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Examining Predictors of Optimism in Adolescence:
Internal and External Factors

E. Chrissy Lawler

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Science

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ABSTRACT

Examining Predictors of Optimism in Adolescence: Internal and External Factors

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Master of Science

This study examined the relationship between parenting, adolescent personality, and adolescent optimism. Four hundred and eighty families with at least one adolescent child in the Seattle, Washington area completed a series of questionnaires assessing parenting style, personality, and optimism. Results from hierarchical regression analyses indicated that there is a small, yet significant, portion of the variance in optimism explained by parenting and personality individually, but that the relationship between optimism, parenting, and personality dynamics is far more complex than originally anticipated. Further research is needed to examine the nature of these relationships and to provide a more comprehensive understanding of the predictors of optimism.

Keywords: parental warmth, authoritative parenting, personality, optimism

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Introduction

In recent years, a new trend of “positive psychology” has emerged. Interested in more than just pathology and dysfunction, researchers have begun to look at topics such as optimism, hope, and prosocial behaviors in adolescent populations (e.g., Ben-Zur, 2003; Gillham & Reivich, 2004; Peterson & Seligman, 2004). Though still a new endeavor, substantial evidence has accumulated indicating that optimism is significantly related to various positive outcomes such as improved physical and mental health (Gillham & Reivich, 2004; Jackson, Pratt, Hunsberger, & Pancer, 2005; Park, Peterson & Seligman, 2004), increased popularity and achievement (Gillham & Reivich, 2004; Jackson et al., 2005; Park et al., 2004), and overall increased life satisfaction in individuals of all ages (Park et al., 2004; Peterson, 2000; Peterson & Seligman, 2004). Other studies show optimism or hope to be a mediator between parenting and positive adolescent outcomes such as self-esteem and resistance to peer pressure (Ben-Zur, 2003; Mannix, Feldman & Moody, 2009; Padilla-Walker, Hardy, & Christensen, in press). Although widely considered as a desirable trait, very little is known about the predictors of optimism or how parents might be able to foster this trait in their children.

This study examined the influence of parental factors on the adolescent development of optimism, taking into account the adolescent’s individual personality traits. Studying optimism in adolescence is particularly important because traits such as optimism remain malleable and can still be developed during this stage of life (Mannix et al., 2009). Generally speaking, adolescence is a time of great transition for young people because of changes in hormone levels, emotions, and cognitions. In fact, these factors can all combine to cause a dramatic shift accompanied by substantial biological, physical, and relational changes (Padilla-Walker, Hard, & Christensen, in press).

Traits that are relatively stable in adulthood continue to develop in adolescence and can be adjusted or altered. Optimism, in particular, is one trait that can be construed as more open to modification, as evidenced by a number of psychological interventions focused on minimizing pessimistic thinking (Gillham & Reivich, 2004; Heinonen, Raikkonen, & Keltikangas-Jarvinen, 2005; Mannix et al., 2009).

Rather than trying to reduce pessimistic thinking, this study aimed to discover the internal (to the adolescent) and external factors that combine to influence optimism in teenage boys and girls. The purpose of this study was to analyze the effect of parental factors in conjunction with personality factors on adolescents' optimism. Parental support and adolescent personality were examined to assess the effect on adolescent optimism.

Review of Literature

Optimism

Optimism is an umbrella-like term encompassing a range of positive attributions that have far-reaching, positive outcomes. Closely related to hope, it encompasses sister traits such as future-orientation and includes an expectation and confidence that desired outcomes will occur if one acts in a way that is conducive to that future event (Peterson, 2000; Peterson & Seligman, 2004). It is a belief or wish that the positive will prevail and that good things in the future will be more plentiful than bad things (Carver & Scheier, 2001; Peterson, 2000).

Optimism is most broadly defined as a cognitive, behavioral, and motivational stance toward the future and the goodness that it might hold (Gillham & Reivich, 2004; Peterson, 2000; Peterson & Seligman, 2004). Given the similarities between hope and optimism constructs, further clarification of their differences is necessary. Optimism entails a wish for something -

believing that it will happen, as well as a view of the future in which the positive will outweigh the negative (Gillham & Reivich, 2004; Peterson, 2000). Hope is a cognitive-motivational construct whereas optimism is more expectational. The optimist expects positive outcomes and feels a sense of control over good outcomes, believing that a good future is something that can be brought about (Carver & Scheier, 2001; Jackson et al., 2005; Park et al., 2004; Peterson, 2000). It is a tendency or inclination to expect the best (Gillham & Reivich, 2004; Peterson, 2000; Snyder, 2001). The optimist is future-oriented with sights set on positive things to come and goal-oriented with a plan of how to obtain a desirable future. Furthermore, hope emphasizes goals, agency, and pathways, while optimism is more outcome-oriented and future-minded and places emphasis on achieving positive outcomes (Gillham & Reivich, 2004; Peterson, 2000; Snyder, 2000). Goals are activated when values are attached to later outcomes, and they provide purpose, direction, and a future of possibilities where one can take control of positive outcomes. Although pathways and agency thinking (efficacy and outcome expectancies) are implied in the understanding of optimism, they are not emphasized as in the construct of hope (Scheier & Carver, 1985; Snyder, 1995).

Hope and optimism are highly correlated and are both linked with a variety of positive, desirable outcomes. They have therefore been described as “velcro constructs” because everything good seems to stick to them without clear differentiation or an explanation as to why (Park et al., 2004; Peterson, 2000). Various studies show strong, positive correlations between optimism and the following outcomes: good physical and mental health (e.g. longevity, decreased physical illness, decreased anxiety and depression, and freedom from trauma; Gillham & Reivich, 2004; Jackson et al., 2005; Park et al., 2004; Peterson, 2000; Peterson & Seligman, 2004), increased popularity and achievement (e.g. good social relationships, academic,

occupational, and political success; Gillham & Reivich, 2004; Park et al., 2004; Peterson, 2000), and overall increased life satisfaction (e.g. positive mood, good morale, positive adjustment, and greater marital satisfaction; Gillham & Reivich, 2004; Jackson et al., 2005; Park et al., 2004). When hope and optimism are present, these other positive outcomes seem to have a snowball effect. Often, no single positive effect occurs without being accompanied by another (Peterson & Seligman, 2004.)

