
their participation at any time. The protocol packet took approximately 30 minutes to
complete but eleven students didn’t finish the entire protocol in a 43 minute class period.
All participant recruitment and data collection procedures were approved by the
Institutional Review Board (IRB).

Data Analysis

SPSS (version 20) was used for all basic analyses including data screening,
descriptive statistics (see Table 3) t-tests, reliability and validity computations.
Normality of the data was examined prior to all correlational analyses. Scatter plots were
used to identify outliers for correlations and two cases were discarded for the analyses.

The reliability of the HHS-AV was examined by measuring its internal
consistency using Cronbach’s coefficient alpha (Cronbach, 1951). Pearson product
moment correlations were obtained to assess construct validity of the HHS-AV.
Specifically, criterion validity was examined by investigating the relationship between an
already established happiness measure and the HHS-AV and convergent and divergent
validity was evaluated by measuring the relationships between scores on the HHS-AV
and scores on other related measures.

Factorial validity was examined through confirmatory factor analysis (CFA) using
AMOS and three non-central fit indices to test the model of best fit: model chi-square,
comparative fit index (CFI: Bentler, 1990) and the root mean squared error of
approximation (RMSEA: Steiger, 2000). In addition, a confidence interval around the RMSEA and a chi square to degrees of freedom ratio was computed. These three indices tested Reynolds’ 3-factor model of happiness evident in his previous studies with college students (Reynolds, 2002; Reynolds, 2005) to see if this model is the best fit for adolescents. Confirmatory factor analysis was used instead of exploratory factor analysis (EFA) because this study tested an already established model of happiness on a different population.
RESULTS

Descriptive Statistics

The overall mean score on the HHS-AV was 83.37 ($SD = 13.35$, Skew = -1.35, Kurtosis = -1.16) with scores ranging from 51-112. (See Table 3 for descriptive statistics for all scales).

Reliability of the Humboldt Happiness Scale-Adolescent Version

The hypothesized coefficient alpha of the Humboldt Happiness Scale-Adolescent Version (HHS-AV) was at least .80. This hypothesis was confirmed, the HHS-AV demonstrated a coefficient alpha of .923. Item to total correlation values ranged from .19 to .75 with three items having values of less than .300 (see Table 4 for item content and item-total correlation values). Item 24 had an item to total correlation value of .187. The alpha value didn’t increase if taken out so item 24 was included in the computation of total scores. For males, coefficient alpha was .927 and item to total correlation values ranged from .28-.78 and for females the HHS-AV also demonstrated strong internal consistency ($\alpha = .928$) with item to total correlations ranging from .09-.78.

Validity

Criterion validity. A strong positive correlation ($r \approx .70$) between the HHS-AV and an already established happiness measure, the Oxford Happiness Questionnaire (OHQ), was hypothesized to demonstrate criterion validity. This correlation was stronger than predicted $r(159) = .85$, $p < .001$, 95% C.I. [.80, .89] (see Table 5 for validity and reliability of validity measures).
Table 3

*Descriptive Statistics for all Scales*

<table>
<thead>
<tr>
<th>Measure</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHS-AV</td>
<td>159</td>
<td>83.37</td>
<td>13.35</td>
<td>51 -112</td>
</tr>
<tr>
<td>OHQ</td>
<td>159</td>
<td>84.47</td>
<td>11.40</td>
<td>58 -113</td>
</tr>
<tr>
<td>RSES</td>
<td>159</td>
<td>29.02</td>
<td>5.0</td>
<td>15 -39</td>
</tr>
<tr>
<td>RADS2E-SF</td>
<td>159</td>
<td>19.85</td>
<td>5.62</td>
<td>10 -34</td>
</tr>
<tr>
<td>UCLA</td>
<td>159</td>
<td>17.54</td>
<td>5.25</td>
<td>9 -31</td>
</tr>
<tr>
<td>LOT-R</td>
<td>158</td>
<td>20.13</td>
<td>3.39</td>
<td>9 -30</td>
</tr>
<tr>
<td>MCSDS-SF</td>
<td>155</td>
<td>19.43</td>
<td>2.83</td>
<td>13 -26</td>
</tr>
<tr>
<td>RAASI-AB</td>
<td>148</td>
<td>11.86</td>
<td>3.71</td>
<td>8 -24</td>
</tr>
</tbody>
</table>

*Note.* All variables met the 3:1 skewness and kurtosis guidelines for normal distributions of data.
<table>
<thead>
<tr>
<th>Item</th>
<th>Item-Total Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I felt like laughing.</td>
<td>.536</td>
</tr>
<tr>
<td>2. I felt low</td>
<td>.650</td>
</tr>
<tr>
<td>3. I felt cheerful</td>
<td>.642</td>
</tr>
<tr>
<td>4. I felt in good spirits</td>
<td>.645</td>
</tr>
<tr>
<td>5. I felt happy</td>
<td>.688</td>
</tr>
<tr>
<td>6. I felt angry</td>
<td>.318</td>
</tr>
<tr>
<td>7. I felt sad</td>
<td>.535</td>
</tr>
<tr>
<td>8. I laughed</td>
<td>.480</td>
</tr>
<tr>
<td>9. I cried or felt like crying.</td>
<td>.247</td>
</tr>
<tr>
<td>10. I felt hopeful</td>
<td>.485</td>
</tr>
<tr>
<td>11. I smiled</td>
<td>.522</td>
</tr>
<tr>
<td>12. I frowned</td>
<td>.318</td>
</tr>
<tr>
<td>13. I felt good inside</td>
<td>.624</td>
</tr>
<tr>
<td>14. I felt joyful</td>
<td>.719</td>
</tr>
<tr>
<td>15. The future looked bright to me</td>
<td>.643</td>
</tr>
<tr>
<td>16. I enjoyed life</td>
<td>.750</td>
</tr>
<tr>
<td>17. I felt that life was too short to feel bad</td>
<td>.358</td>
</tr>
<tr>
<td>18. I felt that everyday was a good day</td>
<td>.697</td>
</tr>
<tr>
<td>19. I liked myself</td>
<td>.618</td>
</tr>
<tr>
<td>20. I felt good about my life</td>
<td>.658</td>
</tr>
<tr>
<td>21. I felt good about the future</td>
<td>.604</td>
</tr>
<tr>
<td>22. I wanted a better life</td>
<td>.256</td>
</tr>
<tr>
<td>23. I looked forward to each new day</td>
<td>.545</td>
</tr>
<tr>
<td>24. It was hard for me to do things that needed to get done</td>
<td>.187</td>
</tr>
<tr>
<td>25. I felt like having fun</td>
<td>.439</td>
</tr>
<tr>
<td>26. I felt like nothing could bring down</td>
<td>.636</td>
</tr>
<tr>
<td>27. I felt upset about things</td>
<td>.488</td>
</tr>
<tr>
<td>28 Pictorial smiley faces</td>
<td>.717</td>
</tr>
</tbody>
</table>
Table 5

