EXPLORING THE INFLUENCE OF FAMILY WORLDVIEW AND CULTURAL SOCIALIZATION ON POSITIVE OUTCOMES IN AMERICAN INDIAN YOUTH

by

TATUM K. PHAN

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Student: Tatum Khanhngoc Phan

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This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the Department of Counseling Psychology and Human Services by:

Dr. Benedict T. McWhirter	Chairperson
Dr. Beth Stormshak	Member
Dr. Gina Biancarosa	Member
Dr. Alison Ball	Member
Dr. Terry O'Nell	Outside Member

and

Kimberly Andrews Espy	Vice President for Research & Innovation/Dean of the Graduate School

Original approval signatures are on file with the University of Oregon Graduate School.

Degree awarded September 2012

DISSERTATION ABSTRACT

Tatum Khanhngoc Phan

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Title: Exploring the Influence of Family Worldview and Cultural Socialization on Positive Outcomes in American Indian Youth

The purpose of this study was to explore the influence of family worldview and cultural socialization on indicators of positive youth development in American Indian youth. Hierarchical linear modeling was used to determine whether cultural socialization moderated the relationship between family worldview and indicators of positive development in American Indian youth as measured by ethnic identity, pro-social activity, positive family relationships, hope, self-regulation, and future orientation. Individual and family differences were also examined. Participants included a community sample of 311 American Indian children and youth from 174 American Indian families from three tribes in the Pacific Northwest.

Results demonstrated that the amount of variance between families for each of the positive youth outcomes was significant enough to warrant hierarchical linear modeling (HLM). Family worldview was not significantly related to any of the positive youth outcomes and when entered into the HLM models did not significantly explain any variation in mean scores between families. The relationship between cultural socialization and ethnic identity was significant and positive and when entered into the HLM models significantly explained 10% of the variation in mean scores between

families. There was a significant difference between the ethnic identity scores of males and females, with females having a higher mean than males. Positive family relationship scores were negatively correlated with age. Older youth tended to report less positive family relationships than their younger counterparts. Implications for research and practice are discussed.

CURRICULUM VITAE

NAME OF AUTHOR: Tatum Khanhngoc Phan

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
The Ohio State University, Columbus

DEGREES AWARDED:

Doctor of Philosophy, Counseling Psychology, 2012, University of Oregon
Master of Science, Counseling, Family and Human Services, 2010, University of Oregon
Bachelor of Science, Psychology, 2003, The Ohio State University

AREAS OF SPECIAL INTEREST:

American Indian Families
At Risk Youth
Ethnic Identity
Multicultural Counseling

PROFESSIONAL EXPERIENCE:

Pre-Doctoral Psychology Intern, Counseling and Psychological Services, University of California, Davis, 2011-Present

Life Skills Programming Specialist, University Counseling and Testing Center, University of Oregon, Eugene, 2009-2011

Academic Advisor, Office of Academic Advising, University of Oregon, Eugene, 2007-2009

Ethnic Diversity Affairs Committee Program Assistant, College of Education, University of Oregon, Eugene, 2005-2007

GRANTS, AWARDS, AND HONORS:

Graduate Teaching Fellowship, University of Oregon, 2005-2011

Diversity Excellence Scholarship, University of Oregon, 2010

Education Grant, Lost Boys of Sudan, 2007

Travel Grant, Quantitative Training for Underrepresented Groups/Society for Multivariate Experimental Psychology Student Conference, 2006

William Goldstein Scholarship, University of Oregon, 2006

PUBLICATIONS:

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CHAPTER I

RATIONALE

The majority of psychological research on adolescents has focused on the prevalence of and factors contributing to problem behaviors (LaFromboise & Dizon, 2003; Silmere & Stiffman, 2006; Stiffman, Brown, Freedenthal, House, Ostmann & Yu, 2007). This has been particularly true regarding previous research on American Indian youth (LaFromboise & Dizon, 2003). Risk factors that have been identified as negatively affecting the American Indian community include acculturation stress, repeated traumatic loss, poverty, social disorganization, political disempowerment, high rates of school dropout, alcohol abuse, inhalant abuse, chronic health conditions and corresponding declines in resources, opportunities and support (LaFromboise, Hoyt, Oliver & Whitbeck, 2006). LaFromboise and Dizon (2003) also found that a majority of intervention programs targeting American Indian youth focused primarily on the prevention of risk behaviors, such as substance abuse, sexually transmitted infections, violence, and suicide.

Rather than focusing on positive behaviors, competence, and strengths, previous studies have been based on Problem Behavior Theory, which focuses on deficit hypotheses and documented risk factors affecting the American Indian community (LaFromboise et al., 2006; Mitchell & Beals, 1997; Silmere & Stiffman, 2006). Problem Behavior Theory considers adolescent substance use, delinquent behaviors, and sexual intercourse as resulting from a syndrome of adolescent problem behaviors (Mitchell & Beals 1997). This paradigm is based on the idea that participation in various problem

behaviors can interfere with important developmental milestones and positive life opportunities (Silmere & Stiffman, 2006).

At the same time, Silmere and Stiffman (2006) report that the body of previous research focusing only on problem behaviors paints a distorted picture of American Indian youth as "bad and in need of correction" (p. 24). Mitchell and Beals (1997) argue that adaptive developmental outcomes and positive behaviors are equally relevant focal points and are very instrumental in the prevention of negative outcomes. They also note that interventions highlighting and promoting positive behaviors may both (a) be more likely to be embraced by communities and (b) be more effective than interventions focused solely on negative factors.

Subsequently, researchers have called for a paradigm shift in research studies of American Indians (Galliher, Jones & Dahl, 2011; LaFromboise & Dizon, 2003; LaFromboise et al., 2006; Mitchell & Beals, 1997; Silmere & Stiffman, 2006; Stiffman et al., 2007; Zimmerman, Ramierez, Washeinko, Walter & Dyer, 1998). Stiffman and colleagues (2007) identify the importance of shifting focus onto the resiliency, adaptability, effective coping and stories of survival of American Indians as core to improving research and eventual well-being of this population. They argue that it would be more helpful for the American Indian community to look at the strengths and positive behaviors that influence the success, health, and the prevention of problem behaviors in youth instead of the negative, especially given historical realities that pathologize and marginalize American Indian communities. LaFromboise and Dizon (2003) further identify the need to end the emphasis on pathology in research and treatment with American Indians and offer the alternative that future research focus more on social

cognitive interventions, systemic approaches, and on American Indian traditional healing methods which emphasize cultural attributes and strengths. In particular, they highlight the importance of investigating the potential protective mechanisms that exist within American Indian people and American Indian communities as sources upon which to develop prevention and intervention practice (LaFromboise & Dizon, 2003; LaFromboise et al., 2006).

A paradigm that concentrates on positive youth development focuses principally on promoting emotional, social, behavioral and cognitive competence (Anderson Moore, Lippman, & Brown, 2004; Silmere & Stiffman, 2006), and also acknowledges that much risk behavior in youth is experimental without leading to long-term problems. Positive youth development has been measured in four broad domains: (a) educational achievement and cognitive attainment, (b) health and safety, (c) social and emotional development, and (d) self-sufficiency (Anderson Moore et al., 2004; Silmere & Stiffman, 2006). The few authors who have examined positive youth development focus on the resiliency present in the American Indian community (Montgomery, Miville, Winterowd, Jeffries, and Baysden, 2000; Silmere & Stiffman, 2006; Stiffman et al., 2007). Resiliency is defined by an individual's ability to adjust to or recover from misfortune, challenges, or change (Stiffman et al., 2007). According to this notion of resiliency, personal, relational, and community factors act as important protective factors for youth.

Research on ethnocultural adolescents, in general, identify a strong family orientation as being protective against the effects of discrimination (Stiffman et al., 2007), and this is true for American Indian families as well. Further, common strengths that have been identified in the American Indian community include having an extended

family, having respect for elders, maintaining traditional ways, having a sense of humor, having resilience, and encouraging autonomy for children. Also, American Indian groups themselves have identified the following strengths as the maintenance of culture: the opportunity for ceremonial participation, the preservation of community strengths such as nurturance and protection of children and youths, and positive interpersonal relationships (Stiffman et al., 2007).

Ethnic Identity

Among other protective factors, research suggests that a strong ethnic identity serves as a protective mechanism for positive outcomes in youth (House, Stiffman, & Brown, 2006; LaFromboise & Dizon, 2003; Phinney & Ong, 2007; Whitesell, Mitchell, Kaufman & Spicer, 2006). Ethnicity refers to shared group traits that distinguish one group of people from another. These group traits usually include language, geographic location or place of origin, religion, sense of history, traditions, values, beliefs, and food habits (House et al., 2006). Ethnic identity is the sense of belonging that an individual feels towards an ethnocultural group and includes the thoughts, perceptions, feelings and behaviors that are directly related to the individual's ethnic group membership (Phinney, 1989, 1992; House et al., 2006). Ethnic identity is an aspect of social identity and is comprised of self-categorization, commitment and attachment, exploration, behavioral involvement, in-group attitudes, ethnic values and beliefs, and importance or salience of group membership (Phinney & Ong, 2007). Research has established that ethnic identity is dynamic and changes over time and context (Juang & Syed, 2010; Phinney, 1992; Phinney & Ong, 2007; Weaver & Yellow Horse Brave Heart, 1999). Two processes are involved in the development of ethnic identity, ethnic socialization and enculturation.

Ethnic socialization is the process by which an individual acquires the behaviors, perceptions, values and attitudes associated with a particular ethnocultural group. Enculturation is the process by which an individual learns about and identifies with his or her traditional ethnic culture (Hughes, Rodriguez, Smith, Johnson, Stevenson and Spicer, 2006; Newman, 2005; Whitbeck, Hoyt, Stubben & LaFromboise, 2001).

Although there have only been moderate, albeit positive, findings regarding the relationship between ethnic identity and health related outcomes, ethnic and cultural identity continues to be studied because people believe that culture matters and may promote positive outcomes (House et al., 2006; Huang & Gibbs, 2003; LaFromboise & Dizon, 2003; Phinney & Ong, 2007; Whitesell et al., 2006). Ethnic identity has been associated with higher self-esteem, less stress and anxiety, a sense of mastery and less substance use in many ethnocultural groups (LaFromboise & Dizon, 2003; McCubbin, McCubbin, Thompson, & Thompson, 1998; Zimmerman et al., 1998). Research has even shown that positive attitudes about one's group are indicative of an achieved ethnic identity and that positive feelings for one's group may predict happiness on a daily basis (Phinney & Ong, 2007).

Ethnic Identity and American Indian Youth

As members of an ethnocultural group, American Indian youth have had to contend with the challenge of navigating between the dominant culture and their own (Whitesell et al., 2006). Newman (2005) contends that confusing messages and pressures to assimilate from the dominant culture contribute to the challenges experienced by American Indian youth attempting to integrate the social and cultural information about their ethnicity with their personal identity. Identity development is influenced by a

person's genetic predisposition and their social ecology, including socioeconomic status, parental influences, kinship interactions, family and church traditions and rituals, schools, neighborhood and community experiences, and sociopolitical context. Ethnicity also affects adolescent ego development. Ego development is considered a general marker of psychosocial maturity and adolescence is a period of significant changes in ego development. A major task for ego development during adolescence is to achieve a sense of belonging and identification with a larger social group (Newman, 2005). Therefore, the types of messages adolescents receive about their ethnocultural group can significantly impact their ability to achieve a positive ethnic identity and affect their overall ego development.

House and colleagues (2006) conducted a qualitative study to explore the cultural and ethnic identity of American Indian youth, parents and elders. Their study was one of the few to explore ethnic and cultural identity across multiple generations of American Indians. Participants in the study included 24 urban and reservation-based American Indians living in the Southwest, whose ages ranged from 13 years to 90 years. The authors highlighted new and validated well-understood ethnic identity constructs, and identified six major themes and seventeen sub-themes that relate to tribal and pan-American Indian ethnic identity. The six themes were: legacy, physical characteristics and language, traditions, values, hardship, and family and community support. Example sub-themes included common experiences of discrimination, trauma, and shame, as well as the importance of the recognition of the self as a part of the community and valuing the community over oneself (House et al., 2006).

