THE CONTRIBUTION OF TEMPERAMENT TO CHILDREN'S HAPPINESS

by

Andrea Nicole Klassen

B.A., Hons, Okanagan University College, 2005

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

The College of Graduate Studies

(Interdisciplinary Studies)

THE UNIVERSITY OF BRITISH COLUMBIA

(Okanagan)

October 2008

ABSTRACT

The relation between temperament and happiness in children aged 8-12 was examined. Participants included 311 students in Grades 4-6 and their parents, recruited from public and private schools in the Central Okanagan. Parents rated their children's temperament using the Emotionality, Activity, and Sociability (EAS) Temperament Survey (Buss & Plomin, 1984) and rated their children's happiness using a single-item measure. Children rated their own temperament using the EAS Temperament Survey and the Piers-Harris Self Concept Scale for Children, Second Edition (Piers-Harris 2) (Piers & Herzberg, 2002). Children also rated their own happiness using a single-item measure, the Oxford Happiness Scale, Short Form (Hills & Arygle, 2002), and the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999). Confirmatory factor analyses established that parent and child ratings on the EAS Temperament Survey conformed to the four-factor structure proposed by Buss and Plomin (1984). Multiple regression analyses revealed that temperament accounted for between 9-29% of the variance in children's happiness depending on the rater (i.e., parents vs. children) and the measure of happiness. Individual temperament variables that predicted a unique amount of the variance of children's happiness over and above the combined effect of all temperament variables varied with the rater of children's temperament (i.e., parents vs. children) and with the measure of happiness. Children who were more social, less shy, less emotional, and more free from anxiety rated themselves, and were rated by others, as happier. Children who scored higher on the activity temperament rated themselves, and were rated by others, as happier. The results of the current study parallel results of research investigating the relation between happiness and personality in adults. It establishes a strong relation between temperament and happiness, and

ii

supports the use of self-reports with children. Implications and suggestions for future

research are discussed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

DEDICATION

For my Omi, Erna Neumann, who taught me the meaning of hard work, inner strength and

perseverance. I wish more than anything that you were here for the completion of this chapter

in my life.

1. Introduction

Historically, psychological research has focused heavily on negative aspects of emotion (Furnham & Petrides, 2003). However, a paradigm shift was acknowledged when Dr. Martin Seligman was elected president of the American Psychological Association in 1996 and made the study of positive psychology his primary mandate (Authentic Happiness, 2006). Recent years have seen a proliferation of rigorous empirical research, journal articles, books, and programs devoted to positive psychology (Seligman, Steen, Park, & Peterson, 2005).

Happiness researchers have begun to extend their target audience from academia to the general public [e.g., Seligman's (2002) book titled *Authentic Happiness* and a website of the same name which provides free information on happiness and happiness increasing strategies (Authentic Happiness, 2006)]. In addition, Peterson and Seligman's (2004) book entitled *Character Strengths and Virtues: A Handbook and Classification* intended to do for positive psychology what the American Psychological Association's Diagnostic and Statistical Manual did for psychological disorders (Seligman et al., 2005). That is to say that they created a manual, based on theory and empirical research, to guide readers to find their own strengths and virtues and learn to use them to their advantage. Seligman and his colleagues claim that the study of positive psychology is a valid scientific endeavor and what is right with people deserves as much attention as what is wrong.

The current study seeks to investigate the relation between happiness (a facet of positive psychology) and temperament in children. Although several important correlates of happiness in adults have been identified, analogous studies with children are not common (Mahon & Yarcheski, 2002). Nevertheless, a recent survey of adults in 48 countries revealed

that what adults desire most for their children is a high level of happiness (Diener & Lucas, 2004). In particular, although it was true for adults in all countries, Canadian adults, on average, had the highest desire for their children's happiness. Thus, because it is such a highly desirable characteristic, it is important for empirical research to investigate children's happiness.

Including children in the study of happiness is important for several reasons. First, the predictors of happiness in children may be different from those in adults. For children, happiness may be found in the domains of personal and home life (Noddings, 2003) and may be closely linked to experiencing pleasurable stimuli (Kornilaki & Chlouverakis, 2004). In addition, several factors that have been identified as important to happiness in adults do not apply to children: marriage (Efkildes, Klaitzidou, & Chankin, 2003), occupation (Argyle, 2001), spousal happiness (Stull, 1998), and having children (Efkildes et al., 2003). Furthermore, predictors of life satisfaction have been shown to change with age (Harry, 1976). For instance, academic test scores predicted life satisfaction in Grade 2, but not in Grade 8 (Chang, McBride-Chang, Stewart, & Au, 2003). It is appropriate to study children because by middle childhood they hold more complex self-views and can describe themselves using trait labels (Shiner & Caspi, 2003). These children are old enough to both identify and use emotions in complex social environments (Schultz, Izard, & Bear, 2004), and they are able to consider multiple sources of information when processing emotions (see Berk, 1994 for a review).

In order to illuminate the importance and potential implications of the present study, it is important to first define happiness, explain how it is assessed, review what past research

has already revealed, and identify why it is important to study happiness in relation to temperament.

1.1 Defining Happiness

Researchers have not agreed on a standard definition for happiness; however many important themes have consistently emerged. Happiness has been described in many ways, including as an overall perception of life satisfaction (Huebner, 1991), as affective and cognitive evaluations of one's life (Demir & Weitekamp, 2006), as the presence of positive affect and the absence of negative affect (Argyle, 2001), and as experiencing pleasure, engagement, and meaning in one's life (Seligman et al., 2005). Underlying all of these descriptions is the widely accepted belief that happiness is relatively stable over time, reflecting a trait rather than a current state (e.g., Kozma & Stones, 1983; Lu & Argyle, 1991; Stones & Kozma, 1988; Stull, 1988).

Although Argyle (2001) suggests happiness is the presence of positive affect and the absence of negative affect, positive and negative affect may not be polar opposites of a single continuum. Rather, they may be two independent dimensions (Lykken & Tellegen, 1998). Some researchers consider happiness as a balance of positive and negative hedonic values (Schimmak, 2003). However, this does not necessarily imply that the more positive affect a person experiences, the less negative affect he or she will experience. Instead, the relative proportions of each type of affect are important to an overall judgment of happiness. Indeed, research has demonstrated positive and negative affect to be separate constructs, which become increasingly separated over time (Diener, Suh, Lucas, & Smith, 1999). That is to say that in moment-by-moment fluctuations in mood, positive and negative affect are more closely related than when they are considered over a long period of time.

The terms happiness, life satisfaction, and subjective well-being are often used interchangeably (e.g. Pavot, Diener, & Fujita, 1990; Stokes & Frederick-Recascino, 2003; Swinyard, Kau, & Phua, 2001). However, several studies emphasize the differences between these three constructs, arguing that each has separate sets of correlates and predictors (e.g., Efkildes et al., 2003; Harvey, Bond, & Greenwood, 1991; Hayes & Joseph, 2003; McLanahan & Adams, 1989). For example, positive and negative affect, gender, and having children influenced respondents' happiness, but not life satisfaction or subjective well-being (Efkildes et al., 2003). Although these three constructs are not identical, they cannot be completely disentangled. Several studies illustrate the relatedness and interdependence of happiness, life satisfaction, and subjective well-being (e.g., Argyle, 2001; Diener et al., 1999; Huebner, Suldo, Smith, & McKnight, 2004; Mikulincer & Peer-Golding, 1991; Pinquart & Sorensen, 2001; Schimmak, 2003). From these studies, subjective well-being emerges as the most global concept (Huebner et al., 2004) while life satisfaction emerges as an essential component of subjective well-being (Diener et al., 1999), and happiness emerges as the affective component that underscores both subjective well-being and life satisfaction (Huebner et al., 2004; Schimmak, 2003). For the purposes of this study, happiness will be considered an underlying, affective component to both life satisfaction and subjective well-being.

Research has shown that major life events may not have equally large and lasting effects on happiness. For example, lottery winners who described their wins as highly positive events did not show significantly different happiness ratings compared to a control group (Brickman, Coates, & Janoff-Bulman, 1978). Furthermore, in the same study, paraplegics who acquired their disabilities as a result of an injury rated their happiness levels

as above the midpoint. Further research has demonstrated happiness to be stable over time, and this stability led to a set point theory of happiness (Lucas, Clark, Georgellis, & Diener, 2003). The set point theory posits that, in general, people have stable levels of happiness that undergo temporary fluctuations due to both positive life events (e.g., marriage), and negative life events (e.g., death of a spouse). According to the theory, immediately following a major life event, individuals' happiness levels may rise or fall; however, many will eventually return close to their previous levels. These findings have led researchers to question whether the set point theory precludes happiness levels from permanent attempts at improvement or change. Recent research reveals that long-term levels of subjective well-being can in fact undergo permanent change and that adaptation to new situations is not inevitable (Lucas, 2007). Some examples of adaptation from this study include findings that people generally adapt to marriage within two years, and after the death of a spouse, happiness levels return almost to their previous levels after seven years. However, the study also found evidence for permanent change in that divorce, unemployment, and serious disability can cause significant decreases in happiness levels, which never fully rebound. Furthermore, there are individual differences in the degree of adaptation people experience (Diener, Lucas, & Scollon, 2006).

Closely related to stability (and perhaps its underlying process) is a genetic, heritable component to happiness. Twin studies revealed that over a span of 10 years, monozygotic twins' ratings of happiness correlated highly ($r = .40$) while dizygotic twins' ratings do not ($r = .07$) (Lykken & Tellegen, 1996). The authors claim that genetic variables determine approximately 80% of the stability in happiness ratings but that overall, adult happiness is equally influenced by genetic and environmental, and experiential factors. Recent research revealed that the stable component of happiness accounted for approximately 34%-38% of

the variance in happiness (Lucas & Donnellan, 2007). Taking these results together, approximately 38% of happiness is accounted for by a stable factor, and approximately 80% of that stable factor is determined by genetics. Therefore, while happiness is stable to a certain extent, individuals' overall happiness levels are subject to external influences and individual differences, and are not immune to change (Lucas, 2007). This is encouraging for those who seek to improve their happiness levels. Indeed, early research in this area has shown that happiness enhancing strategies can effect long-term improvements in happiness levels (Seligman et al., 2005).

For the purposes of this study, happiness is defined as a relatively stable, partially heritable positive affective trait, which consists of an overall positive subjective evaluation and underscores both life satisfaction and subjective well-being.

1.2 Measuring Happiness

Just as previous studies have used various definitions of happiness, so too have they used various measures to assess happiness. Self-report questionnaires and reports by knowledgeable others (e.g., parents, friends, and spouses) are common methods of evaluating happiness (Pavot & Diener, 1993). Self-ratings are important and valid because happiness research is interested in how people perceive themselves (Myers & Diener, 1995). Furthermore, multiple ratings of a person's happiness tend to show convergent validity (Myers & Diener). For example, the happier people rate themselves to be, the happier they are rated by friends and family. Reports by knowledgeable others are reliable and valid and show greater stability when positive affect is being rated (Lepper, 1998). Furthermore, using self- and other-reports in concert helps to control for response factors such as transient mood states or social desirability biases (Lepper, 1998). Although measures of social desirability

have been found to correlate with both self- and other-reports of happiness, it is suggested that social desirability is an element of personality related to well-being rather than a source of error (Diener, Sandvik, Pavot, & Gallagher, 1991)

Single-item measures are commonly used to assess happiness and are an example of self- or other-reports. These measures are usually embedded within a questionnaire asking a variety of questions, and consist of a single question designed to assess the overall happiness of the respondent. Studies utilizing one-item measures have found them to be both reliable and valid (Harry, 1976; Stull, 1988; Swinyard et al., 2001). An example of a single-item measure is the Faces Scale. First used by Andrew and Withey (1976), the Faces Scale has been adapted for use with children aged 8-12 years old (Holder & Coleman, 2008, in press). The scale consists of seven drawings of faces ranging from very unhappy to very happy and targets a global assessment of happiness by asking respondents to choose the face that represents how they feel most of the time. The Faces Scale is especially suitable for use with children because children as young as 3 years of age can recognize and label emotions, they perform best when emotions are represented as schematic drawings as opposed to photographs, and they are best at labeling happiness, followed by sadness (MacDonald & Kirkpatrick, 1996).

Multiple-item measures of happiness are also commonly employed in research. These measures include multiple item questionnaires such as the Oxford Happiness Questionnaire, Short Form (Hills & Argyle, 2002), and the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999). Individuals are asked to read each item and respond according to a particular scale, often a Likert-type scale (e.g., 1 = strongly disagree, 7 = strongly agree). Multiple-item measures are also examples of self- or other-reports.

Happiness has also been assessed using visual analogue scales. Visual analogue scales can be compared to thermometers. The respondent has an anchor on each end of the scale (e.g. "very unhappy" and "very happy") and may choose a point anywhere on the line that best represents their response. Although suitable for use with adults, research has demonstrated that children have difficulty using visual analogue scales, especially children 8 years of age and younger (Shields, Cohen, Harbeck-Weber, Powers, & Smith, 2003). Children 10 years of age also experienced difficulty and a lack of understanding, even after receiving training with the scale. Thus, although these scales may be appropriate for adults, they are less suitable for children.

Experiential research has also been employed to explore happiness (e.g., Csikszentmihalyi & Hunter, 2003; Schimmack, 2003). In this type of research, participants are given pagers to wear at all times. They are paged at random times throughout the day and must record what they are doing and how they are feeling at that moment. This technique has been used with children as young as Grade 6 (approximately 12 years old) (Csikszentmihalyi & Hunter, 2003). Experiential research measures fluctuations in mood throughout the day, which differs from the goal of the present study, which is to measure global happiness.

Although there are several ways to effectively measure happiness, there is no clearly accepted method, and most researchers agree that using multiple measures of happiness is optimal (DeNeve & Cooper, 1998). In fact, a meta-analysis showed that 91% of studies comparing subjective well-being to variables of interest used multiple subjective well-being measures. Through employing the methods of measurement described above, research has revealed several important predictors of happiness.

1.3 Correlates of Happiness

Although a complete review of happiness-related research is beyond the scope of this study, it is important to review some of the more commonly studied predictors of happiness as well as the limited number of studies that have been conducted with children. The following list is by no means exhaustive.

Happiness studies with adolescents, adults and the elderly have yielded some general and consistent findings. Overall, people rate themselves as happy (Lykken & Tellegen, 1996). Many studies reveal that happiness measures are often positively skewed (Peterson, Ruch, Beermann, Park, & Seligman, 2007). In fact, the mean subjective well-being ratings of adults are well above neutral (Lykken, 2007). Although no single variable can guarantee happiness (Diener & Seligman, 2002), many variables have been examined in relation to happiness in an attempt to discover which factors contribute to individuals' overall happiness.

In general, demographic variables tend to show weak, but significant correlations with happiness in adults, although they do not account for large proportions of the variance in happiness (Amato, 1994). In particular, age, gender, education, and employment are not strong predictors of happiness. Gender does not significantly correlate with happiness, although the predictors of happiness may differ for men and women (Hills & Argyle 2001b; Lu & Lin, 1998). Age is also a weak predictor of happiness (Pinquart & Sorensen, 2001). For example, in one study, gender and age accounted for 2% of the variance of happiness (Cheng & Furnham, 2003). Income tends to be weakly positively correlated with happiness (Ellison, 1991), especially in affluent countries (Argyle, 2001). However, for those who are poor, income is more strongly positively correlated with happiness (Amato & Zuo, 1992). Having

enough wealth to cover the basic necessities in life is necessary but not sufficient for happiness (DeNeve & Cooper, 1998).

Research with children parallels research with adults regarding demographic variables. In a study of the correlates of life satisfaction in children in Grades 5-7, demographic variables failed to show a significant relation with life satisfaction (Huebner, 1991). Furthermore, family demographic variables such as the number of siblings and the age of parents are not strongly correlated with children's happiness (Holder & Coleman, 2008, in press). However, there are particular aspects of family life that are related to children's happiness. One researcher suggests that for children, happiness lies in the domains of personal and family life (Noddings, 2003). Family stability in early childhood is important for later adjustment of children, especially for those who come from economically disadvantaged families (Ackerman, Kogos, Youngstrom, Schoff, & Izard, 1999). In a study of middle-school children, children's perceptions of the quality of their family relationships had the strongest correlation with their life satisfaction (Ackerman et al., 1999). In addition, retrospective studies demonstrate the closeness of a child to his or her parents predicts that child's happiness (Amato, 1994). Furthermore, in studying situational differences in relation to happiness, being with a parent, sibling, or other relative was related to average or above average ratings of happiness for children in Grades 6-12 (Csikszentmihalyi & Hunter, 2003).

Marriage is consistently associated with higher levels of happiness in adults. One explanation for this is that married people have a permanent social partner. Indeed, the social roles one occupies in marriage may be related to happiness (Wood, 1989). Research with African American, dual-career couples demonstrated that the best predictor of a person's overall happiness was his or her happiness in marriage (Thomas, 1990). Furthermore, in

married couples, the best predictor of one partner's happiness is the spouse's happiness (Stull, 1988). However, the correlation between happiness and marriage may be the result of self-selection because happier people are more likely to get married and stay married than unhappy people (Lucas et al., 2003). Indeed, individuals who eventually marry have higher happiness levels 5 years prior to getting married, while those who get married and eventually divorce have lower happiness levels prior to entering into marriage (Lucas, 2007).

Marriage is clearly not an appropriate variable to evaluate in children. However, research has shown that the marital status of one's parents is not significantly related to children's happiness (Holder & Coleman, in press).

Religiousness is another variable that has been examined in relation to happiness. In general, attendance at religious services is positively correlated with adults' happiness (Cohen, 2002; Ferriss, 2002; Francis, Jones & Wilcox, 2000). The strength of one's religious faith also shows a positive correlation with happiness, especially for those who are older and those with a lower IQ (Ellison, 1991). Interestingly, the belief in an immortal life was not found to correlate with a person's happiness (Ferriss, 2002). Rather, it is more likely that social factors such as a feeling of belonging and congregational support are important contributing factors to the correlation between religion and happiness (Cohen, 2002; Francis et al., 2000).