Attributional style is one particular characteristic that identifies optimism. Those who explain bad events as a result of specific external and unstable consequences are classified as optimistic, whereas those who explain bad events as a result of internal, stable, or global causes are pessimistic (Gibb, Alloy, Walshaw, Comer, Shen & Villari, 2006; Khodayarifard, Brinthaup, & Anshel, 2010; Peterson, 2000; Seligman, 1995; Vines & Nixon, 2009). Similarly, seeing one's own efforts and how they contributed to positive outcomes characterizes optimism, whereas the pessimist would attribute good outcomes to something outside themselves such as luck or another person. Individuals with a negative attributional style are found to be more susceptible to depression and hopelessness, whereas individuals with positive attributional style are better able to buffer negative events, learn how to avoid them, and overcome them in the future (Gibb et al., 2006; Khodayarifard et al., 2010). Children can respond to the same life event in different ways, depending on their attributional style. Those who attempt to understand the causes and consequences of events feel a greater sense of understanding and control over life's outcomes, thereby fostering optimism (Vines & Nixon, 2009; Khodayarifard et al., 2010).

Studies suggest that cognitive thinking styles develop and stabilize throughout childhood, with attributional style solidifying around age 12 (Gibb et al., 2006). A number of factors may contribute to the development and solidification of attributional style, including negative life

events, verbal victimization by parents and peers, parents attributional style, and depression (Gibb et al., 2006). Those at risk for depression tend to have a negative attributional style, however attributional style can be enhanced through cognitive techniques to then increase optimism (Gillham & Reivich, 2004; Heinonen et al., 2005; Mannix et al., 2009; Vines & Nixon, 2009). Positive attributional style and optimism are protective traits, fostering resilience, moderating the negative impact of stressors, and decreasing vulnerability to depression (Khodayarifard et al., 2010; Vines & Nixon, 2009). Attributions of academic success and failure are linked to positive and negative expectancies for future performance and emotional reactions (Khodayarifard et al., 2010). Thus, children and adolescents who attribute academic successes to internal factors such as hard work, and failures to specific, external factors have continued academic success. This perceived locus of control, stability, and ability to create expectations about the future fosters optimism.

An adolescent's innate personality traits may contribute to these attributional styles. In addition, the level of parental warmth and support the adolescent experiences may play a significant role in shaping his or her positive outlook on the future.

Parental Warmth

Early parenting behaviors set the stage for a child's development of dispositional optimism. A child with warm parents will likely have a secure attachment, which provides a secure base from which he or she may venture with confidence (Gillham & Reivich, 2004; Snyder, 2000.) This basic trust instills in the child a sense that the world is a good place that can be understood, and therefore allows them to take risks and develop competence. Self-efficacy, or belief in oneself and one's ability to solve problems, overcome adversity, and take control of events in life, is a fundamental component of optimism and stems as a result of warm parenting

and basic attachment (Erikson, 1950; Gillham & Reivich, 2004; Snyder, 2000). Whereas self-efficacy is more situation-specific, optimism encompasses a confidence in a broader context that the individual is capable of overcoming hardship and creating a positive future.

The level of responsiveness in which parents interact with their children characterizes warm parenting and is the demonstration, expressed in a myriad of ways, of the emotional tie between the parent and the child. Parents can show warmth through many of the following ways: physical contact (hugs, physical affection), verbal expressions (complimenting, praising, encouraging, making positive comments) and emotional availability (responsive listening, assertiveness, empathy, supportiveness; Barnes & Farrell, 1992; Beveridge & Berg, 2007; Heaven & Ciarrochi, 2008; Kim, 2008; Martinez & Garcia, 2008). The extent to which parents show warmth indicates to the child that he or she is loved and accepted (Barnes & Farrell, 1992; Martinez & Garcia, 2008).

Parents that have an appropriate balance of warmth and support tend to maintain reasonable firmness amidst positive, loving interactions, thereby facilitating healthy adjustment in their children (Barnes & Farrell, 1992; Jackson, et al., 2005; Steinberg, Lamborn, Dornbusch, & Darling, 1992). Extensive research studying parent/adolescent relationships in conjunction with adolescent outcomes shows that warm parenting fosters the development of positive outcomes, while harsh and neglectful parenting leads to a variety of negative outcomes (Bean, Barber, & Crane, 2006; Bean, Bush, McKenry, & Wilson, 2003; Jackson et al., 2005, Padilla-Walker, 2007). Children with warm parents tend to have more success in areas such as academic achievement, social competence, and problem solving skills, and higher levels of psychological competence in terms of self-esteem and self-reliance (Barnes & Farrell, 1992; Bean et al., 2006; Beveridge & Berg, 2007; Heaven & Ciarrochi, 2008; Bradford, Barber, Olsen, Maughan,

Erickson, Ward, & Stolz, 2003; Jackson et al., 2005). Likewise, they tend to have fewer emotional and behavioral problems (e.g., depression, anxiety, delinquency, drug use) than do children whose parents are not warm (Barnes & Farrell, 1992; Bean et al., 2006; Beveridge & Berg, 2007; Heaven & Ciarrochi, 2008; Bradford et al., 2003; Jackson et al., 2005).

Researchers suggest that there is some degree of optimism that is inherent in individuals, though environmental factors play a major role as well (Gillham & Reivich, 2004; Jackson et al., 2005; Peterson, 2000; Peterson & Seligman, 2004). Snyder (2000, 2001) argues that optimism develops in children by default unless something somehow derails it, such as negative parenting or the absence of a close relationship with parents. Perhaps most important is the role that parents play in providing an environment in which optimism can be fostered and where children can flourish. Warm and supportive parenting has been associated with a number of positive outcomes, many of which are similar to the positive outcomes resulting from optimism (Barnes & Farrell, 1992; Gillham & Reivich, 2004; Heaven & Ciarrochi, 2008; Park et al., 2004, Peterson & Seligman, 2004). Thus, parenting behaviors may be related to optimism in adolescents.