All participants cited that knowledge about tribal and American Indian traditions

is learned in reservations through adult relatives and passed on through ceremonies and rituals, storytelling, humor, history, language and cultural values. However, age differences of participants influenced the types of themes and ethnic identity constructs that emerged as important. The parent group provided more detail about childhood experiences. The youth group focused a great deal on issues about being of mixed heritage and its effects on their lives, differences in reservation and urban living and the importance of respecting elders. The group of elders provided the most information on traditional ceremonies and rituals, food, language, and values, such as respect, work, and sharing. The new ethnic identity constructs identified in a study by House and colleagues (2006) include hardship, limited resources, discrimination and historical trauma. Values that were not found in other American Indian ethnic identity instruments included respect, hard work, sharing, responsibility, and humor.

Montgomery and colleagues (2000) conducted a qualitative study to explore the resiliency factors contributing to the retention and graduation of American Indian students in higher education. They describe the American Indian tradition of interconnected identities as being in conflict with college setting, where only a few aspects of identity, mainly social and academic identities are usually addressed. Montgomery and colleagues (2000) posit that a clash of cultures negatively affects the enrollment and dropout rates of American Indian students in higher education. They conducted a study in which 14 American Indian college students or graduates were interviewed to learn more about how their experiences influenced their interest, persistence and adjustment in higher education. Results of the study indicate that traditional and internalized self-talk, traditional ways of learning, integration of Indian

culture into the university setting and positive perceptions of social support systems are important for successful completion of college. Montgomery and colleagues (2000) suggest that American Indian students who are successful in college are able to maintain a sense of their tribal self while adapting to traditional Western models of education.

Although the aforementioned studies suggest that a strong and secure ethnic identity is paired with positive outcomes, there is conflicting data on the role of cultural identification and participation in cultural activities on adolescent behaviors (Galliher et al., 2011; LaFromboise & Dizon, 2003; Silmere & Stiffman, 2006; Stiffman et al., 2007). Some studies have established a positive correlation between participation in traditional American Indian activities and various problem behaviors. For instance, Silmere and Stiffman (2006) conducted a study to explore factors relating to successful functioning in American Indian youth and to explore how familial, social and cultural religious factors relate to overall successful functioning. They interviewed 401 Southwestern urban and reservation-based youth using both structured and qualitative open-ended questions to explore youth functioning and environmental factors. Successful functioning was defined along areas drawn from positive youth development and problem-free paradigms and included seven specific criterion areas: (a) good mental health, (b) being alcohol- and drug free, (c) clean police record, (d) absence of serious misbehavior, (e) good grades, (f) positive behavior/emotions, and (g) positive psychosocial functioning. The overall success index ranged from 0 to 7, with higher scores indicating more positive functioning. The study found that 38% of the participants were considered to be functioning at a moderately successful level and 24 % were considered highly successful. Also, 56.8% of the participants had a clean police record, 54.2% reported no involvement

in serious misbehavior, 45.6% received good grades, and 32% reportedly low to no involvement with drugs or alcohol (Silmere & Stiffman, 2006). However, an interesting finding emerged from the study concerning the level of involvement in American Indian traditions and presence of misbehaving peers. Youth who reported associating with many misbehaving peers were less successful overall, regardless of their level of involvement in American Indian traditions, paralleling research on other youth in the U.S. (Silmere & Stiffman, 2006). Also, youth who did not have many misbehaving peers but who participated frequently in traditional activities were still less successful compared to those who were less involved in such activities.

Stiffman and colleagues (2007) subsequently conducted a study to explore the relationship between personal, familial and environmental strengths to the outcomes of urban and reservation American Indian youth. The authors used data collected from the American Indian Multisector Help Inquiry (AIM-H), with a sample that included 401 tribal-based and urban-based American Indian youth between the ages of 12 and 19. The authors found that the symptoms for conduct disorder, alcohol abuse, and drug abuse decreased when youth listed more school strengths. However, symptoms of alcohol abuse, depression, and conduct disorder increased when youth listed more tribal strengths. Stiffman and colleagues (2007) hypothesize that the American Indian community's historic struggle with high rates of alcoholism and other behavioral issues may have contributed to a modeling effect in which problems, such as substance abuse, are established as cultural norms. Youth who endorsed stronger connections with the tribal community may observe more modeling of these behaviors by tribal members, potentially leading to imitation or a belief that such behaviors are non-problematic.

In sum, the exact role of ethnic identity in adolescent health-related outcomes is still ambiguous. There still exists a great need for more research in this area because of the potential impact on service provision and policy development that would emerge with a clearer picture of the influence of ethnic identity in the lives of American Indian youth (Huang & Arganza, 2003).

Family Worldview

Ethnic identity includes the worldview adopted by the family unit to shape household and family formations, as well as family-community dynamics (McCubbin et al., 1998). Culture influences family functioning by giving meaning to family situations and experiences. Additionally, culture shapes the family schema, which is considered the structure or identity of a family and includes shared values, beliefs, goals, expectations and priorities (McCubbin, 2006; McCubbin et al., 1998). According to McCubbin and colleagues (1998), a family schema is "expressed through the family's dispositional worldview" (pg. 171) and serves as a framework for guiding, shaping, and evaluating family behavior. Family ethnic schema takes into account the influence of ethnocultural values on the family worldview. Family ethnic schema and family worldview are considered similar constructs and used interchangeably (McCubbin, 2006; McCubbin et al., 1998). McCubbin (2006) defines family worldview as "respecting and maintaining one's ethnic heritage, honoring and respecting one's elders, caring for the land and valuing the meaning of dance, language, music in order to keep the culture alive for generations" (p.172). Historically, the family has been the primary vehicle through which cultural knowledge and traditions are transmitted to new generations. (House et al, 2006; Huang & Gibbs, 2003; McCubbin et al., 1998). As cultural knowledge and

traditions passes through different generations, it may change over time, subsequently affecting family worldview and familial experiences. The cultural framework provided by family worldview affects how families respond to and adapt to new and challenging situations. McCubbin and colleagues (1998) suggest that traditions may be a source of stability and support to families by providing guidance and a means of coping with life problems for family members.

In a study with Native Hawaiian families, McCubbin and colleagues (1998) investigated the relationship between family worldview and family functioning. The authors found that families who reported higher levels of family worldview also reported lower levels of family dysfunction. They also suggest that family worldview may play a "catalytic role" in family resilience through indirect effects on family problem solving, family sense of coherence and family hardiness. Similar results were found in another study with Native Hawaiian families (McCubbin, 2006). Families endorsing higher levels of family worldview reported decreased levels of anxiety, tension, depression, anger and fear, as well as higher levels of reported energy and vitality. The findings from both studies provide empirical support for the positive impact of family worldview on emotional and psychological well-being.

While an important construct, there is also a paucity of research on family worldview, especially among American Indian families. Moreover, current measurements of ethnic and cultural identity fail to capture all the important elements of American Indian culture, including resiliency and family worldview (House et al., 2006; McCubbin et al., 1998; Weaver & Yellow Horse Brave Heart, 1999). For example, Weaver and Yellow Horse Brave Heart (1999) argue that most measures of cultural

identification are not appropriate in capturing the experiences of American Indians, specifically measures that include questions around language spoken and geographical location. Experiences of oppression, discrimination, historical trauma, loss of language and removal from tribal lands have negatively impacted and interfered with American Indian cultural experiences (House et al., 2006; Weaver & Yellow Horse Brave Heart, 1999). However, American Indian and tribal cultural traditions, values, and practices continue to endure, proving that the community is resilient. Some of the pan-American Indian values that have been identified as common across many tribal groups include a strong belief in spirituality, a respect for the earth and nature, a belief in the harmony between the individual and nature. Previous studies have identified these and other cultural strengths within the American Indian community (House et al., 2006; Red Horse, 1997; Stiffman et al., 2007). The most frequently cited strengths include extended family, spirituality, social connections, cultural identity, childcare customs, traditions, stories, and kinship and mutual assistance (House et al., 2006; Montgomery et al., 2000; Red Horse, 1997; Stiffman et al., 2007). Yet the roles of these socialization characteristics in youth development are not fully understood.

Cultural Socialization

Family worldview is transmitted from parent to child in large part through parental socialization. According to Thomas and colleagues (2010), the purpose of parental socialization is to "transmit values, beliefs, and ideas around lifestyles based on cultural knowledge of the adult tasks and competencies needed for appropriate functioning in society" (pg. 407). One important area in which parents socialize their children is around ethnic and racial identity.

Ethnic-Racial socialization refers to the means through which parents communicate to their children information, values, and perspectives about ethnicity and race (Coard, Foy-Watson, Zimmer, & Wallace, 2007; Hughes et al., 2006; Smalls, 2010). Ethnic-racial socialization is a broad term used by Hughes and colleagues (2006) to capture both racial and ethnic socialization. The literature on racial socialization originated from research around African American parents and the ways in which they conveyed racial messages to their children and the effects on the psychosocial functioning of African American children (Byrd & Chavous, 2009; Coard et al., 2007; Hughes et al., 2006; Thomas, Speight, & Witherspoon, 2010). Additionally, racial socialization involves teaching children about racial norms and barriers, as well as the skills that enable them to handle race-related situations in a way that maintains their self-esteem (Coard et al., 2007; Hughes et al., 2006). Research on ethnic socialization predominantly has been based on the experiences of immigrant communities in the United States, including Latino/a, Asian, African and Caribbean groups, and children's ability to achieve and/or maintain their ethnic identities within their specific ethnocultural group (Hughes et al., 2006; Juang & Syed, 2010; Umana-Taylor, Bhanot & Shin, 2006).

Racial and ethnic socialization has been difficult to study because the terms have been, at times, used interchangeably and/or defined differently. Thus, Hughes and colleagues (2006) made a case for using the term cultural socialization to refer to the "parental practices that teach children about their racial or ethnic heritage and history; that promote cultural customs and traditions; and that promote children's cultural, racial, and ethnic pride, either deliberately or implicitly" (p. 749). Examples of cultural socialization include discussing important historical or cultural figures, celebrating

cultural holidays, engaging in traditional cultural practices (i.e., music, dance, etc.), eating ethnic food, and teaching children to speak their family's native language. The theory of enculturation was highly influential in Hughes and colleagues' (2006) conception of cultural socialization. According to Zimmerman and colleagues (1998), enculturation is the process by which individuals learn about, identify with and have pride in their culture, as well as integrate traditional cultural practices into their lifestyle. Both enculturation and ethnic socialization are important processes involved in the development of ethnic identity. Although the two terms overlap a great deal theoretically, cultural socialization places more emphasis on the family as an external influence on cultural identity development, specifically parenting practices of transmitting cultural information, values and beliefs. While in contrast, enculturation seems to be more person-oriented and focuses on internal process (Hughes et al., 2006)

In a review of studies examining cultural socialization, Hughes and colleagues (2006) determined that there was a positive association between cultural socialization and children's academic and psychosocial outcomes, including ethnic identity, high self-esteem and fewer externalizing behaviors. These claims have been empirically supported by recent studies (e.g., Coard et al., 2007; Juang & Syed, 2010; Smalls, 2010; Umana-Taylor et al., 2006).

Umana-Taylor and colleagues (2006) conducted a study exploring the ecological factors affecting ethnic identity among Asian Indian, Chinese, Filipino, Vietnamese and Salvadoran adolescents ($N = 639$). The authors' ecological model of ethnic identity development included individual (participant's ethnic identity), familial (familial ethnic socialization and familial births in the U.S.) and community factors (high school ethnic

composition). Familial ethnic socialization (FES) was measured by participant's perceptions of the covert and overt ways in which their families socialized them about their ethnicity. Overt FES practices involved explicit discussions or teachings the participants had with their parents about ethnic identity. Covert FES practices were indirect methods in which participants were exposed to their ethnic background, such as listening to music played or sung by artists of similar ethnic background. Results of the study indicated that FES (both covert and overt) was significantly and positively associated with ethnic identity achievement for all participants, regardless of ethnocultural background. In the study, ethnic identity achievement meant that participants "had explored their ethnicity, felt good about their ethnic background, and felt a strong commitment to their ethnic identity" (pg. 392). The model examined in the study accounted for more than 50% of the variance in ethnic identity achievement for all ethnocultural groups, except the Vietnamese adolescents. For the Vietnamese participants, the model explained 49% of the variance. Umana-Taylor and colleagues (2006) concluded that their study's findings "demonstrate that what families are doing with regard to ethnic socialization appears to be critical for adolescents' ethnic identity" (p. 407).