Research has suggested that spirituality is an important predictor of children's happiness (Wallace, manuscript in preparation). Specifically, believing one's life has meaning and purpose, and depth of inter-personal relationships between oneself and others were important to children's happiness.

Work, or occupation, has also been assessed in relation to happiness. Research demonstrates that the more satisfied a person is with his or her job, the happier that person will be (Argyle, 2001). The most important contributor to job satisfaction may be the social interactions a person experiences at work (Argyle, 1989 as cited in Argyle, 2001). As with marriage, occupation is a variable that is not applicable to the study of happiness in children.

Leisure and social activities are strongly related to happiness in adults. Leisure activities are positively related to happiness, especially when these activities involve participation in sports teams (Hills & Argyle, 1998). This correlation is consistent with the finding that physical exercise improves affect (e.g., Carlson, 1982; Dubbart, 2002). It is not necessarily the number of activities a person participates in, but the intensity and commitment a person demonstrates that are important to happiness (Ray & Heppe, 1986). In addition, television viewing is negatively correlated with happiness (Hills & Argyle, 1998). It is suggested that people who watch extensive amounts of television may not have alternative options; for example, they may not have many friends with whom they spend time. Interestingly, those people who regularly watch soap operas do not show these negative effects of television viewing (Hills & Argyle). It is suggested that people watch soap operas for relaxation and entertainment value, rather than because they have no alternative options (Hills & Argyle).

Although research has established a clear link between leisure and happiness in adults, and to a lesser extent with adolescents and older adults, further research is needed to investigate the relation to children's happiness. One study suggests that leisure contributes to children's happiness (Holder, Coleman, & Zehn, submitted). Specifically, active leisure (e.g.,

related to athletics) accounted for a significant proportion of the variance in children's well-being while passive leisure activities were weakly negatively correlated with well-being.

Social factors have been identified being strongly related to happiness (Argyle, 2001). In an examination of the happiest group of students from a college sample, this group displayed highly social behaviour and demonstrated strong social relationships (Diener & Seligman, 2002). The quality of one's friendships has also been shown to play a significant role in happiness (Demir & Weitekamp, 2006). Social factors likely contribute to the positive correlations between happiness and various factors discussed here, such as participation in sports teams, work, and attendance at religious services. In addition, social factors may also explain why those who watch soap operas do not experience the same negative impact as other television viewers. There seems to be a parasocial element involved in watching soap operas, in that regular watchers become emotionally involved with the characters (Hills & Argyle, 1998).

Social factors are also important to children's happiness. For instance, items comprising factors such as negative peer relations, interacting with friends and family, and behaving badly toward others accounted for a significant proportion of the variance in children's happiness (e.g., between 3-32%, depending on the category and which of three happiness measures were employed) (Holder & Coleman, in press).

1.4 Happiness and Personality

Throughout the literature, happiness has been consistently and strongly linked to personality. Two particularly important personality traits in this relation are extraversion and neuroticism. Extraversion is characterized by individuals who are social, assertive, lively, and sensation seeking (Eysenk, 1986), as well as expressive, energetic, and dominant (Shiner

& Caspi, 2003). Neuroticism is characterized by individuals who are anxious, depressed, emotional, and have low self-esteem (Eysenk, 1986) and who are fearful, angry, and insecure (Shiner & Caspi, 2003). Several studies have demonstrated a positive correlation between happiness and extraversion, and a negative correlation between happiness and neuroticism (e.g., Costa & McCrae, 1980; Diener & Seligman, 2002; Furnham & Brewin, 1990; Furnham & Cheng, 2000b; Hills & Argyle, 2001b; Pavot, Diener, & Fujita, 1990). Meta-analytic findings revealed that extraversion was positively related to well-being variables and was the best predictor of happiness (DeNeve & Cooper, 1998). Conversely, neuroticism was the strongest (negative) predictor of well-being. Furthermore, in one study, extraversion and neuroticism accounted for 42% of the variance in adults' happiness (Brebner, Donaldson, Kirby, & Ward, 1995). Finally, in an investigation of what people *believed* to be the most important predictors of happiness, participants identified both extraversion and neuroticism as important factors (Furnham & Cheng, 2000a).

Extraversion and neuroticism are characterized as "superfactors," or higher-order personality traits that encompass a host of more specific, lower-order traits (Shiner & Caspi, 2003). Examples of lower-order traits that are also associated with adults' happiness include assertiveness (Argyle & Lu, 1990), sociability (Weinstein & Mermelstein, 2007), emotional stability, locus of control, positive affectivity (DeNeve & Cooper, 1998), attributional style, optimism, and self-esteem (Cheng & Furnham, 2003).

McCrae and Costa (1991) proposed two mechanisms through which extraversion and neuroticism exert their influence on happiness. They labeled the first the "temperamental path", where they propose that being extraverted predisposes individuals to experience positive affect, while being neurotic predisposes individuals to experience negative affect,

and these experiences impact levels of happiness. The second mechanism is labeled the "instrumental path" and posits that extraversion and neuroticism predispose individuals to experience certain situations that are respectively conducive to high or low levels of happiness. For example, extraverts may seek out social situations that serve to increase their happiness levels. Research has found support for both of these proposed pathways (Shiner & Caspi, 2003; Tkach & Lyubomirsky, 2006) but neither has emerged as the definitive method through which personality influences happiness.

Although extraversion and neuroticism show the strongest relation, several other personality variables (including some of the "lower-order" traits mentioned above) have been linked to happiness. For example, assertiveness was positively correlated with happiness, predicted happiness in a longitudinal regression analysis, and could possibly mediate the effect of extraversion and neuroticism on happiness (Argyle & Lu, 1990). Furthermore, attributional style accounted for 18% of the variance of happiness in one study (Cheng & Furnham, 2003). Those who attributed positive outcomes to themselves and who believed that those positive outcomes would occur again and have positive effects on their lives, had higher happiness scores. Furthermore, self-esteem and attributional style combined accounted for 55% of the variance in happiness. Finally, a meta-analysis (DeNeve & Cooper, 1998) investigating the correlates of subjective well-being showed a number of variables to be correlated with happiness: emotional stability ($r = .36$); locus of control-chance ($r = -.34$); hardiness ($r = .32$); and positive affectivity ($r = .31$).

1.5 Temperament

As personality has been so strongly and consistently linked to happiness and well-being in adults, an analogous relation might exist in children. However, research shows that

an individual's personality may not become stable until age 30 (Costa & McCrae, 1994) or even 50 (Shiner & Caspi, 2003). Thus, throughout infancy, childhood, and even adolescence, when personality is thought to be in its developing stages, personality constructs are referred to as temperament. Temperament is generally accepted by personality theorists to be the foundation of adult personality (Buss & Plomin, 1984). The distinction between temperament and personality becomes increasingly ambiguous after infancy and little is known about the development of temperament into personality (Shiner & Caspi, 2003). However, temperament is believed to comprise the whole of personality in infancy, while forming a subset of personality traits as individuals develop and mature through later childhood (Shiner & Caspi). In order to better understand how temperament might be studied in relation to happiness, it is important to explore its definitions and origins, popular models of temperament and how it is measured, the developmental process from temperament to personality, and important theoretical links between temperament and happiness.

1.6 Defining Temperament

As with many psychological constructs there is no single, standardized definition of temperament. However, key concepts are shared by many of the different definitions. At the core of defining temperament is the measurement of observable emotion, with a particular focus on negative emotionality (Belsky, Hsieh, & Crnic, 1996). This focus is a result of the link between negative emotionality and later problematic behaviour, and also that negative emotionality is usually very visible, easy to measure, and parents are more responsive to it (Belsky, Fish, & Isabella, 1991). In addition to the measurement of emotion, definitions of temperament often highlight the measurement of other overt behaviours, such as general activity level (e.g., motor activity) and overall reactivity (e.g., reaction to new

stimuli/situations) (Karrass & Braungart-Rieker, 2004; Rothbart, Ahadi, & Evans, 2000). In order to be classified as a temperament, a trait must be observable in early life (i.e., ideally within the first 2 years) (Buss & Plomin, 1984). Furthermore, temperament traits show a degree of temporal and situational stability (Shiner & Marmorstein, 1998). Research shows that temperament is relatively stable between the ages of 3 and 7 and especially by the ages 8 to 12 (Buss & Plomin, 1984). Theorists agree, however, that despite its stability, temperament follows a developmental process (Shiner & Marmorstein, 1998), and is influenced throughout this process by children's inevitable maturation and life experience (Else-Quest, Hyde, Goldsmith, & VanHulle, 2006). Finally, definitions of temperament often also require temperament traits to be constitutional in nature (i.e., have a biological basis and are heritable) (e.g., Buss & Plomin, 1984; Rothbart et al., 2000).

1.7 Models of Temperament

As part of the New York Longitudinal Study (NYLS) in 1963, Thomas and Chess launched the first large-scale study of infant temperament, which is now considered a standard in the field (Vaughn, Taraldson, Chuchton, & Egeland, 2002). Participants were the parents of 2-6 month old infants from 84 families (Buss & Plomin, 1984) with whom Thomas and Chess conducted a lengthy and in-depth clinical interview (Rothbart et al., 2000). From these interviews the researchers used factor analysis to reveal nine key dimensions of temperament: activity level; approach-withdrawal; rhythmicity; adaptability; general mood; intensity; attention span and persistence; distractibility; and threshold of response to stimulation (Lemery, Goldsmith, Klinnert, & Mrazek, 1999). Based on infants' scores on these nine dimensions, they were classified as having one of three temperaments: easy, difficult, or slow-to-warm-up (Belsky et al., 1991). Of primary interest is the difficult

temperament because it has been linked with negative outcomes. Thomas and Chess defined a difficult infant as one who would withdraw from new experiences, adapt slowly to new situations, have irregular biological rhythms (i.e., eating and sleeping), display intense emotional reactions, and have an overall negative mood (Belsky et al., 1991). This research sparked the development of questionnaires such as the Infant Temperament Questionnaire (Carey, 1973), and the Infant Behaviour Questionnaire (Rothbart, 1981) that could be used in place of the lengthy clinical interview to further explore the nine temperament traits (Vaughn et al., 2002).

Although important, this influential research was not without its problems. As temperament research proliferated, attempts to replicate Thomas and Chess' nine dimensions of temperament failed (Buss & Plomin, 1984). Further attempts produced merely four dimensions (Shiner 1998). Furthermore, although the face validity of the easy, difficult, and slow-to-warm-up classifications was good (Buss & Plomin, 1984), a difficult temperament did not necessarily mean the same thing to all parents and researchers (Goldsmith et al., 1987). Finally, Thomas and Chess' primary goal was to be able to predict later developmental problems and psychopathology (Shiner & Marmorstein, 1998), and while useful, their research focused solely on infants and speculated about but did not discuss the origins of temperament (Buss & Plomin, 1984).

Research has led to the development of many theories regarding the structure and dimensions of temperament; however, there is no single all-encompassing theory that measures the full range of traits (Shiner & Marmorstein, 1998). The following explores some of the more prominent models of temperament in an effort to establish which model is best suited to the current study.

Cloninger, Svrakic, and Przybeck (1993) developed a psychobiological model of temperament and character designed to help predict disorders and distinguish between personality disorder subtypes. Though largely used with adults, researchers claim the model can be applied to children. Their model includes four temperaments: novelty seeking (a behavioural activation system), harm avoidance (a behavioural inhibition system), reward dependence (a system which functions to maintain behaviours) and persistence. The research conducted by Cloninger and colleagues revealed that their proposed temperaments do not explain behaviours such as social cooperation, agreeability, compassion, and acceptance (i.e., more positive behaviours). Thus, they added three character dimensions to their model: self-directedness, cooperativeness, and self-transcendence. Their research showed that these higher order character traits tended to increase with age (the youngest participant was 18 years old). Thus, because of its focus on older individuals and predicting pathology, and the inability of the temperament dimensions to predict many positive behaviours, the model proposed by Cloninger and his colleagues is not appropriate for the current study.

Rothbart (1981) created a psycho-biological model of temperament which focused on individual differences in reactivity and self-regulation. Reactivity was defined as responses to stimulation across emotional, attentional, and motor domains, while self-regulation was defined as an approach or avoidance strategy that modulated reactivity (Rothbart, 1988). In order to measure temperament in 4-7 year old children, Rothbart (1986) created a questionnaire comprised of questions from 15 scales, which were analyzed to reveal three higher-order factors: positive emotionality, or extraversion, negative emotionality, or neuroticism, and constraint, or inhibitory control. A major advantage of Rothbart's model was that unlike other models, she incorporated aspects of positive affect (Shiner &

Marmorstein, 1998). Disadvantages include the fact that this model focuses on younger children than the age group of interest for the current study and, more importantly, the framework of her temperament model was not formed through theory (Goldsmith et al., 1987).

Recent years have seen a growth in popularity in applying the five-factor model of personality (commonly used to study adult personality) to samples of adolescents and children (Shiner & Marmorstein, 1998). The five factor model, developed by Costa and McCrae (1990), consists of five broad personality traits: Extraversion, Neuroticism, Agreeableness, Conscientiousness, and Openness to Experience. Recent meta-analytic research supports the comprehensiveness of the five-factor model and claims that dimensions from other inventories fall under the broad umbrella of the five factors (O'Conner, 2002). Some researchers advocate the use of adult personality measures with adolescents (e.g., McCrae, Costa, & Terracciano, 2002). Recent research with a sample of Dutch youths revealed a clear-cut factor structure and sufficient validity; however, the Openness to Experience factor was problematic (as has also been demonstrated in research with adults) (Muris, Meesters, & Diederen, 2005). A review of the research using children and adolescents reveals that although there are similarities to studies with adults, some of the sub-items of specific factors are different for children, additional factors such as activity and irritability appear for children, and teachers' responses give a closer match to the five factors than either parent or self-reports (Shiner & Marmorstein, 1998). Due to these discrepancies as well as the fact that, once again, the big five factors do not have their foundation in psychological theory (they were created by factor-analyzing adjective lists) (Shiner & Marmorstein, 1998), this model will not be used for the current study.

The Emotionality, Activity, and Sociability (EAS) theory of temperament developed by Buss and Plomin (1984) is a theoretically based model that requires temperament traits to be heritable, observable in early life, and show a degree of stability and continuity with age. Buss and Plomin chose to focus on broad traits in order to capture behaviours that occur in most situations and on traits that are most meaningful or important to an individual (e.g., traits that are relatively stable and can still be seen in later life). Just as personality constructs are organized hierarchically, so too are temperament traits (Shiner & Caspi, 2003). Thus, since this study reflects an early attempt to comprehensively investigate the relation between happiness and temperament in children, it is important to focus on broader, higher-order traits in order to determine which lower-order traits may warrant further investigation.

The EAS theory (Buss & Plomin, 1984) includes three temperament traits. Emotionality (primarily negative) is described as distress, or the tendency to become upset easily and intensely. It is manifested as general distress in infants and differentiates into fear and anger in later childhood. Sociability is the tendency to prefer the presence of others to being alone. Activity is comprised of what the researchers label as tempo and vigor, and can be conceptualized in terms of the frequency of activities, the time spent on activities, the intensity of activities (e.g., jumping and bouncing), and choosing high energy activities over low energy activities. In addition to these three temperaments, Buss and Plomin include the dimension of Shyness, characterized as feelings of tension and distress and the tendency to escape from social situations. They emphasize that shyness is closely related to both sociability and emotionality and is not a temperament in its own right.

Buss and Plomin's (1984) model has received praise for its carefully chosen dimensions which are supported both by theory and psychometric evidence, and for its links

to research conducted with adults (Shiner & Marmorstein, 1998). Indeed, Buss and Plomin (1984) suggest that high degrees of sociability and low degrees of shyness are akin to the adult dimension of extraversion whereas high degrees of emotionality are akin to the adult dimension of neuroticism. In its development, the EAS model was applied to children aged 1-9 years (Buss & Plomin, 1984) but lends itself easily to a wide age span (Masi et al., 2003). Moreover, the temperaments it describes are observable at all ages (infancy through adolescence) in both clinical and community samples (Masi et al.). In addition, the dimensions of the EAS theory are not subject to the effects of gender, age, or nationality (this is likely due in part to the theory's emphasis on genetic inheritance)(Boer & Westenberg, 1994). For all of the reasons described, the EAS theory was employed in the current study to investigate the relation between temperament and happiness in children.

1.8 Measuring Temperament in Children

When focusing on infant temperament, researchers typically employ questionnaires and/or behavioural observation. Behavioural observation generally occurs either in the home or in a laboratory and can take the form of a standardized battery of activities or general observation that seeks to encompass particular activities and behaviours (Karp, Servin, Stack, & Schwartzman, 2004). The infant's behaviour is observed and coded by an independent observer so the potential problem of parental bias is avoided (Pauli-Pott, Mertesacker, Bade, Haverkick, & Beckmann, 2003). However, as children age and develop the capacity for language, the need for behavioural observation is diminished because children can answer direct questions. In fact, questionnaires are the most popular method of measurement in both temperament and personality research (Shiner & Caspi, 2003). Using this convenient method of measurement requires acknowledging some important advantages and disadvantages.

Questionnaires are desirable because they are both cost effective and easy to administer (Karp et al., 2004). Furthermore, they can be standardized and there are norms against which researchers can evaluate new data (Vaughn et al., 2002). Questionnaires can be used to gather information from several sources (e.g., parents, teachers, and children) and researchers are encouraged to use more than one source when investigating temperament (Shiner & Caspi, 2003). Although there is no standard age for the implementation of self-report questionnaires, they are commonly employed with school-aged children and researchers tend to agree that self-reports are appropriate to use by later childhood (Shiner & Caspi). In addition to self-reports, questionnaires completed by parents are prevalent in the literature. These types of reports are appropriate because reports by knowledgeable others are reliable and serve to ensure self-reports are not influenced by transient factors such as mood and social desirability (Funder, 1991). Furthermore, although parents are not privy to the exact internal states of their children, they have had the opportunity to observe their children's behaviour across time and situations, and are the most reliable reporters of their children's functioning (Karp et al., 2004; Vaughn et al., 2002).