Personality

It is important to assess for personality characteristics, as they are key individual factors that need to be understood, and controlled for, in examining relationship dynamics and overall family-level processes. A child's personality is composed of inborn biological traits incorporated with inherited aspects of behavior that include activity, sociability, and emotionality (Heinonen et al., 2005). As a child develops, innate qualities of temperament are influenced by environmental factors and key socializing influences and become personality traits. Parents and children learn from each other and respond to one another in an intricate, reciprocal relationship

(Ben-Zur, 2003; Karreman, 2008). It is a complex social phenomenon where parent and child continually define, in unspoken ways, the nature of their relationship.

A longitudinal study conducted by Heinonen and colleagues (2005) illustrated the impact of personality on parenting and then later life outcomes and found that the child's difficult temperament at an early age predicted hostile child-rearing by the child's arrival at age three. Hostile child rearing then predicted child's pessimism at age 21 along with a host of other negative outcomes. Other research suggests that parenting and child personality interact in a reciprocal relationship during childhood, predicting internalizing and externalizing disorders and other problem behavior, but few studies examine the role of personality in adolescence (Denissen, Aken & Dubas, 2009; Karreman, 2008). Prior to Heinonen and colleague's (2005) study there was no research identifying the link between personality and a dispositional outlook such as pessimism. The present study examined the moderating influence of adolescent personality on the relationship between parenting variables and optimism.

The Five Factor Model (FFM) categorizes personality into five primary personality traits: extraversion, agreeableness, conscientiousness, emotional stability, and resourcefulness. In the present study, we focused primarily on the effect of agreeableness as it relates to warm parenting and optimism. Agreeableness is comprised of traits such as kind, cooperative, sympathetic, pleasant, agreeable, and helpful (Manders et al., 2006). Adolescents who are agreeable are less likely to try and control other's behavior or rebel against rules, and are more likely to be compliant and "give in" during conflict situations. As such, agreeableness is associated with higher levels of parental warmth and support in adolescence. Because of the particularly difficult stage of life transitions during this time, agreeableness is especially powerful in the parent-child

relationship and becomes a stronger predictor of parental warmth with age (Denissen et al., 2009).

Adolescents who are kind, cooperative, pleasant, and helpful elicit warmth and support from their parents, and likely teachers, friends, and others they may come in contact with. In turn, we hypothesized that the warmth they receive from others may contribute to an optimistic outlook on life and a belief that the future holds goodness and positive outcomes.

Adolescent Gender

The findings in regards to gender are mixed in the literature. Some studies suggest that females report higher negative affect and lower self esteem than their male counterparts (Ben-Zur, 2003; Heaven & Ciarrochi, 2008). Following loss, girls tend to internalize grief and report higher depression, and although boys and girls both experience a decrease in optimism, girl's optimism experiences a steeper decline. However, other studies suggest that girls are more optimistic than boys (Lemola et al., 2010). In addition, a number of studies report no significant differences in optimism due to gender (Heinonen et al., 2005; Jackson et al., 2005; Lai, 2009). Due to the similarity of the sample population used in this study and the population used in the Lemola and colleagues (2010) study, we expected to find that girls are more optimistic than boys, if any significant gender differences were to be found.

Hypotheses

The present study explored the relationship between warm parenting, personality and optimism, specifically whether warm parenting interacts with agreeableness to increase optimism in adolescents. Given the reciprocal relationship between parental warmth and child personality and the role that personality may play in the development of optimism, we anticipated that

agreeableness would have a moderating influence on the relationship between parental warmth and optimism (See Figure 1). In addition, we hypothesized that a positive relationship would be found between parental warmth and agreeableness, as well as a positive relationship between parental warmth and optimism. In all analyses we controlled for gender.

Methods

The data for this study came from wave two of the Flourishing Family Project, an ongoing longitudinal study conducted by Brigham Young University faculty in Seattle, Washington. The overarching purpose of this project is to show how a variety of family processes (measured observationally and from survey questionnaires) impact the social development of children as they transition from grade school, through high school, and into young adulthood.

Participants

The participants for this study were taken from wave two of the *Flourishing Families Project (FFP)*, a longitudinal study of inner-family life involving families with a child between the ages of 10 and 17. This study used all 480 (155 single parent and 325 two-parent) families (M age of child = 12.46, SD = 1.17 for single-parent; M age = 12.29, SD = 1.02 for two-parent). Eighty-nine percent of single parents were mothers and 11% were fathers. Just under fifty-five percent of adolescent children from single-parent families and 50.5% from two-parent families were female. For single-parent families, 63.7% of parents and 48% of children were European American, 30.0% of parents and 29.7% of children were African American, and 6.4% of parents and 21.6% of children were from other ethnic groups or were multiethnic. For two-parent families, 87.5% of fathers, 81.5% of mothers, and 78.9% of children were European American,

5.4% of fathers, 5.0% of mothers, and 4.8% of children were African American, and 7.1% of fathers, 13.4% of mothers, and 16% of children were from other ethnic groups or were multiethnic. Fifteen percent of single parents had a high school degree or less, 35% had an associates degree or some college, and 42.7% had a bachelor's degree or higher. For two-parent families, 68.5% of mothers and 74% of fathers had a bachelor's degree or higher. For single-parent families, 76.48% made less than \$59,000 per year (33.8% made less than \$40,000 per year), 17.8% made between \$60,000 and \$99,000 a year, 2.5% made more between \$100,00 and \$139,000, with small percentage (3.2%) making more than \$140,000. For two-parent families, 9.8% made less than \$59,000 per year, 34% made between \$60,000 and \$99,000 a year, 32% made more between \$100,00 and \$139,000, with the remaining 24% making more than \$140,000. Just under 97% of two-parent families were currently married (never divorced), while 34.2% of single parents had never been married, 4.5% were separated, 48.4% were divorced, and 5.8% were widowed.