*Hypothesized and Final Correlations between HHS-AV and Validity Scales*

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HHS-AV [hypothesized]</td>
<td>.85**</td>
<td>.67**</td>
<td>-.68**</td>
<td>-.60**</td>
<td>.54**</td>
<td>-.29*</td>
<td>.32**</td>
<td>-.23*</td>
<td></td>
</tr>
<tr>
<td>2. OHQ</td>
<td>.74**</td>
<td>-.63**</td>
<td>-.63**</td>
<td>.57**</td>
<td>-.32**</td>
<td>.39**</td>
<td>-.22*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. RSES</td>
<td>.62**</td>
<td>-.41**</td>
<td>-.41**</td>
<td>-.42**</td>
<td>.20*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.87)</td>
<td>[.83]</td>
<td>[-.41]</td>
<td>[-.40]</td>
<td>[.10]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. RADS-2SF</td>
<td>.62**</td>
<td>-.30**</td>
<td>.25*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. UCLA-RLS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.83)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. LOT-R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.62)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. RAASI-AB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.87)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. MCSD-SF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.68)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* Final correlation relationships for validity evidence between HHS-AV and other scales are in bold and hypothesized r-values are presented underneath in brackets. Internal consistency alpha values for each scale are presented in parentheses.

HHS-AV = Humboldt Happiness Scale- Adolescent Version; OHQ = Oxford Happiness Questionnaire; RSES = Rosenberg Self Esteem Scale; RADS-2SF = Reynolds Adolescent Depression Scale-2nd Edition Short Form; UCLA-RLS = UCLA Revised Loneliness Scale; LOT-R = Revised Life Orientation Test; RAASI-AB = Reynolds Adolescent Adjustment Screening Inventory- Antisocial Behavior Subscale; MCSD-SF = Marlowe-Crowne Social Desirability Scale-Short Form.

* p < .05. ** p < .001
**Convergent validity.** A moderate to strong positive correlation \((r \approx .50)\) between the HHS-AV and a measure of self-esteem was hypothesized. This relationship between happiness and global self-esteem was stronger than hypothesized \(r(159) = .67, p < .001, 95\% \text{ C.I.} [.57, .75]\). A moderately strong negative correlation \((r \approx -.60)\) between the HHS-AV and a measure of adolescent depression was hypothesized. This hypothesis was confirmed \(r(159) = -.67, p < .001, \text{C.I.} [-.59, -.76]\). A low to moderate negative correlation \((r \approx -.40)\) was hypothesized between the HHS-AV and a measure of loneliness. The correlation magnitude of the relationship between happiness and loneliness for this study was stronger than hypothesized \(r(159) = -.60, p < .001 \text{ C.I.} [-.49, -.69]\). A moderately strong positive relationship \((r \approx .60)\) between happiness and dispositional optimism was hypothesized. This hypothesis was confirmed \(r(158) = .53, p < .001, \text{C.I.} [.41, .64]\).

**Discriminant validity.** It was hypothesized that the HHS-AV would demonstrate low relationships with two conceptually unrelated scales to demonstrate discriminant validity. First, it was hypothesized that the HHS-AV would demonstrate a low negative relationship \((r \approx -.30)\) with a measure of antisocial behavior. This hypothesis was confirmed \(r(148) = -.29, p < .001, 95\% \text{ C.I.} [-.43, -.13]\). Second, it was hypothesized that the HHS-AV would demonstrate a low relationship \((r \approx .30)\) with a measure of social desirability and this hypothesis was confirmed \(r(155) = .32, p < .001, \text{C.I.} [.17, .45]\).

**Factorial validity and the model of best fit.** All observed variables (items) were used in a first order confirmatory factor analysis (CFA) using AMOS program. The hypothesized model came from Reynolds’ research (2005) with college students.
(Appendix L) that resulted in a three-factor model. This first order model proved a poor fit for this particular sample, $\chi^2(347) = 652.36$, $\chi^2:df = 1.88$, GFI = .76, CFI = .83, RMSEA = .08, 90% CI [.070, .088]. Statistical criteria cutoffs for these statistics (CFI > .90 and RMSEA < .05) indicate that this model was a poor fit for this data.

A parallel analysis was conducted using an SPSS syntax file. This type of analysis investigates both a principal components analysis (PCA) and principal axis factoring (PAF) analysis simultaneously. The PAF analysis yielded a four-factor solution and the PCA indicated that a two factor solution fit the data. Although a lack of parsimony between the two data reduction analyses indicates that there isn’t a model of best fit for this particular data set, each factor solution was examined in SPSS by using a specific number of factor extractions, two, three, and four.

The structure matrices and corresponding factor loadings for these three models were examined and run using AMOS to see if any of these other models was a better fit for the data (see Table 6 for corresponding model fit statistics). None of these models fit the data well based on specific model fit criteria (Byrne, 1999) and factorial validity is not confirmed or established for this data.

**Gender Differences**

Total happiness scores were computed for both the HHS-AV and the OHQ and two independent samples $t$-tests were evaluated to see if male and female adolescents differ in over all levels of reported happiness. Scores on the HHS-AV for males ($M = 83.99$, $SD = 13.05$) and females ($M = 82.53$, $SD = 14.10$) did not significantly differ $t(149) = 0.65$, $p = .52$, $d = 0.11$ in their overall levels of happiness. Total happiness
Table 6

*Fit Indices for First Order Confirmatory Factor Analysis Models of the HHS-AV*

<table>
<thead>
<tr>
<th>Model</th>
<th>Factors</th>
<th>df</th>
<th>$\chi^2$</th>
<th>$\chi^2$/df</th>
<th>GFI</th>
<th>CFI</th>
<th>RMSEA [90% CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>3</td>
<td>347</td>
<td>690.36</td>
<td>1.99</td>
<td>.762</td>
<td>.830</td>
<td>.079 [.070, .088]</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>349</td>
<td>723.19</td>
<td>2.07</td>
<td>.751</td>
<td>.814</td>
<td>.082 [.074, .091]</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>347</td>
<td>652.37</td>
<td>1.88</td>
<td>.773</td>
<td>.848</td>
<td>.075 [.066, .083]</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>344</td>
<td>652.62</td>
<td>1.90</td>
<td>.772</td>
<td>.847</td>
<td>.075 [.067, .084]</td>
</tr>
</tbody>
</table>

*Note:* * = Reynolds 3-factor model. All of the values had probability values of .000 and 90% confidence intervals for the RMSEA are presented under the RMSEA statistics.
scores for males ($M = 84.40, SD = 11.36$) and females ($M = 84.52, SD = 11.87$) didn’t differ on the OHQ $t(149) = -0.059, p = .953, d = 0.01$. The small $t$ values and effect sizes indicate that adolescent males and females report similar levels of happiness at this age.