Coard and colleagues (2007) conducted a randomized, controlled trial pilot intervention study for low-income African American parents of young children. The intervention was a strengths- and culturally based parenting program called the Black Parenting Strengths and Strategies (BPSS) Program. The intervention was designed to assist parents in improving parenting behaviors to prevent early development of conduct problems and foster social and cultural competence. Thirty families were recruited for

the study and randomly assigned to the BPSS program or to a wait-list control condition. The results of the study showed that caregivers assigned to the intervention used significantly more racial socialization strategies, positive parenting practices and less harsh discipline compared to caregivers assigned to the control condition. Racial socialization strategies included messages parents communicated to their children regarding racial or cultural pride, racial struggle, racial survival, and spiritual and religious coping. Children of caregivers in the treatment condition demonstrated decreased externalizing behavior over time, whereas externalizing behavior increased for children in the control condition. The results of the study support the argument that parents' racial socialization strategies play a critical role in youth outcomes.

Juang and Syed (2010) conducted a study with Asian American, Latino, White and mixed-ethnic college students ($N = 225$) to explore the relationship between family cultural socialization and ethnic identity. In the study's results, authors found that ethnic minority students reported higher levels of family cultural socialization and ethnic identity exploration when compared to White students. Also, the relationship between family cultural socialization and ethnic identity commitment was stronger for females compared to males. The finding that family effects may be stronger for females is supported by results from previous studies suggesting that parents placing greater emphasis on socializing daughters more than sons to preserve traditional cultural values and practices, as well as increased parental monitoring of females versus males. Juang and Syed (2010) suggest that the study findings affirm the "family as a key socialization agent" (p. 348) and the impact of family cultural socialization on identity development of emerging adults.

Smalls (2010) conducted a study exploring the interaction between racial socialization and mother-child relationship quality and their relation to youth engagement. The author recruited African American youth and created profiles of their mothers' racial socialization (e.g., racial pride and racial barrier messages) and the youth's feelings towards their mothers' parenting (e.g., providing a warm, positive climate; using child-centered strategies). The results yielded three profiles of racial socialization and affective relationship quality: (a) Cultural Affective Race Salient (CARS); (b) Low Affective Non Salient (LANS); and Traditional Affective Race Salient (TARS). The CARS cluster was characterized by scores below the sample mean on child-centered parenting, near average levels of positive climate parenting, and above average frequencies of racial pride and barrier socialization. The LANS cluster was characterized by low scores on both racial socialization messages and positive climate parenting, but near average scores on child-centered parenting relative to the remaining sample. The TARS cluster was characterized by high scores on both racial messages and on both components of affect relationship quality. The author found that the TARS and CARS profiles had the highest positive climates and most frequent reports of racial socialization. Also, youth in the TARS profile reported the highest academic and task engagement, as well as the highest frequency of racial socialization (specifically pride messages). Youth in the LANS profile reported the lowest frequency of racial socialization and lowest levels of overall engagement. Smalls (2010) argued that the results point to the importance of attending to family context and socialization in interventions involving ethnocultural youth.

Overall, the research literature suggests that cultural socialization is important to positive youth development. The overt and covert practices used by parents to teach their children about their cultural heritage, customs and traditions and promote cultural pride can significantly impact youth outcomes, particularly in the areas of ethnic identity achievement, self-esteem, and academic engagement (Coard et al., 2007; Hughes et al., 2006; Juang & Syed, 2010; Smalls, 2010; Umana-Taylor et al., 2006). Coard and colleauges' (2007) study with African American families demonstrated the feasibility and efficacy of a strengths-based and culturally enhanced intervention program targeting parenting practices. Despite the positive implications of the aforementioned studies, cultural socialization has not been explored with indigenous populations, particularly American Indians living in the U.S. Considering the important role of tribal culture and traditions within American Indian communities, as well as the diversity between and within tribes, exploring the impact of cultural socialization on the positive development of American Indian youth is essential.

Implications for Research and Practice

The review of the literature presented here offers clear support for the need for future research exploring the potentially contributing factors to American Indian positive youth development. A majority of the psychological research on American Indian youth have focused on the prevalence of and factors contributing to problem behaviors (LaFromboise & Dizon, 2003); LaFromboise et al., 2006; Mitchell & Beals, 1997; Silmere & Stiffman, 2006; Stiffman et al., 2007; Zimmerman et al., 1998). Consequently, a majority of the intervention programs targeting American Indian youth have concentrated primarily on the prevention of said problem behaviors. A body of

previous research that focuses only on problem behavior or negative outomes paints a distorted picture of American Indian youth and reinforces negative stereotypes, as well pathologizes and marginalizes American Indian communities. Relatively few studies have specifically investigated the positive behaviors, competence and strengths of American Indian youth. Researchers argue that exploring adaptive developmental outcomes and positive behaviors, as well as the potential protective mechanisms that exist within American Indian people and American Indian communities, are equally relevant focal points and instrumental in the prevention of negative outcomes (LaFromboise & Dizon, 2003; Mitchell & Beals, Stiffman et al., 2007). Additionally, interventions highlighting and promoting positive behaviors may be more likely to be embraced by American Indian communities.

For many ethnocultural groups, being involved in cultural activities and having a ethnic identity have been associated with positive psychosocial outcomes, such as having higher self-esteem, less stress and anxiety, and less substance use (LaFromboise & Dizon, 2003; McCubbin et al., 1998; Zimmerman et al., 1998). However, previous research findings are unclear and inconsistent regarding the role of participation in American Indian traditions and activities in positive youth development. It is important to gain a clearer understanding of how the transmission of traditions and culture – considered cultural socialization – impacts the positive development of American Indian youth. Information gained would greatly improve our knowledge base about the process of ethnic identity development in American Indian youth and the positive outcomes that are specifically related to cultural socialization that occurs within the family unit. Additionally, future interventions can be designed to enhance the mechanisms that

promote cultural knowledge and pride, therefore fostering ethnic identity and positive behavioral and psychosocial outcomes. Central to this process is family worldview and understanding how protective attributes and strengths of cultural identity are provided through the family

Purpose of Study

American Indian youth continue to be a neglected population in research, and when studied are almost always imbedded in a negative conceptualization of outcomes. More focused research in the area of positive youth development with this population is clearly needed. The purpose of this study was to build on previous research by exploring the relationships between family worldview, cultural socialization and positive youth development in American Indian Youth and to examine more specifically the potential moderating effect of cultural socialization on outcomes. In the study I use existing data from the Community Shadow Project (Ball, 2005-2010, funded by the National Institute on Alcohol Abuse and Alcoholism).

For the purpose of the study, indicators for positive youth development were measured by ethnic identity, pro-social activity, positive family relationships, future orientation and self-regulation. This study was organized according to the following research questions: (1) Is family worldview related to positive youth outcomes? (2) Is cultural socialization related to positive youth outcomes? And (3) Does cultural socialization moderate the relationship between family worldview and positive youth outcomes?

Family is the primary vehicle through which cultural knowledge and traditions are transmitted to new generations. Children develop beliefs, adopt values, and learn

behaviors from the direct and indirect messages they receive from their family. These beliefs, values and behaviors become more firmly cemented when family members, especially parental figures, are actively communicating information, values and perspectives and modeling behaviors related to their ethnocultural heritage. Based on this, and on the primary research questions of this study, I formed the following hypotheses:

1. Family worldview will be significantly and positively related to ethnic identity, pro-social activity, positive family relationships, future orientation and self-regulation.
2. Cultural Socialization will be significantly and positively related ethnic identity, pro-social activity, positive family relationships, future orientation and self-regulation.
3. Cultural Socialization will significantly and positively moderate the relationship between family worldview and ethnic identity, pro-social activity, positive family relationships, future orientation and self-regulation.
4. Sufficient variation in youth outcomes will be observed between families, justifying the examination of the data within its hierarchical structures and that family level characteristics (family worldview and cultural socialization) will significantly explain the variation of positive youth outcomes between families.
5. There will be differences in the relationships between cultural socialization and the positive youth outcomes based on youth sex, such that mean scores of

the positive youth outcomes will be significantly greater for females than males

6. There will be differences in the relationships between cultural socialization and the positive youth outcomes based on youth age, such that mean scores of the positive outcomes will be significantly and positively correlated with age.

The hypothesized model is presented in Figure 1.

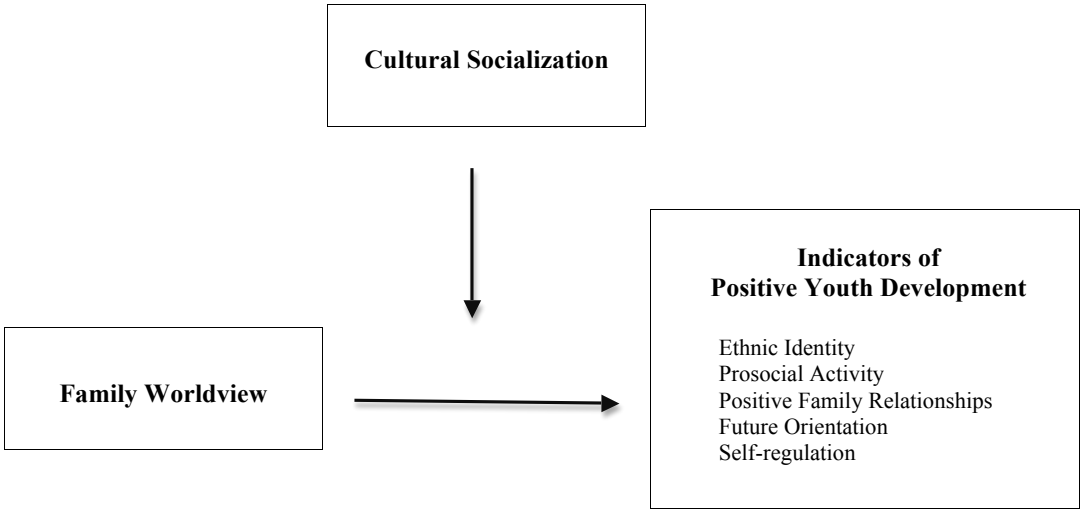

FIGURE 1. Hypothesized moderating effects of cultural socialization in the relationships between family worldview and indicators of positive youth development.

CHAPTER II

METHODS

In this study I used a nonexperimental, passive-observational design to test the relationships between parental family worldview and cultural socialization on youth ethnic identity, pro-social activity, positive family relationships, future orientation and self-regulation among American Indian participants involved in a family intervention study. This study was a collaborative effort that included the Community Shadow Project and the Tribal Advisory Boards of the communities involved.

All the data used in the current study were collected as part of a NIAAA funded dataset, the Community Shadow Project. The Community Shadow Project was a research study conducted by Alison Boyd-Ball, Ph.D., Kate Kavanagh, Ph.D. and Tom Dishion, Ph.D., to explore the benefits of using the EcoFit model of intervention (Dishion & Kavanagh, 2003; Dishion & Stormshak, 2007) with American Indian families. The Community Shadow Project was based on collaboration with the University of Oregon Child and Family Center (CFC) and three American Indian communities in the Pacific Northwest. One of the main objectives of the Community Shadow Project was to provide interventions that were appropriate for the culture and needs of these communities.

Participants

Participants were 311 American Indian youth representing 174 families from three Tribal communities located in the Pacific Northwest. The community sample was

formed from tribal enrollment records, a listing of all individuals who meet tribal requirements as official members. The age range for the children was 8-19 years (M = 12.87) and the sex composition was 169 females and 138 males. The sex of four participants was unknown. Tribal Site 1 was comprised of 103 total children and 58 families living in a small, rural community. Many families had more than one youth participating in the study. Participating families may have had more children, but the children were excluded from the study because they may have been outside of the age range, did not provide assent or were not living with the family for at least 6 months prior to the start to the study. Of the 58 families at Tribal Site 1, 29 families had one child, 17 families had two children, 9 families had three children, two families had four children and one family had five children. Tribal Site 2 was comprised of 104 total children and 57 families living in or near a large reservation. Of the 57 families at Tribal Site 2, 29 families had one child, 20 families had two children, one family had three children, five families had four children and two families had six children. Tribal Site 3 was comprised of 104 total children and 59 primary caregivers living on or near a large reservation. Of the 59 families at Tribal Site 3, 25 families had one child, 25 families had two children, eight families had three children, and one family had five children. Participants' demographic information is reported in Table 1.