Despite their many strengths, questionnaires also have significant drawbacks. Foremost, related to the issue of defining temperament, many different questionnaires contain similarly named scales, but these scales actually differ in conceptual meaning and construction (Shiner & Caspi, 2003). As an example, one study found similarly named scales to correlate only modestly while some scales with dissimilar content actually intercorrelated highly (Goldsmith, Rieser-Danner, & Briggs, 1991). The authors note that these problems are generally seen on questionnaires that are not statistically derived. In addition, some researchers claim that parents are biased when rating their children (Seifer, Sameroff, &

Dickstein, 2004). The root of this argument stems mainly from infant temperament research where parents' ratings are compared to those of independent observers and when the two are compared, concordance rates are modest at best (Karp et al., 2004; Leerkes & Crockenberg, 2003). However, these potential biases are of greater concern in infancy (Seifer et al., 2004) and these biases can be circumvented or at least reduced by using more than one information source and by measuring more than one temperament trait.

1.9 Development of Temperament

Of great interest to the study of temperament is the process through which temperament develops into personality. Understanding this process is limited because there are few extensive longitudinal studies (Shiner & Marmorstein, 1998). However, there are many likely avenues through which temperament becomes personality. For example, Buss and Plomin (1984) maintain that temperament can influence children's environments. That is to say, children will seek rewards and what makes them comfortable including actively engaging in or avoiding particular situations, and this will shape their personality as they age. In addition, maturation has a significant effect on temperament. In middle childhood, children's thoughts become more flexible and they are better able to integrate thoughts and ideas (Sameroff & Haith, 1996). In addition, at this stage of development children begin to describe themselves in terms of traits (Harter, 1996). Furthermore, children's emerging ability to regulate and control both their emotions and behaviour changes how others observe them and, in turn, describe their temperament (Shiner & Caspi, 2003).

It is also important to consider that temperament models are often created for the purpose of addressing a specific research question. For example, Thomas and Chess' research sought to predict difficulties in later life (Shiner & Marmorstein, 1998). Similarly,

Cloninger and colleagues (1993) wanted to create a temperament model that would differentiate between personality disorders. Temperament models have also been used to investigate different profiles between children with and without ADHD (McIntosh & Cole-Love, 1996) and to predict academic achievement (Martin, Drew, Gaddis, & Moseby, 1988). In contrast, Buss and Plomin's (1984) EAS model of temperament was not created with a specific research question in mind. It was created with careful attention to theoretical and psychometric concerns, and as such, makes it the most appropriate model to use when investigating the relation between temperament and happiness.

1.10 Temperament and Happiness

Exploring the relation between happiness and temperament in children is important, and earlier research has suggested such a relation exists. For example, Huebner (1991) found that temperament made a significant contribution to children's ratings of life satisfaction. In addition, Holder and Coleman (2008, in press) showed that traits akin to neuroticism and extraversion were important contributors to children's happiness. Despite these links, we cannot assume that studies with children will mirror results found with adults. As previously mentioned, as children develop and mature, the behavioural manifestations of certain traits may change (Else-Quest et al., 2006). Furthermore, some traits (such as activity) are more salient in children (Shiner & Marmorstein, 1998) and, therefore, may prove to be important to children's happiness.

1.11 The Influence of Culture on Happiness and Temperament

Research has shown that there are cultural differences in happiness and well-being (Suh, 2007). In one study, Swiss participants reported higher life satisfaction than Americans (Peterson et al., 2007). In addition, on an international survey of 49 nations, East Asian

Nations scored lower than Western and European nations; in fact, despite having one of the strongest economies in the world, Japan ranked 42nd among the 49 nations (Voigt, 2004, as cited in Suh, 2007). Suh suggested that the differences in happiness levels between East Asian and Western/European nations can be largely explained through cultural values. He posits that East Asians cultures value the self in the context of a group rather than as an individual. East Asians' need to belong manifests itself in a heightened sensitivity to social comparisons and social cues. Suh argues that this increased social sensitivity may decrease one's subjective well-being (e.g., because of excessive worry and constant striving for belonging and acceptance).

Research supports differences in cultural values related to happiness. For example, Americans tend to believe that very happy people possess more positive than negative traits, while the Japanese associate very happy people with more negative traits such as being shallow and egocentric (Suh & Diener, 2006, as cited in Suh, 2007). Furthermore, in Western cultures being unhappy is viewed as unusual and also as the unhappy individual's fault, whereas extremely positive emotions are less valued in East Asian cultures (Suh, 2007). Differences in cultural values are evident; therefore, researchers suggest that life satisfaction in a given nation is related to living in accordance with the strengths that are valued in that particular nation (Peterson et al., 2007).

The relation between temperament and happiness may also be affected by culture. Research with college students from 41 nations revealed that only 6 nations showed a correlation between extraversion and life satisfaction that was above $r = .30$ (Vitterso, 1998, as cited in Singh, 2008), which suggests that the influence of personality variables on life satisfaction varies by culture. A study of university students in India revealed that

extraversion, conscientiousness, and openness to experience were all positively correlated

with life satisfaction, meaning in life, positive affect and gratitude, and that personality

variables accounted for 9% of the variance in life satisfaction (Singh, 2008). In contrast,

studies conducted in North America have shown personality variables to account for as much

as 55% of the variance of happiness in adults (Demir & Weitekamp, 2006). Thus, the

strength of the relation between personality variables and happiness may vary between

cultures. By extension, it is likely that temperament variables may differentially influence

happiness in children depending on culture. Cross-cultural studies investigating personality

and temperament have been pursued with adults, but not with children (Shiner & Caspi,

2003)

1.12 The Current Study

  The present study seeks to further investigate the relation between temperament and

happiness. If this relation is analogous to the relation between personality constructs and

happiness in adults, then there are two expected findings. First, children scoring higher on

items measuring traits akin to extraversion will rate themselves and will be rated by others as

happier than children scoring lower on these items. Second, children scoring higher on items

measuring traits akin to neuroticism will rate themselves and will be rated by others as less

happy than children scoring lower on these items.

  Research often relies on parent-reports to evaluate temperament; however, the current

study seeks to evaluate whether children's self-reports of temperament can be validly used as

a research tool. Answering these questions and determining the traits important to happiness

in children will help inform programs aimed at promoting well-being in children. For

example, recent research with adults revealed that individuals' personalities influenced the

27

types of happiness-increasing strategies they chose to employ (e.g., extraverts chose more effective strategies than those who were high on neuroticism) (Tkach & Lyubomirsky, 2006). Thus, if a similar relation exists in children, the current study could inform researchers and program developers as to which children, depending on their temperament, might be most receptive to particular strategies.

2. Methods

This study was completed as a part of a larger study investigating the correlates of happiness in children. Data was collected in conjunction with another graduate student, Judi Wallace, whose thesis focused on the relation between happiness and spirituality in children.

2.1 Participants

Students, their parents, and teachers were recruited voluntarily from both public and independent schools in the Kelowna area during the 2006-2007 academic school year. Seven hundred and sixty-one Grade 4, 5, and 6 students from 22 classrooms in 4 public schools within School District #23, and from 7 classrooms in 2 independent schools were given packages containing information letters, consent forms, and questionnaires to be brought to their parents/guardians/caregivers (see Appendix A). Over 99% of the adults were the children's parents; therefore, they are referred to as "parents" for the remainder of this thesis. In total, 476 (63%) of these packages were returned. Of these, 359 (75%) parents consented to their children's participation, 84 (18%) declined, and 33 (7%) questionnaires were returned completed, but with no consent form and no identifying information. Of the 359 positive consents, 320 (89%) students assented on test day, 13 (4%) declined, and 26 (7%) students were absent. This resulted in a sample of 320 students (51% girls, 49% boys) with an average age of 10 years ($M = 10.26$, $SD = .96$), and their parents. Twenty-nine classroom teachers also participated in the study.

2.2 Materials

To evaluate the relation between temperament and happiness in children, five questionnaires were used: the Piers-Harris Children's Self-Concept Scale, Second Edition (Piers-Harris 2; Piers & Herzberg, 2002), the Faces Scale, the Subjective Happiness Scale

(Lyubomirsky & Lepper, 1999), the Oxford Happiness Questionnaire (Hills & Arygle, 2002), and the Emotionality Activity and Sociability (EAS) Temperament Survey (Buss & Plomin, 1984). Teachers were asked to rate the happiness of participating children in their classrooms using the Faces Scale. Parents were asked to rate their children's temperament and happiness by completing the EAS Temperament Survey as well as the Faces Scale, while children were asked to complete all five measures. When an item required a response within a range (e.g., 1 through 7), Likert-type scales were used. Research shows that children understand Likert-type scales better than visual analogue scales (even with explicit instruction designed to increase children's understanding) (Shields, Cohen, Harbeck-Weber, Powers, & Smith, 2003), and also prefer filling in circles and having more, as opposed to fewer, response options (Rebok et al., 2001), as are provided through Likert-type questions.

2.2.1 Piers-Harris Children's Self-Concept Scale, Second Edition (Piers-Harris 2) (Piers & Herzberg, 2002). The Piers-Harris 2 is a standardized, 60-item, self-report questionnaire designed for use with children aged 7-18 years. It assesses 6 specific sub-domains of self-concept: Behavioural Adjustment, Intellectual and School Status, Physical Appearance, Freedom from Anxiety, Popularity, and Happiness and Satisfaction. Students were asked to respond to the 60-items by filling in "yes" or "no" for each statement. The statements express how students may feel about themselves (e.g., "I am a happy person"; "I like being the way I am"). The Piers-Harris 2 is a reliable and valid measure (Marsh & Holmes, 1990; Piers & Herzberg, 2002) that has been used to examine relationships between self-concept and other trait-like behaviours (e.g., personality), and is easily administered to groups (Piers & Herzberg). Reliability analyses indicate that the present sample was within the "Average" range according to test norms (see Appendix C).

The Freedom from Anxiety sub-domain of the Piers-Harris 2 served as a measure of temperament for the present study. This sub-domain was used as a temperament measure by Holder and Coleman (2008, in press) and was found to significantly correlate with measures of happiness. The sub-domain's 14 items explore feelings of worry, nervousness, shyness, sadness, and fear, which are essential components to the personality trait neuroticism (Eysenck, 1986). Examples of items from this sub-domain include "I am often sad"; "I am shy"; "I am nervous" and "I worry a lot". Given that neuroticism is strongly linked to happiness in adults (e.g., Brebner et al., 1995), it is likely that the Freedom from Anxiety sub-domain of the Piers-Harris 2 will be related to happiness in children (i.e., the more free from anxiety students rate themselves, the happier they will be rated). Although the Piers-Harris 2 has a sub-domain designed to explore happiness and satisfaction, this sub-domain was not used as a happiness measure for two main reasons. First, this sub-domain was designed to measure happiness *and* satisfaction, whereas measures that were designed to specifically target happiness were preferred for the study. Second, 4 of the 10 items overlapped with the Freedom from Anxiety sub-domain and using the happiness and satisfaction sub-domain may have artificially increased the relation between these two domains.

2.2.2 Faces Scale. The Faces Scale (see Appendix B) is a single-item measure, depicting seven simple drawings of faces, arranged in a horizontal line, that represent the participant's overall feeling of happiness ("Overall, how do you usually feel?"). The participants were required to fill in a circle below the face that best represented their feelings ranging from "very unhappy" (depicted by a very down-turned mouth) to "very happy" (depicted by a very up-turned mouth). It is similar to that used by Andrews and Withey

(1976) with an adult sample (although in this study the order of the faces was reversed), and identical to that used by Holder and Coleman (2008, in press) with children. Single item measures of happiness have been shown to be reliable and valid, in addition to being a viable option in large-scale studies (Abdel-Khalek, 2006). The Faces Scale is significantly correlated to standardized measures of happiness, supporting its validity as a happiness measure (Holder & Coleman, 2008; in press). In addition, previous studies have indicated that the large majority of respondents tend to select one the three happiest faces on the scale (e.g., Holder & Coleman, 2008, in press). Figure 1 replicates these findings and supports the reliability of the Faces Scale. The use of reports by knowledgeable others (e.g., parents rating their children) has been shown to be reliable and valid, particularly regarding measures of personality (Funder, 1991) and happiness or well-being (Lepper, 1998). Furthermore, Holder and Coleman (2008, in press) showed good agreement between children's self-reports and parent reports of their children on a measure of happiness.

 2.2.3 Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) (see Appendix B). This measure (see Appendix B) assesses the participant's subjective happiness from a global perspective. Participants were asked to respond to four items using a 7-point Likert-type scale (e.g., "Compared to most of my peers, I consider myself:" 1 (less happy) to 7 (more happy)). In studies with adults, this measure shows high internal consistency (Cronbach's alpha ranged from .79 to .94) and good test-retest reliability (e.g., after one month, $r = .90$) (Lyubomirsky & Lepper, 1999). It is a reliable ($\alpha = .85$) (Tkach & Lyubomirsky, 2006) measure of happiness, and shows convergent and discriminant validity (Lyubomirsky & Lepper, 1999). In order to adapt the questions to a Grade 4 reading level for use with children, the statements in Questions 3 and 4 that read, "To what extent does this

characterization describe you?" were changed to, "How much does this sentence describe you?" All other wording was retained verbatim. Reliability analyses of the current sample indicate that this measure may not be as reliable with children ($\alpha = .67$), but that it could likely be improved with modification of an item (see Appendix C).

2.2.4 Oxford Happiness Questionnaire, Short Form (Oxford Happiness Questionnaire) (Hills & Arygle, 2002) (see Appendix B). This measure uses eight items to assess the participant's personal happiness. Participants were asked to respond to the items using a 6-point scale anchored with "strongly disagree" and "strongly agree." The statements express how participants may feel about themselves (e.g., "I feel that life is very rewarding"). Research has confirmed that in studies with adults, the Oxford Happiness Questionnaire Short Form shows good internal consistency (e.g., $\alpha = .62$) as well as short-term test-retest reliability (e.g., $r = .69$ after two weeks) (Cruise, Lewis, & McGuckin, 2006). Reliability analyses of the current sample suggest that this measure may be less reliable with children ($\alpha = .58$) (see Appendix C).

2.2.5 Emotionality Activity and Sociability Temperament Survey (EAS) (Buss & Plomin, 1984). This measure (see Appendix B) consists of 20 items using a 5-point scale ranging from 1(not very typical/characteristic) to 5 (very typical/characteristic). There are five statements for each of the four domains: Emotionality (e.g., "tends to be somewhat emotional"), Activity (e.g., "is always on the go"), Sociability (e.g., "prefers playing with others rather than alone"), and Shyness (e.g., "tends to be shy"). The EAS was chosen from a multitude of temperament measures because it is short and straightforward, has forms for multiple informants, is not affected by gender or age of the child being rated (Boer & Westenberg, 1994), and has been used extensively with clinical and community samples

(Masi et al., 2003). Validity and reliability of parent reports are consistently found to be good (Masi et al.); however in their psychometric testing, Buss and Plomin (1984) found test-retest reliability correlations to be stronger for emotionality (e.g., .72) and activity (e.g., .80) than for sociability/shyness (e.g., .58). Thus, it is important to conduct confirmatory factor analyses when using the EAS to determine the stability of the factors (see Results). Reliability analyses revealed reliability to be stronger for parents' ratings than for children's ratings (see Appendix C)

Although originally developed for completion by parents, our study also sought to determine whether the EAS could be reliably used as a self-report measure for children in Grades 4-6. As such, children also completed the EAS as a self-report measure of temperament. For the children's self-report the wording of the items was changed to reflect personal pronouns (e.g., "I") instead of the more general language used on the parent report (e.g., "Child").

2.3 Procedures

Permission to conduct the present study was obtained first from the Administration of both School District #23 (SD23) and of the Independent School Council, followed by permission from individual school principals (see Appendix A). Once a principal agreed, teachers at his or her school were asked for their classroom's participation (see Appendix A). Children from participating classrooms were given consent forms and information letters (see Appendix A) to take home to their parents. Only children whose parents agreed to their participation were surveyed. In each classroom, before the start of the survey, participating students were asked for their informed assent (see Appendix A), which they indicated by circling "yes" or "no" on their sheet after being read the instructions. Teachers were also

asked to participate by rating how happy they felt each participating student was. Participating students, parents, and teachers were free to withdraw at any time without penalty.

The questionnaires were administered in a quiet setting within the school (e.g., classroom, library) and averaged 30-35 minutes to complete, with all students completing their surveys within 20-40 minutes. One or two researchers were available to answer individual students' questions throughout the session. Participating students were given a brief, standardized explanation of the purpose of the study (i.e., to learn more about what contributes to children's happiness) as well as how to answer the different types of questions (i.e., Likert-type ranges versus yes-or-no questions). They were instructed to read each question carefully, and to choose the response option that was most appropriate for them. Students not participating in the survey completed a quiet, teacher-approved individual activity at their desks. Upon completion, teachers and children were given the opportunity to ask questions. They were then thanked for their participation in the study and informed that a summary of the findings would be presented in a letter to be sent home with each student in participating classrooms (whether they participated in the study or not), upon completion of the study. Only group results were evaluated and no individual results were available to participants.

2.4 Data Analyses

Ratings of children's happiness [i.e., Children's self-ratings of happiness using the Faces Scale (children's Faces Scale), parent ratings of their child's happiness (parents' Faces Scale), ratings from the Subjective Happiness Scale, and ratings from the Oxford Happiness

Questionnaire)] were used as criterion variables. Temperament measures (Emotionality, Activity, Sociability, Shyness, and Freedom from Anxiety) were used as predictor variables.

Data Analyses were completed in several phases. Variables of interest were examined to ensure they were adequately distributed and met the statistical assumptions for the appropriate analyses. In addition, descriptive statistics and Pearson Product moment correlations were calculated to gain an overall perspective of the data.