**Supplemental Analyses**

A bivariate correlation was run between age, the HHS-AV and the other validity scales (See table 5). There was a low but significant correlation between age and happiness $r(157) = -.23, p = .004$, 95% C.I. [-.08, -.37] (See Table 5 for correlation results between age and other scales). This result indicates that for this particular sample older individuals reported lower levels of happiness than their younger counterparts.

To further understand how the HHS-AV and each convergent validity construct is related to overall happiness scores, a multiple regression analysis was conducted using happiness as the dependent variable. As a set, these convergent construct variables significantly predicted happiness $R^2 = .59, F(4,149) = 53.73, p < .001$. Depression was the strongest predictor of happiness accounting for 6.5% of the variance ($b^* = -.36, p < .001$), followed by optimism and hope for the future ($b^* = .23, p = .001$), self-esteem ($b^* = .17, p = .049$) and loneliness ($b^* = -.17, p = .022$: See Table 7 for regression results).

Multiple regression analysis was run comparing scores on the OHQ and the same convergent construct variable and strengths of predictors were similar to those of the HHS-AV. Taken all together these variables significantly predicted happiness scores $R^2 = .64, F(4,149) = 64.70, p < .001$. Each individual construct was also a significant predictor of happiness, but not in the same pattern as the HHS-AV. For the OHQ, self-esteem was the strongest predictor accounting for 4.6% of the variance ($b^* = .34, p <
.001) followed by optimism ($b^* = .22, p = .001$), loneliness ($b^* = -.21, p = .002$) and depression ($b^* = -.18, p = .012$) (See Table 7 for regression results for both the HHS-AV and the OHQ).
Table 7

Multiple Regression Analyses Predicting Happiness on HHS-AV and OHQ from Depression, Optimism, Loneliness, and Self-Esteem

<table>
<thead>
<tr>
<th>Predictor</th>
<th>HHS-AV</th>
<th></th>
<th>OHQ</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b^*$</td>
<td>$sr^2$</td>
<td>$b^*$</td>
<td>$sr^2$</td>
</tr>
<tr>
<td>Depression</td>
<td>-.36**</td>
<td>.065</td>
<td>-.18*</td>
<td>.016</td>
</tr>
<tr>
<td>Optimism</td>
<td>.24**</td>
<td>.031</td>
<td>.22**</td>
<td>.027</td>
</tr>
<tr>
<td>Loneliness</td>
<td>-.17*</td>
<td>.015</td>
<td>.21*</td>
<td>.023</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>-.17*</td>
<td>.011</td>
<td>.34**</td>
<td>.046</td>
</tr>
</tbody>
</table>

*Note. Depression was measured by the RADS-2ESF, Optimism measured by LOT-R, Loneliness was measured by the UCLA Loneliness Scale and Self-Esteem was measured by the Rosenberg Self-Esteem Scale.

$^* p < .05. \quad ^{**} p < .001.$
DISCUSSION

Introduction

The primary goal of this research was to evaluate the psychometric qualities of the Humboldt Happiness Scale-Adolescent Version (HHS-AV; Reynolds, 2011) with a sample of high school students. Reliability was evaluated using Cronbach’s coefficient alpha to measure internal consistency and four different kinds of validity were assessed including criterion, convergent, discriminant, and factorial. Currently, there are few psychometrically sound measures of happiness for use with this population and results from this research indicate that the HHS-AV possesses adequate psychometric qualities for use with adolescents.

Happiness is considered by some to be a protective factor against certain psychopathologies and other life ailments (Suldo & Huebner, 2004). Research shows that children and young adolescents usually report high levels of life satisfaction but that these levels begin to decline with the onset and progression of this particular developmental period (Proctor et al., 2008). Research with this age group is needed and in particular a psychometrically sound measure for use with adolescents.

Psychometric Properties of the HHS-AV

Reliability. Internal consistency measures how well all of the items scale measure the same underlying construct (Henson, 2001; Shultz & Whitney, 2005). Experts in psychometric evaluations say that overall an alpha level .50 or below should be considered inadequate, a level of .80 is considered adequate but for psychometric evaluations regarding clinical or education decisions an alpha of .90 is considered a gold
standard (Henson, 2001). The HHS-AV demonstrated good internal consistency reliability with a Cronbach's alpha of .92 suggesting the HHS-AV has minimal error variance. It was hypothesized that the HHS-AV would have a coefficient alpha of at least .80 and this hypothesis was confirmed. It should be further noted that a similar internal consistency was demonstrated using the HHS with college students (α = .95: Reynolds, 2005). The criterion measure, the Oxford Happiness Questionnaire (OHQ; Hills & Argyle, 2002) also demonstrated good internal consistency reliability (α = .90) indicating that the OHQ also had minimal error variance.

The internal consistency reliability was .93 on the HHS-AV and was .90 on the OHQ for males (n = 87). For females (n = 64) the coefficient alpha for each test was similar (.93 and .91) indicating that each measure is reliable for adolescents by gender. Item to total correlations ranged from .19 to .75 on the HHS-AV and on the OHQ a range of .12 to .72 was found. The HHS-AV had two items with item to total correlation values below .30, item 22 had a .26 and item 24 was .19. Item 24 is discussed in the limitations section while item 22 was very close to .30 and wasn’t examined further. The OHQ had 4 items below the .30 standard, three of them under .20. One of these items asked about interest in other people and the other two items (There is a difference between what I like to do and what I have done; I can’t do all the things I want to do) ask questions that are irrelevant to adolescent life. For example, the item that states “I can’t do all the things I want to do” may be an issue of parenting practices and house rules rather than a personal and independent choice. The majority of the sample live at home which implies
parental/guardian influence and abiding by rules set forth by other people than themselves.

**Criterion validity.** Criterion validity is the degree of association between the variable of interest and an already established “criterion” variable. It was demonstrated by examining the relationship between scores on the HHS-AV and the Oxford Happiness Questionnaire (OHQ; Hills & Argyle 2002). The relationship was stronger than the hypothesized magnitude of .70, resulting in the correlation for this study at .85, 95% CI [.80, .89]. Although this is a very strong relationship, these two tests are distinct, ask different questions, and regression analysis indicated that the strength of prediction of construct variables were different for each test. The OHQ measures happiness as a trait construct seeing happiness as stable across situations and time (Argyle 1987; Hills and Argyle, 2002) where the HHS-AV measures happiness as an affective state and assumes that levels of happiness can change in situations and over time.