Procedures

A multiple baseline design was utilized to recruit families from the participating tribal communities over a three-year period. Recruitment methods for the Community Shadow Project were developed in collaboration with each tribal community's Tribal Advisory Board. A description of the Community Shadow Project study was included in

each of the tribal newspapers and information flyers were posed in locations frequented by community members (i.e., stores, post offices, tribal service programs, etc.). Recruitment tables were set up at regular community events, including sporting events, health fairs and back-to-school functions. Also, flyers and introductory letters describing the intervention study were mailed to eligible families. Potential participants were given several options for making contact with project staff, including connecting with a staff member via a home visit, by telephone or by meeting at the tribal community's Family Resource Center and were provided with a summary of the project, verbal assurances of confidentiality and copies of the project description, timeline and consent/assent forms. Participation was voluntary and assurances were made that the family's decision regarding participation did not affect tribal services and status within the tribal community.

The Community Shadow Project intervention included an adapted version of the Family Check-Up, an empirically supported, family centered model of youth mental health treatment (Dishion & Stormshak, 2007; Gardner, Connell, Trentacosta, Shaw, Dishion & Wilson, 2009; Dishion, Shaw, Connell, Gardner, Weaver & Wilson, 2008; Gill, Hyde, Shaw, Dishion, & Wilson, 2008)). The intervention included an informed consent process, an initial interview, an In-home Family Assessment, and feedback session. Participants completed the informed consent process with a research assistant. The initial interview was conducted by a "family ally" in the family's home or at the Family Resource Center and was focused on building rapport and developing a collaborative framework, lasting about 30-60 minutes. The In-Home Family Assessment consisted of interviews, written questionnaires and a videotaped American Indian Family

Assessment Task and usually took approximately 2-3 hours to complete. The final session was a 60 minutes Feedback Session, in which a "family ally" discussed the assessment results with the families and provided them with a menu of family-based interventions.

The data for this study was obtained during one time of measurement, the In-Home Family Assessment, and collected from one primary caregiver for each family and each participating child. This study has the approval of the Community Shadow Project Data Access Committee and the Tribal Advisory Boards for Tribal Sites 1, 2 and 3.

Table 1

Demographic Information for the Sample

Variable	*M*	*SD*	*N*	*%*
Youth Level				
Age	12.87	2.64		
Female			169	54.3
Male			138	44.4
Tribal Site 1			103	33.1
Tribal Site 2			104	33.4
Tribal Site 3			104	33.4
Family Level				
*Female			149	86.2
*Male			25	12.5
Tribal Site 1			58	33.3
Tribal Site 2			57	32.8
Tribal Site 3			59	33.9

*Refers to sex of primary caregiver participating in the intervention study.

Measures

All measures for this study are presented in Appendix A. Six of the variables measured were obtained from subscales of The Child and Family Center Questionnaire (CFCQ), a survey instrument generated by the CFC and which has been empirically supported in previous research projects (Gardner et al., 2009; Dishion et al., 2008; Gill et al., 2008). The CFCQ includes two versions, a Parent version (CFCQP) and a Youth version (CFCQY). It was adapted by the Community Shadow Project to be more culturally congruent with American Indian populations. One subscale from the CFCQP was used to assess cultural socialization. Five subscales from the CFCQY were used to assess positive youth outcomes, including pro-social activity, positive family relationships, positive future orientation, and self-regulation. Table 2 provides an overview of the variables included in the current study.

Table 2
Variables of Interest

Youth Level (Level 1)	Family Level (Level 2)
Outcomes	Predictors
Ethnic Identity	Family Worldview
Pro-social Activity	Cultural Socialization
Positive Family Relationships	
Future Orientation	
Self-Regulation	

Demographic information. Demographic information collected in this study included sex of primary caregiver and youth, age of youth, racial or ethnic group of primary caregiver, educational background of primary caregiver, predominant language spoken at home, the relationship between the primary caregiver and youth, religious and spiritual beliefs of primary caregiver, and annual household income. Only youth sex and age were examined in the final analyses.

Youth-Level Variables

Ethnic identity. Ethnic identity was measured by the child's response on an adapted version of the Multi-group Ethnic Identity Measure (MEIM; Phinney, 1992). The adapted version of the MEIM is an 8-item, 4-point, Likert-type scale ("1 = Not really" to "4 = A lot") that assesses positive ethnic attitudes and sense of belonging, ethnic identity achievement and ethnic behaviors or practices. Example items from the measure include: "I know what being in my ethnic group means to me," "I am happy that I am a member of my ethnic group," "I feel proud of my ethnic group and of the good things we have done," and "I do things that are common to my ethnic group, like eating special food, listening to certain music or doing traditional activities." A higher score indicates more Ethnic Identity. Phinney (1992) reported a Cronbach's alpha coefficient of $\alpha = .80$ or higher for the MEIM across a wide range of ethnic groups and ages. The alpha coefficient for this study's sample was $\alpha = .90$.

Pro-social activity. The pro-social activity subscale measured youth involvement in pro-social activities using a 6-item, 6-point Likert-type scale ("0 = 0 hours" to "5 = 25 or more hours"). Each item begins with the prompt: "In the month of (insert month) how many hours did you spend on each activity?" Example items include: "Working at a job

or doing volunteer work," "Participating in teams (i.e., sports, cheerleading, band, dance team) or clubs (i.e., chess, photography, etc.)" "Practicing a skill like playing a musical instrument, powwow dancing, or other skills," and "Doing household chores or helping the family with house projects." A higher score indicates greater involvement in pro-social activities. The alpha coefficient for this study's sample was $\alpha = .61$.

Positive family relationships. The positive family relationships subscale measured youth perceptions of positive interactions and relationships with his or her family members using a 12-item, 7-point Likert-type scale ("0 = Never" to "7 = Always"). Each item begins with the prompt: "For the following statements, please mark how you feel about your family at the present time." Example items include: "There has been a feeling of togetherness in my family," "I feel loved by my family," "People in my family listen when I speak," and "There was someone in my family who helped me feel that I was important or special." Higher scores indicate more positive family relationships. The alpha coefficient for this study's sample was $\alpha = .91$.

Future orientation. The perceived future career subscale is a 9-item, 6-point Likert-type scale ("1 = Not at all" to "5 = Very sure") that measures youth perceptions of their future and career. Example items include: "I can imagine myself being an important adult in my community," "I feel confident that I will achieve my goals," and "I think my future will be positive." Higher scores indicate a more positive future and career orientation. The alpha coefficient for this study's sample was $\alpha = .67$.

Self-regulation. The self-regulation subscale is a 16-item, 5-point Likert-type scale ("1 = Almost always not true" to "5 = Almost always true") that measures youth

perceptions of their self-regulatory behavior. Each item begins with the prompt: "How true are each of these statements for you?" Example items include: "It is easy for me to really concentrate on homework problems," "It's hard for me not to open presents before I'm supposed to," "When someone tells me to stop doing something, it is easy for me to stop," and "I can stick to my plans and goals." Higher scores indicate greater ability to self-regulate behaviors. The alpha value for this study's sample was $\alpha = .71$.

Family-Level Variables

Family worldview. Family worldview was measured by the primary caregiver's response on the Family Schema-Ethnic scale (FSCH-E; McCubbin, Thompson, Elver & Carpenter, 1992). The FSCH-E is a 40-item, 5-point Likert-type scale ("1 = Not true at all" to "5 = Very true") that measures the degree to which a family has cultivated a family's worldview and identity that includes ethnocultural values. Example items from the measure include: "We believe that the land we live on is an important part of who we are," "Our ethnic/cultural roots give strength to us," and "Using our native language helps us appreciate and value our ethnic/cultural roots." A higher score indicates higher family ethnic schema, which points to a stronger affiliation with the family's indigenous values and identity. The Cronbach's alpha for the FSCH-E was reported by McCubbin and colleagues (1992) to be $\alpha = .87$. The alpha value for this study's sample was $\alpha = .88$.

Cultural Socialization. The cultural socialization subscale measured the degree to which primary caregivers taught or socialized youth around cultural beliefs and values using an 10-item, 5-point Likert-type scale ("1 = Never or Almost Never" to "5 = Always or Almost Always"). Example items include: "How often do you teach your child about

your tribal history?" "How often do you teach your child about tribal culture and traditions?" and "How often do you teach your child about living in balance with their tribal culture and modern American culture?" A higher score indicates greater transmission of cultural information from primary caregiver to youth. The alpha value for this study's sample was $\alpha = .87$.

CHAPTER III

RESULTS

The analyses for this study included descriptive statistics and hierarchical linear models (HLM). Predictive Analytics Software 16.0 (PASW; SPSS Inc, 2007) and HLM 6.0 (Raudenbush, Bryk, & Congdon, 2004) were used for conducting these analyses. For each analysis, an alpha level of .05 was set *a priori* to denote statistical significance. Results are presented in the following order: preliminary analyses, descriptive information, hypothesized models using HLM, and multigroup analyses with sex and age as the grouping variable.

Preliminary Analyses

The data were screened for major outliers, missing values, and to assess if relevant statistical assumptions have been met. The statistical assumptions that underlie General Linear Models (GLM) are multivariate normality, linearity, homoscedasticity, and independence (Mertler & Vannata, 2005). However, data that are nested within hierarchical structures (i.e., families, classrooms, tribes, etc.) violate the assumption that observations are independent of each other. In this study participants were nested within families, which were nested within tribes. It is probable that individuals from the same family are likely to be more similar than individuals from a different family due to shared biological, social and environmental characteristics (Bickel, 2007; Krull, 2007; Luke, 2004). Ignoring that individuals are nested within hierarchical structures can result in

standard errors that are smaller than they should be, thereby increasing the likelihood of making a Type I error, in which the null hypothesis is rejected when it actually is true for the sample (Krull, 2007; Luke, 2004). HLM is appropriate because it takes into account the relevant contextual influences on individual behavior, avoids the problem of intraclass correlations in examining nested data, does not require that the data be balanced, allows for an examination of relationships across hierarchical structures, and can be used to analyze main effect, moderation, and mediational models (Bickel, 2007; Krull, 2007; Raudenbush & Bryk, 2002). Additionally, Krull (2007) argued that multilevel analyses could be used with sibling data to increase analytic power. However, effect sizes may be harder to detect because of the smaller sample sizes that exist within families.

Missing Data

Family worldview, cultural socialization, ethnic identity, pro-social activity, positive family relationships, future orientation, and self-regulation were the variables measured in this study. However, not all measurements were available for every participant. An EM (expectation-maximization) analysis was used to estimate means, correlations, and covariances. Little's (1988) chi-square statistic was used for testing whether values are missing completely at random (MCAR) and posits a null hypothesis that the data are missing completely at random and a p value is significant at the .05 level. If the value is less than .05, the data are not considered missing completely at random. A stringent value of $p = .001$ was applied to this study's sample. The Little's MCAR test obtained for this study's data resulted in χ^2 (4375, $N = 311$) = 4440.32, p = .24), which indicates that the data are indeed missing completely at random (i.e., no

identifiable pattern exists to the missing data). When the data are all missing completely at random, EM analysis for estimation provides consistent and unbiased estimates of the correlations and covariances of the data (Schlomer, Bauman & Card, 2010). Missing values were then replaced by imputed values and saved into a new data file for further analyses.

The initial statistical power of the study was estimated using Optimal Design Software for Multi-Level and Longitudinal Research. The data in this study are structured in three hierarchical levels: (1) individual, (2) family, and (3) tribe. Although there are three levels in this study, a two-level analysis was conducted for this study because of the small sample size and subsequent lack of power at the third level (tribe). In determining the potential statistical power of the study, I selected the following input parameters: $\alpha = .05$, $j = 174$, $n_1 = 1$, $n_2 = 6$. The input parameters represent alpha level (α), number of groups (j), minimum number of participants in a group (n_1) and maximum number of participants for a group (n_2). Optimal Design calculated that a family with 1 child would have power of .80 to detect an effect size of .43 or bigger. A family with 6 children would have power of .80 to detect an effect size of .18 or bigger.

Descriptive Statistics and Correlation Analyses

The means, standard deviations, and alpha reliability coefficients are presented in Table 3. Each of the variables, except pro-social activity, had above average mean scores. Additionally, the standard deviations for ethnic identity, future orientation, self-regulation and cultural socialization were low, which indicates that the data points tend to be very close to the mean and there is not much variability across population. A serious ceiling effect is observed in the histograms for both ethnic identity and positive family

relationships, in which the scores are bunched at the upper level of these two variables (see Figures 2 and 3). These ceiling effects can create problems in making conclusive statements about the data and increase the chance of overlooking real effects that may be present (Cramer & Howitt, 2004).