Following initial analyses, confirmatory factor analyses (CFA) were conducted on both the parent and child ratings of the EAS temperament survey to determine whether the data fit the original model proposed by Buss and Plomin (1984). CFA uses structural equation modeling to determine how well the data set fits a proposed model. It tests the hypothesis that a relationship exists between the observed variables and their underlying latent constructs (Tabachnick & Fidell, 2001). In order to determine how well the proposed model describes the current dataset, one must examine the fit statistics found in the output of a CFA. According to Tabachnick and Fidell, the χ^2 statistic is often unreliable in large sample sizes; thus, other fit indices are used. The Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) are the most frequently reported fit indices; a CFI of .90 or greater indicates an acceptable fit, as does an RMSEA of approximately .06 or less (a RMSEA of .10 or greater indicates a poor fit). The Normed Fit Index (NFI) is another indication of fit, with values greater than .95 indicating a good fit. It is unwise to depend solely on one measure of fit; therefore, considering a group of indices together will give the researcher a more accurate picture of the data.

Following the CFAs, regression analyses were performed to investigate how well temperament variables predicted happiness in children.

2.5 Data Cleaning

In total, data were collected from 320 students and their parents. Of these, 9 cases were incomplete: in 5 cases there was no information provided by the parents, and in 4 cases, students completing the surveys had disabilities (e.g., autism) and did not have sufficient time/interest/attention to finish the survey. Since cases containing sufficient information from both parents and students were essential to these analyses, these 9 cases were deleted, resulting in a sample of 311 students and their parents.

In each variable of interest, missing cases were not systematically distributed and consisted of less than 3% of the sample. Since missing cases were scattered throughout the dataset, deleting these cases would have substantially reduced the sample size. As such, these values were replaced with the appropriate group mean. Although this can be a conservative measure, there is no a priori knowledge to suggest an appropriate value for any of the relevant variables, and when missing values are scattered as they are in the present study, inserting the mean is just as effective as estimating the value through regression (Tabachnick & Fidell, 2001). Multivariate outliers were identified and selected out of further analyses. Depending on the combination of variables being analyzed, this left between 301 and 311 cases. Results of tests for linearity, homoscedasticity, and multicollinearity were satisfactory and did not indicate the need for correctional action.

Skewness analyses were conducted to determine the normality of all variables of interest. The distributions for the following variables violated the assumptions of normality and so appropriate transformations were performed to bring these variables into an acceptable range: children's self-ratings of Emotionality, Shyness, Sociability, and the children's Faces Scale, parents' Faces Scale, and the Oxford Happiness Questionnaire, Short

Form. Table 1 shows the type of transformation performed in addition to the skewness and kurtosis values for these variables before and after the transformation. The transformations generally improved the variables. All reported analyses used these transformed scores.

Table 2 lists the variables used in the final analysis, including the means and standard deviations for each variable. While the parents' and children's Faces Scales are single item measures, all of the other items are composites. For both the parents' and children's EAS Temperament Survey, each child's score for the four domains is an average of the five items that comprise the domain. For example, a child's score on the Emotionality domain would be an average of the scores of the five items that explore emotionality. In addition, each child's score on the Subjective Happiness Scale is an average of its four items, while the score on the Oxford Happiness Questionnaire, Short Form is an average of its eight items. Finally, each child's score on the Freedom from Anxiety Sub-domain is an average of the 14 yes/no items (given a score of 0 or 1) that comprise it.

Table 1

Skewness and Kurtosis of Study Variables Before and After Transformation

	Transformation	Skewness (*SE*)		Kurtosis (*SE*)	
		Before	After	Before	After
Emotionality[1]	logarithmic	5.09 (.14)	-.81 (.14)	1.84 (.28)	-.44 (.28)
Shyness[1]	square root	2.33 (.14)	-.66 (.14)	.075 (.28)	.31 (.28)
Sociability[1]	square root	-5.07 (.14)	-.23 (.14)	2.43 (.28)	1.43 (.28)
Children's Faces Scale[2]	logarithmic	-8.01 (.14)	-.51 (.14)	6.07 (.28)	-2.26 (.28)
Parents' Faces Scale[3]	square root	-6.44 (.14)	1.51 (.14)	6.46 (.28)	2.21 (.28)
Oxford Happiness Scale[2]	Square root	3.73 (.14)	1.05 (.14)	3.61 (.28)	2.02 (.28)

Note. Negative scores were reflected before applying the appropriate transformation

[1]Children's self-ratings of temperament

[2]Children's self-ratings of happiness

[3]Parents' ratings of children's happiness

Table 2

Means and Standard Deviations of Variables Included in Analyses

Respondent	Variable Type	Item	Scale	Possible Range	*M*	*SD*
Parents						
	Happiness					
		Faces Scale (parent rating child)	1-7	1-7	5.69	0.82
	Temperament					
		Emotionality	1-5	5-25	12.43	4.24
		Activity	1-5	5-25	18.28	3.60
		Sociability	1-5	5-25	17.94	2.86
		Shyness	1-5	5-25	12.07	3.84
Children						
	Happiness					
		Faces Scale	1-7	1-7	5.78	1.05
		Subjective Happiness	1-7	4-28	20.85	4.16
		Oxford Happiness	1-6	8-48	34.44	5.85
	Temperament					
		Emotionality	1-5	5-25	10.40	3.53
		Activity	1-5	5-25	17.96	3.63
		Sociability	1-5	5-25	18.21	3.34
		Shyness	1-5	5-25	12.09	3.55
		Freedom from Anxiety	Yes, No	0-14	11.52	2.76

N = 311

Note. For all happiness variables, higher numbers indicate that the respondent is more happy. For the parent and child EAS temperament variables, higher numbers indicate the item is more characteristic of the child (e.g., higher numbers on the Activity domain would indicate the child is more active). For the Freedom from Anxiety Sub-domain, higher numbers indicate a child is more free from anxiety.

Figure 1. Participants' Ratings of Happiness Using the Faces Scale

Overall, how do you usually feel?

Very Unhappy   Very Happy

Children	<1%	<1%	3%	7%	19%	44%	24%
Parent-child	0%	<1%	1%	6%	26%	54%	12%
Parent-self	0%	<1%	2%	6%	35%	46%	10%

3. Results

3.1 Descriptive and Correlational Analyses

Overall, participants in the current study rated themselves as happy according to the Faces Scale (see Figure 1). Eighty-eight percent of children rated themselves in one of the top three happiness categories, while 92% of parents rated both their children and themselves in one of the top three happiness categories.

Table 3 shows the bivariate correlations between the four happiness measures (children's Faces Scale, parents' Faces Scale, Oxford Happiness Questionnaire Short Form, and Subjective Happiness Scale) and indicates that the four measures are correlated but not multicollinear (e.g., >.90; Tabachnick & Fidell, 2001). That is to say, they are not measuring exactly the same thing and, as such, can not be combined into one measure. This is consistent with the interpretation that happiness is multi-dimensional and may not be fully captured by one measure. After correcting for reflected variables, all of the happiness measures are positively correlated.

Similar to the measures of happiness, Tables 4 and 5 below show that the five measures of temperament are significantly correlated, but not singular. This is consistent with the idea that they are measuring separate aspects of a more global temperament. After correcting for reflected variables, the table indicates that Activity, Sociability and Freedom from Anxiety show positive relationships, whereas Emotionality and Shyness show inverse relationships. These correlations are in the expected directions.

Bivariate correlations were also conducted to compare children's and parents' ratings of temperament on the EAS temperament survey. Results indicated that children's and parents' ratings were significantly correlated: Emotionality ($r = .36$, $p < .01$), Activity ($r =$

.39, *p* < .01), Sociability (*r* = .22, *p* < .01), Shyness (*r* = .47, *p* < .01). These results also suggest that children and parents may be responding to the EAS Temperament survey in a differential manner (see Discussion).

3.2 Confirmatory Factor Analyses

Confirmatory factor analyses (CFA) were conducted using structural equation modeling on both the parent report and child self-report EAS temperament surveys to determine whether these data fit the model originally proposed by Buss and Plomin (1984). The model indicates that the 20 items factor into 4 dimensions as follows: Emotionality (child cries easily; child tends to be somewhat emotional; child often fusses and cries; child gets upset easily; child reacts intensely when upset), Activity (child is always on the go; when child moves about, child usually moves slowly; child is off and running as soon as he/she wakes up in the morning; child is very energetic; child prefers quiet, inactive games to more active ones), Sociability (child likes to be with people; child prefers playing with others rather than alone; child finds people more stimulating than anything else; child is something of a loner; when alone, child feels isolated), and Shyness (child tends to be shy; child makes friends easily; child is very sociable; child takes a long time to warm up to strangers; child is very friendly with strangers). Both children's and parents' ratings on the EAS were tested according to this model. The CFA was especially important for the child EAS to determine whether this measure can be used as a self-report method for children aged 8-12. A study by Gasman et al. (2002) concluded that children over the age of 9 have sufficient understanding of the items on the EAS to use the EAS as a self-report measure, and this assertion was tested here.

3.2.1 Child EAS. The CFA for the child EAS indicated that the data are an acceptable fit to the model, $\chi^2 = 486.15$, $p < .001$, NFI = .969, CFI = .979, RMSEA = .081. These results indicate that the EAS shows moderate reliability when used as a self-report measure by children aged 8-12 years old. In addition, the four dimensions of the EAS proposed by Buss and Plomin (1984) can be used in their original forms. However, caution must be exercised because the RMSEA value is higher than would be anticipated for a good fit, even though the NFI and CFI are acceptable. In addition, reliability analyses suggest that children's ratings on the EAS are less reliable than parents' ratings (see Appendix C).

3.2.2 Parent EAS. The CFA for the parent EAS indicated that the data are an acceptable fit to the model, $\chi^2 = 369.36$, p < .001, NFI = .973, CFI = .985, RMSEA = .064. As with the child EAS, the four dimensions can be used in their original forms.

3.3 Multiple Regression Analyses

Standard multiple regressions were conducted to investigate the relationship between the five temperament and four happiness measures. Separate sets of regressions were carried out for children's self-ratings on the EAS and for parents' ratings of children on the EAS.

3.3.1 Child EAS. Four standard multiple regressions were performed, using each of the four happiness measures (children's Faces Scale, parents' Faces Scale, Subjective Happiness Scale, and Oxford Happiness Questionnaire Short Form) as criterion variables (hereafter referred to as happiness variables). In each regression the predictor variables consisted of the five temperament measures: the Piers Harris Freedom From Anxiety Sub-domain, and the four scales of the EAS (Emotionality, Activity, Sociability, and Shyness) (hereafter referred to as temperament variables). A Bonferroni adjustment was used to reduce

the possibility of a Type 1 error, resulting in an alpha level of .0125. The predictors from each regression model are shown in Table 6.

Temperament variables together accounted for 18.7% of the variance in children's happiness assessed with the children's Faces Scale, $F(5, 296) = 13.642$, $p < .001$. Three temperament variables made unique contributions to the variance. Sociability was positively related to children's happiness and accounted for 1.77% of unique variance. Shyness was negatively related to children's happiness and accounted for 2.99% of unique variance. Finally, Freedom from Anxiety was positively related to children's happiness and accounted for 3.24% of unique variance.

For the parents' Faces Scale, temperament variables together accounted for 9% of the variance of parent's ratings of their children's happiness, $F(5, 296) = 5.87$, $p < .001$. None of the five temperament variables made unique contributions to the variance.

For the Oxford Happiness Questionnaire, Short Form, temperament variables together accounted for 20.8% of the variance $F(5, 296) = 15.84$, $p < .001$, with two temperament variables making unique contributions. Sociability was positively related to happiness and accounted for 3.35% of unique variance. Shyness was negatively related to happiness and accounted for 2.65% of unique variance.

Finally, for the Subjective Happiness Scale, the linear combination of the five temperament variables accounted for 29.4% of the variance on this happiness measure $F(5, 296) = 24.61$, $p < .001$. Activity (showing a positive relation to happiness) and Shyness (showing a negative relationship to happiness) respectively accounted for 5.81% and 1.35% of unique variance.

3.3.2 Parent EAS. Just as with the Child EAS, four standard multiple regressions were performed, using each of the four happiness variables (children's Faces Scale, parents' Faces Scale, Oxford Happiness Questionnaire, and Subjective Happiness Scale) as criterion variables. In each regression the predictor variables consisted of the five temperament measures: the Piers-Harris Freedom From Anxiety Sub-domain, and the four scales of the EAS, Emotionality, Activity, Sociability, and Shyness. A Bonferroni adjustment was used to reduce the possibility of a Type 1 error, resulting in an alpha level of .0125. The predictors from each regression model are shown in Table 7.

For the children's Faces Scale, the five temperament variables together accounted for 10% of the variance on this happiness measure $F(5, 296) = 6.66, p < .001$. The Freedom from Anxiety dimension is positively related to happiness and accounted for 6.97% of unique variance on this measure.

For the parents' Faces Scale, the linear combination of the five temperament variables accounted for 24.2% of the variance $F(5, 296) = 18.90, p < .001$. Emotionality was negatively related to happiness and accounted for 12.11% of unique variance..

For the Oxford Happiness Questionnaire, Short Form, the five temperament measures together accounted for 10.2% of the variance, $F(5, 305) = 6.92, p < .001$. Two temperament variables made significant unique contributions to the variance on this happiness measure. Freedom from Anxiety was positively related to happiness and accounted for 4.41% of unique variance. Emotionality was negatively related to happiness and accounted for 2.31% of unique variance.

 Finally, for the Subjective Happiness Scale, the linear combination of the five temperament measures accounted for 14.1% of the variance, $F(5, 296) = 9.75, p < .001$. The

Freedom from Anxiety dimension was positively related to happiness and accounted for 6.10% of unique variance.

Table 3

Pearson Product moment correlations between the four measures of happiness: Children's self-ratings of happiness, parents' ratings of their children's happiness, the Subjective Happiness Scale, and the Oxford Happiness Questionnaire, Short Form.

	Children's Faces Scale	Parents' Faces Scale	Subjective Happiness Scale
Parents' Faces Scale	.38*		
Subjective Happiness Scale	.60*	.38*	
Oxford Happiness Questionnaire	.44*	.30*	.46*

* p < .01

Table 4

Pearson Product moment correlations between Freedom From Anxiety and children's self-ratings of the EAS measures: Emotionality, Activity, Sociability, and Shyness.

	Freedom from Anxiety	Emotionality	Activity	Sociability
Emotionality	-.38*	-		
Activity	.26*	-.18*	-	
Sociability	.07	-.03	.38*	-
Shyness	-.42*	.31*	-.41*	-.28*

* p < .01

Note: higher values on Freedom from Anxiety indicate a child is more free from anxiety; higher values on emotionality indicate a child expresses more negative emotions; higher values on Activity indicate a more active child; higher values on sociability indicate a more social child, and higher values on shyness indicate a more shy child.

Table 5

Pearson Product Moment Correlations Between the Piers Harris Freedom from Anxiety Sub-Domain and Parents' Ratings of their Children on the EAS Measures: Emotionality, Activity, Sociability, and Shyness

	Freedom from Anxiety	Emotionality	Activity	Sociability
Emotionality	-.24**	-		
Activity	.23**	-.18**	-	
Sociability	.12*	.07	.44**	-
Shyness	-.29**	.22**	-.40**	-.40**

* p < .05

** p < .01

Note: Higher values on Freedom from Anxiety indicate a child is more free from anxiety; higher values on emotionality indicate a child expresses more negative emotions; higher values on Activity indicate a more active child; higher values on sociability indicate a more social child, and higher values on shyness indicate a more shy child.

Table 6

Standard Multiple Regression Results with Child EAS Temperament Dimensions and the

Piers Harris Freedom from Anxiety Sub-Domain Regressed on Happiness Variables

Criteria	Predictors	β	p	Zero-order correlation	sr^2
Children's Faces Scale	Emotionality	.08	.152	-.063	.006
	Activity	.09	.137	.264	.002
	Sociability	.15*	.012	.253	.018
	Shyness	-.21**	.001	-.341	.030
	Freedom From Anxiety	.21**	.001	.295	.032
Parents' Faces Scale	Emotionality	-.03	.647	-.110	.0006
	Activity	.14	.036	.233	.014
	Sociability	.06	.353	.151	.003
	Shyness	-.16	-.017	-.253	.018
	Freedom from Anxiety	.04	.492	.159	.001
Oxford Happiness Questionnaire	Emotionality	-.04	.516	-.155	.001
	Activity	.12	.043	.319	.011
	Sociability	.20**	<.001	.307	.034
	Shyness	-.19*	-.002	-.355	.027
	Freedom From Anxiety	.12	.046	.269	.011
Subjective Happiness Scale	Emotionality	-.05	.397	-.195	.002
	Activity	.28**	<.001	.443	.058
	Sociability	.12	.023	.287	.013
	Shyness	-.20**	.001	-.410	.014
	Freedom From Anxiety	.14	.013	.320	.015

* p < .0125; ** p ≤ .001

Table 7

Standard Multiple Regression results with Parent EAS Temperament Dimensions and the

Piers Harris Freedom from Anxiety Sub-Domain Regressed on Happiness Variables.

Criteria	Predictors	β	p	Zero-order correlation	sr^2
Children's Faces Scale	Emotionality	.04	.516	-.038	.001
	Activity	.07	.292	.152	.003
	Sociability	.03	.673	.109	.0005
	Shyness	-.03	.671	-.14	.0005
	Freedom From Anxiety	.28**	<.001	.302	.070
Parents' Faces Scale	Emotionality	-.37**	<.001	-.413	.12
	Activity	.14	.019	.275	.01
	Sociability	.08	.192	.164	.004
	Shyness	-.13	.038	-.293	.011
	Freedom from Anxiety	.01	.903	.169	.00004
Oxford Happiness Questionnaire	Emotionality	-.16*	.006	-.212	.023
	Activity	.01	.831	.120	.0001
	Sociability	.06	.322	.081	.003
	Shyness	.01	.834	-.125	.0001
	Freedom From Anxiety	.23**	<.001	.274	.044
Subjective Happiness Scale	Emotionality	-.09	.114	-.162	.007
	Activity	.05	.408	.193	.002
	Sociability	.10	.118	.174	.007
	Shyness	-.06	.365	-.216	.002
	Freedom From Anxiety	.27**	<.001	.327	.061

* p < .0125; ** p ≤ .001

4. Discussion

4.1 Summary of the Current Study

The relation between happiness and temperament in children aged 8-12 years was examined. Four different measures of happiness were used and temperament was assessed through both self- and parent-report. Across raters and across measures, temperament consistently accounted for a significant proportion of the variance in children's happiness. Unique predictors (i.e., individual temperament variables that predicted a unique amount of the variance of children's happiness over and above the combined effect of all temperament variables) varied with the rater of children's temperament (i.e., parents vs. children) and with the measure of happiness. In parallel with studies using adults, temperament traits akin to neuroticism and extraversion were important predictors of children's happiness. Specifically, children who were more social, less shy, less emotional, and more free from anxiety rated themselves, and were rated by others, as happier. Activity emerged as an important predictor of children's happiness. Children who were more active rated themselves, and were rated by others, as happier. Finally the current study suggests that children's (aged 8-12) self-reports of temperament using the EAS Temperament survey can be validly used as a measurement tool.