Further evidence of criterion validity of the HHS-AV was demonstrated by the correlational relationships between the OHQ and the construct validity variables used in this study (self-esteem, depression, loneliness, and optimism). The strength of the correlations for each happiness measure was comparable. For example, the HHS-AV ($r = -.67$) and the OHQ ($r = -.63$) were both negatively related to depression and both positively related to self-esteem ($r = .67$ and $r = .74$ respectively). These two tests also showed similar relationships with loneliness ($r = -.60$ and $r = -.63$) and optimism ($r = .53$ and $r = .57$) respectively.
The fact that this relationship was stronger than predicted is a positive for criterion related validity because it demonstrates that the HHS-AV is adequate for research with adolescents. Similar results were found in an original validation study of the OHQ (Hills & Argyle, 2002) and its relationship with its criterion-related measures.

**Construct Validity**

Construct validity is the degree that a test instrument measures the construct of interest. This research examined construct validity by investigating both convergent and discriminant validity. Convergent validity was assessed by examining the relationships between scores on the measure of interest and other theoretically related concepts based on an a priori nomological network. Convergent validity was demonstrated by examining scores on the HHS-AV and its relationship with self-esteem, depression, loneliness and dispositional optimism. Discriminant validity was examined by investigating the relationships between scores on the measure and conceptually unrelated constructs. Discriminant validity for this study examined the relationships between the HHS-AV and a measure of antisocial behavior and a measure of social desirability. All correlations for construct validity evidence were based on the a priori nomological network and all were significant demonstrating that the HHS-AV is a valid scale for measuring happiness in adolescents.

**Self esteem.** The relationship between self-esteem and happiness was examined to demonstrate convergent validity of the HHS-AV. Self-esteem is an individual’s overall attitude or assessment towards themselves and their personal self-worth and self-acceptance (Cheng & Furnham, 2003b; Rosenberg 1965). As expected, scores on the
HHS-AV and the Rosenberg Self Esteem Scale (RSES: Rosenberg, 1965) were moderately correlated \((r = .67)\). This observed relationship was somewhat stronger than the original predicted level of .50 indicating that individuals who have higher levels of self-esteem report higher levels of happiness. Although the observed correlation value was stronger than predicted, this relationship is consistent with research between the HHS and the RSES in college students \((r = .65; \text{Reynolds, 2005})\). Other studies using the OHI and OHQ demonstrate similarly strong relationships between the two constructs, .67 to .72 respectively (Cheng & Furnham, 2003b; Hills & Argyle, 2002).

Some researchers suggest that a positive level of self-esteem is a necessary component for reporting positive levels of happiness and positive psychological functioning (Cheng & Furnham, 2003b; Rosenberg et al., 1993; Ryff, 1989). Magen (1998) in her decade long exploration of happiness in adolescence, found that experiences with the self, including self-discovery of personal strengths and high feelings of accomplishment and self-worth, were among the highest reported situations of happy moments for adolescents. This suggests that adolescents feel happy when they feel good about themselves and what they have accomplished. Regression studies examining the relationship between happiness as the dependent variable and self-esteem indicate that self-esteem is a strong predictor in individuals reported levels of happiness (Cheng & Furnham, 2004).

**Depression.** Research shows that adolescence is a time of heightened risk for adolescents and depressive symptoms are associated with feelings of hopelessness, guilt, low self-esteem, and suicide ideation (Peterson et al., 1993; Reynolds, 1990). Some
research suggests that an affective state such as depression is a main contributor to unhappiness (Cheng & Furnham, 2003; Seligman 1991) and depression and happiness were negatively correlated in all of studies mentioned and discussed previously in this study. As hypothesized, scores on the HHS-AV and the RADS-2SF were strongly related in a negative direction \( (r = -0.67) \).

This is consistent with the depression-happiness relationship found using the HHS \( (r = -0.70) \) with college students using the Reynolds Depression Screening Inventory (RDSI: Reynolds & Kobak, 1998). Reynolds’ (2005) conducted an exploratory factor analysis and yielded a three factor solution of happiness. One of the factors is positive affect and it consists of nine reverse keyed items asking questions about the frequency of feeling sad, angry or crying. The regression analysis is discussed in the supplemental analysis section, but depression was the greatest contributor and predictor of happiness as measured by the HHS-AV.

Additional support for this finding can be found in other studies conducted with adolescents. For example, in a validation study of the Reynolds Adolescent Depression Scale (RADS: Reynolds, 1990) with 9,699 New Zealand Adolescents, a correlation of -.63 was found between scores on the RADS and a single happiness question asking participants “Are you feeling happy or satisfied with your life?” (Walker et al., 2005). Similarly, scores on a brief measure of student life satisfaction were strongly correlated with a measure of depression \( (r = -0.69;\) Funk et al., 2006) in a sample of 146 adolescents from the U.S. These findings suggest that affective states such as happiness and depression are closely related and important during adolescence.
Loneliness. Loneliness is defined as a “lack of meaningful personal relationships” (Mahon et al., 1995) and adolescence is a period of development where individuals are concerned with being liked by their peers and having strong emotional connections with their peers. The relationship between loneliness and happiness in adolescents for this study was -.60, stronger than the hypothesized magnitude of -.40. The strength of the observed relationship indicates that adolescents who feel lonely report lower levels of happiness. During adolescence, the definition of friendship and support change from common interest in games and activities to social and emotional support from peers (Argyle, 1987; Cheng & Furnham, 2002). The magnitude of the relationship found in this study in consistent with other studies demonstrating that loneliness is indicative of lower levels of happiness in adolescence ($r = -.54$: Cheng & Furnham, 2002). Magen (1998) reported that the most frequent and intense moments of happiness reported by adolescents occurred when they were sharing an experience with another person suggesting that companionship is a vital part of happiness in adolescents.

The HHS demonstrated a moderately positive relationship with scores on a social support scale ($r = .42$) but loneliness maybe more than just the absence of social support. Adolescents who report high levels of loneliness are at an increased risk for developing various mental ailments and the experience of feeling alone may have long term psychological effects (Inderbitzen-Pisaruk et al., 1992; Mahon, Yarcheski, & Yarcheski, 1995). Loneliness in adolescence is an emotional experience and is related to higher levels of depression and lower levels of self-esteem (Moore & Schultz, 1983) which all
relate to lower levels of happiness as seen in the results of this study and may account for why the correlation value was higher than hypothesized.

**Dispositional optimism.** Dispositional optimism is an individual’s belief that if faced with aversive life situations, positive overall outcomes will be achieved and individuals with higher levels of optimism have more adaptive coping strategies to stress (Scheier & Carver, 1985; Scheier et al., 1994). The HHS-AV demonstrated a moderately strong relationship with dispositional optimism ($r = .53$) indicating that individuals who reported higher levels of optimism reported higher levels of happiness. This relationship was slightly lower than the predicted value of .60 but optimism is considered a trait characteristic and the HHS-AV is a state measure.