Procedure

The Flourishing Families Project is an ongoing longitudinal study. Participant families for the FFP were selected from a large northwestern city and were interviewed during the first eight months of 2007 for Time 1, and two consecutive years following (between May and August of 2008, and May and August of 2009). Families were primarily recruited using a purchased national telephone survey database (Polk Directories/InfoUSA). This database claimed to contain 82 million households across the United States and had detailed information about each household, including presence and age of children. Families identified using the Polk Directory were randomly selected from targeted census tracts that mirrored the socio-economic and racial stratification of reports of local school districts. All families with a child between the

ages of 10 and 14 living within target census tracts were deemed eligible to participate in the FFP. Of the 692 eligible families contacted, 423 agreed to participate, resulting in a 61% response rate. However, the Polk Directory national database was generated using telephone, magazine, and internet subscription reports; so families of lower socio-economic status were under-represented. Therefore, in an attempt to more closely mirror the demographics of the local area, a limited number of families were recruited into the study through other means (e.g., referrals, fliers; $n = 77$, 15%). By broadening our approach, we were able to significantly increase the social-economic and ethnic diversity of the sample.

All families were contacted directly using a multi-stage recruitment protocol. First, a letter of introduction was sent to potentially eligible families (this step was skipped for the 15 families who responded to fliers). Second, interviewers made home visits and phone calls to confirm eligibility and willingness to participate in the study. Once eligibility and consent were established, interviewers made an appointment to come to the family's home to conduct an assessment interview that included video-taped interactions (not used in current study), as well as questionnaires that were completed in the home. The most frequent reasons cited by families for not wanting to participate in the study were lack of time and concerns about privacy. It is important to note that there were very little missing data. As interviewers collected each segment of the in-home interview, questionnaires were screened for missing answers and double marking.

Measures

Optimism: This self-report measure was modified/adapted from an optimism scale (Peterson & Seligman, 2004), with five point Likert response categories ranging from 1 (*very much like me*) to 5 (*very much unlike me*). Youth responded in terms of how much each statement was like them (e.g., "I always look on the bright side" and "I expect the best"). Higher

scores indicate higher levels of hope. Past research has found Cronbach's Alpha reliability coefficients ranging from .70 to .86 (Peterson & Seligman, 2004) and the Cronbach's Alpha reliability coefficient was found to be .859 for this sample. This measure has used before in various studies and has been reported to have promising validity (Park et al., 2004).

Parenting Dimensions: Parenting behaviors and parenting styles were measured using the Parenting Styles and Dimensions Questionnaire-Short Version (PSDQ, Robinson, Mandleco, Olsen, & Hart, 2001). This scale is a measure of parenting styles, a common way to assess the parent-child relationship. Specifically, five items from the PSDQ were used to measure parental warmth for this study. Administered in this study to children, this measure assesses parents' tendencies toward warm and supportive parenting behaviors. Children were asked how often their parent(s) did certain behaviors relating to the different parenting styles such as "My parent encourages me to talk about my troubles". Responses range on a five point Likert-type scale from 1 (*never*) to 5 (*always*). Higher scores indicate higher levels of perceived warmth and support. Previous reliability coefficients reported for the PSDQ-Short Version administered to parents were alphas of .86. Studies show that this measure has demonstrated good validity (Robinson et al., 2001). For this research study, since parenting in both fathers and mothers are examined, only data from the 2-parent sample was used. Reliability coefficients (Cronbach's Alphas) for this research sample were found to be .880 for parent 1 and .895 for parent 2.

Personality: Characteristics of the child's personality were assessed using a 30-item measure of personality created for adolescents (Vermulst & Gerris, 2005). This measure categorizes personality according to five different subscales: extraversion, conscientiousness, agreeableness, emotional stability, and resourcefulness. Parents were asked to rate responses ranging from 1 (*not at all applicable to my child*) to 7 (*completely applies to my child*). Sample

items include: kind, cooperative, sympathetic, and helpful. Higher scores indicate higher applicability of a given personality characteristic to the person. Internal reliability on all five scales was acceptable, with values ranging from .71 to .86 (Manders, Scholte, Janssens, & DeBruyn, 2006). Additionally, reliabilities for this study were found to be .830 for parent 1 and .868 for parent 2 (Extraversion); .736 for parent 1 and .791 for parent 2 (Conscientiousness); .816 for parent 1 and .804 for parent 2 (Agreeableness); .770 for parent 1 and .764 for parent 2 (Emotional Stability); and .802 for parent 1 and .787 for parent 2 (Resourcefulness). Reliability coefficients, for parents responding in reference to their child, were found to be .833 for parent 1 and .831 for parent 2 (Extraversion); .801 for parent 1 and .802 for parent 2 (Conscientiousness); .848 for parent 1 and .837 for parent 2 (Agreeableness); .745 for parent 1 and .764 for parent 2 (Emotional Stability); and .774 for parent 1 and .772 for parent 2 (Resourcefulness). In other research studies this measure has been used and displayed good psychometric properties (Manders et al., 2006).

Results

Preliminary Model

To examine the main effects and interactions of gender, parental warmth, and personality on child self-reported optimism, a hierarchical multiple regression was performed. Gender of the adolescent was entered in the first step and the main effects of paternal and maternal warmth were entered in the second step. In the third step, agreeableness was entered, followed by two two-way interactions (gender x agreeableness and warmth x agreeableness) in the fourth step. Finally, a three-way interaction (gender x warmth x agreeableness) was entered in the fifth step.

In order to reduce collinearity formed by the interaction terms, the scores on the predictors were centered prior to the analyses (for comparable methodology, see Padilla-Walker

& Nelson, 2010; Valle, Huebner &, Suldo, 2006). An *F*-test was used to evaluate the significance of the model at each step, and *R*-square change was used to determine how much of the variance of the outcome variable (i.e., optimism) the model predicted at each step. For all analyses, the level of significance was set at $p < .05$.

In terms of specific findings, only the main effect of agreeableness was significant $F(1, 443) = 12.66, p < .001$, with only 2.7% of the variance in optimism explained in the model. Table 1 represents the standardized beta coefficients and *R*-squared values for the independent variables and interactions in this model. Due to the fact that the analyses examining parental warmth were largely insignificant, additional analyses were conducted to examine several other elements of parenting and other personality traits in relation to optimism. As such, a series of hierarchical multiple regressions were performed to gain a greater understanding of the relationship between parenting, personality and adolescent optimism.