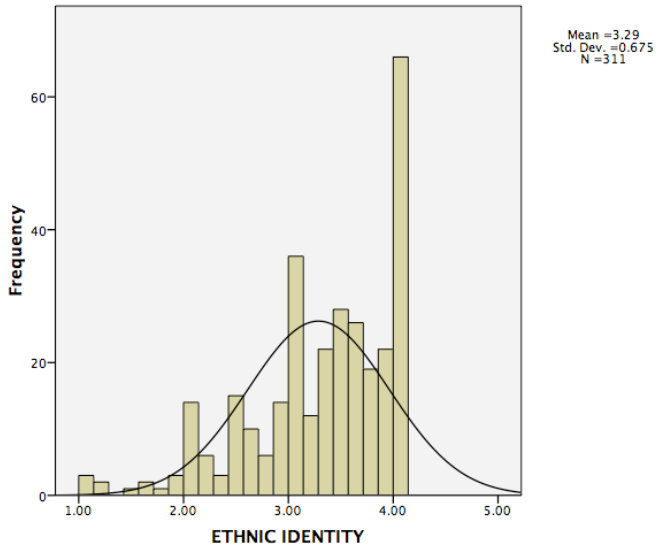

Figure 2: Histogram of Ethnic Identity Scores

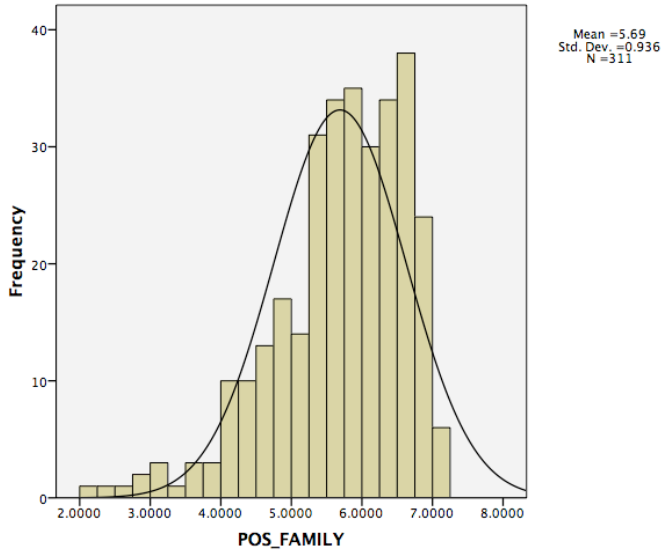

Figure 3: Histogram of Positive Family Relationships Scores

In general, reliability coefficients above .70 are considered acceptable (George & Mallery, 2003). The scales for ethnic identity, positive family relationships, self-regulation, family worldview and cultural socialization all showed acceptable to excellent reliability. However, scales for pro-social activity and future orientation had reliability coefficients below .70, deeming them somewhat questionable in their ability to reliably measure the intended constructs.

Correlations between positive youth outcomes (ethnic identity, pro-social activity, positive family relationships, future orientation, and self-regulation), family worldview and cultural socialization were assessed in order to highlight singular relationships that may impact the results of the full model HLM. Bivariate correlations are presented in Table 4. The positive youth outcome variables were significantly and positively correlated with one another. However, family worldview was not significantly correlated with any of the outcome variables. Cultural socialization was significantly and positively correlated with ethnic identity ($r = .13$, $p < .05$) and family worldview ($r = .46$, $p < .01$).

Simultaneous multiple regression analyses were conducted with each of the positive youth outcome variables as the criterion variable and family worldview, cultural socialization and family worldview-cultural socialization interaction as the predictor variables. The multiple regression analyses served as a preliminary exploration of the data. Only the regression of ethnic identity on family worldview and cultural socialization was statistically significant, $F\ (2, 310) = 3.71$, $MSR = 0.45$, $p < .05$, $R^2 = .02$. The regression coefficients, standard error and p values are reported in Table 5.

Table 3

Means, Standard Deviations, and Reliability Coefficients for Scale Scores

Scale	*M*	*SD*	Alpha
Youth Level			
Ethnic Identity	3.29	.68	.90
Pro-social Activity	25.80	19.75	.61
Positive Family Relationships	5.69	.94	.91
Positive Future Career Orientation	3.48	.61	.67
Self-Regulation	3.05	.53	.73
Family Level			
Family Worldview	161.19	14.67	.88
Cultural Socialization	3.90	.62	.87

Table 4

Correlations Between Primary Study Variables

	1	2	3	4	5	6	7
1. Ethnic identity	1						
2. Pro-Social Activity	.17**	1					
3. Pos Fam Relationships	.35**	.11*	1				
4. Future Orientation	.34**	.21**	.42**	1			
5. Self-Regulation	.33**	.22**	.26**	.26**	1		
6. Family Worldview	-.01	.01	.02	-.03	.01	1	
7. Cultural Socialization	.13*	.06	.09	.09	.06	.46**	1

Note. $N = 311$. 1. Ethnic Identity; 2. Pro-Social Activity; 3. Positive Family Relationships; 4. Future Orientation; 5. Self-Regulation; 6. Family Worldview; 7. Cultural Socialization.

*$p < .05$. ** $p < .01$.

Family worldview was not a significant predictor of ethnic identity, $b < -0.01$, $SE < 0.01$, $p > .05$. Cultural socialization was a statistically significant predictor of ethnic identity, $b = 0.17$, $SE = 0.07$, $p < .05$.

The interaction effect of family worldview and cultural socialization was not a significant predictor of ethnic identity, $b < -0.01$, $SE < 0.01$, $p > .05$. Examination of the squared semipartial correlation between cultural socialization and ethnic identity revealed that 2% of the variation in ethnic identity was uniquely accounted for by cultural socialization. The relationship between cultural socialization and ethnic identity is represented in Figure 4.

Table 5

Regression Coefficients for Model Predicting Ethnic Identity

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Intercept	3.29	0.41	80.37			
Family Worldview	<-0.01	<0.01	-1.34	-0.09	-0.08	.18
Cult. Socialization	0.17	0.07	2.59	0.17	0.15	.01
FW x CS	<-0.01	<0.01	-0.44	-0.03	-0.03	.66

Note. FW = family worldview. CS = cultural socialization.

These correlations provide an initial look at relations among the family-level predictor variables and the youth-level outcome variables. However, this is not the most appropriate statistic to use for this dataset because it does not take into account the design effects in this study and ignores the hierarchical nature of the data. The most appropriate statistic to examine these relationships is HLM.

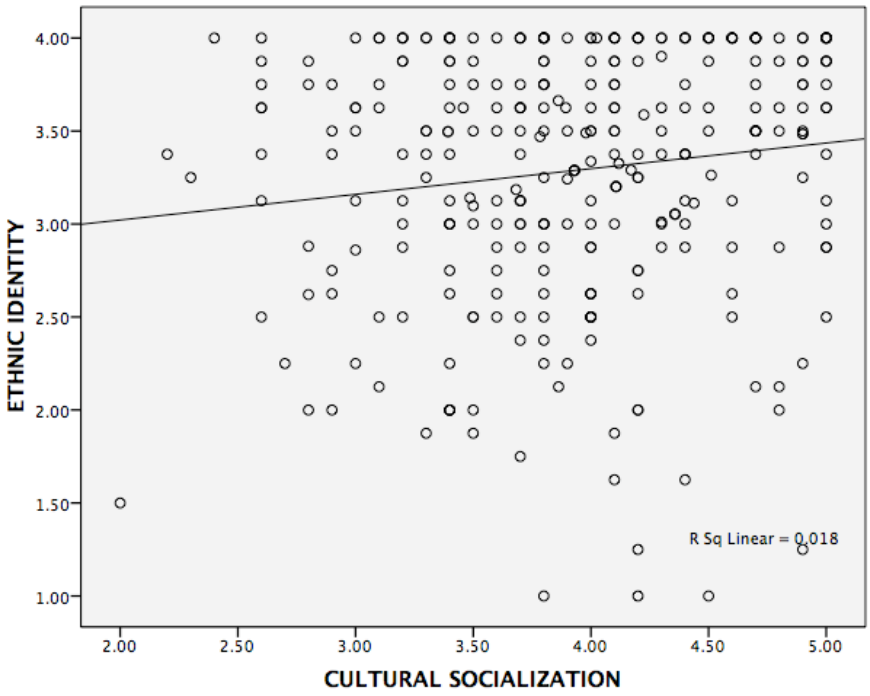

FIGURE 4. Effect of Cultural Socialization on Ethnic Identity.

Main Analyses

HLM was used to statistically analyze a data structure where youth were nested within families. Of specific interest was the relation between youth's ratings of their positive outcomes (Level-1 criterion variables) and primary caregiver's report of both family worldview (a Level-2 predictor variable) and cultural socialization (a Level-2 predictor variable). For each of the research questions driving this study, two-level hierarchical analytic models were conducted on the youth outcomes: ethnic identity, pro-social activity, positive family relationships, positive future orientation and self-regulation. Model testing proceeded in 5 phases.

In the first step of analysis, an intercepts-only (unconditional) model was applied that specified no predictors at Level 1 or Level 2 (Raudenbush & Bryk, 2002). The

purpose of conducting an unconditional model is to determine how much variance exists between families in their mean outcomes and whether it is a significant amount. For this model, the mean outcome for youth in family *j*, is β_{0j}, and the Level-1 residual for each youth within each family is represented r_{ij}. The Level-1 equation is shown below:

$$Y_{ij} = \beta_{0j} + r_{ij}$$

At Level 2, the grand mean outcome, γ_{00}, is the value of the overall mean of the outcome variable averaged across all *j* families with a residual, u_{0j}, indicating unexplained variation of each family from the grand mean:

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

This results in an unconditional model composed of the grand mean and residual variation that occurs at Level 1, r_{ij}, or at Level 2, u_{0j}:

$$Y_{ij} = \gamma_{00} + u_{0j} + r_{ij}$$

The intercept-only models for youth positive outcomes yielded intraclass correlation coefficients between 0.08 and 0.34. Thus, between 8% and 34% of the variance in positive youth outcomes is between-families and the remainder of the variability lay within-families at the youth level. The results indicated that the amount of variance between families was substantial enough to justify further HLM analysis. The within-family variance, between family variance, reliability estimate, intraclass correlation coefficients (ICC) and *p* values resulting from the intercepts-only (unconditional models) for the positive youth outcomes are presented in Table 7. The unconditional models were used as baseline comparisons to the conditional models.

Analysis then proceeded with the creation of conditional models in which the predictors were entered into the baseline model on the intercept. Model building

followed conventional guidelines in which Level-1 predictors were added first, followed by the addition of Level-2 predictors. In the original intervention study, data was obtained from the primary caregiver (representative of the family at Level 2) for each of the predictor variables. Family worldview was measured only from the primary caregiver and then applied for each youth to symbolize the family's worldview and identity (Level 2). Cultural socialization, however, was measured from the primary caregiver for each participating youth in the family. As a result, cultural socialization is not considered a "true" group-level variable and was modeled as a Level-1 and Level-2 predictor in this study's HLM analyses. In computing cultural socialization as a Level-2 predictor variable, the scores were aggregated for each family. Given that cultural socialization is a Level 1 variable and family worldview of the primary caregiver was applied to each youth, the moderating effect of family worldview on the relationships between cultural socialization and the positive youth outcomes also was examined. The cross-level interactions were examined when the predictor variables were entered into the model at Level 2.

The first conditional model (Model 1) was a regression with means-as-outcomes model, in which the effect of cultural socialization was entered as a Level-1 variable (group-mean centered). The purpose of this conditional model is to address the second research question, which explores the relationship between cultural socialization and the positive youth outcomes. Specifically, I wanted to look at how variability in cultural socialization among youth within a family predicts variability among youth within a family in positive youth outcomes (Level-1 variance).

In the second conditional model (Model 2), family worldview was entered as a Level-2 variable (grand-mean centered) to predict the intercept and the slope. The purpose of this model was to address the first research question, which explores the relationship between family worldview and the positive youth outcomes. Specifically, I wanted to look at how variability in family worldview among families predicts variability among families in positive youth outcomes (Level-2 intercept variance). The cross-level interaction of youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) also was examined.

In the third conditional model (Model 3), family worldview was removed as a variable at Level 2 and cultural socialization was entered into the model as a Level-2 variable (grand-mean centered) to predict the intercept and slope. The purpose of this model was to address the second research question and examine how variability in cultural socialization among youth within a family predicts variability among youth within a family in positive youth outcomes (Level-1 variance) and how variability in cultural socialization among families predicts variability among families in positive youth outcomes (Level-2 intercept variance). The cross-level interaction of youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) also was examined.