Previous studies looking at the relationship between happiness and optimism have been conducted with adults and show similar positive relationships with correlation values ranging from .54 to .74 when using the SHS (Schwartz et al., 2002) and .70 to .79 when using the OHI and OHQ respectively (Hills & Argyle, 2002). One of the factors on Reynolds (2005) initial study examining the psychometric qualities of the HHS was optimism and positive self worth indicating and optimism is a necessary component of happiness measured by the HHS.

**Antisocial behavior.** To demonstrate discriminant validity of the HHS-AV, happiness scores were compared to scores on a measure of antisocial behavior. Antisocial behaviors are behaviors that are considered abnormal based on societal norms (Reynolds, 2001). The relationship between happiness and antisocial behavior for this research yielded a correlation of -.29. Consistent with the results here, the relationship
between well-being and problem behaviors was -.27 for substance abuse and -.05 for early sexual activity (Neumark-Sztainer et al., 1997).

**Social desirability.** Social desirable responding is a critical issue in the construction and psychometric evaluations of tests in psychology (Furnham, 1986; Reynolds 1982, 2001, 2008). Social desirable responding is an individuals’ tendency to respond in a way that makes the individual look good and is achieved through biased responses on self-report questionnaires by denying undesirable characteristics or promoting desirable ones (Furnham, 1986). If scores on the test of interest are moderately or strongly correlated in either direction with scores on a social desirable survey, the validity of that test is put into question. The HHS-AV demonstrated a moderately low relationship \( r = .32 \) with a measure of social desirability, the Marlowe-Crowne Social Desirability Scale-Short Form (MCSDS-SF; Reynolds, 1982). This relationship is supported by Reynolds (2005) research and relationship demonstrated by the HHS with college students \( r = .32 \).

**Factorial Validity**

The results concerning the factorial validity of the HHS-AV were inconclusive. The parallel analysis indicated that there was an inconclusive factor structure of the HHS-AV with this sample of adolescents. Using the parallel analysis, the principal components analysis yielded a different amount of factors than the principal axis factoring making a decision regarding the number of factors or components difficult to analyze. This could be due to a couple of reasons. First, this sample consisted of only 159 students. There are mixed conclusions and guidelines when it comes to deciding
upon an adequate sample size for confirmatory factor analysis studies. Shultz and Whitney (2005) say that more is better and as a general rule suggest at least 100 participants and a sample size to item ratio of 5:1 is necessary and others suggest a ratio of 10:1 of sample size to item ratio. Second, this sample was very homogeneous in terms of demographics, this issue is discussed further in limitations section.

**Gender Differences**

The results of this study demonstrated that male and female adolescents did not differ in their reported levels of happiness. Both the HHS-AV and the OHQ yielded similar mean differences between gender. There are mixed findings on this topic with some studies reporting significant gender differences in happiness levels. Bergman and Scott (2001) found females reported lower levels of happiness. Reynolds (2005) found a small but significant gender difference ($d = 0.21$) with males reporting higher levels of happiness on the HHS with college students. There are other studies that did not find any significant differences in happiness between genders ($d = 0.02$; Cheng & Furnham, 2002; Natvig et al., 2003).

**Supplemental Analyses**

Once psychometric qualities of the HHS-AV were investigated supplemental analyses were conducted. A bivariate correlation analysis investigated the relationship between age and happiness to see if happiness levels were related to age. Two regression analyses were conducted to examine how constructs related to happiness as measured by the HHS-AV and the OHQ, using happiness as the dependent variable.
A small but significant relationship \((r = -0.23, p = .004)\) was found between HHS-AV scores and age, similar to a previous study looking at happiness and adolescents. Natvig and her colleagues (2003) found that in a sample of 1,017 thirteen to 15 year olds, the fourteen to 15 year olds reported lower levels of happiness than did the 13 year-old group. In another study, levels of happiness declined with the progression and onset of adolescence (Proctor et al., 2008).

A regression analysis was conducted to see how the related constructs contributed to the overall make of happiness in adolescence for both the HHS-AV and the OHQ. Although individually all the constructs were significant predictors for each test, the make up wasn’t the same for both tests. The strongest predictor for the OHQ was self-esteem, followed by loneliness, optimism, and depression. On the other hand the predictors of scores on the HHS-AV from strongest to weakest were depression, optimism, self-esteem, and loneliness.

It is interesting to note that the trait like construct of self-esteem was the strongest predictor of the OHQ, which is by definition a trait measure of happiness. Self-esteem accounted for 4.6% of the variance in scores on the OHQ but only 1.1% of the variance on the HHS-AV. The strongest predictor of happiness scores on the HHS-AV was depression, which is considered an emotional state construct, and the HHS-AV is defined as a state measure of happiness. Depression accounted for 6.5% of the variance in scores on the HHS-AV and depression and accounted for 1.6% of the variance on the OHQ. It is beyond the scope of this study to hypothesize or speculate the direction of these relationships.
Reynolds (2005) examined similar constructs and how they relate to happiness in his initial psychometric evaluation of the HHS with college students. He found similar standardized beta coefficients for depression ($b^* = -.44$), self-esteem ($b^* = .29$), and found a similar beta weight in the opposite direction for social support ($b^* = .14$) than loneliness for this study.

**Limitations and Future Research**

The limitations of this study include sample size and availability, demographic homogeneity, protocol administration and one issue of item content. The sample size of 159 participants is small for a psychometric evaluation looking at factor structure of a measure especially when the measure of interest has 28 items. As previously stated sample size for CFA studies is inconclusive among researchers in this field but “the bigger the better” seems to be the trend when deciding upon a certain size (Shultz & Whitney, 2005). Although over 100 schools were contacted via email, postal letter, telephone, or in person, school personnel indicated that they didn’t have enough time for a 30 minute survey because of standardized testing and federal regulations for their performance standards.

Another limitation of this study is the homogeneity of demographics. Fifty-four percent of the participants identified as white or Caucasian and 37 percent of the participants were graduating seniors. Two of the participating high schools are catholic schools accounting for 129 of the 159 participants. For this study, happiness levels didn’t differ based on school affiliation. Students from the public school ($M = 83.42$, $SD = 13.69$) reported similar levels of happiness as their religious counterparts ($M = 83.36$, $SD$
= 13.32), \( t(157) = .02, p = .99, d = 0.004 \). There are mixed results in the literature about the relationship between happiness and religion. One study conducted in Wales with college students \((N = 89)\) found a positive and significant correlation \( (r = .38)\) between the two constructs (Francis, Robbins, & White, 2003) using the OHI and an attitude toward Christianity measure. In a different study conducted with college students \((N = 311)\) in Germany, using the same measures, a low relationship \( (r = .13, p = .025):\) Francis, Ziebertz, & Lewis, 2003) was found.