Revised Models

First Revised Model. In the first revised model, the gender of the adolescent was entered in the first step and the main effects of warmth for both mother and father were entered in the second step. In the third step, all five personality traits were entered (extraversion, agreeableness, resourcefulness, emotional stability, and conscientiousness). Fourth, eleven two-way interaction (gender x warmth, gender x extraversion, gender x agreeableness, gender x emotional stability, gender x resourcefulness, gender x conscientiousness, warmth x extraversion, warmth x agreeableness, warmth x emotional stability, warmth x resourcefulness, warmth x conscientiousness) were entered. In the fifth step, five three-way interaction terms (gender x warmth x extraversion, gender x warmth x agreeableness, gender x warmth x

emotional stability, gender x warmth x resourcefulness and gender x warmth x conscientiousness) were entered.

In this first revised model, the regression analyses revealed a similar trend as the preliminary model with no significant associations at step one and two. At the third step, the main effects of personality was found to be significantly related to optimism ($F(5, 439) = 5.02, p < .001$), producing a .053 increase in the proportion of variance explained in optimism. The main effects of agreeableness ($p = .049$) and conscientiousness ($p = .014$) were both statistically significant and extraversion demonstrated a trend approaching significance ($p = .056$). Neither parenting nor any of the interaction terms were statistically significant. Table 2 represents the standardized beta coefficients and R-squared values for the independent variables and interactions in this model.

In the second and third revised models the entire authoritative parenting style was used rather than just the warmth subset. Providing more information than just the connection dimension (warmth), the authoritative parenting style also includes regulation (induction/reasoning) and autonomy granting dimensions. The second revised model used child's report of parenting, while the third revised model used parent's self-report of parenting. Both revised models followed the same step-wise pattern listed above, however in the second model, child's perception of authoritative parenting was used. Likewise, in the third model parent's self-report of authoritative parenting was used. Step five above was removed in the second and third revised models due to non-significant three-way interaction findings and poor changes in R-square.

Second Revised Model. In the second revised model, child report of authoritative parenting was used along with all five of the "Big Five" personality traits. The regression

analysis revealed a few more significant findings than in previous models. At step 1, gender accounted for a statistically significant proportion of variance, $F(1, 534) = 5.16, p = .023$ and was positively related to optimism. At step 2, parental authoritativeness produced a 9.9% increase in the variance explained, $F\Delta(2, 532) = 29.50, p < .001$ with maternal authoritativeness found to be significantly and positively related to adolescent optimism ($\beta = .23, t = 3.17, p = .002$). Follow up analyses revealed that maternal authoritativeness was significantly related to optimism in girls ($\beta = .26, t = 2.8, p = .005$) but not for boys ($\beta = .19, t = 1.76, ns$). Paternal authoritativeness was not significantly related to optimism in girls or boys. At step 3, adolescent personality produced a 2.5% increase in the variance explained, $F\Delta(5, 527) = 3.01, p = .011$, with only conscientiousness significantly related to optimism ($\beta = .096, t = 2.14, p = .033$), though extraversion demonstrated a trend approaching significance. Further analyses revealed that for girls, extraversion and conscientiousness are significantly related optimism ($\beta = .15, t = 2.51, p = .013$; $\beta = .15, t = 2.43, p = .016$) but, for boys, only emotional stability approaches significance. In step 4, none of the interaction terms were statistically significant. The standardized beta coefficients and R-squared values for the independent variables and interactions in this model are represented in Table 3.

Third Revised Model. In the third revised model, parental self-report of authoritative parenting was used along with all five of the “Big Five” personality traits. The regression analysis revealed a few more significant findings for personality than in previous models, but fewer significant findings for parenting. At step 1, gender accounted for a statistically significant proportion of variance, $F(1, 446) = 4.85, p = .028$ and was positively related to optimism. At step 2, parental authoritativeness was not significantly related to optimism. Follow up analyses revealed that self-reported maternal authoritativeness was significantly related to optimism in girls ($\beta = .18, t = 2.6, p = .009$) but not for boys ($\beta = -.018, t = -.272, ns$). Paternal authoritativeness

was not significantly related to optimism in girls or boys. At step 3, personality produced a 5.2% increase in the variance explained, $F\Delta(5, 439) = 4.88, p < .001$. Again, only conscientiousness was significantly related to optimism ($\beta = .126, t = 2.45, p = .015$), however extraversion and agreeableness were marginally significant ($p = .051; p = .059$). Further analyses revealed that for girls, extraversion and conscientiousness are significantly related to optimism ($\beta = .13, t = 1.98, p = .049; \beta = .17, t = 2.38, p = .018$), however for boys agreeableness is significantly related to optimism ($\beta = .19, t = 2.4, p = .017$). In step 4, adding interactions with parenting and personality produced a 4.3% increase in the variance explained, $F\Delta(11, 428) = 1.88, p = .041$. One interaction with mother's authoritativeness and gender was significant ($\beta = .20, t = 4.07, p < .001$). Table 4 represents the standardized beta coefficients and R-squared values for the independent variables and interactions in this model.

Discussion

The purpose of this study was to examine the effect of warm parenting and personality factors on adolescents' optimism. Initially, we chose to examine only agreeableness in relation to optimism because of suggestions in the literature that agreeableness is a trait emphasizing relationships and interpersonal interaction, and as such, is associated with higher levels of parental warmth and support in adolescence (Denissen et al., 2009; Park & Peterson, 2006; Prinzie, Van der Sluis, De Haan, & Dekovic, 2010). Surprisingly, in our original model we found no interaction between parenting and personality, as only the main effect of agreeableness was a significant predictor of adolescent optimism.

Following our initial analysis, we conducted a post-hoc analysis including a series of hierarchical multiple regressions in order to more fully explore possible parental and individual contributors to adolescent optimism in girls and boys. Three additional revised models were

examined, all of which included the remaining four personality traits (extraversion, resourcefulness, emotional stability, and conscientiousness; Manders et al., 2006). In the first revised model, we examined all personality traits and parental warmth. In the second revised model, we used children's perception of authoritative parenting, and in the and third revised model, we used and parent's self-reports of authoritative parenting.