It has been well established that personality variables are strongly related to happiness in adults (DeNeve & Cooper, 1998). Child temperament is widely accepted to be the forerunner of adult personality (Rothbart, Ahadi, & Evans, 2000) and as such, it was predicted that temperament would be related to happiness in children. Regression analyses revealed that (depending on the measure of happiness and the rater of children's

temperament) temperament variables accounted for approximately 9-29% of the variance in children's happiness.

Studies with adults have shown that the two variables most strongly and consistently related to happiness are extraversion and neuroticism (e.g., Costa & McCrae, 1980; Diener & Seligman, 2002; Furnham & Brewin, 1990; Furnham & Cheng, 2000b; Hills & Argyle, 2001b; Pavot, Diener, & Fujita, 1990). The current study revealed that emotionality and sociability, which Buss and Plomin (1984) suggest are the respective precursors of neuroticism and extraversion, accounted for unique proportions of the variance of children's happiness. Emotionality was negatively related to happiness while sociability was positively related. Furthermore, shyness, which Buss and Plomin suggest is related to both emotionality and sociability, was shown to have a negative relation with happiness and it also accounted for a unique proportion of variance in children's happiness. Finally, the Freedom from Anxiety sub-domain from the Piers-Harris 2 was also related to children's happiness. The more free from anxiety children rated themselves, the happier they both rated themselves and were rated by their parents. Anxiety is a characteristic of neuroticism (Shiner & Caspi, 2003) and so the Freedom from Anxiety sub-domain measures a component of temperament related to neuroticism.

Though temperament variables are predictors of happiness in children, these variables may not predict children's happiness as well as personality variables predict adults' happiness. For example, some studies have found personality variables to account for over 40% of the variance of happiness in adults (e.g., Brebner et al., 1995). In the current study, however, regression analyses revealed that temperament variables accounted for between 9-

54

29% of the variance in children's happiness. There are several possible explanations for why this discrepancy may have emerged.

First, in childhood, temperament is still in its developmental stages and can be influenced by individual, environmental, developmental, and maturational variables (Shiner & Marmorstein, 1998). Temperament may not be as strong of a predictor of happiness in children as personality is in adults because personality in adults is more stable.

A second possibility is that children's ratings of happiness may not reflect an overall or global rating of happiness. Research has shown that personality is a stronger predictor of happiness when focusing on long-term levels of affect (DeNeve & Cooper, 1998). With this in mind, the current study employed measures designed to assess "chronic" or long-term happiness (Lyubomirsky & Lepper, 1999) and care was taken to emphasize to the children that when rating their happiness they should focus on their global happiness. Despite these efforts, however, children's ratings may reflect more transient mood states. Children's lives are more likely to be influenced by developmental and maturational variables than their adult counterparts whose lives may be more stable. Research has shown that judgments of life satisfaction are increasingly influenced by the stable, trait-like component of happiness as individuals age and experience more stability in their lives (Lucas & Donnelan, 2007). Thus, it is possible that, compared to adults, children's happiness ratings are less influenced by stable factors and this could account for the discrepancy in values between children and adults.

Finally, it is possible that the current study does not reflect the true magnitude of the relation between temperament and happiness in children. Studies have suggested that if the distribution of scores on one or both of the variables being compared is not normal, the

relationship could be underestimated (DeNeve & Cooper, 1998). In the current study, many of the measures of happiness were positively skewed, as is fairly common in happiness research (Lykken & Tellegen, 1998). Despite transformations of variables to correct for this, it is possible that the relationship is underestimated.

The current findings not only parallel studies conducted with adults, they support findings from the limited number of studies completed with children. For example, Huebner (1991) found that anxiety and neuroticism were negatively related to life satisfaction (for which happiness is an underlying affective component) in children, while extraversion was positively related. Furthermore, a study which also employed the Freedom from Anxiety sub-domain as a temperament measure found that children who rated themselves as more free from anxiety also rated themselves and were rated by others as happier (Holder & Coleman, 2008).

In addition to the parallels with studies conducted with adults and with children, the current study highlights the importance of activity to children's happiness. Activity was defined by Buss and Plomin (1984) within their temperament structure in terms of tempo and vigor, and can be operationalized in terms of the frequency of activities, the time spent on activities, the intensity of activities (e.g., jumping and bouncing), and choosing high energy activities over low energy activities. Activity emerged as an important contributor to happiness in children, and there are several plausible explanations for this relation.

Perhaps children are simply more physically active than adults and activity is more recognizable as a temperament trait in childhood. Indeed, both exercise and active leisure levels have been shown to decline with age (Argyle, 2001). Furthermore, research which applied the big five personality dimensions to children resulted in a factor structure that

closely mirrored the big five in adults (extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience), but also produced two additional factors: irritability/immaturity and high activity/approach (Shiner & Marmorstein, 1998). Therefore, activity is a salient component of temperament in children.

The relation between activity and happiness in children could also be due to the established benefits of physical activity. These benefits have been explored in research using adult populations, but are likely also true for children. For example, playing sports reduces tiredness and increases energy (Hills & Argyle, 1998), and physical activity lowers levels of anxiety and depressive symptoms (Dubbert, 2002). In addition, members of sports groups are happier than non-participants (Hills & Argyle, 1998). Furthermore, a study using experience sampling (where participants were paged at random times and recorded their activities and feelings) to determine the relation between daily activities and mood in adolescents found that, compared to resting, adolescents' positive affect increased with extra curricular activities and physical exercise (Weinstein & Mermelstein, 2007).

Finally, activity is related to extraversion. Research shows that extraverts choose to spend more time in active physical pursuits. A meta-analysis investigating personality variables in relation to happiness included activity under the broad umbrella of extraversion and even included energy level as part of the definition of extraversion (DeNeve & Cooper, 1998). Thus, because children are more active, and activity has many potential benefits for well-being and shows links to extraversion, it is not surprising that activity emerged as an important contributor to children's happiness.

Although temperament variables were significantly related to happiness across raters and across measures, the unique predictors of children's happiness varied based on child-

versus parent-rated temperament. Specifically, it seemed that variables akin to extraversion were more related to children's happiness when using self-ratings of temperament, and variables akin to neuroticism were more related to children's happiness when using parent ratings of temperament. For example, with children's self-ratings, depending on the happiness measure used, sociability and shyness emerged consistently as important predictors, with activity and freedom from anxiety also making contributions. For parent ratings of temperament, freedom from anxiety and emotionality emerged as the important predictors of happiness. There are several potential explanations for this finding.

First, these results could be due to the fact that negative emotionality is usually very visible, easy to measure, and parents are more responsive to it (Belsky et al., 1991). Because parents can not know the exact nature of children's internal states (Seifer et al., 2004), they must rely on overt behaviours. Thus, as negative emotionality is a salient behaviour and potentially more memorable due to its negative impacts, perhaps this served to elevate parents' ratings of children's negative emotionality. Furthermore, children's behaviour tends to differ according to different settings (e.g., home vs. school) (Eisenberg et al., 1995). Parents typically have limited opportunity to observe their children at school and therefore may be basing their responses on children's behaviour at home. Although the current study did not obtain teacher ratings of children's temperament, previous research has shown that teachers' ratings of emotionality and behavioural regulation are not highly correlated with parents' ratings; furthermore, children's prosocial behaviour in the school setting is associated with teachers' ratings of emotionality but not well-predicted by parents' reports of emotionality in the home setting (Eisenberg et al.). Perhaps during the time parents and children spend together, parents observe higher degrees of negative emotionality than

children typically exhibit during the day. For example, research indicates that during puberty, there are increased levels of parent-child conflict (Laurson, Coy, & Collins, 1998 as cited in Morris, Silk, Steinberg, Myers, & Robinson, 2007). Therefore, parents may place a greater emphasis on negative aspects when rating temperament.

Finally, the difference in unique predictors of children's happiness based on child or parent reports of temperament could be the result of children's desires to respond in a socially desirable manner. Despite the fact that children were encouraged to answer as honestly as possible, and confidentiality of results was emphasized, it is possible that children were less willing to endorse items on the EAS related to negative emotionality (e.g., "I cry easily"). Children completed the questionnaire as a group in the classroom setting and therefore may have been concerned about nearby peers seeing their responses. However, the Freedom from Anxiety sub-domain of the Piers-Harris 2 still emerged as an important predictor of children's happiness. This measure relied solely on child self-report, and indicates that children were willing to endorse negative symptoms (e.g., "I worry a lot"; "I am nervous"). Perhaps children were more willing to endorse items related to anxiety than to overt emotional upset. This is consistent with research using a sample of Australian children (with an average age of 12 years) that showed measures based on reported behaviour to be more susceptible to social desirability response bias than measures based on attitudes (Rigby, 1987). In addition, a study conducted with children aged 7-14 found that self-reported anxiety and lie scores were not correlated (indicating children were not attempting to respond in a socially desirable manner with regards to their anxiety) (Dadds, Perrin, & Yule, 1998).

4.2 Strengths of the Current Study

There are several reasons to be confident in the results of the current study. First, results were consistent across measures and raters, and the general hypothesis that temperament is an important predictor of happiness in children is supported. The current study employed four measures of happiness (Children's Faces Scale, Parents' Faces Scale, Subjective Happiness Scale, and the Oxford Happiness Scale) as criterion variables and five dimensions of temperament (Emotionality, Activity, Sociability, and Shyness from the EAS, and Freedom from Anxiety from the Piers-Harris 2) as predictor variables. Despite the fact that each measure includes its own set of assumptions and limitations, temperament was shown to predict children's happiness across measures. Furthermore, these results held true whether children's self-reports or parents' reports of children's temperament were used. Thus, the results of the current study are strengthened by their stability across measures and raters.

Another important strength of the present study is that by establishing a relation between happiness and temperament in children, it validates both research that claims temperament is a forerunner of personality, as well as research that has established a link between personality and happiness in adults. Specifically, although the process of development is not well understood (Shiner & Marmorstein, 1998), temperament is widely accepted to be the precursor to adult personality (Rothbart et al., 2000). Furthermore, research with adults has documented a strong relation between personality and happiness (DeNeve & Cooper, 1998). Therefore, if temperament is the precursor to personality and happiness is truly related to personality in adults, and if happiness and temperament can be accurately assessed in children, research should find a relation between temperament and

happiness in children. The current study confirmed this hypothesis, finding a strong relation between temperament and happiness.

The current study also supports the contention that happiness and genetics are linked in children. Under the EAS theory of temperament (Buss & Plomin, 1984), a defining characteristic of a temperament trait is that it must have a heritable component (i.e., determined by genetics). Therefore, all of the temperament traits used as predictors of happiness in the current study have a genetic basis. Thus, the current study's finding of a strong relation between happiness and temperament is consistent with there being a relation between happiness and genetics in children. This parallels research with adults which suggests that genetics account for 80% of the stable component of happiness (Lykken & Tellegen, 1996).

Finally the current study makes an important contribution to the literature by demonstrating that the EAS temperament survey can be used as a valid self-report measure with children aged 8-12. A previous study using a French version of the EAS tested the validity of using the EAS as a self-report measure with students in France (Gasman et al., 2002). Their results were inconclusive; however, their sample size was small (N = 197) and they used children aged 6-12 years. They suggested that research with larger samples and older participants be conducted to further investigate the measurement model. Confirmatory factor analyses in the current study (using a sample of 311 children aged 8-12) indicated that the children's self-report data were an acceptable fit to the four factor model proposed by Buss and Plomin (1984). These results are important because they suggest that children's self-reports are valid and can be included in studies of temperament. Researchers tend to agree that the validity of results can be improved using multiple sources of information in

studies of both personality (Shiner & Marmorstein, 1998) and happiness (Lepper, 1998). In addition, although parents may have the most information about their children's behaviour across time and situations, they cannot know exactly what children's internal processes are (Seifer et al., 2004). In fact, parents are typically less aware of internal emotional states than are children themselves (Seifer et al.) which could be problematic in both temperament and happiness research. Therefore, future researchers can confidently employ children's self-ratings of temperament in addition to parent ratings to strengthen their results.

4.3 Limitations of the Current Study

The research sample was limited by the various levels of consent required to work with the 8-12 year old children. First, permission was obtained from school district administrators, followed by principals and teachers at individual schools. Then, children in participating classrooms were asked to deliver packages containing information letters, consent forms, and questionnaires to their parents. Because we were depending on the children to deliver the packages, we cannot be sure that all parents received their packages. Furthermore, parents who consented to their children's participation then gave their completed forms to their children to bring back to school. Only children whose parents had consented were asked to participate, and each child had the right to choose whether or not to participate. Finally, in some cases, children whose parents had consented to their participation were absent on the day the researcher visited their classrooms. Therefore, they were not included in the study. With each level of consent required, the number of people who agree to participate is potentially reduced. A previous study using a very similar approach to data collection yielded a 50% response rate, which authors deemed to be positive

(Holder & Coleman, 2008). Thus, we consider our response rate of 62.5% to be positive as well.

The reliability estimates are not as high as would be desired for some of the measures used in the current study (see Appendix C). Thus, the current study is limited by the strength of the measures it used. Future studies may want to consider piloting measures that have been designed for adults with samples of children to determine whether they can be reliably used with the new age group.

The current study is also limited by its non-diverse population (e.g., participants represented only a single culture). The current study did not identify demographic characteristics within the sample; therefore, there is no data regarding cultural diversity. As discussed, cultural differences may have implications for both temperament and happiness variables as well as for the relation between temperament and happiness. The current study did not investigate demographic variables, as previous research has shown that demographic variables are not important predictors of children's happiness (Holder & Coleman, 2008; in press). However, this also means that information about potential cultural differences is unavailable. As such, we cannot conclude that the structure of children's temperament would generalize across cultures. Nevertheless, it has been claimed that the dimensions of temperament represented by the EAS are not subject to the effects of gender, age, or nationality (this is likely due in part to the theory's emphasis on genetic inheritance)(Boer & Westenberg, 1994). Because of the emphasis on a genetic basis to temperament traits (Buss & Plomin, 1984) it is possible that there would be relatively little cultural variation in temperament traits. However, temperament is subject to environmental variables as well (e.g., social comparison and positive or negative reinforcement from adults and peers)

(Shiner & Caspi, 2003); therefore, the environmental component of temperament may be more readily influenced by culture. Future research using culturally diverse samples is needed to explore cultural differences in the relation between temperament and happiness.

4.4 Future Directions

In addition to exploring cultural differences in temperament and happiness in children, future researchers should consider temperament when investigating factors that contribute to children's happiness. For example, as previously established, there is a strong relation between happiness and personality in adults. As such, many studies now seek to determine whether variables of interest contribute to happiness over and above the influence of personality. For instance, research seeking to determine the relation between friendship quality and happiness first accounted for the influence of personality on happiness (Demir & Weitekamp, 2006). It was subsequently determined that personality variables accounted for 55% of the variance in happiness, and friendship quality predicted an additional 2% of the variance. Similarly, how people chose to pursue happiness accounted for 16% of the variance, over and above the influence of personality (Tkach & Lyubomirsky, 2006). These types of studies recognize the strong relation between happiness and personality and only consider further variables of interest to be effective predictors of happiness if they have predictive power beyond what is accounted for by personality. Because the current study established a strong relation between temperament and happiness in children, further research may benefit from employing parallel methodology to the studies mentioned above. For example, spirituality has been found to contribute to children's happiness (Wallace, manuscript in preparation). Future research could investigate whether spirituality contributes to children's happiness over and above the influence of temperament.

Another important avenue for further research will be the development of programs to promote, maintain, and increase happiness in children. Research with adults has determined that it is possible to increase happiness (Seligman et al., 2005). Writing about three good things that happened to them each day as well as using their signature strengths (see Peterson & Seligman, 2004) in a novel way produced lasting increases in adults' happiness (e.g., the effect remained at a 6-month follow-up). Future research should explore whether these strategies are also effective with children.

In contrast to externally imposed strategies, research has sought to determine what strategies people regularly employ to increase their happiness (Tkach & Lyubomirsky, 2006). Social affiliation (e.g., spending time with others), active leisure (e.g., playing sports), and goal pursuit (e.g., setting personal goals and actively pursuing them) were among the most effective happiness increasing strategies. Importantly, this study determined that personality plays a significant role in choosing a strategy. For example, individuals scoring high on extraversion were more likely to use more successful strategies to increase their happiness(e.g., social affiliation), while those high on neuroticism were more likely to choose more maladaptive methods (e.g., focusing on their negative thoughts and emotions and trying to mentally control them). However, the authors argue that intentional behaviours (i.e., the actions one chooses) are easier to modify than personality traits. Thus, just because an individual who scores high on neuroticism is more likely to choose an ineffective strategy does not mean that the same individual cannot be educated to choose and employ a more effective strategy.

These findings are important for future program development for children. Those seeking to promote happiness in children should consider that children's temperament may

influence the types of strategies that should be employed as well as the effectiveness of those strategies. Future programs should account for temperament and strive to maximize the effectiveness of happiness increasing strategies. For example, writing down three good things that happen each day and paying gratitude visits (e.g., visiting someone who has influenced one's life and thanking that person) increase happiness in adults (Seligman et al., 2005). Should these strategies be tested with children, perhaps a social gratitude visit would be more suitably matched to extraverted children while keeping a daily journal may be better suited to introverted children. Future research is needed to explore these hypotheses.