Administration of the protocol packet differed for each school and may have lead to factor structure inconclusiveness. The school psychologist administered the survey for the 30 participants from the public school and the principal administered the survey for one of the catholic schools during summer session. This researcher administered the survey to the catholic school during spring semester 2012 to various English classes during class time as well as the dean of academics administered the survey to other classes simultaneously. The principal administered the survey to incoming freshmen during the summer of 2012 so these were the youngest participants. Each administrator received instructions on how to administer the survey and an instruction page to read prior to the start, there is room for error without the primary investigator administering every survey at every site and it can be assumed that the same standards were kept by each of the administrators.

There was a psychometric limitation regarding one of the items and the item to total correlation value. Item 24 (It seemed to be a struggle to do what needed to get done) had a low item to total correlation value of .169 for the total sample, .279 for males
and .088 for females. It may be that some participants may not have understood the item or the content of the item may not be relevant for adolescents. The item was left in the subsequent analyses because the removal of the item didn’t change any of the results or conclusions about the reliability and validity of the measure. More research with other adolescents and this test is needed to conclude whether this item is useful or not.

This is only the first validation study of the HHS-AV and more research is needed to solidify the psychometric qualities of this measure for use in psychological and well-being research. Although this test proved to have good reliability and construct validity, more research is needed to examine the factor structure of this test and see if it matches that of the HHS in its use with college students (Reynolds, 2005).

**Conclusion**

The HHS-AV demonstrated good internal consistency reliability ($\alpha = .92$) and strong validity evidence for this test exists as well. A strong relationship with an already established criterion measure indicated the HHS-AV is a measure of happiness and is operationalized in a way that allows for comparison with a measure that has been used in happiness research. Construct validity is equally as strong based on the relationships between the HHS-AV and other theoretically related constructs (self-esteem, depression, loneliness and optimism) and the low correlational relationships with theoretically unrelated constructs (antisocial behavior and social desirability) to demonstrate discriminant validity evidence.

The HHS-AV is the first measure of happiness that assesses this construct as a state and evidence from the regression analysis supports this state definition. This is a
test that was originally designed for adults to measure happiness and psychometric evidence provided from this research indicates that this measure is appropriate for adolescents and can be used with this age group.
REFERENCES


APPENDIX A

Demographic Form
School Survey Information Sheet

This is a survey to help us understand students in school. There are no right or wrong answers. Please answer honestly - no one will be able to connect your answers to you - but it would help us to understand students if you would give honest answers to all of the questions. Be sure to fill out both the front and back of all pages, thank you.

Do not put your name on any of the pages. If at any time you feel like stopping, you may do so.

Please do not talk while filling out the surveys. Please answer the questions below and on the attached sheets. Please answer all questions.

<table>
<thead>
<tr>
<th>What is your gender:</th>
<th>Male</th>
<th>Female</th>
<th>Age:</th>
<th>Grade in School:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race:</td>
<td>Asian</td>
<td>African American</td>
<td>Native American</td>
<td>Hispanic</td>
</tr>
<tr>
<td>White</td>
<td>Bi-racial</td>
<td></td>
<td>Pacific Islander</td>
<td>Other</td>
</tr>
</tbody>
</table>

1. How many brothers and sisters do you have? _____
2. How many really good friends do you have? _____

3. Please circle any of the people you usually talk to when you have a problem (You can circle more than one)
   A. Mother/Stepmother
   B. Father/Stepfather
   C. A friend your age
   D. Minister/Pastor/Priest/Rabbi
   E. Brother/Stepbrother
   F. Sister/Stepsister
   G. Boyfriend/Girlfriend
   H. Teacher/Coach
   I. Other Relative
   J. Other Person: ______

4. On school nights, what time do you usually go to sleep? _____ pm
   What time do you usually wake up? _____ am

5. In the past 6 months have you been bullied, hit, called bad names, teased, or picked on by other students?
   1. None of the time
   2. RARELY
   3. Some of the time
   4. A lot of the time
   5. Nearly all of the time

6. In the past 6 months have you told a teacher or other adult in school that you were being bullied, hit, called bad names, teased, or picked on? Yes/No
   If Yes, how many times? ______

7. In the past 6 months have you told your parents you were bullied? Yes/No

8. In the past 6 months have you stayed home or skipped school because you were afraid of being bullied, hit, called names, or picked on in school? Yes/No
   If Yes, how many times? ______

Do you have a cell phone? Yes/No
   If Yes, can you connect to the Internet on your cell phone? Yes/No

Do you get and send instant or text messages on your cell phone? Yes/No
   Photos on your cell phone? Yes/No
   About how many hours a day do you spend watching TV during the school week? ______ On the weekend? ______

Do your parent(s) check on what you are looking at on the Internet?

When was the last time you used the Internet?
   1. None of the time
   2. RARELY
   3. Some of the time
   4. A lot of the time
   5. Nearly all of the time

How many hours a day do you usually spend using the Internet? ______ How many hours would you like to spend? ______

On your last report card, which of the following best describes the grades that you received?
   Mostly A's
   Mostly A's & B's
   Mostly B's
   Mostly B's & C's
   Mostly C's
   Mostly C's & D's
   Mostly D's
   Failing grades

Have your grades in school this year gotten: 5 4 3 2 1
   Much better Better Stayed the same Worse Much worse

On the back of this page and the next are a number of questions about how students feel about themselves and things in general. Please answer each question truthfully, and as you really feel. These questions will help us understand how students in high school are feeling. Take your time and read each question before answering. Thank you.
APPENDIX B

Humboldt Happiness Scale- Adolescent Version
Instructions: Read each statement below carefully. Circle the number that indicates how you have been feeling for the past two weeks.

For the PAST TWO WEEKS

| 1. I felt like laughing. | 1 | 2 | 3 | 4 |
| 2. I felt low. | 1 | 2 | 3 | 4 |
| 3. I felt cheerful. | 1 | 2 | 3 | 4 |
| 4. I felt in good spirits. | 1 | 2 | 3 | 4 |
| 5. I felt happy. | 1 | 2 | 3 | 4 |
| 6. I felt angry. | 1 | 2 | 3 | 4 |
| 7. I felt sad. | 1 | 2 | 3 | 4 |
| 8. I laughed. | 1 | 2 | 3 | 4 |
| 9. I cried or felt like crying. | 1 | 2 | 3 | 4 |
| 10. I felt hopeful. | 1 | 2 | 3 | 4 |
| 11. I smiled. | 1 | 2 | 3 | 4 |
| 12. I frowned. | 1 | 2 | 3 | 4 |
| 13. I felt good inside. | 1 | 2 | 3 | 4 |
| 14. I felt joyful. | 1 | 2 | 3 | 4 |
| 15. The future looked bright to me. | 1 | 2 | 3 | 4 |
| 16. I enjoyed life. | 1 | 2 | 3 | 4 |
| 17. I felt that life was too short to feel bad. | 1 | 2 | 3 | 4 |
| 18. I felt that everyday was a good day. | 1 | 2 | 3 | 4 |
| 19. I liked myself. | 1 | 2 | 3 | 4 |
| 20. I felt good about my life. | 1 | 2 | 3 | 4 |
| 21. I felt good about the future. | 1 | 2 | 3 | 4 |
| 22. I wanted a better life. | 1 | 2 | 3 | 4 |
| 23. I looked forward to each new day. | 1 | 2 | 3 | 4 |
| 24. It seemed to be a struggle to do what needed to be done. | 1 | 2 | 3 | 4 |
| 25. I felt like having fun. | 1 | 2 | 3 | 4 |
| 26. I felt like nothing could bring me down. | 1 | 2 | 3 | 4 |
| 27. I felt upset about things. | 1 | 2 | 3 | 4 |