In the fourth and final conditional model, family worldview was reentered as a Level-2 variable (grand-mean centered) to predict the intercept and slope. The purpose of this model is to explore if a model in which all of the predictor variables are entered provides the best fit for the data. Deviance tests were conducted to determine if there was a significant difference between conditional and unconditional models. Change in

deviance is used to determine the fit of the model, with decreased deviance (as compared to the unconditional model) implying a better fit (Luke, 2004). Cross-level interactions were explored between youth cultural socialization (Level-1 predictor) and each of the Level-2 predictor variables, family worldview and family cultural socialization.

Table 6

Results of the Intercepts-Only (Unconditional) HLM Model

Outcomes	σ^2	τ	λ	ICC
Ethnic Identity	.39	.06**	.20	.13
Pro-social Activity	260.69	135.03**	.45	.34
Positive Family Relationships	.69	.18**	.30	.21
Future Orientation	.34	.03*	.13	.08
Self-Regulation	.25	.04**	.20	.13

Note: σ^2 = within-family variance; τ = between-family variance; λ = reliability estimate;
ICC = intraclass correlation
*p = <.05. ** p < .01.

Centering is an important statistical tool for reducing the multicollinearity of predictor variables, as well as facilitating more meaningful interpretation of results. For example, when cultural socialization is centered on its grand mean, it then represents the deviation of the youth's score from the grand mean of the sample. For that reason, the variance in the intercept term is equal to the between-family variance in the outcome variable after controlling for cultural socialization. It is the adjusted between-family variance in the youth outcome variable. This is helpful because it provides a more meaningful reference point than the untransformed predictor variable (Luke, 2004).

Centering a predictor variable on its group mean is especially useful in that it allows for separation of a cross-level interaction from a between group-interaction. For example, when a cultural socialization is centered on the group mean, the intercept is equal to the between-family variance of the outcome variable and represents the average score of the outcome variable of all youth. Therefore, the Level-2 intercept model is the between-family regression between family-level outcome variable and the family-level predictor variables.

Ethnic Identity

In the unconditional HLM, ethnic identity scores were examined when youth (Level-1) are nested within families (Level-2) and no predictor variables were entered into the model. The results showed that the grand mean was statistically significantly different from zero, $t(173) = 80.21$, $p = .00$, and that there was significant variance around the grand mean at Level 2, $\chi^2 (173, N = 311) = 218.76$, $p = .01$. These results indicated that there is significant variance attributable to families; therefore, it was appropriate to proceed to hierarchical analysis. The intraclass correlation coefficient (ICC) was 0.13, signifying that 13% of the variance in ethnic identity is between families and 87% of the variance in ethnic identity is at the youth-level. The reliability (λ) of the estimated family means for ethnic identity was 0.20. The unconditional model was used as a baseline for comparisons to the conditional models. Results from the unconditional model are reported in Table 6. Results of the conditional models, including regression coefficients, standard error (*SE*), *t*-test values, variance components, and degrees of freedom of all parameters, are reported in Table 7.

For the first conditional model (Model 1), cultural socialization was entered as a Level-1 variable (group-mean centered). A restricted maximum likelihood deviance test indicated that, after including family worldview, there still is significant variance in the intercept term across families, χ^2 (173, N = 311) = 217.96, p = .01. Cultural socialization did not explain variation in mean ethnic identity scores for youth within families (Level-1), pseudo-R^2 = -0.02, t(309) = 0.80, p = .43. Also, the proportion of unexplained variance did not change, ICC = 0.13. Negative pseudo-R^2 in HLM analyses is a function of decreasing variance explained at the second level, indicating the variable has almost no variation at one of the levels (Roberts & Monaco, 2006). As a result, the deviance only decreased by 0.23 points from the baseline model, indicating that this conditional model was not a better fit than the model in which no predictors were added.

In the second conditional model (Model 2), family worldview was entered as a Level-2 variable (grand-mean centered) to predict the intercept and the slope. Family worldview did not explain variation in mean ethnic identity scores for youth between families (Level-2), $\gamma < 0.01$, pseudo-$R^2 < 0.01$, t(172) = 0.06, p = 0.96. The proportion of unexplained variance remained unchanged, ICC = 0.13. Additionally, the regression coefficient relating youth cultural socialization (Level-1) to youth ethnic identity remained was not statistically significant, γ = < 0.01, pseudo-R^2 = -0.02, t(307) = 0.99 p = .33. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) also was not statistically significant, γ = <0.01, t(307) = 0.80, p = .44. After including family worldview, a restricted maximum likelihood deviance test indicated that there still was significant variance in ethnic identity scores across families, χ^2 (172, N = 311) = 217.03, p = .01. This indicates that a

significant amount of unmodeled variability remains at both levels. The deviance increased by 16.72 points, indicating that Model 2 did not fit the data significantly better than the baseline model.

In the third conditional model (Model 3), family worldview was removed as a variable at Level 2 and cultural socialization was entered into the model as a Level-2 variable (grand-mean centered) to predict the intercept and slope. The regression coefficient relating cultural socialization at Level 2 to ethnic identity was positive and statistically significant, $\gamma = .16$, pseudo-$R^2 = 0.02$, $t(172) = 2.44$, $p = 0.02$. Families that have higher than average levels of cultural socialization are likely to have youth with higher ethnic identity scores. A youth with one point lower cultural socialization score would be expected to have an ethnic identity score of 3.12. However, cultural socialization as a level-1 predictor did not explain variation in mean ethnic identity for youth within families (level-1), pseudo-$R^2 < 0.01$, $t(307) = 1.10$ $p = .27$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) was not statistically significant, $\gamma = 0.35$, $t(307) = 1.28$, $p = .20$. After entering cultural socialization into the model at Level 2, a restricted maximum likelihood deviance test indicated that there still was significant variance in ethnic identity scores across families, $\chi^2 (172, N = 311) = 215.21$, $p = .01$. This indicates that a significant amount of unmodeled variability remains at both levels. Although the deviance dropped by 2.91 points, Model 3 did not fit the data significantly better than the baseline model, despite the significant predictor at Level 2. The proportion of variance between families explained by cultural socialization is pseudo-$R^2 = 0.02$. This means that only about 2.0% of the explainable variation between families in ethnic identity scores

can be explained by cultural socialization. Furthermore, the proportion of unexplained variance did not change, ICC = 0.13.

In the fourth and final conditional model, family worldview was reentered as a Level-2 variable (grand-mean centered), alongside cultural socialization, to predict the intercept and slope. Family worldview did not explain variation in mean ethnic identity scores for youth between families (Level-2), $\gamma = < -0.01$, $t(171) = -1.34$, $p = 0.18$. The regression coefficient relating cultural socialization at Level 2 to ethnic identity remained positive and statistically significant, $\gamma = .21$, $t(171) = 2.81$, $p = 0.01$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) was not statistically significant, $\gamma = <0.01$, $t(305) = 0.15$, $p = .88$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) was remained nonsignificant, $\gamma = 0.34$, $t(305) = 1.00$, $p = .32$. As in the previous models, the intercept remained significant, $\gamma = 3.28$, $t(171) = 81.89$, $p < .02$. The proportion of variance between families explained by entering both cultural socialization and family worldview as Level-2 predictor variables is pseudo-$R^2 = 0.10$. This means that cultural socialization accounted for about 10% of the explainable variation between families in ethnic identity scores. The proportion of unexplained variance decreased by 1 percentage point, ICC = 0.12. A restricted maximum likelihood deviance test indicated that there still was significant variance in the intercept term across families, $\chi^2 (171, N = 311) = 209.58$, $p = .02$. These results reaffirm results from previous models that a significant amount of unmodeled variability remains at both levels. The deviance increased by 12.03 points, which indicated that Model 4 was not a better fit for explaining the family-to-family variation in mean (outcome) scores

Table 7

Parameter Estimates for the Family-Level Predictor Variables, Family Worldview and Cultural Socialization, and the Youth-Level Outcome Variable, Ethnic Identity

	Fixed Effect			Random Effect		
	Coef.	*SE*	*t*	*Variance Component*	*df*	χ^2
Model 1						
Intercept, γ_{00}	3.29**	0.04	80.19	0.06	173	217.96*
Youth Cult. Social, γ_{10}	0.09	0.11	0.80			
Model 2						
Intercept, γ_{00}	3.29**	0.04	80.55	0.06	172	217.03*
Mean Family Wv, γ_{01}	<0.01	<0.01	0.06			
Youth Cult. Social, γ_{10}	0.10	0.11	0.99			
FW X Youth CS, γ_{11}	<0.01	0.01	0.78			
Model 3						
Intercept, γ_{00}	3.28**	0.04	80.78	0.06	172	215.21*
Mean Cult. Social, γ_{01}	0.16*	0.06	2.44			
Youth Cult. Social, γ_{10}	0.15	0.13	1.10			
CS X Youth CS, γ_{11}	0.35	0.27	1.28			
Model 4						
Intercept, γ_{00}	3.28**	0.04	81.89	0.05	171	209.58*
Mean Family Wv, γ_{01}	<-0.01	<0.01	-1.34			
Mean Cult. Social, γ_{02}	0.21**	0.08	2.81			
Youth Cult. Social, γ_{10}	0.15	0.13	1.16			
FW X Youth CS, γ_{11}	<0.01	0.01	0.15			
CS X Youth CS, γ_{12}	0.34	0.34	1.00			

Note. Results are based on data from 311 youth distributed across 174 families.

$^{+}p < .10$, $*p < .05$, $**p < .01$.

than the baseline model.

To summarize across models, the best fitting model was the null model meaning that cultural socialization and family worldview were not significant predictors of youth ethnic identity. The average ethnic identity score across families is 3.29 scale score points. Although cultural socialization emerged as a significant predictor of ethnic identity and explained 10% of the variation of mean ethnic identity scores between families in Model 4, the results from the restricted likelihood deviance tests indicated that entering this predictor simultaneously with the Level-2 family mean cultural socialization did not significantly improve the fit of the model over the null model.

Pro-Social Activity

The results of the unconditional HLM showed that the grand mean was statistically significantly different from zero, $t(173) = 19.80$, $p < .01$, and that there was significant variance around the grand mean at Level 2, $\chi^2 (173, N = 311) = 336.04$, $p < .01$. These results indicated that there is significant variance attributable to families; therefore, it was appropriate to proceed to hierarchical analysis. The intraclass correlation coefficient (ICC) was 0.34, signifying that 34% of the variance in pro-social activity is between families and 66% of the variance in pro-social activity is at the youth-level. The reliability (λ) of the estimated family means for pro-social activity was 0.45. These results indicated that the intercept is significantly different from zero and there is significant variance attributable to families; therefore, it was appropriate to proceed to hierarchical analysis. The unconditional model was used as a baseline for comparisons to the conditional models. Results from the unconditional model are reported in Table 6. Results of the conditional models, including regression coefficients, standard error (*SE*),

t-test values, variance components, and degrees of freedom of all parameters, are reported in Table 8.

For the first conditional model (Model 1), cultural socialization was entered as a Level-1 variable (group-mean centered). Cultural socialization did not explain variation in mean prosocial activity scores for youth within families (Level-1), $\gamma = 0.09$, pseudo-R^2 = -0.01, $t(309) = 0.17$, $p = .87$. Although the deviance decreased by 6.41 points from the baseline model, this conditional model was not a better fit than the model in which no predictors were added. A restricted maximum likelihood deviance test indicated that, after including cultural socialization, there still is significant variance in the intercept term across families, $\chi^2 (173, N = 311) = 333.72$, $p < .01$.

In the second conditional model (Model 2), family worldview was entered as a Level-2 variable (grand-mean centered) to predict the intercept and the slope. Family worldview did not explain variation in mean prosocial activity scores for youth between families (Level-2), $\gamma = 0.04$, pseudo-$R^2 = 0.00$, $t(172) = 0.46$, $p = .65$. Additionally, the regression coefficient relating youth cultural socialization (Level-1) to youth prosocial activity remained nonsignificant, $\gamma = 0.24$, pseudo-$R^2 = -0.01$, $t(307) = 0.09$ $p = .93$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) was not statistically significant, $\gamma = -0.04$, $t(307) = -0.19$, $p = .85$. After including family worldview, a restricted maximum likelihood deviance test indicated that there still was significant variance in prosocial activity scores across families, $\chi^2 (172, N = 311) = 331.83$, $p < .01$. This indicates that a significant amount of unmodeled variability remains at both levels. Although the deviance dropped by 2.86 points, Model 2 did not fit the data significantly better than the baseline model,

despite the significant predictor at Level 2. The proportion of variance between families explained by family worldview is pseudo-$R^2 = 0.00$. Furthermore, the proportion of unexplained variance did not change, ICC = 0.13.