Surprisingly, results revealed very few significant main effects, with the most notable finding being the significant effect of conscientiousness on optimism in all models. In addition, results indicate that parenting (mothering) was differentially related to optimism based on the gender of the adolescent. These findings reflect the multi-faceted nature of optimism and continue to call in to question the specific variables that are significant in fostering such a trait. As suggested by Seligman (1995), optimism is described as a "velcro construct" because many other positive outcomes stick to it, without clear differentiation as to how or why. The multi-faceted nature of optimism makes studying it particularly difficult because it is intertwined with many other outcome variables and is likely fostered by a number of independent variables. Some suggest that optimism is a personality trait that is heritable, with approximately 25% of its variance explained by genetic factors (Gillham & Reivich, 2004; Heinonen et al., 2005). In addition to genetic factors, a number of environmental factors may play a significant role in the development of optimism, including: family relationships, attachment with a primary caregiver, parent's dispositional optimism, social learning, chronic stress, traumatic life events, modeling, friends, and religion (Ben-Zur, 2003; Gillham & Reivich, 2004; Heinonen et al., 2005; Peterson, 2000; Seligman, 1995; Wong & Lim, 2009).

Findings here suggest that there is a small, yet significant, portion of the variance in optimism explained by parenting and personality individually, but that optimism is a complex,

multi-faceted construct that is influenced by far more than the relationship between parenting and personality factors alone. Further research is needed to examine the nature of these relationships and to provide a more comprehensive understanding of the predictors of optimism.

The role of authoritative parenting

Authoritative parenting has been linked to a number of positive outcomes in adolescence, including social competence, problem solving skills, and higher levels of psychological competence (Barnes & Farrell, 1992; Bean et al., 2006; Beveridge & Berg, 2007; Heaven & Ciarrochi, 2008; Bradford et al., 2003; Jackson et al., 2005). Many of these positive outcomes are similar to those positive outcomes resulting from optimism (Barnes & Farrell, 1992; Gillham & Reivich, 2004; Heaven & Ciarrochi, 2008; Park et al., 2004, Peterson & Seligman, 2004). Thus, it is reasonable to expect that authoritative parenting would be significantly related to optimism. Various other studies have found that parental authoritativeness is positively and significantly related to optimism (Ben-Zur, 2003; Heaven & Ciarrochi, 2008; Jackson et al., 2005; Martinez & Garcia, 2008).

In our original model, we sought to explore only the warmth dimension of authoritative parenting without the regulation and autonomy dimensions. This was done in order to examine this particular aspect of parenting as it relates to optimism. However, child's perception of parental warmth did not yield any significant correlations with optimism. Using the complete authoritative parenting style measure in revised model two, we found that authoritative parenting is positively and significantly related to optimism. These findings are consistent with the literature and suggest that the regulation and autonomy granting dimensions of authoritative parenting are useful in creating a more accurate picture of positive parenting behaviors (Ben-Zur, 2003; Heaven & Ciarrochi, 2008; Jackson et al., 2005; Martinez & Garcia, 2008). Parental

regulation refers to the reasoning and induction parents utilize with their children. Autonomy granting refers to the democratic participation given to children, fostering a sense of independence in ideas, opinions, and behaviors. Appropriate regulation by parents contributes to a child's sense of control, which then may be important in fostering optimism in children and adolescents because clear limits and consequences are set, thereby allowing them to perceive a predictable link between actions and outcomes (Heaven & Ciarrochi, 2008; Jackson et al., 2005). Additionally, autonomy granting allows the adolescent room to safely explore and navigate healthy, adaptive functioning (Parker & Benson, 2004). Parental regulation and autonomy granting of children is important in fostering adolescents' self-regulation because they come to understand the role they play in their own life's outcomes, thereby increasing their sense of responsibility and control (Purdie, Carroll, & Roche, 2004; Wong & Lim, 2009). This self-regulation contributes to increased coping skills dealing with stressors, and is empirically and theoretically linked with optimism (Carver & Scheier, 1982; Jackson et al., 2005; Parker & Benson, 2008; Wong & Lim, 2009).

These findings suggest that parenting behaviors are, indeed, significantly related to optimism, however, due to the multi-faceted nature of the construct it is important to consider many of the possible influences on optimism rather than narrowing them down, in order to gain a more accurate understanding of this trait.

Additionally, findings indicate that maternal authoritativeness is positively and significantly related to adolescent optimism whereas paternal authoritativeness is not. Perhaps this relationship was found because mothers generally spend more time with young children and are more involved in their lives than are fathers, because of mother's role as primary care givers (Ben-Zur, 2003). These findings are consistent with other studies that suggest that adolescent

outcomes are positively associated with warm relationships with their mothers but not their fathers (Barnes & Farrell, 1992; Bean et al., 2003; Day & Padilla-Walker, 2009). Other studies have found that mother-adolescent relationships are stronger predictors of outcomes than are father-adolescent relationships, even when positive associations are found for both parents (Hair et al., 2008). However, in a study conducted by Ben-Zur (2003), findings indicated that optimism was positively related to relationships with fathers and not mothers.

In our third model, parent's self-report of authoritativeness was used. Findings indicate significant main effects of personality but no main effects for parenting. This is also consistent with previous research, as child's perceptions of parenting are more often related to outcome variables than are parent's self-reports of parenting (Bean et al, 2006; Heaven & Ciarrochi, 2008; Parker & Benson, 2004). Multiple studies have found that although parent's self-report of parenting can provide some information about the relationship between parenting and outcome variables, child's report of parenting is far more accurate as a predictor of parenting outcomes.