The current study is an important contribution to the paucity of research investigating temperament and happiness in children. It established a relation between temperament and happiness, supported the use of self-reports with children, and provided numerous suggestions for future research. Happiness and temperament in children is a fertile field of research and the current study provid**es a solid framework from which to start.**

5. References

Abdel-Khalek, A. M. (2006). Measuring happiness with a single-item scale. *Social Behavior and Personality, 34*, 139-150.

Ackerman, B. P., Kogos, J., Youngstrom, E., Scholff, K., & Izard, C. (1999). Family instability and the problem behaviours of children from economically disadvantaged families. *Developmental Psychology, 35*, 258-268.

Amato, P. R. (1994). Father-child relations, mother-child relations, and offspring psychological well-being in early adulthood. *Journal of Marriage & the Family*, *56*, 1031-1043.

Amato, P. R., & Zuo, J. (1992). Rural poverty, urban poverty, and psychological well-being. *The Sociological Quarterly, 33*, 229-240.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being*. NewYork: Plenum Press.

Argyle, M. (2001). *The Psychology of Happiness, 2nd Edition.* East Sussex, England: Routedge.

Argyle, M., & Lu, L. (1990). Happiness and social skills. *Personality & Individual Differences, 11,* 1255-1261.

Authentic Happiness. (2006). Retrieved April 30, 2008, from The University of Pennsylvania web site: http://www.authentichappienss.sas.upenn.edu.

Belsky, J., Fish, M., & Isabella, R. (1991). Continuity and discontinuity in infant negative and positive emotionality: Family antecedents and attachment consequences. *Developmental Psychology, 27,* 421-431.

Belsky, J., Hsieh, K.H., & Crnic, K. (1996). Infant positive and negative emotionality:

One dimension or two? *Developmental Psychology, 32,* 289-298.

Berk, L. (1994). *Child development.* 3rd ed. Needham Heights: Allyn and Bacon.

Boer, F., & Westenberg, P. M. (1994). The factor structure of the Buss and Plomin EAS temperament survey (parental ratings) in a Dutch sample of elementary school children. *Journal of Personality Assessment, 62,* 537-551.

Brebner, J. U., Donaldson, J., Kirby, N., & Ward, L. (1995). Relationships between happiness and personality. Personality and Individual Differences, 19, 251-258.

Brickman, P., Coates, D., Janoff-Bulman, R. (1978). *Journal of Personality and Social Psychology, 36*, 917-927.

Buss, A. H., & Plomin, R. (1984). *Temperament: Early developing personality traits.* Lawrence Erlbaum Associates, Hillsdale: New Jersey.

Carey, W. B. (1973). Measuring infant temperament in pediatric practice. In J. C. Westrnan (Ed.), *Individual differences in children.* New York: Wiley.

Carlson, J. (1982). The multimodal effect of psychical exercise. *Elementary School Guidance & Counselling,* 304-309.

Chang, L., McBride-Chang, C., Stewart, S. M., & Au, E. (2003). Life satisfaction, self concept, and family relations in Chinese adolescents and children. *International Journal of Behavioural Development, 27*, 182-189.

Cheng, H., & Furnham, A. (2001). Attributional style and personality as predictors of happiness and mental health. *Journal of Happiness Studies, 2,* 307-327.

Cheng, H., & Furnham, A. (2003) Personality, self-esteem, and demographic predictions of happiness and depression. *Personality & Individual Differences, 34*, 921-942.

Cloninger, C. R., Svrakic, D. M., & Przybeck, T. R. (1993). A psychobiological model of

temperament and character. *Archives of General Psychiatry, 50*, 975-990.

Cohen, A. B. (2002). The importance of spirituality in well-being for Jews and

Christians. *Journal of Happiness Studies, 3I,* 287-310.

Costa, P. T., & McCrae, R. R. (1980). Influence of extraversion and neuroticism on

subjective well-being: Happy and unhappy people. *Journal of Personality and Social*

Psychology, 38, 668-678.

Costa, P. T., & McCrae, R. R. (1994). Stability and change in personality from

adolescence through adulthood. In C. F. Halverson Jr., G. A. Kohnstamm, & R. P.

Martin (Eds.) *The developing structure of temperament and personality from infancy*

to adulthood (pp139-150). Hillsdale, NJ, England: Lawrence Erlbaum Assoc Inc.

Costa, P. T., McCrae, R. R., & Norris (1980). Personal adjustment to aging: longitudinal

prediction from neuroticism and extraversion. *Journal of Gerontology, 36*, 78-85.

Cruise, S. M., Lewis, C. A., & McGukin, C. (2006). Internal consistency, reliability, and

temporal stability of the Oxford Happiness Questionnaire short-form: Test-retest data

over two weeks. *Social Behavior and Personality, 34*, 123-126.

Csikszentmihalyi, M., & Hunter, J. (2003). Happiness in everyday life: The uses of

experience sampling. *Journal of Happiness Studies, 4*, 185-199.

Dadds, M. R., Perrin, S., & Yule, W. (1998). Social desirability and self-reported anxiety

in children: An analysis of the RCMAS lie scale. *Journal of Abnormal Child*

Psychology, 26, 311-317.

Demir, M., & Weitekamp, L. A. (2006). I am so happy cause today I found my

friend: Friendship and personality and predictors of happiness. *Journal of Happiness*

Studies, 8, 181-211.

DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137

    personality traits and subjective well-being. *Psychological Bulletin, 124*, 197-229.

Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill:

    Revising the adaptation theory of well-being. *American Psychologist, 61,* 305-314.

Diener, E., Sandvik, E., Pavot, W., & Gallagher, D. (1991). Response artifacts in the

    measurement of subjective well-being. *Social Indicators Research, 24*, 35-56.

Diener, E., & Seligman, M. E. (2002). Very happy people. *Psychological Science, 13,* 81-

    84.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three

    decades of progress. *Psychological Bulletin, 125,* 276-302.

Dubbert, P. M. (2002). Physical activity and exercise: Recent advances and current

    challenges. *Journal of Consulting and Clinical Psychology, 70*, 526-536.

Efklides, A., Kalaitzidou, M., & Chankin, G. (2003). Subjective quality of life in old age

    in Greece. *European Psychologist, 8*, 178-191.

Eisenberg, N., Fabes, R. A., & Murphy, B. (1995). The role of emotionality and

    regulation in children's social functioning: A longitudinal study. *Child Development,*

    66, 1360-1384.

Ellison, C. G. (1991). Religious involvement and subjective well-being. *Journal of*

    Health and Social Behaviour, 32, 80-99.

Else-Quest, N. M., Hyde, J. S., Goldsmith, H. H., & Van Hulle, C. A. (2006). Gender

    differences in temperament: A meta-analysis. *Psychological Bulletin, 132*, 33-72.

Eysenck, H. J. (1986). Models and paradigms in personality research. In A. Angleitner,

    A. Furnham, and G.Van Heck (Eds.), *Personality Psychology in Europe*, vol 2,

Current Trends and Controversies (pp 213-223). Lisse, The Netherland: Swets and Zeitlinger.

Ferriss, A. L. (2002). Religion and the quality of life. *Journal of Happiness Studies, 3*, 199-215.

Francis, L. J., Brown, L. B., Lester, D., & Philipchalk, R. (1998). Happiness as stable extraversion: A cross-cultural examination of the reliability and validity of the Oxford Happiness Inventory among students in the U.K., U.S.A., Australia, and Canada. *Personality and Individual Differences, 24,* 167-171.

Funder, D. C. (1991). Global traits: A neo-Allportian approach to personality. *Psychological Science, 2,* 31-39.

Furnham, A., & Brewin, C. R. (1990). Personality and happiness. *Personality & Individual Differences, 11,* 1093-1096.

Furnham, A., & Cheng, H. (2000a). Lay theories of happiness. *Journal of Happiness Studies, 1,* 227-246.

Furnham, A., & Cheng, H. (2000b). Perceived parental behaviour, self-esteem and happiness. *Society of Psychiatric Epidemiology, 35,* 463-470.

Furnham, A., & Petrides, K. V. (2003). Trait emotional intelligence and happiness. *Social Behavior and Personality, 31,* 815-824.

Gasman, I., Purper-Ouakil, D., Michel, G., Mouren-Simeoni, M.-C., Bouvard, M., Perez-Diaz, F., et al. (2002). Cross-cultural assessment of childhood temperament: A confirmatory factor analysis of the French emotionality activity and sociability (EAS) Questionnaire. *European Child and Adolescent Psychiatry, 11*, 101-107.

Goldsmith, H. H., Buss, A. H., Plomin, R., Rothbart, M. K., Thomas, A., Stella, C., et al.

(1987). Roundtable: What is temperament: Four

approaches. *Child Development, 58*, 505-529.

Goldsmith, H. H., Rieser-Danner, L. A., & Briggs, S. (1991). Evaluating convergent and

discriminant validity of temperament questionnaires for preschoolers, toddlers, and

infants. *Developmental Psychology, 27,* 566-579.

Harry, J. (1976). Evolving sources of happiness for men over the life cycle: A structural

analysis. *Journal of Marriage and the Family, 42,* 289-296.

Harter, S. (1996). Developmental changes in self-understanding across the 5 to 7 shift. In

A. J. Sameroff, & M. M. Haith (Eds.), *The five to seven year shift: The age of reason

and responsibility* (pp. 207-236). Chicago: University of Chicago Press.

Harvey, C. D., Bond, J. B., & Greenwood, L. J. (1991). Satisfaction, happiness, and self-

esteem of older rural parents. *Canadian Journal of Community Mental Health, 10*,

31-46.

Hayes, N., & Joseph, S. (2003). Big 5 correlates of three measures of subjective well-

being. *Personality & Individual Differences, 34,* 723-727.

Hills, P., & Argyle, M. (1998). Positive moods derived from leisure and their relationship

to happiness and personality. *Personality and Individual Differences, 25,* 523-535.

Hills, P., & Argyle, M. (2001a). Emotional stability as a major dimension of happiness.

Personality and Individual Differences, 31, 1357-1364.

Hills, P., & Argyle, M. (2001b). Happiness, introversion-extraversion and happy

introverts. *Personality & Individual Differences, 30,* 595-608.

Hills, P, & Argyle, M. (2002). The Oxford Happiness Questionnaire: A compact scale for

the measurement of psychological well-being. *Personality and Individual Differences, 33*, 1071-1082.

Holder, M., & Coleman, B. (2008). The contribution of temperament, popularity, and physical appearance to children's happiness. *Journal of Happiness Studies, 9,* 279-302.

Holder, M. D., & Coleman, B. (in press). The contribution of social relationships to children's happiness. *Journal of Happiness Studies.*

Holder, M. D., Coleman, B., & Sehn, Z. (2008). *The contribution of active and passive leisure to children's well-being*. Manuscript submitted for publication.

Huebner, E.S. (1991). Correlates of life satisfaction in children. *School Psychology, Quarterly, 6, 103-111.*

Huebner, E. S., Suldo, S. M., Smith, L. C., & McKnight, C. G. (2004). Life satisfaction in children and youth: Empirical foundations and implications for school psychologists. *Psychology in the Schools, 41*, 81-93.

Karp, J., Servin, L. A., Stack, D. M., & Schwartzman, A. E. (2004). An observational measure of children's behavioural style: Evidence supporting a multi-method approach to studying temperament. *Infant and Child Development, 13,* 135-158.

Karrass, J. & Braungart-Rieker, J. M. (2004). Infant negative emotionality and attachment: Implications for preschool intelligence. *International Journal of Behavioural Development, 28,* 221-229.

Kornilaki, E. N., & Chlouverakis, G. (2004). The situational antecedents of pride and happiness: Developmental and domain differences. *British Journal of Developmental Psychology, 22*, 605-619.

Kozma, A., & Stones, M. J. (1983). Predictors of happiness. *Journal of Gerontology, 38,* 626-628.

Leerkes, E. M. & Crockenberg, S. C. (2003). The impact of maternal characteristics and sensitivity on the concordance between maternal reports and laboratory observations of infant negative emotionality. *Infancy, 4,* 517-539.

Lemery, K. S., Goldsmith, H. H., Klinnert, M. D., Mrazek, D. A. (1999). Developmental models of infant and childhood temperament. *Developmental Psychology, 35,* 189-204.

Lepper, H. S. (1998). Use of other-reports to validate subjective well-being measures. *Social Indicators Research, 44,* 367-379.

Lu, L., & Argyle, M. (1991). Happiness and cooperation. *Personality & Individual Differences, 12,* 1019-1030.

Lu, L., & Lin, Y. Y. (1998). Family roles and happiness in adulthood. *Personality & Individual Differences, 25,* 195-207.

Lucas, R. E. (2007). Adaptation and the set-point model of subjective well-being: Does happiness change after major life events. *Directions in Psychological Science, 16,* 75-79.

Lucas, R. E., & Donnellan, M. B. (2007). How stable is happiness? Using the STARTS model to estimate the stability of life satisfaction. *Journal of Research in Personality, 41,* 1091-1098.

Lucas, R. R., Clark, A. E., Georgellis, Y., & Diener, E. (2003). Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status. *Journal of Personality and Social Psychology, 84*, 527-539.

Lykken, D., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science, 7,* 186-189.

Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research, 46,* 137-155.

MacDonald, P. M., & Kirkpatrick, S. W. (1996). Schematic drawings of facial expression for emotion recognition and interpretation by preschool-aged children. *Genetic, Social, & General Psychology Monographs, 122,* 373-388.

Mahon, N. E., & Yarcheski, A. (2002). Alternative theories of happiness in early adolescents. *Clinical Nursing Research, 11,* 306-323.

Marsh, H. W., & Holmes, I. W. (1990). Multidimensional self-concepts: Construct validation of responses by children. *American Educational Research Journal, 27,* 89-117.

Martin, R. P., Drew, D., Gaddis, L. R., & Mosely, M. (1988). Prediction of elementary school achievement from preschool temperament: Three studies. *School Psychology Review, 17,* 125-137.

Masi, G., Mucci, M., Favilla, L., Brovedani, P., Millepiedi, S., & Perugi, G. (2003). Temperament in adolescents with anxiety and depressive disorders and in their families. *Child Psychiatry and Human Development, 33,* 245-259.

McCrae, R. R., & Costa, P. T., Jr. (1991). Adding Liebe und arbeit: The full five-factor model and well-being. *Journal of Personality and Social Psychology Bulletin, 17,* 227-232.

McCrae, R. R., Costa, P. T., Jr, & Terracciano, A. (2002). Personality trait development

from age 12 to age 18: Longitudinal, cross-sectional and cross-cultural analyses. *Journal of Personality and Social Psychology, 83*, 1456-1468.

McLanahan, S., & Adams, J. (1989). The effects of children on adults' psychological well-being: 1957-1976. *Social Forces, 68,* 124-146.

McIntosh, D. E., & Cole-Love, A. S. (1996). Profile comparisons between ADHD and non-ADHD children on the temperament assessment battery for children. *Journal of Psychoeducational Assessment, 14*, 362-372.

Mikulincer, M., & Peer-Golding, I. (1991). Self-congruence and the experience of happiness. *British Journal of Social Psychology, 30*, 21-35.

Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development, 16,* 361-388.

Muris, P., Meesters, C., & Diederen, R. (2005). Psychometric properties of the big five questionnaire for children (BFQ-C) in a Dutch sample of young adolescents. *Personality and Individual Differences, 38,* 1757-1769.

Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist, 55*, 56-57.

Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science, 6,* 10-19.

Neto, F. (2001). Personality predictors of happiness. *Psychological Reports, 88,* 817-824.

Noddings, N. (2003). *Happiness and education*. New York: Cambridge University Press.

O'Connor, B. P. (2002). A quantitative review of the comprehensiveness of the five-factor model in relation to popular personality inventories. *Assessment, 9*, 188-203.

Pauli-Pott, U., Mertesacker, B., Bade, U., Haverkick, A., & Beckmann, D. (2003).

Parental perceptions and infant temperament development. *Infant Behaviour & Development, 26,* 27-48.

Pavot, W., & Diener, E. (1993). The affective and cognitive context of self-reported measures of subjective well-being. *Social Indicators Research, 28*(1)*,* 1-20.

Pavot, W., Diener, E., & Fujita, F. (1990). Extraversion and happiness. *Personality & Individual Differences, 11,* 1299-1306.

Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *The Journal of Positive Psychology, 2*, 149-156.

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification.* Washington, DC, US: American Psychological Association.

Piers, E.V., & Herzberg, D.S. (2002). *Manual for the Piers-Harris Children's Self -Concept Scale, 2nd Edition*. Los Angeles: Western Psychological Services.

Pinquart, M., & Sorensen, S. (2001). Gender differences in self-concept and psychological well-being in old age: A meta-analysis. *Journal of Gerontology, 56B,* 195-213.

Ray, R. O., & Heppe, G. (1986). Older adult happiness: The contributions of activity breadth and intensity. *Physical & Occupation Therapy in Geriatrics, 4,* 31-43.

Rebok, G., Riley, A., Forrest, C., Starfield, B., Green, B., Robertson, J., et al. (2001). Elementary school-aged children's reports of their health: A cognitive interviewing style. *Quality of Life Research, 10*, 59-70.

Rigby, K. (1987). 'Faking good' with self-reported pro-authority attitudes and behaviours among schoolchildren. *Personality and Individual Differences, 8*, 445-447.

Rothbart, M. K. (1986). A psychobiological approach to the study to temperament. In G. A. Kohnstamm (Ed.), *Temperament discussed: Temperament and development in infancy and childhood* (pp. 63-72). Netherlands: Swets & Zeitlinger Publishers.

Rothbart, M. K. (1988). Temperament and the development of inhibited approach. *Child Development, 59,* 1241-1250.

Rothbart, M. K., Ahadi, S. A., & Evans, D. E. (2000). Temperament and personality: Origins and outcomes. *Journal of Personality and Social Psychology, 78,* 122-135.

Sameroff, A. J., & Haith, M. M. (1996). *The five to seven year shift: The age of reason and responsibility*. Chicago:University of Chicago Press.

Schimmack, U. (2003). Affect measurement in Experience Sampling research. *Journal of Happiness Studies, 4,* 79-106.

Schultz, D., Izard, C. E., & Bear, G. G. (2004). Emotionality, emotion information processing, and aggression. *Development and Psychopathology, 16,* 371-387.