28. Put an X over the face that shows how you have been feeling over the past two weeks.
APPENDIX C

Oxford Happiness Questionnaire
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am not pleased with the way I am</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I am intensely interested in other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel that life is very rewarding</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I have very warm feelings towards almost everyone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I rarely wake up feeling rested</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I am not hopeful about the future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I find most things funny</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I am involved with things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Life is good</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I do not think that the world is a good place</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I laugh a lot</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. I am satisfied about everything in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. I don’t think I look attractive</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. There is a difference between what I would like to do and what I have done</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. I am very happy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. I find beauty in some things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. I always have a cheerful effect on others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. I can’t do all the things I want to do</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. I feel that I am not in control of my life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. I feel able to take anything on</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. I feel fully mentally alert</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. I often experience joy and good feelings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. I do not find it easy to make decisions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. I do not have a sense of meaning and purpose in my life</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. I feel I have a great deal of energy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. I usually have a good influence on things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. I do not have fun with other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. I don’t feel healthy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. I do not have happy memories of the past</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX D

Rosenberg Self Esteem Scale
Listed below are statements that describe how people generally feel about themselves. Circle the number that best describes you or how you feel.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel that I have a number of good qualities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. At times I think I am no good at all</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel I do not have much to be proud of</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. At time I feel like a failure</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I certainly feel useless at times</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. All in all I am inclined to feel that I am a failure</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. On the whole, I am satisfied with myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I wish I could have more respect for myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I feel that I am a person of worth, at least on an equal basis with others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I take a positive attitude toward myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX E

The Revised UCLA Loneliness Scale
<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I lack companionship</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. There is no one I can turn to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel part of a group of friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I am an outgoing person</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I feel left out</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I feel isolated from others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I can find companionship when I want it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I am unhappy being so withdrawn</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. People are around me but not with me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX F

Revised Life Orientation Test
On the items below, please be as honest and accurate as you can. Try not to let your answer to one sentence influence your answers to other statements. Answer how you feel, rather than how you think “most people” would answer.

<table>
<thead>
<tr>
<th></th>
<th>I Agree A Lot</th>
<th>I Agree A Little</th>
<th>I Neither Agree or Disagree</th>
<th>I Disagree A Little</th>
<th>I Disagree A Lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In uncertain times, I usually expect the best</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>It’s easy for me to relax</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>If something can go wrong for me, it will</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I’m always hopeful about my future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I enjoy my friends a lot</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>It’s important for me to keep busy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>I hardly ever expect things to go my way</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>I don’t get upset too easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>I rarely count on good things happening to me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Overall I expect more good things to happen to me than bad</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX G

Marlowe-Crowne Social Desirability Scale-Short Form
<table>
<thead>
<tr>
<th>Statement</th>
<th>TRUE</th>
<th>FALSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is sometimes hard for me to go on with my work if I am not encouraged</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>2. I sometimes feel resentful when I don’t get my way</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>3. On a few occasions, I have given up doing something because I thought too little of my ability</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>4. There have been times when I felt like rebelling against people in authority even though I knew they were right</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>5. No matter whom I’m talking to, I’m always a good listener</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>6. There have been occasions then I took advantage of someone</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>7. I’m always willing to admit to it when I make a mistake</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>8. I sometimes try to get even rather than forgive and forget</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>9. I am always courteous, even to people who are disagreeable</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>10. I have never been irked when people expressed ideas very different from my own</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>11. There have been times when I was quite jealous of the good fortune of others</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>12. I am sometimes irritated by people who ask favors of me</td>
<td>T</td>
<td>F</td>
</tr>
<tr>
<td>13. I have never deliberately said something that hurt someone’s feelings</td>
<td>T</td>
<td>F</td>
</tr>
</tbody>
</table>
APPENDIX H

Consent Form
An Examination of Happiness in Adolescence: Validation of the Humboldt Happiness Scale

CONSENT TO ACT AS A RESEARCH PARTICIPANT

Dear Parent or Guardian:

We are writing to ask permission for your child to take part in a research project that is being conducted at your child’s school. Ms. Amy E. Lowe, graduate student in Psychology and Dr. William Reynolds, Professor of Psychology at Humboldt State University are conducting a research project examining happiness in adolescents and how it relates to social and personal well-being. This project will involve students in grades 9 through 12 who will complete a paper-and-pencil survey. The survey will take about 25-35 minutes and include questions about social and personal well-being that have been used with other students in school settings as well as several measures of happiness.

No information collected as part of this study will identify your child or your family. Your child’s responses will be completely anonymous, which means that your child will never be asked to provide a name or any other identifying information on the survey. The cumulative results of this study may be published. We anticipate that we will provide your child’s school with a summary of our findings, although no individual student information will be reported. All data/documentation collected as part of the project will be kept in a secure file at HSU.

We do not anticipate that your child will be exposed to any risks while participating in this study. The survey will include questions about their level of happiness and social and personal well-being that have been used with students in school settings and there have been no ill effects from answering the questions. Possible risks include mild fatigue. Your child will also be informed that they may refuse to participate when the survey is administered and that they may stop at any time. Participation is voluntary and there will not be any remuneration for your child’s participation.

It is important that educators and researchers increase their awareness of positive aspects of adolescents, such as happiness, which is the primary focus of this research. The information collected for this study may be beneficial to both local schools as well as a wider group of educators and researchers.

If you have any questions about this research, you may contact Amy Lowe at aelowe13@gmail.com, Dr. William Reynolds at 826-3162, wr9@humboldt.edu or Dr. Chris Hopper, Associate Dean at 826-3949, cah3@humboldt.edu.

Your child’s school administration has reviewed this project and feels that it is of potential value. Please complete the Consent Form on the next page indicating if you will allow your child to participate in this study. If you do not give permission, please note this on the form. We would greatly appreciate it if you would have your child return the attached form to his or her school within the next three days. Forms may be returned to the main office at your child’s school.

Thank you in advance for considering your child’s participation in this project.
INFORMED CONSENT FORM

Students: Your participation in this study is completely voluntary. Participating or not participating will not affect your grades at school. You may stop participating at any time without penalty. Even if your parents have approved your participation, you may decide not to participate if you don't want to.