The role of adolescent personality traits

Conscientiousness is conceptualized as a trait of executive regulation of goal-related performance (Denissen, 2009). The degree to which adolescents are organized, systematic, thorough, neat, and careful characterizes conscientiousness (Manders et al., 2006). Conscientious individuals are goal-oriented, responsible, hard working, and self-regulating. Interestingly, throughout all of the models examined in this study, conscientiousness was significantly related to adolescent optimism. This is surprising because the operational definition of optimism suggests that it is more expectational and outcome-oriented than hope, but less goal-oriented. Whereas hope emphasizes agency and pathways (generating and implementing plans for the future), optimism is wishful, believing that positive outcomes will come to pass. Though agency

and pathways are implied in the operational definition of optimism, they are not highlighted or emphasized as critical components. However, these findings suggest that pathways, or organization, planning, and conscientiousness, are positively and significantly related to optimism. Though it is already established that hope and optimism constructs are highly correlated and have a great deal of overlap, these findings underscore some of their similarities (Wong & Lim, 2009).

In addition to conscientiousness, agreeableness and extraversion were also significantly related to optimism in some models. Agreeableness is comprised of traits such as kind, cooperative, sympathetic, pleasant, agreeable, and helpful (Manders et al., 2006). Adolescents who are agreeable are relationship oriented. They are less likely to try to control other's behavior and generally have positive relationships with others. In a study conducted by Gillham and Reivich (2004), they suggest that optimistic adolescents readily make and maintain friendships because they focus on the positive character of their social environment. Thus, they argue, in order to build optimism in adolescents we must nurture relationships by building family relationships, nurturing friendships, and strengthening the sense of community. In addition, extraversion is another interaction-type trait that promotes positive relationships with others. Extraversion incorporates traits such as talkative, assertive, extraverted, and outgoing, which have been linked to more sensitive and responsive relationships (Denissen, 2009). Individuals who are extraverted tend to emphasize social interactions, have positive and responsive relationships, and have higher peer-rated popularity (Denissen et al., 2009; Linden, Scholte, Cillessen, Nijenhuis & Segers, 2010). These findings are consistent with a study conducted by Park and Peterson (2006), which show that agreeableness and extraversion are positively and significantly related to optimism.

The role of adolescent gender

Results indicate a number of significant findings based on gender, the most notable being that maternal authoritativeness is a significant predictor of optimism for adolescent females but not for adolescent males. Paternal authoritativeness is not significantly related to optimism for either gender. In addition, a significant interaction with maternal authoritativeness and gender was found, suggesting that mother's authoritativeness is differentially related to optimism for girls. These findings are similar to other studies that found gender to be significantly linked to optimism in girls but not boys (Lemola et al., 2010).

Upon further analysis, it was discovered that in models one and three, agreeableness is significantly related to optimism for males and not females, whereas conscientiousness and extraversion are significantly related to optimism in females and not males. Perhaps for males, traits of agreeableness such as kind, cooperative, sympathetic, and helpful are more important than others in fostering optimism. Similarly, because females are more relationship oriented, perhaps having extroverted traits such as talkative, assertive, extraverted, and outgoing is a significant predictor of hope in adolescent females. This notion is supported in the literature, as girls are found to be more relationship oriented and tend to illicit more warmth from others when they possess these traits (Denissen et al., 2009; Padilla-Walker & Nelson, 2010). Future studies are needed to gain a greater understanding of the importance of different personality traits in boys and girls in fostering optimism.

Limitations and future directions

There are a number of limitations in this study. Assessment of personality was based solely on parent's report in a short, 30-item survey. A more comprehensive personality

assessment, complete with more detailed survey measures by more reporters as well as observational data, may have yielded better results. Other personality measures utilize observational data and multiple reporters to gain a more comprehensive picture of adolescent personality over time (Heinonen et al., 2005; Denissen et al., 2009). In this study, all data was examined cross-sectionally, which may not provide an accurate representation of personality. In addition, due the cross-sectional nature of this study, the true relationship between parenting behaviors and personality and the outcomes they predict may not be adequately reflected. Parenting styles and personality traits measured in early childhood may predict optimism later in life more accurately than cross-sectional data may reveal (Heinonen et al., 2005).

Our sample consisted of relatively high functioning adolescents and families, thus the models may lack explanatory power due to our restricted range of optimism. This sample is made up of families in the Seattle, Washington area. Most participants come from middle class, educated, two-parent homes, where average chronic stressors and traumatic life events are likely lower than other samples.

Our conceptualization of the predictors of optimism was likely too narrow and did not account for the importance of attachment, parental optimism, religion, and other environmental factors. Peterson (2000) argues that religion is an important component of optimism because of its certainty. Religion can provide individuals with a sense of security that good things are to come, as well as trust in a divine being with assurance that all will be well. As this study did not include religion in its analysis, perhaps an influential predictor of optimism was missed. In addition, chronic stressors, traumatic life events, and physical health were not accounted for. Future studies are needed to broaden the scope and account for several more of the environmental factors, while also looking at the genetic factors that may contribute to optimism.

Parenting is likely one key factor, among many that predict optimism, and in turn, optimism is likely one key factor, among many that influence positive adjustment. In addition, Peterson & Seligman (2004) suggest that optimism is a critical mechanism by which parenting style produces healthy personal adjustment. Thus, perhaps optimism and parenting work together to produce positive outcomes rather than one being a predictor of the other. Perhaps optimistic children perceive parenting as more positive, thereby increasing the positive effects of both optimism and parenting.

Optimism may be a personality trait in itself that is not moderated by the Big Five personality traits and cannot be adequately examined looking only at parenting. Another body of literature challenges the relevance of the environment on personality and claims that relationships and other environmental factors do not influence personality, but that personality may influence relationships (Asendorpf & Wilpers, 1998; Macrae et al., 2000).

Future research should examine additional predictors of optimism to create a more comprehensive understanding of how to foster this desirable trait. Specifically, attachment with a primary care giver, religion, parent's dispositional optimism and modeling, and stressful life events or chronic stressors should be examined. In addition, relationships with peers, teachers, coaches, and other leaders should be assessed. Future research should also examine personality and optimism factors longitudinally. Perhaps studying optimism at early adolescence is not the best representation of when optimism is fully developed, thus future research should examine optimism longitudinally at many different ages and stages of life. In addition, future studies should consider the variability in the sample population in order to have increased representative power.