Seifer, R., Sameroff, A., Dickstein, S. (2004). Your own children are special: Clues to the sources of reporting bias in temperament assessments. *Infant Behaviour and Development, 27,* 323-341.

Seligman, M. E. P. (2002). *Authentic happiness: Using the new positive psychology to realize you potential for lasting fulfillment,* New York: Free Press.

Seligman, M. E. P, Steen, T. A., & Park, N. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist, 60,* 410-421.

Shields, B. J., Cohen, D. M., Harbeck-Weber, C., Powers, J. D., & Smith, G. A. (2003). Pediatric pain measurement using a visual analogue scale: A comparison of two teaching methods. *Clinical Pediatrics,* 227-234.

Shiner, R., & Caspi, A. (2003) Personality differences in childhood and adolescence: measurement, development and consequences. *Journal of Child Psychology and Psychiatry, 44*, 2-32.

Shiner, R. L., & Marmorstein, N. R. (1998). How shall we speak of children's personalities in middle childhood? A preliminary taxonomy. *Psychological Bulletin, 124*, 308-332.

Singh, K. (2007). Relationship between big five personality and constructs of positive psychology. *Sutra: The Journal for Research on Education, Psychology, Traditional Sciences & Systems, Health and Consciousness, 1,* 129-137.

Stokes, R., & Frederick-Recascino, C. (2003). Women's perceived body image: Relations with personal happiness. *Journal of Women & Aging, 15*, 17-29.

Stones, M. J., & Kozma, A. (1986). "Happy are they who are happy…" A test between two causal models of relationships between happiness and its correlates. *Experimantal Aging Research, 12,* 23-29.

Stull, D. E. (1988). A dyadic approach to predicting well-being later in life. *Research of Aging, 10,* 81-101.

Suh, E. M. (2007). Downsides of an overly context-sensitive self: Implications from the culture and subjective well-being research. *Journal of Personality, 75,* 1321-1343.

Swinyard, W. R., Kau, A., & Phua, H. (2001). Happiness, materialism, and religious experience in the US and Singapore. *Journal of Happiness Studies, 2,* 13-32.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics 4th ed*. Needham Heights: Allyn & Bacon.

Thomas, V. G. (1990). Determinants of global life happiness and marital happiness in

dual-career black couples. *Family Relations, 39*, 174-179.

Thomas, A., & Chess, S. (1977). *Temperament and development.* Oxford:

    Brunner/Mazel.

Tkach, C., & Lyubomirsky, S. (2006). How do people pursue happiness?: Relating

    personality, happiness-increasing strategies and well-being. *Journal of Happiness*

    Studies, 7, 183-225.

Vaughn, B. E., Taraldson, B. J., Cuchton, L., & Egeland, B. (2002). The assessment of

    infant temperament: A critique of the Carey Infant Temperament Questionnaire.

    Infant Behaviour and Development, 25, 98-112.

Wallace, J. (2008). *The contribution of spirituality to children's happiness.* Unpublished

    master's thesis, University of British Columbia, Kelowna, British Columbia, Canada.

Weinstein, S. M., & Mermelstein, R. (2007). Relations between daily activities and

    adolescent mood: The role of autonomy. *Journal of Clinical and Adolescent*

    Psychology, 36, 182-194.

Wood, W., Rhodes, N., & Whelan, M. (1989). Sex differences in positive well-being: A

    consideration of emotional style marital status. *Psychological Bulletin, 105,* 248-264.

Young, M. R. R., & Bradley, M. T. (1998). Social withdrawal: Self-efficacy, happiness,

    and popularity in introverted and extroverted adolescents. *Canadian Journal of*

    School Psychology, 14, 21-35.

6. Appendix A
Principal, Teacher, and Parent Consent forms and Student Assent form for Independent and Public Schools

THE UNIVERSITY OF BRITISH COLUMBIA

Irving K. Barber School of Arts and Sciences
3333 University Way
Kelowna, BC Canada V1V 1V7

Principal's Information Letter and Consent Form

Title of Study: Happiness in Children Aged 8-12

Principal Investigator: Dr. Mark Holder, Psychology, (250-807-8728).

Co-Investigator: Judi Wallace and Andrea Klassen are graduate students at the University of British Columbia Okanagan (UBCO) under the supervision of Dr. Mark Holder. They will conduct the research.

Purpose: We are asking your school to participate in a study on happiness. Students, parents/guardians, and teachers are being asked to participate. This study will increase principals', teachers', parents', and researchers' understanding of the connection between temperament, spirituality, and happiness.

Study Procedures: The Independent School Administrators have agreed to allow schools in the district to participate. If you also agree, the Grade 4, 5 and 6 teachers will be asked for their consent to have their students participate. Teachers who consent to having their classrooms participate will give their students an information package consisting of a consent form and a questionnaire. We will also administer two questionnaires to your students whose parents have returned a signed consent form. The first questionnaire includes 60 yes/no questions about students' self concept. The second questionnaire includes 44 statements about spirituality (e.g., "developing inner peace"), 13 statements about happiness (e.g., "I feel life is very rewarding"), and 20 statements about temperament (e. g., "I am always on the go"). As a group, students will complete the questionnaires in about 25-30 minutes of class time.

Parents/guardians are also asked to complete the Temperament, Spirituality, and Happiness questionnaire and rate their own happiness as well as their child's happiness. This will take about 15 minutes. In addition, teachers will rate their own happiness and the happiness of each participating student in the class.

Confidentiality: Responses of all participants are strictly confidential (individual responses will only be seen by the researchers). Each questionnaire will be coded to link the answers from each student, parent/guardian, and teacher. Only researchers will know this code. After the data are collected, the codes will be destroyed so

individuals cannot be identified. Questionnaires will be kept in a locked room. When the study is completed, all questionnaires will be shredded. We plan to submit the findings for publication. Participants' names will not be used in any reports of the study. The results will only be reported for groups with no possibility of individual participants being identified.

Follow-up: Our findings will be summarized in a letter to you and your teachers. This letter will also be sent home with all your students in participating classrooms, whether or not they participated. Researchers will be available to present their findings at meetings of school staff and Parent Advisory Councils.

Contact information: If you have any questions about this study, contact the Principal Investigator, Dr. Mark Holder (250-807-8728). If you have concerns about how you and other research participants are treated, contact the Chair of Research Ethics Board through the UBCO Office of Research Services at (250-807-8150).

Consent: Your participation in our study is completely voluntary and you may refuse to participate or withdraw from the study at any time without penalty to you or your classrooms. At any time, your students are free to withdraw.

Your signature below indicates that you have received this form and consent to having your school participate in our study.

_____
Principal's Signature   Date

_____
Printed Name of the Principal signing above

_____
School

_____
Investigator's Signature   Date

_____
Printed Name of Investigator

Irving K. Barber School of Arts and Sciences
3333 University Way
Kelowna, BC Canada V1V 1V7

Principal's Information Letter and Consent Form

Title of Study: Happiness in Children Aged 8-12

Principal Investigator: Dr. Mark Holder, Psychology, (250-807-8728).

Co-Investigator: Judi Wallace and Andrea Klassen are graduate students at the University of British Columbia Okanagan (UBCO) under the supervision of Dr. Mark Holder. They will conduct the research.

Purpose: We are asking your school to participate in a study on happiness. Students, parents/guardians, and teachers are being asked to participate. This study will increase principals', teachers', parents', and researchers' understanding of the connection between temperament, spirituality, and happiness.

Study Procedures: Dr. Peter Molloy (Director of Instruction for School District #23) has agreed to allow schools in the district to participate. If you also agree, the Grade 4, 5 and 6 teachers will be asked for their consent to have their students participate. Teachers who consent to have their classrooms participate will give their students an information package consisting of a consent form and a questionnaire. We will also administer two questionnaires to your students whose parents have returned a signed consent form. The first questionnaire includes 60 yes/no questions about students' self concept. The second questionnaire (i.e., "Spirituality and Happiness") includes 44 statements about spirituality (e.g., "developing inner peace"), happiness (e.g., "I feel life is very rewarding"), and 20 statements about temperament (e. g., "I am always on the go"). As a group, students will complete the questionnaires in about 25-30 minutes of class time.

Parents/guardians are also asked to complete the Spirituality and Happiness questionnaire and rate their own happiness as well as their child's happiness. This will take about 15 minutes. In addition, teachers will rate their own happiness and the happiness of each participating student in the class.

Confidentiality: Responses of all participants are strictly confidential (individual responses will only be seen by the researchers). Each questionnaire will be coded to link the answers from each student, parent/guardian, and teacher. Only researchers will know this code. After the data are collected, the codes will be destroyed so

individuals cannot be identified. Questionnaires will be kept in a locked room. When the study is completed, all questionnaires will be shredded. We plan to submit the findings for publication. Participants' names will not be used in any reports of the study. The results will only be reported for groups with no possibility of individual participants being identified.

Follow-up: Our findings will be summarized in a letter to you and your teachers. This letter will also be sent home with all your students in participating classrooms, whether or not they participated. Researchers will be available to present their findings at meetings of school staff and Parent Advisory Councils.

Contact information: If you have any questions about this study, contact the Principal Investigator, Dr. Mark Holder (250-807-8728). If you have concerns about how you and other research participants are treated, contact the Chair of Research Ethics Board through the UBCO Office of Research Services at (250-807-8150).

Consent: Your participation in our study is completely voluntary and you may refuse to participate or withdraw from the study at any time without penalty to you or your classrooms. At any time, your students are free to withdraw.

Your signature below indicates that you have received this form and consent to having your school participate in our study.

_____
Principal's Signature   Date

_____
Printed Name of the Principal signing above

_____
School

_____
Investigator's Signature   Date

_____
Printed Name of Investigator

Irving K. Barber School of Arts and Sciences
3333 University Way
Kelowna, BC Canada V1V 1V7

Teacher's Information Letter and Consent Form

Title of Study: Happiness in Children Aged 8-12

Principal Investigator: Dr. Mark Holder, Psychology (250-807-8728).

Co-Investigator: Judi Wallace and Andrea Klassen are graduate students at the University of British Columbia Okanagan (UBCO) under the supervision of Dr. Mark Holder. They will conduct the research.

Purpose: We are asking your class to participate in a study on happiness. Students, parents/guardians, and teachers are being asked to participate. This study will increase teachers', parents', and researchers' understanding of the connection between temperament, spirituality, and happiness.

Study Procedures: The Independent School Administrators and the principal have agreed to allow your school to participate. If you also agree, you will be asked to give your students an information package consisting of a consent form and a questionnaire. I will also administer two questionnaires to your students whose parents have returned a signed consent form. The first questionnaire includes 60 yes/no questions about students' self concept. The second questionnaire includes 44 statements about spirituality (e.g., "developing inner peace"), happiness (e.g., "I feel life is very rewarding") and 20 statements about temperament (e. g., "I am always on the go"). As a group, students will complete the questionnaires in about 25-30 minutes during class.

We are asking you to rate your own happiness and the happiness of each participating student in your class.

 Confidentiality: Responses of all participants are strictly confidential (individual responses will only be seen by the researchers). Each questionnaire will be coded to link the answers from each student, parent/guardian, and teacher. Only researchers will know this code. After the data are collected, the codes will be destroyed so individuals cannot be identified. Questionnaires will be kept in a locked room. When the study is completed, all questionnaires will be shredded. We plan to submit the findings for publication. Participants' names will not be used in any reports of the

study. The results will only be reported for groups with no possibility of individual participants being identified.

Follow-up: Our findings will be summarized in a letter to you. This letter will also be sent home with all your students, whether or not they participated. Researchers will be available to present their findings at meetings of school staff and Parent Advisory Councils.

Contact information: If you have any questions about this study, contact the Principal Investigator, Dr. Mark Holder (250-807-8728). If you have concerns about how you and other research participants are treated, contact the Chair of Research Ethics Board through the UBCO Office of Research Services at (250-807-8150).

Consent: Your participation in our study is completely voluntary and you may refuse to participate or withdraw from the study at any time without penalty to you or your class. At any time, your students are free to withdraw.

Your signature below indicates that you have received this form and consent to having your class participate in our study.

_____
Teacher's Signature   Date

_____
Teacher's Name Printed

_____
School

_____
Investigator's Signature   Date

_____
Investigator's Name Printed

Irving K. Barber School of Arts and Sciences
3333 University Way
Kelowna, BC Canada V1V 1V7

Teacher's Information Letter and Consent Form

Title of Study: Happiness in Children Aged 8-12

Principal Investigator: Dr. Mark Holder, Psychology (250-807-8728).

Co-Investigator: Judi Wallace and Andrea Klassen are graduate students at the University of British Columbia Okanagan (UBCO) under the supervision of Dr. Mark Holder. They will conduct the research.

Purpose: We are asking your class to participate in a study on happiness. Students, parents/guardians, and teachers are being asked to participate. This study will increase teachers', parents', and researchers' understanding of the connection between temperament, spirituality, and happiness.

Study Procedures: Dr. Peter Molloy (Director of Instruction for School District #23) and the principal have agreed to allow your school to participate. If you also agree, you will be asked to give your students an information package consisting of a consent form and a questionnaire. I will also administer two questionnaires to your students whose parents have returned a signed consent form. The first questionnaire includes 60 yes/no questions about students' self concept. The second questionnaire includes 44 statements about spirituality (e.g., "developing inner peace"), happiness (e.g., "I feel life is very rewarding"), and 20 statements about temperament (e. g., "I am always on the go"). As a group, students will complete the questionnaires in about 25-30 minutes during class.

We are asking you to rate your own happiness and the happiness of each participating student in your class.

 Confidentiality: Responses of all participants are strictly confidential (individual responses will only be seen by the researchers). Each questionnaire will be coded to link the answers from each student, parent/guardian, and teacher. Only researchers will know this code. After the data are collected, the codes will be destroyed so individuals cannot be identified. Questionnaires will be kept in a locked room. When the study is completed, all questionnaires will be shredded. We plan to submit the findings for publication. Participants' names will not be used in any reports of the

study. The results will only be reported for groups with no possibility of individual participants being identified.

Follow-up: Our findings will be summarized in a letter to you. This letter will also be sent home with all your students, whether or not they participated. Researchers will be available to present their findings at meetings of school staff and Parent Advisory Councils.

Contact information: If you have any questions about this study, contact the Principal Investigator, Dr. Mark Holder (250-807-8728). If you have concerns about how you and other research participants are treated, contact the Chair of Research Ethics Board through the UBCO Office of Research Services at (250-807-8150).

Consent: Your participation in our study is completely voluntary and you may refuse to participate or withdraw from the study at any time without penalty to you or your class. At any time, your students are free to withdraw.

Your signature below indicates that you have received this form and consent to having your class participate in our study.

_____
Teacher's Signature   Date

_____
Teacher's Name Printed

_____
School

_____
Investigator's Signature   Date

_____
Investigator's Name Printed

Irving K. Barber School of Arts and Sciences
3333 University Way
Kelowna, BC Canada V1V 1V7

Parent's/Guardian's Information Letter and Consent Form

Title of Study: Happiness in Children Aged 8-12

Principal Investigator: Dr. Mark Holder, Psychology (250-807-8728).

Co-Investigator: Judi Wallace and Andrea Klassen are graduate students at the University of British Columbia Okanagan (UBCO) under the supervision of Dr. Mark Holder. They will conduct the research.

Purpose: We are asking your child, your child's teacher, and you to participate in our study on happiness. This study will increase parents', teachers' and researchers' understanding of the connection between temperament, spirituality, and happiness.

Study Procedures: The Independent School Administrators, your child's school principal, and your child's teacher, have agreed to allow your child's class to participate. If you also agree, you need to sign this consent form, complete the enclosed questionnaire, and have your child return it to his/her class. We will also administer two questionnaires to your child but only if your child returns this signed letter of consent and if your child also agrees. The first children's questionnaire includes 60 items (e.g., "I am a leader in games and sports" and "I often volunteer at school"). Your child will indicate whether the items apply to them by responding yes or no. The second questionnaire includes 44 statements about spirituality (e.g., "developing inner peace"), 20 statements about temperament (e.g., "I am always on the go") and 14 statements on happiness (e.g., "I feel life is very rewarding") (this is the same questionnaire given to you in this packet). As a group, your child and his/her class will complete the questionnaires in about 25-30 minutes of class time.

We are asking you to complete the enclosed Temperament, Spirituality, and Happiness questionnaire. This will take about 15 minutes. In addition, we are asking you to rate your own happiness and the happiness of your child. Your child's teacher will also rate your child's happiness, but only if you agree and sign this consent form.

 Confidentiality: Responses of all participants are strictly confidential (individual responses will only be seen by the researchers). Each questionnaire will be coded to link the answers from each student, parent/guardian, and teacher. Only researchers will know this code. After the data are collected, the codes will be destroyed so

individuals cannot be identified. Questionnaires will be kept in a locked room. When the study is completed, all questionnaires will be shredded. We plan to submit the findings for publication. Participants' names will not be used in any reports of the study. The results will only be reported for groups with no possibility of individual participants being identified.

Follow-up: Our findings will be summarized in a letter for parents, students, and teachers. This letter will be sent home with all students in participating classrooms, whether or not they participated. Researchers will be available to present their findings at meetings of school staff and Parent Advisory Councils.

Contact information: If you have any questions about this study, contact the Principal Investigator, Dr. Mark Holder (250-807-8728). If you have concerns about how you and other participants are treated, contact the Chair of Research Ethics Board through the UBCO Office of Research Services (250-807-8150).

Consent: Your participation in our study is completely voluntary and you may refuse to participate or withdraw from the study at any time without penalty to you, your child, or your child's class. At any time, your child is free to withdraw.

Your signature below indicates that you have received this form and consent to you and your child participating in our study.

☐ **I do wish for my child to participate**

☐ **I do not wish for my child to participate**

_____
Parent's or Guardian's Signature   Date

_____
Printed Name of Child   Child's Teacher

_____
Child's School

_____
Investigator's Signature   Date

_____
Investigator's Printed Name

Don't forget, if you agree to participate, you must return this signed form and your completed

questionnaire to your child's school

Irving K. Barber School of Arts and Sciences
3333 University Way
Kelowna, BC Canada V1V 1V7

Parent's/Guardian's Information Letter and Consent Form

Title of Study: Happiness in Children Aged 8-12

Principal Investigator: Dr. Mark Holder, Psychology (250-807-8728).