In the third conditional model (Model 3), family worldview was removed as a variable at Level 2 and cultural socialization was entered into the model as a Level-2 variable (grand-mean centered) to predict the intercept and slope. The regression coefficient relating cultural socialization at Level-2 to prosocial activity was not statistically significant, $\gamma = .66$, pseudo-$R^2 = 0.01$, $t(172) = 0.26$, $p = 0.80$. Additionally, cultural socialization as a level-1 predictor did not explain variation in mean prosocial activity scores for youth within families (level-1), $\gamma = 6.63$, pseudo-$R^2 = 0.00$, $t(307) = 0.08$ $p = .43$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) was not statistically significant, $\gamma = -0.04$, $t(307) = -0.19$, $p = .85$. After including cultural socialization, a restricted maximum likelihood deviance test indicated that there still was significant variance in prosocial activity scores across families, $\chi^2(172, N = 311) = 330.79$, $p < .01$. This indicates that a significant amount of unmodeled variability remains at both levels. Although the deviance dropped by 16.59 points, Model 2 did not fit the data significantly better than the baseline model. The proportion of variance between families explained by cultural socialization is pseudo-$R^2 = 0.01$. This means that only about 1.0% of the explainable variation between families in prosocial activity scores can be explained by cultural socialization. The proportion of unexplained variance did not change, ICC = 0.34.

Table 8

Parameter Estimates for the Family-Level Predictor Variables, Family Worldview and Cultural Socialization, and the Youth-Level Outcome Variable, Prosocial Activity

	Fixed Effect			Random Effect		
	Coef.	*SE*	*t*	*Variance Component*	*df*	χ^2
Model 1						
Intercept, γ_{00}	25.88**	1.31	19.80	133.99	173	333.72**
Youth Cult. Social, γ_{10}	0.38	2.31	0.17			
Model 2						
Intercept, γ_{00}	25.86**	1.31	19.73	134.80	172	331.83**
Mean Family Wv, γ_{01}	0.04	0.08	0.46			
Youth Cult. Social, γ_{10}	0.24	2.67	0.09			
FW X Youth CS, γ_{11}	-0.04	0.20	-0.19			
Model 3						
Intercept, γ_{00}	25.87**	1.31	19.74	133.94	172	330.79**
Mean Cult. Social, γ_{01}	0.66	2.52	0.26			
Youth Cult. Social, γ_{10}	1.50	2.39	0.63			
CS X Youth CS, γ_{11}	6.63	5.30	1.25			
Model 4						
Intercept, γ_{00}	25.86**	1.31	19.71	135.96	171	330.63**
Mean Family Wv , γ_{01}	0.03	0.11	0.30			
Mean Cult. Social, γ_{02}	0.25	3.15	0.08			
Youth Cult. Social, γ_{10}	1.27	2.63	0.48			
FW X Youth CS, γ_{11}	-0.12	0.20	-0.62			
CS X Youth CS, γ_{12}	7.91	5.03	1.57			

Note. Results are based on data from 311 youth distributed across 174 families.
$^{+}p < .10$, $*p < .05$, $**p < .01$.

In the fourth and final conditional model, family worldview was reentered as a Level-2 variable (grand-mean centered) to predict the intercept and slope. Family worldview did not explain variation in mean prosocial activity scores for youth between families (Level-2), $\gamma = 0.03$, $t(171) = 0.30$, $p = 0.76$. The regression coefficient relating cultural socialization at Level-2 to prosocial activity was not statistically significant, $\gamma = 0.25$, $t(171) = 0.08$, $p = 0.94$. Cultural socialization as a level-1 predictor did not explain variation in mean prosocial activity scores for youth within families (level-1), $\gamma = 1.27$, pseudo-$R^2 = -0.02$, $t(305) = 0.48$ $p = .63$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) was not statistically significant, $\gamma = -0.12$, $t(305) = -0.62$, $p = .54$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) also was not statistically significant, $\gamma = 7.91$, $t(305) = 1.57$, $p = .12$. As in the previous models, the intercept remained significant, $\gamma = 25.86$, $t(171) = 19.71$, $p < .01$. The proportion of unexplained variance remained unchanged, ICC = 0.34. These results reaffirm results from previous models that a significant amount of unmodeled variability remains at both levels. Although the deviance decreased by 13.57 points, a restricted maximum likelihood deviance test indicated that there still was significant variance in the intercept term across families, $\chi^2 (171, N = 311) = 330.63$, $p < .01$. Therefore, Model 4 was not a better fit for explaining the family-to-family variation in mean prosocial activity scores than the baseline model.

To summarize across models, the best fitting model was the unconditional model meaning that cultural socialization and family worldview were not significant predictors of prosocial activity. The average prosocial activity scores across families is 25.87 scale

score points. The proportion of variance explained for youth within and between families did not improve across models. The results from the restricted likelihood deviance tests did not indicate that entering the Level-2 predictors significantly improved the fit of the models.

Positive Family Relationships

The results of the unconditional HLM showed that the grand mean was statistically significantly different from zero, $t(173) = 96.72$, $p < .01$, and that there was significant variance around the grand mean at Level 2, $\chi^2 (173, N = 311) = 257.54$, $p < .01$. These results indicated that there is significant variance attributable to families; therefore, it was appropriate to proceed to hierarchical analysis. The intraclass correlation coefficient (ICC) was 0.21, signifying that 20% of the variance in positive family relationships is between families and 80% of the variance in positive family relationships is at the youth-level. The reliability (λ) of the estimated family means for positive family relationships was 0.30. The unconditional model was used as a baseline for comparisons to the conditional models. Results from the unconditional model are reported in Table 6. Results of the conditional models, including regression coefficients, standard error (*SE*), *t*-test values, variance components, and degrees of freedom of all parameters, are reported in Table 9.

For the first conditional model (Model 1), cultural socialization was entered as a Level-1 variable (group-mean centered). A restricted maximum likelihood deviance test indicated that, after including cultural socialization, there still is significant variance in the intercept term across families, $\chi^2 (173, N = 311) = 255.79$, $p < .01$. Cultural socialization did not explain variation in mean positive family relationships scores for

youth within families (Level-1), $\gamma < 0.01$, pseudo-R^2 = -0.01, $t(309) = 0.01$, $p > .99$. As a result, the deviance only decreased by 0.47 points from the baseline model, indicating that this conditional model was not a better fit than the model in which no predictors were added.

In the second conditional model (Model 2), family worldview was entered as a Level-2 variable (grand-mean centered) to predict the intercept and the slope. Family worldview did not explain variation in mean positive family relationships scores for youth between families (Level-2), $\gamma = < 0.01$, pseudo-R^2 = -0.01, $t(172) = 0.55$, $p = 0.59$. Additionally, the regression coefficient relating youth cultural socialization (Level-1) to youth remained nonsignificant, $\gamma = -0.06$, pseudo-$R^2 < -0.01$, $t(307) = -0.29$ $p = .77$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) was (not) statistically significant, $\gamma = -0.02$, $t(307) = -1.24$, $p = .22$. After including family worldview, a restricted maximum likelihood deviance test indicated that there still was significant variance in positive family relationships scores across families, $\chi^2 (172, N = 311) = 256.88$, $p < .01$. This indicates that a significant amount of unmodeled variability remains at both levels. The deviance increased by 13.82 points, indicating that Model 2 did not fit the data significantly better than the baseline model. The proportion of variance between families explained by (predictor variable) is pseudo-R^2 = -0.01, meaning that entering family worldview into the model at Level 2 actually decreased the proportion of variation explained. The proportion of unexplained variance did not change, ICC = 0.21.

In the third conditional model (Model 3), family worldview was removed as a variable at Level 2 and cultural socialization was entered into the model as a Level-2

variable (grand-mean centered) to predict the intercept and slope. The regression coefficient relating cultural socialization at Level-2 to positive family relationships was not statistically) significant, $\gamma = 0.14$, pseudo-$R^2 = 0.02$, $t(172) = 1.58$, $p = 0.12$. Additionally, cultural socialization as a level-1 predictor did not explain variation in mean positive family relationships for youth within families (level-1), $\gamma = 0.14$, pseudo-$R^2 = 0.01$, $t(307) = 0.76$ $p = .45$. However, the cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) was positive and statistically significant, $\gamma = 0.86$, $t(307) = 2.30$, $p = .02$. This significant interaction indicates that the presence of high than average family cultural socialization increases the effects of youth cultural socialization on positive family relationships. A youth with one point higher cultural socialization score would be expected to have an positive family relationships score of 6.54. After including cultural socialization, a restricted maximum likelihood deviance test indicated that there still was significant variance in positive family relationships scores across families, $\chi^2(172, N = 311) = 255.90$, $p < .01$. This indicates that a significant amount of unmodeled variability remains at both levels. Although the deviance dropped by 3.82 points, Model 2 did not fit the data significantly better than the baseline model, despite the significant predictor at Level 2. The proportion of variance between families explained by cultural socialization is pseudo-$R^2 = 0.02$. This means that only about 2.0% of the explainable variation between families in positive family relationships scores can be explained by cultural socialization. The proportion of unexplained variance did not change, ICC = 0.21.

In the fourth and final conditional model, family worldview was reentered as a Level-2 variable (grand-mean centered) to predict the intercept and slope. Family worldview did

not explain variation in mean positive family relationships scores for youth between families (Level-2), $\gamma = < -0.01$, $t(171) = -0.25$, $p = 0.81$. The regression coefficient relating cultural socialization at Level-2 to positive family relationships was not statistically significant, $\gamma = 0.16$, $t(171) = 1.61$, $p = 0.11$. Cultural socialization as a level-1 predictor did not explain variation in mean positive family relationships scores for youth within families (level-1), $\gamma = 0.09$, pseudo-$R^2 = 0.03$, $t(305) = 0.45$ $p = .65$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) also was statistically significant, $\gamma = -0.03$, $t(305) = -2.53$, $p = .01$. The significant cross-level interaction between youth cultural socialization and family worldview indicates that the presence of higher than average family worldview dampens the effects of youth cultural socialization on positive family relationships. A youth with one point lower family worldview score would be expected to have a positive family relationships score of 5.65. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) remained statistically significant, $\gamma = 1.15$, $t(305) = 0.08$, $p < .01$. This cross level interaction resulted in a larger intercept effect, where a youth with one point higher family cultural socialization score would be expected to have an positive family relationships score of 6.83. The proportion of unexplained variance increased by 1 percentage point, ICC = 0.22. A restricted maximum likelihood deviance test indicated that there still was significant variance in the intercept term across families, $\chi^2(171, N = 311) = 259.98$, $p < .01$. Furthermore, the deviance increased by 7.96 points and the proportion of variance explained at Level 2 is pseudo-$R^2 = -0.03$. Despite the significant cross-level interactions, these results reaffirm results from previous models that a

Table 9

Parameter Estimates for the Family-Level Predictor Variables, Family Worldview and Cultural Socialization, and the Youth-Level Outcome Variable, Positive Family Relationships

	Fixed Effect			Random Effect		
	Coef.	*SE*	*t*	*Variance Component*	*df*	χ^2
Model 1						
Intercept, γ_{00}	5.68**	0.06	96.74	0.18	173	255.79**
Youth Cult. Social, γ_{10}	<0.01	0.17	0.01			
Model 2						
Intercept, γ_{00}	5.68**	0.06	96.91	0.18	172	256.88**
Mean Family Wv, γ_{01}	<0.01	<0.01	0.55			
Youth Cult. Social, γ_{10}	-0.06	0.19	-0.29			
FW X Youth CS, γ_{11}	-0.02	0.01	-1.24			
Model 3						
Intercept, γ_{00}	5.68**	0.06	97.53	0.18	172	255.90**
Mean Cult. Social, γ_{01}	0.14	0.09	1.58			
Youth Cult. Social, γ_{10}	0.14	0.19	0.76			
CS X Youth CS, γ_{11}	0.86*	0.37	2.30			
Model 4						
Intercept, γ_{00}	5.68**	0.06	97.69	0.19	171	259.98**
Mean Family Wv , γ_{01}	<-0.01	<0.01	-0.25			
Mean Cult. Social, γ_{02}	0.16	0.10	1.61			
Youth Cult. Social, γ_{10}	0.09	0.20	0.45			
FW X Youth CS, γ_{11}	-0.03*	0.01	-2.53			
CS X Youth CS, γ_{12}	1.15**	0.37	3.08			

Note. Results are based on data from 311 youth distributed across 174 families.