Clinical Implications

The present study examined the moderating role of personality on parenting behaviors and adolescent optimism. Findings suggest that both parenting behaviors and personality traits are important in the development of optimism, however the nature of their interaction is unclear. Authoritative parenting fosters a host of positive outcomes for adolescents, including optimism. Parents who are warm, supportive, and who maintain clear limits with regulation and autonomy granting provide their children with the best chance to develop skills necessary for success in life.

Optimistic individuals believe in the good that the future holds and believe that positive will outweigh negative. They feel a sense of control over good outcomes and strive to bring about the positive future that they envision for themselves (Carver & Scheier, 2001; Jackson et al., 2005; Park et al., 2004; Peterson, 2000).

Adolescents who are optimistic and have authoritative parents are more likely to have good mental and physical health, increased popularity and achievement, and overall increased life satisfaction (Gillham & Reivich, 2004; Jackson et al., 2005; Park et al., 2004; Peterson, 2000; Peterson & Seligman, 2004). Though the relationship between parenting, personality, and optimism is complex and is not entirely accounted for in this study, we do know that parenting and personality both influence adolescent optimism though the interaction between these variables is yet unclear. In addition, parental authoritativeness was significantly related to optimism in girls but not boys. This suggests that perhaps the process of developing optimism may be different in girls and boys.

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Table I: Five-Step Hierarchical Regression of Adolescent gender, Maternal and Paternal Warmth, and Agreeableness on Optimism

Variable Entered	Beta	Optimism	R ² change
Step 1			
Gender (A)	.104*		
R ²	.009*		
Step 2			
Maternal warmth (B)	.050		
Paternal warmth (C)	.020		
R ²	.008		
Step 3			
Agreeableness (D)	.181***		
R ²	.033***		.027***
Step 4			
AxB	.018		
AxC	.011		
AxD	.062		
BxD	-.049		
CxD	.031		
R ²	.033		.006
Step 5			
AxBxD	-.012		
AxCxD	.017		
R ²	.033		.000

Notes: All beta weights are standardized; *p < .05, **p < .01, ***p < .001, ****p < .06.

Table II: Five-Step Hierarchical Regression of Adolescent Gender, Child's Report of Maternal and Paternal Warmth, Extraversion, Agreeableness, Resourcefulness, Emotional Stability, and Conscientiousness on Optimism

Variable Entered	Beta	Optimism	R ² change
Step 1			
Gender (A)	.104*		
R ²	.009*		---
Step 2			
Maternal warmth (B)	.05		
Paternal warmth (C)	.02		
R ²	.008		.003
Step 3			
Extraversion (D)	.093****		
Agreeableness (E)	.111*		
Resourcefulness (F)	.009		
Emotional Stability (G)	.073		
Conscientiousness (H)	.127*		
R ²	.050***		.053***
Step 4			
AxB	.068		
AxC	.079		
AxD	.027		
AxE	-.053		
AxF	-.019		
AxG	-.053		
AxH	.047		
BxD	.077		
BxE	-.047		
BxF	-.069		
BxG	-.031		
BxH	.072		
CxD	.008		
CxE	.048		
CxF	-.078		
CxG	-.039		
CxH	-.023		
R ²	.043		.016

Variable Entered	Beta	Optimism	R ² change
Step 5			
AxBxD	-.024		
AxBxE	-.092		
AxBxF	.027		
AxBxG	.027		
AxBxH	-.048		
AxCxD	.134		
AxCxE	.068		
AxCxF	.024		
AxCxG	.021		
AxCxH	-.027		
R ²	.043		.011

Notes: All beta weights are standardized; *p < .05, **p < .01, ***p < .001, ****p < .06.

Table III: Five-Step Hierarchical Regression of Adolescent Gender, Child's Report of Maternal and Paternal Authoritativeness, Extraversion, Agreeableness, Resourcefulness, Emotional Stability, and Conscientiousness on Optimism

Variable Entered	Beta	Optimism	R ² change
Step 1			
Gender (A)	.098*		
R ²	.008*		---
Step 2			
Maternal authoritativeness (B)	.229**		
Paternal authoritativeness (C)	.099		
R ²	.103***		.099***
Step 3			
Extraversion (D)	.077		
Agreeableness (E)	.055		
Resourcefulness (F)	.000		
Emotional Stability (G)	.052		
Conscientiousness (H)	.096*		
R ²	.120*		.025***
Step 4			
AxB	-.064		
AxC	-.058		
AxD	.050		
AxE	.021		
AxF	-.053		
AxG	-.102		
AxH	.044		
BxD	.059		
BxE	.026		
BxF	-.044		
BxG	.011		
BxH	.060		
CxD	.082		
CxE	.091		
CxF	-.033		
CxG	-.034		
CxH	-.022		
R ²	.118		.016***

Notes: All beta weights are standardized; *p < .05, **p < .01, ***p < .001, ****p < .06.

Table IV: Five-Step Hierarchical Regression of Adolescent Gender, Parent's Self-Report of Maternal and Paternal Authoritativeness, Extraversion, Agreeableness, Resourcefulness, Emotional Stability, and Conscientiousness on Optimism

Variable Entered	Beta	Optimism	R ² change
Step 1			
Gender (A)	.104		
R ²	.009*		
Step 2			
Maternal authoritativeness (B)	.077		
Paternal authoritativeness (C)	-.007		
R ²	.010		.006
Step 3			
Extraversion (D)	.095*****		
Agreeableness (E)	.105*****		
Resourcefulness (F)	.004		
Emotional Stability (G)	.072		
Conscientiousness (H)	.126*		
R ²	.051***		.052***
Step 4			
AxB	.199***		
AxC	.070		
AxD	-.008		
AxE	-.037		
AxF	-.005		
AxG	-.051		
AxH	.030		
BxD	.047		
BxE	-.031		
BxF	-.058		
BxG	.037		
BxH	.034		
CxD	-.010		
CxE	-.014		
CxF	-.012		
CxG	-.036		
CxH	-.020		
R ²	.071*		.043*

Notes: All beta weights are standardized; *p < .05, **p < .01, ***p < .001, ***** p < .06.