Co-Investigator: Judi Wallace and Andrea Klassen are graduate students at the University of British Columbia Okanagan (UBCO) under the supervision of Dr. Mark Holder. They will conduct the research.

Purpose: We are asking your child, your child's teacher, and you to participate in our study on happiness. This study will increase parents', teachers' and researchers' understanding of the connection between temperament, spirituality, and happiness.

Study Procedures: Dr. Peter Molloy (Director of Instruction for School District #23), your child's school principal, and your child's teacher, have agreed to allow your child's class to participate. If you also agree, you need to sign this consent form, complete the enclosed questionnaire, and have your child return it to his/her class. We will also administer two questionnaires to your child but only if your child returns this signed letter of consent and if your child also agrees. The first children's questionnaire includes 60 items (e.g., "I am a leader in games and sports" and "I often volunteer at school"). Your child will indicate whether the items apply to them by responding yes or no. The second questionnaire includes 44 statements about spirituality (e.g., "developing inner peace"), 20 statements about temperament (e.g., "I am always on the go"), and 14 statements on happiness (e.g., "I feel life is very rewarding") (this is the same questionnaire given to you in this packet). As a group, your child and his/her class will complete the questionnaires in about 25-30 minutes of class time.

We are asking you to complete the enclosed Temperament, Spirituality, and Happiness questionnaire. This will take about 15 minutes. In addition, we are asking you to rate your own happiness and the happiness of your child. Your child's teacher will also rate your child's happiness, but only if you agree and sign this consent form.

 Confidentiality: Responses of all participants are strictly confidential (individual responses will only be seen by the researchers). Each questionnaire will be coded to

link the answers from each student, parent/guardian, and teacher. Only researchers will know this code. After the data are collected, the codes will be destroyed so individuals cannot be identified. Questionnaires will be kept in a locked room. When the study is completed, all questionnaires will be shredded. We plan to submit the findings for publication. Participants' names will not be used in any reports of the study. The results will only be reported for groups with no possibility of individual participants being identified.

Follow-up: Our findings will be summarized in a letter for parents, students, and teachers. This letter will be sent home with all students in participating classrooms, whether or not they participated. Researchers will be available to present their findings at meetings of school staff and Parent Advisory Councils.

Contact information: If you have any questions about this study, contact the Principal Investigator, Dr. Mark Holder (250-807-8728). If you have concerns about how you and other participants are treated, contact the Chair of Research Ethics Board through the UBCO Office of Research Services (250-807-8150).

Consent: Your participation in our study is completely voluntary and you may refuse to participate or withdraw from the study at any time without penalty to you, your child, or your child's class. At any time, your child is free to withdraw.

Your signature below indicates that you have received a copy of this form and that you consent to you and your child participating in our study.

☐ **I do wish for my child to participate**

☐ **I do not wish for my child to participate**

_____
Parent's or Guardian's Signature   Date

_____
Printed Name of Child   Child's Teacher

_____
Child's School

_____
Investigator's Signature   Date

_____
Investigator's Printed Name

Don't forget, if you agree to participate, you must return this signed form and your completed questionnaire to your child's school

Irving K. Barber School of Arts and Sciences
3333 University Way
Kelowna, BC Canada V1V 1V7

Student Assent Form
Title of Study: Happiness in Children Aged 8-12

Hi, my name is Judi and this is Andrea, and we are from the University of British Columbia Okanagan. We are doing a study on the relation between spirituality and happiness in children, and we want you to help.

If you would like to help us, we have two forms we would like you to fill out. One form asks questions about you, and you answer either 'yes' or 'no' for each question. The other form asks about temperament, spirituality and happiness. Each statement is rated on a scale and you fill in the circle based on how much you agree or disagree with the statement. The forms are not tests; there are no right or wrong answers. All of your answers are private, so please answer honestly.

Your teacher and your parent or guardian has given their permission for you to be in this study. Now we are asking you. You do not have to participate if you do not want to. You will not make anyone mad, and nothing bad will happen if you do not take part. Would you like to participate in our study?

Circle YES if you would like to participate or circle NO if you would not like to participate.

      YES   **NO**

_____   _____
Student's Name (Please Print)   Student's Signature

_____
Date

7. Appendix B

Questionnaires used in the study including the Faces Scale, the Subjective Happiness Scale;

the Oxford Happiness Scale, Short Form; and the EAS Temperament Survey, Parents' and

Children's Ratings.

Faces Scale

Overall, how do you usually feel?

Very Unhappy   Very Happy

Subjective Happiness Scale

For each of the following items, please fill in the circle on each scale that you feel is most appropriate in describing you.

In general, I consider myself

    ①   ②   ③   ④   ⑤   ⑥   ⑦

Not a very   A very
happy person   happy person

Compared to most of my peers, I consider myself

    ①   ②   ③   ④   ⑤   ⑥   ⑦

Less happy   More happy

Some people are generally very happy. They enjoy life no matter what is going on, getting the
most out of everything. How much does this sentence describe you?

    ①   ②   ③   ④   ⑤   ⑥   ⑦

Not at all   A great deal

Some people are generally not very happy. Although they are not depressed, they never seem as
happy as they might be. How much does this sentence describe you?

    ①   ②   ③   ④   ⑤   ⑥   ⑦

Not at all   A great deal

Oxford Happiness Questionnaire, Short Form

For the next 8 items, please fill in the circle using the scale below.

1=strongly disagree   2=moderately disagree   3=slightly disagree
4=slightly agree   5=moderately agree   6=strongly agree

I don't feel particularly pleased with the way I am

    ①   ②   ③   ④   ⑤   ⑥

    Strongly disagree   Strongly agree

I feel that life is very rewarding

    ①   ②   ③   ④   ⑤   ⑥

    Strongly disagree   Strongly agree

I am well satisfied about everything in my life

    ①   ②   ③   ④   ⑤   ⑥

    Strongly disagree   Strongly agree

I don't think I look attractive

    ①   ②   ③   ④   ⑤   ⑥

    Strongly disagree   Strongly agree

I find beauty in some things

    ①   ②   ③   ④   ⑤   ⑥

    Strongly disagree   Strongly agree

I can fit in everything I want to

    ①   ②   ③   ④   ⑤   ⑥

    Strongly disagree   Strongly agree

I feel fully mentally alert

    ①   ②   ③   ④   ⑤   ⑥

    Strongly disagree   Strongly agree

I do not have particularly happy memories of the past

    ①   ②   ③   ④   ⑤   ⑥

    Strongly disagree   Strongly agree

EAS Temperament Survey (Parents' ratings)

Emotionality, Sociability, and Activity Temperament Survey

The following questionnaire asks you to rate items relating to **your child's temperament**. Please rate each of the items for your child on a scale of **1 = not characteristic or typical of your child** to **5 = very characteristic or typical of your child.** *Please fill in the appropriate circle beside each statement below.*

	Not Characteristic/ Not Typical				**Very Characteristic/ Very Typical**
Child tends to be shy.	①	②	③	④	⑤
Child cries easily.	①	②	③	④	⑤
Child likes to be with people.	①	②	③	④	⑤
Child is always on the go.	①	②	③	④	⑤
Child prefers playing with others rather than alone	①	②	③	④	⑤
Child tends to be somewhat emotional.	①	②	③	④	⑤
When child moves about, he/she usually moves slowly.	①	②	③	④	⑤
Child makes friends easily	①	②	③	④	⑤
Child is off and running as soon as he/she wakes up in the morning.	①	②	③	④	⑤
Child finds people more stimulating than anything else.	①	②	③	④	⑤
Child often fusses and cries.	①	②	③	④	⑤
Child is very sociable.	①	②	③	④	⑤
Child is very energetic.	①	②	③	④	⑤
Child takes a long time to warm up to strangers.	①	②	③	④	⑤
Child gets upset easily.	①	②	③	④	⑤

	Not Characteristic/ Not Typical				Very Characteristic/ Very Typical
Child is something of a loner.	①	②	③	④	⑤
Child prefers quiet, inactive games to more active ones.	①	②	③	④	⑤
When alone, child feels isolated.	①	②	③	④	⑤
Child reacts intensely when upset.	①	②	③	④	⑤
Child is very friendly with strangers.	①	②	③	④	⑤

EAS Temperament Survey (Children's ratings)

Emotionality, Activity, and Sociability Temperament Survey

The following questionnaire asks you to rate items relating to **your temperament**. Please rate each of the items on a scale of **1 = not characteristic or typical of yourself** to **5 = very characteristic or typical of yourself.** *Please fill in the appropriate circle beside each statement below.*

	Not Characteristic/ Not Typical				**Very Characteristic/ Very Typical**
I tend to be shy.	①	②	③	④	⑤
I cry easily.	①	②	③	④	⑤
I like to be with people.	①	②	③	④	⑤
I am always on the go.	①	②	③	④	⑤
I prefer playing with others rather than alone	①	②	③	④	⑤
I tend to be somewhat emotional.	①	②	③	④	⑤
When I move about, I usually move slowly.	①	②	③	④	⑤
I make friends easily	①	②	③	④	⑤
I am off and running as soon as I wake up in the morning.	①	②	③	④	⑤
I find people more stimulating than anything else.	①	②	③	④	⑤
I often fuss and cry.	①	②	③	④	⑤
I am very sociable.	①	②	③	④	⑤
I am very energetic.	①	②	③	④	⑤
I take a long time to warm up to strangers.	①	②	③	④	⑤
I get upset easily.	①	②	③	④	⑤

	Not Characteristic/ Not Typical				Very Characteristic/ Very Typical
I am something of a loner.	①	②	③	④	⑤
I prefer quiet, inactive games to more active ones.	①	②	③	④	⑤
When I am alone, I feel isolated.	①	②	③	④	⑤
I react intensely when upset.	①	②	③	④	⑤
I am very friendly with strangers.	①	②	③	④	⑤

8. Appendix C

Reliability analyses for the Piers-Harris 2; the Subjective Happiness Scale; the Oxford

Happiness Scale, Short Form; and the EAS Temperament Survey, Parents' and Children's

Ratings.

The following appendix provides reliability analyses for the Piers-Harris 2, the Subjective Happiness Scale, the Oxford Happiness Scale, Short Form, and the EAS Temperament Survey, parent and child versions. Test norms were only available for the Piers-Harris. For the remaining measures, Cronbach's alphas were calculated. Values of $\alpha =$ .75 or greater indicate good reliability.

Piers-Harris 2

Due to copyright laws, the Piers-Harris cannot be reproduced in its entirety here. Please see examples of items from the Freedom from Anxiety sub-domain in the methods section. The present sample was compared to the norms from the Piers-Harris 2. The average score for students on the Freedom from Anxiety sub-domain was 11.51 ($SD = 2.7$). This score translates into a T-Score of 53 which, according to test norms, is in the "Average" range.

Subjective Happiness Scale

Cronbach's alpha was calculated for the subjective happiness scale and found to be $\alpha = .67$. Corrected Item-Total Correlation and Cronbach's alpha if item deleted values are presented in Table 8. As the table shows, removing the item "Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. How much does this sentence describe you? (*Not at all* through *A great deal)*" would improve the reliability of the measure somewhat. Importantly, this measure is generally used with adults. These analyses suggest that this measure could more reliably be used with children if the above-mentioned item was perhaps reworded or replaced.

Table 8

Reliability Analyses for the Subjective Happiness Scale

Subjective Happiness Scale Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
In general, I consider myself: *not a very happy person* through *a very happy person*	.60	.54
Compared to most of my peers, I consider myself: *less happy* through *more happy*	.51	.59
Some people are generally very happy. They enjoy life no matter what is going on, getting the most out of everything. How much does this sentence describe you: *Not at all* through *A great deal*	.48	.59
Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. How much does this sentence describe you?: *Not at all* through *A great deal*	.32	.71

Oxford Happiness Questionnaire, Short Form

Cronbach's alpha analyses for the Oxford Happiness Questionnaire resulted in a value of α =

.58. The Corrected Item-Total Correlations and Cronbach's alpha if item deleted values are

presented in Table 9. These analyses indicate that the Oxford Happiness Questionnaire is less

reliably used with children. In addition, removal of any one of the eight items on the scale

would not result in significant improvements.

Table 9.

Reliability Analyses for the Oxford Happiness Questionnaire, Short Form

Oxford Happiness Questionnaire Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I don't feel particularly pleased with the way I am	.31	.54
I feel that life is very rewarding	.48	.49
I am well satisfied about everything in my life	.48	.49
I don't think I look attractive reversed	.11	.60
I find beauty in some things	.23	.57
I can fit in everything I want to	.27	.56
I feel fully mentally alert	.16	.59
I do not have particularly happy memories of the past	.30	.55

EAS Temperament Survey, Parents' ratings

Because test norms were not available for the age group in the current study,

Cronbach's alpha analyses were conducted to explore the reliability of this measure. Because

the 20 items on the EAS temperament survey are designed to factor into Emotionality,

Activity, Sociability, and Shyness, Cronbach's alphas were calculated for each temperament

area (see Table 10). Reliability was good for Emotionaliy, Activity, and Shyness, but poor

for Sociability. Table 11 shows the corrected item-total correlation and the Cronbach's alpha

if item deleted values for each of the individual items within each temperament area on the

EAS Temperament Survey. As shown in the table, removing the item "When child is alone,

child feels isolated" from the Sociablity temperament area would substantially improve

reliability.

Table 10.

Cronbach's Alpha Values for the EAS Temperament Survey, Parents' Ratings

EAS Temperament Area	Cronbach's Alpha
Emotionality	.83
Activity	.73
Sociability	.54
Shyness	.79

Table 11.

Reliability Analyses for the EAS Temperament Survey, Parents' Ratings

EAS Temperament Area	EAS Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Emotionality			
	Child cries easily	.58	.80
	Child tends to be somewhat emotional	.64	.79
	Child often fusses and cries	.62	.80
	Child gets upset easily	.75	.75
	Child reacts intensely when upset	.56	.82
Activity			
	Child is always on the go	.57	.66
	When child moves about, child usually moves slowly	.38	.73
	Child is off and running as soon as he/she wakes up in the morning	.43	.72
	Child is very energetic	.64	.64
	Child prefers quiet, inactive games to more active ones	.49	.69
Sociability			
	Child likes to be with people	.47	.39
	Child prefers playing with others rather than alone	.50	.36
	Child finds people more stimulating than anything else	.41	.42
	Child is something of a loner	.24	.52
	When child is alone, child feels isolated	.02	.67
Shyness			
	Child tends to be shy	.63	.72
	Child makes friends easily	.56	.75
	Child is very sociable	.63	.73
	Child takes a long time to warm up to strangers	.60	.73
	Child is very friendly with strangers	.42	.80

EAS Temperament Survey, Children's ratings

Because this measure is not generally used as a self-report measure, there are no norms with which the present sample can be compared. As a result, Cronbach's alpha analyses were conducted to explore the reliability of this measure. As with parents' ratings, Cronbach's alphas were calculated for each temperament area (see Table 12). These values suggest that the EAS Temperament Survey is less reliably used with children than with adults. Table 13 shows the corrected item-total correlation and the Cronbach's alpha if item deleted values for the individual items within each temperament area on the EAS Temperament Survey. For each of the four temperament areas, removal of one of the five items on the scale would not result in a significant improvement in reliability.

Table12.

Cronbach's Alpha Values for the EAS Temperament Survey, Children's Ratings

EAS Temperament Area	Cronbach's Alpha
Emotionality	.69
Activity	.60
Sociability	.59
Shyness	.62

Table 13.

Reliability Analyses for the EAS Temperament Survey, Children's Ratings

EAS Temperament Area	EAS Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Emotionality			
	I cry easily	.49	.62
	I tend to be somewhat emotional	.42	.65
	I often fuss and cry	.44	.65
	I get upset easily	.50	.62
	I react intensely when upset	.40	.66
Activity			
	I am always on the go	.41	.52
	When I move about, I usually move slowly	.36	.55
	I am off and running as soon as I wake up in the morning	.34	.56
	I am very energetic	.40	.53
	I prefer quiet, inactive games to more active ones	.30	.58
Sociability			
	I like to be with people	.47	.46
	I prefer playing with others rather than alone	.54	.41
	I find people more stimulating than anything else	.27	.57
	I am something of a loner	.24	.58
	When I am alone, I feel isolated	.23	.60
Shyness			
	I tend to be shy	.34	.58
	I make friends easily	.39	.56
	I am very sociable	.39	.56
	I take a long time to warm up to strangers	.42	.54
	I am very friendly with strangers	.34	.58

9. Appendix D
UBC Okanagan Research Ethics Board Certificate of Approval

The University of British Columbia
Office of Research Services
Behavioural Research Ethics Board
Suite 102, 6190 Agronomy Road, Vancouver, B.C. V6T 1Z3

CERTIFICATE OF APPROVAL- MINIMAL RISK RENEWAL

PRINCIPAL INVESTIGATOR:	DEPARTMENT:	UBC BREB NUMBER:
Mark H. Holder	UBC/UBCO IKE Barber School of Arts & Sc/UBCO Admin Unit 4 Arts & Sci	H06-90841

INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:	
Institution	**Site**
UBC	Okanagan

Other locations where the research will be conducted:
N/A

CO-INVESTIGATOR(S):
Judi Wallace

SPONSORING AGENCIES:
UBCO Grant in Aid Fund - "Spirituality and Happiness in Children Aged 8-12"

PROJECT TITLE:
Spirituality and Happiness in Children Aged 8-12

EXPIRY DATE OF THIS APPROVAL: April 21, 2009

APPROVAL DATE: April 21, 2008

The Annual Renewal for Study have been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.

Approval is issued on behalf of the Behavioural Research Ethics Board

Dr. M. Judith Lynam, Chair
Dr. Ken Craig, Chair
Dr. Jim Rupert, Associate Chair
Dr. Laurie Ford, Associate Chair
Dr. Daniel Salhani, Associate Chair
Dr. Anita Ho, Associate Chair