Parents: Your child’s participation in this study is completely voluntary. Participating or not participating will not affect your child's grades at school. Your child may decline to participate or may stop participating at any time with no penalty even if you have given permission.

I have read the attached form describing the study on happiness in adolescents in grade 9 through 12 students and I understand that my child’s participation in this research is voluntary, and that my child may withdraw from the study at any time without jeopardy.

Please check one of the two options below and have your child return this form to the school within three days

___ I give informed consent for my child to participate in this study.

___ I do not give informed consent for my child to participate in this study.

Child’s full name (please print) ___________________________ Grade: ______________

Parent/legal guardian’s printed name __________________________

Parent/legal guardian’s signature __________________________ Date ______________

Thank you for your consideration of this request. Please have your child return this form to the school office as soon as possible.
APPENDIX I

Recruitment Letter
Dear Principal-

My name is Amy Lowe and I am a graduate student at Humboldt State University currently working on my thesis project titled *An Examination of Happiness in Adolescence: Validation of the Humboldt Happiness Scale*. I am recruiting schools to participate in my project and was wondering if you and your school would be interested. Past psychological research conducted with adolescents has focused on psychopathology or mental illness that has led to an abundance of psychometrically sound instruments to measure these constructs. Although there is this abundance of instruments or surveys measuring negative ailments during adolescence, there are no psychometrically sound measures specifically designed to measure happiness for adolescents. The goal of my thesis is to provide the psychological research world with an appropriate happiness measure for adolescents. Happiness research is part of a research area that is gaining interest known as positive psychology and includes the study of positive human characteristics such as happiness, optimism, and self-determination.

Positive psychology is interested in the prevention of psychopathology and in identifying personal and societal strengths that may act as protective factors or buffers against developing mental illness or what provide individuals with the skills to act and adapt in beneficial ways to cope with stressful life events. It is concerned with what makes certain individuals resilient to risk factors and what makes other individuals able to overcome mental illness or distress. It is an important and meaningful area of study because it aims to create a scientific and empirically based theory of human strengths and flourishing because positive human strengths have many benefits. Research shows that happiness is related to other positive life areas such as self esteem, optimism and hope for the future, better coping with stressful life events, career success, and report fewer physical health symptoms. It is important for researchers to look at happiness in adolescents because past research has indicated that experiences in adolescence have a profound impact in adulthood.

Enclosed in this envelope is the introduction to my thesis proposal and goes into further detail about the need for a measure designed specifically for adolescents as well as the abstract that talks more about the project details. Also enclosed are the parental consent form and the protocol packet that will be used for the study. If you have any questions or would like to speak further about this research and your school participating in this project I can be reached at my email aelowe13@gmail.com or my telephone number is 3035489660.

Thanks for your time

Amy E. Lowe
Academic Research Masters Program
Developmental Psychopathology
Humboldt State University
APPENDIX J

Reynolds 3-Factor Happiness Model
Factor Structure of the Humboldt Happiness Scale

<table>
<thead>
<tr>
<th>HHS Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>I look forward to each day.</td>
<td>.86</td>
<td>.02</td>
<td>-.10</td>
</tr>
<tr>
<td>I felt that life was too short to feel bad.</td>
<td>.79</td>
<td>-.14</td>
<td>-.06</td>
</tr>
<tr>
<td>I felt that everyday was a good day.</td>
<td>.78</td>
<td>.09</td>
<td>.02</td>
</tr>
<tr>
<td>I liked myself.</td>
<td>.77</td>
<td>.06</td>
<td>.01</td>
</tr>
<tr>
<td>I felt good about life.</td>
<td>.73</td>
<td>.10</td>
<td>.08</td>
</tr>
<tr>
<td>I felt optimistic.</td>
<td>.73</td>
<td>.10</td>
<td>.08</td>
</tr>
<tr>
<td>The future looked bright to me.</td>
<td>.72</td>
<td>.10</td>
<td>.08</td>
</tr>
<tr>
<td>I felt hopeful.</td>
<td>.62</td>
<td>.05</td>
<td>.15</td>
</tr>
<tr>
<td>I felt like having fun.</td>
<td>.62</td>
<td>.07</td>
<td>.03</td>
</tr>
<tr>
<td>I enjoyed life.</td>
<td>.61</td>
<td>.06</td>
<td>.27</td>
</tr>
<tr>
<td>I felt good inside.</td>
<td>.57</td>
<td>.11</td>
<td>.31</td>
</tr>
<tr>
<td>I felt joyful.</td>
<td>.52</td>
<td>.07</td>
<td>.38</td>
</tr>
<tr>
<td>I felt sad.</td>
<td>.04</td>
<td>.81</td>
<td>.01</td>
</tr>
<tr>
<td>I cried or felt like crying.</td>
<td>-.08</td>
<td>.75</td>
<td>-.01</td>
</tr>
<tr>
<td>I felt angry.</td>
<td>.02</td>
<td>.70</td>
<td>.09</td>
</tr>
<tr>
<td>I felt upset about things.</td>
<td>.15</td>
<td>.70</td>
<td>.04</td>
</tr>
<tr>
<td>I frowned.</td>
<td>-.16</td>
<td>.65</td>
<td>.09</td>
</tr>
<tr>
<td>I felt low.</td>
<td>.24</td>
<td>.59</td>
<td>.08</td>
</tr>
<tr>
<td>It seemed to be a struggle to do what needed to be done.</td>
<td>.05</td>
<td>.42</td>
<td>.02</td>
</tr>
<tr>
<td>I wanted a better life.</td>
<td>.20</td>
<td>.37</td>
<td>.04</td>
</tr>
<tr>
<td>(smiley-type faces)</td>
<td>.16</td>
<td>.31</td>
<td>.29</td>
</tr>
<tr>
<td>I laughed.</td>
<td>.06</td>
<td>.05</td>
<td>.89</td>
</tr>
<tr>
<td>I felt like laughing.</td>
<td>.04</td>
<td>.03</td>
<td>.87</td>
</tr>
<tr>
<td>I smiled.</td>
<td>.05</td>
<td>.02</td>
<td>.83</td>
</tr>
<tr>
<td>I felt cheerful.</td>
<td>.29</td>
<td>.04</td>
<td>.62</td>
</tr>
<tr>
<td>I felt happy.</td>
<td>.30</td>
<td>.09</td>
<td>.60</td>
</tr>
<tr>
<td>I felt in good spirits.</td>
<td>.33</td>
<td>.10</td>
<td>.57</td>
</tr>
<tr>
<td>I felt like having fun.</td>
<td>.18</td>
<td>.02</td>
<td>.47</td>
</tr>
</tbody>
</table>

Factor 1: Optimism and Positive Self Worth
Factor 2: Positive Affect
Factor 3: Cheerfulness