$^{+}p < .10$, $*p < .05$, $**p < .01$.

significant amount of unmodeled variability remains at both levels and indicated that Model 4 was not a better fit for explaining the family-to-family variation in mean positive family relationships scores than the baseline model.

To summarize across models, the best fitting model was the unconditional model meaning that cultural socialization and family worldview were not significant predictors of positive family relationships. The average positive family relationships scores across families is 5.68 scale score points. The proportion of variance explained for youth within and between families did not improve across models. The results from the restricted likelihood deviance tests did not indicate that entering the Level-2 predictors significantly improved the fit of the models.

Future Orientation

The results of the unconditional HLM showed that the grand mean was statistically significantly different from zero, $t(173) = 96.50$, $p < .01$, and that there was significant variance around the grand mean at Level 2, $\chi^2 (173, N = 311) = 210.46$, $p = .03$. These results indicated that there is significant variance attributable to families; therefore, it was appropriate to proceed to hierarchical analysis. The *ICC* was 0.08, signifying that 8% of the variance in future orientation is between families and 92% of the variance in future orientation is at the youth-level. The reliability (λ) of the estimated family means for future orientation was 0.13. The unconditional model was used as a baseline for comparisons to the conditional models. Results from the unconditional model are reported in Table 6. Results of the conditional models, including regression coefficients, standard error (*SE*), *t*-test values, variance components, and degrees of freedom of all parameters, are reported in Table 10.

For the first conditional model (Model 1), cultural socialization was entered as a Level-1 variable (group-mean centered). A restricted maximum likelihood deviance test indicated that, after including cultural socialization, there still is significant variance in the intercept term across families, χ^2 (173, N = 311) = 209.43, p = .03. Cultural socialization did not explain variation in mean future orientation scores for youth within families (Level-1), γ = -0.06, pseudo-R^2 < -0.01, t(309) = -0.44, p = .64. The deviance increased by 0.05 points from the baseline model, indicating that this conditional model was not a better fit than the model in which no predictors were added.

In the second conditional model (Model 2), family worldview was entered as a Level-2 variable (grand-mean centered) to predict the intercept and the slope. Family worldview did not explain variation in mean future orientation scores for youth between families (Level-2), γ = < -0.01, pseudo-R^2 = 0.03, t(172) = -0.35, p = 0.72. Additionally, the regression coefficient relating youth cultural socialization (Level-1) to youth future orientation was not statistically significant, γ = -0.10, pseudo-R^2 < -0.01, t(307) = -0.81 p = .42. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) also was not statistically significant, γ = -0.01, t(307) = -1.12, p = .27. After including family worldview, a restricted maximum likelihood deviance test indicated that there still was significant variance in future orientation scores across families, χ^2 (172, N = 311) = 208.78, p = .03. This indicates that a significant amount of unmodeled variability remains at both levels. The deviance increased by 16.57 points, indicating that Model 2 did not fit the data significantly better than the baseline model. Only about 2.0% of the explainable variation between families in future orientation scores can be explained by family

worldview. The proportion of unexplained variance decreased by 1 percentage point, ICC = 0.07.

In the third conditional model (Model 3), family worldview was removed as a variable at Level 2 and cultural socialization was entered into the model as a Level-2 variable (grand-mean centered) to predict the intercept and slope. The regression coefficient relating cultural socialization at Level-2 to future orientation was not statistically significant, $\gamma = 0.11$, pseudo-$R^2 = 0.14$, $t(172) = 1.86$, $p = 0.06$. Cultural socialization as a level-1 predictor did not explain variation in mean future orientation for youth within families (level-1), $\gamma = -0.01$, pseudo-$R^2 < -0.01$, $t(307) = -0.05$ $p = .96$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) was not statistically significant, $\gamma = 0.32$, $t(307) = 1.49$, $p = .14$. After including cultural socialization, a restricted maximum likelihood deviance test indicated that there still was significant variance in future orientation scores across families, $\chi^2(172, N = 311) = 205.72$, $p = .04$. Again, this indicates that a significant amount of unmodeled variability remains at both levels. Even though 14% of the explainable variation between families in outcome scores can be explained by cultural socialization, the deviance increased by .04 points, indicating that Model 2 did not fit the data significantly better than the baseline model. The proportion of unexplained variance did not change from Model 3, ICC = 0.07.

In the fourth and final conditional model, family worldview was reentered as a Level-2 variable (grand-mean centered) to predict the intercept and slope. Family worldview did not explain variation in mean future orientation scores for youth between families (Level-2), $\gamma < -0.01$, $t(171) = -1.62$, $p = 0.11$. The regression coefficient relating cultural

socialization at Level-2 to future orientation was positive and statistically significant, γ = .16, $t(171) = 2.44$, $p = 0.02$. Families that have higher than average levels of cultural socialization are likely to have youth with higher future orientation scores. A youth with one point higher cultural socialization score would be expected to have a future orientation score of 3.64. Cultural socialization as a level-1 predictor did not explain variation in mean future orientation scores for youth within families (level-1), $\gamma = -0.03$, pseudo-$R^2 = -0.01$, $t(305) = -0.26$ $p = .79$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) also was not statistically significant, $\gamma = -0.01$, $t(305) = -1.58$, $p = .12$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) was statistically significant, $\gamma = 0.48$, $t(305) = 2.00$, $p <$ .05 This significant interaction indicates that the presence of higher than average family cultural socialization increases the effects of youth cultural socialization on positive family relationships. A youth with one point higher cultural socialization score would be expected to have a positive family relationships score of 3.96. The addition of family worldview and cultural socialization resulted increased the proportion of explained variance, pseudo-$R^2 = 0.32$. As in the previous models, the intercept remained significant, $\gamma = 3.48$, $t(171) = 99.26$, $p < .01$. The proportion of unexplained variance decreased by 2 percentage points, ICC = 0.06. A restricted maximum likelihood deviance test indicated that there no longer was significant variance in the intercept term across families, $\chi^2 (171, N = 311) = 201.02$, $p = .06$. These results reaffirm results from previous models that a significant amount of unmodeled variability remains at both levels. The deviance increased by 13.04 points. Despite the decrease in proportion of

Table 10

Parameter Estimates for the the Family-Level Predictor Variables, Family Worldview and Cultural Socialization, and the Youth-Level Outcome Variable, Future Orientation

	Fixed Effect			Random Effect		
	Coef.	*SE*	*t*	*Variance Component*	*df*	χ^2
Model 1						
Intercept, γ_{00}	3.48**	0.04	96.51	0.03	173	209.43*
Youth Cult. Social, γ_{10}	-0.06	0.14	-0.44			
Model 2						
Intercept, γ_{00}	3.48**	0.04	96.79	0.03	172	208.78*
Mean Family Wv, γ_{01}	<-0.01	<0.01	-0.35			
Youth Cult. Social, γ_{10}	-0.10	0.12	-0.81			
FW X Youth CS, γ_{11}	-0.01	0.01	-1.12			
Model 3						
Intercept, γ_{00}	3.48**	0.04	97.36	0.03	172	205.72*
Mean Cult. Social, γ_{01}	0.11^{+}	0.06	1.86			
Youth Cult. Social, γ_{10}	-0.01	0.14	-0.05			
CS X Youth CS, γ_{11}	0.32	0.22	1.49			
Model 4						
Intercept, γ_{00}	3.48**	0.04	99.26	0.02	171	201.02^{+}
Mean Family Wv, γ_{01}	<-0.01	<0.01	-1.62			
Mean Cult. Social, γ_{02}	0.16*	0.07	2.44			
Youth Cult. Social, γ_{10}	-0.03	0.13	-0.26			
FW X Youth CS, γ_{11}	-0.01	0.01	-1.58			
CS X Youth CS, γ_{12}	0.48*	0.24	2.00			

Note. Results are based on data from 311 youth distributed across 174 families.

$^{+}p < .10$, $*p < .05$, $**p < .01$.

unexplained variance and increased in pseudo-R^2 at Level 2, Model 4 was not a better fit for explaining the family-to-family variation in mean future orientation scores than the baseline model.

In summary, the best fitting model was the null model, meaning that cultural socialization and family worldview were not significant predictors of youth future orientation. The average future orientation scores across families is 3.48 scale score points. The only predictor with any statistically significant potential for explaining variation in family mean future orientation at Level 2 was cultural socialization. The addition of family worldview and cultural socialization as Level-2 predictors in Model 4 increased the proportion of explainable variation between families in future orientation scores to 32%. Despite these promising trends, the results from the restricted likelihood deviance tests did not conclusively determine that entering the level-2 predictors significantly improved the fit of the models.

Self-Regulation

The results of the unconditional HLM showed that the grand mean was statistically significantly different from zero, $t(173) = 94.14$, $p < .01$, and that there was significant variance around the grand mean at Level 2, $\chi^2 (173, N = 311) = 231.81$, $p < .01$. These results indicated that there is significant variance attributable to families; therefore, it was appropriate to proceed to heirarchical analysis. The ICC was 0.13, signifying that 13% of the variance in self-regulation is between families and 87% of the variance in self-regulation is at the youth-level. The reliability (λ) of the estimated family means for self-regulation was 0.20. The unconditional model was used as a baseline for comparisons to the conditional models. Results from the unconditional

model are reported in Table 6. Results of the conditional models, including regression coefficients, standard error (*SE*), *t*-test values, variance components, and degrees of freedom of all parameters, are reported in Table 11.

For the first conditional model (Model 1), cultural socialization was entered as a Level-1 variable (group-mean centered). A restricted maximum likelihood deviance test indicated that, after including cultural socialization, there still is significant variance in the intercept term across families, χ^2 (173, N = 311) = 230.28, $p < .01$. Cultural socialization did not explain variation in mean self-regulation scores for youth within families (Level-1), γ = -0.03, pseudo-R^2 = -0.01, t(309) = -0.22, p = .83. The deviance increased by 0.49 points from the baseline model, indicating that this conditional model was not a better fit than the model in which no predictors were added.

In the second conditional model (Model 2), family worldview was entered as a Level-2 variable (grand-mean centered) to predict the intercept and the slope. Family worldview did not explain variation in mean self-regulation scores for youth between families (Level-2), $\gamma < 0.01$, pseudo-R^2 = -0.01, t(172) = 0.09, p = 0.93. Additionally, the regression coefficient relating youth cultural socialization (Level-1) to youth was not statistically significant, γ = 0.03, pseudo-R^2 = 0.02, t(307) = 0.29 p = .78. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) was statistically significant, γ = 0.02, t(307) = 2.22, p = .03. This significant interaction indicates that the presence of higher than average family cultural socialization increases the effects of youth cultural socialization on self-regulation. A youth with one point higher cultural socialization score would be expected to have a self-regulation score of 3.07. After including family worldview, a restricted maximum

likelihood deviance test indicated that there still was significant variance in self-regulation scores across families, χ^2 (172, N = 311) = 235.94, p < .01. This indicates that a significant amount of unmodeled variability remains at both levels. The deviance increased by 14.34 points. Model 2 did not fit the data significantly better than the baseline model, despite the significant cross-level interaction. The proportion of variance between families explained by family worldview is pseudo-R^2 = -0.11. The proportion of unexplained variance actually increased by 2 percentage point, ICC = 0.15.

In the third conditional model (Model 3), family worldview was removed as a variable at Level 2 and cultural socialization was entered into the model as a Level-2 variable (grand-mean centered) to predict the intercept and slope. The regression coefficient relating cultural socialization at Level-2 to self-regulation was not statistically significant, γ = 0.06, pseudo-R^2 = -0.17, t(172) = 1.15, p = 0.25. Additionally, cultural socialization as a level-1 predictor did not explain variation in mean self-regulation for youth within families (level-1), γ = 0.09, pseudo-R^2 = 0.04, t(307) = 0.75 p = .46. However, the cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) was statistically significant, γ = 0.69, t(307) = 3.86, p < .01. This significant interaction indicates that the presence of higher than average family cultural socialization increases the effects of youth cultural socialization on self-regulation. A youth with one point higher cultural socialization score would be expected to have a self-regulation score of 3.74. After including cultural socialization, a restricted maximum likelihood deviance test indicated that there still was significant variance in self-regulation scores across families, χ^2 (172, N = 311) = 239.87, p < .01. This indicates that a significant amount of unmodeled

variability remains at both levels. Although the deviance dropped by 3.15 points, Model 2 did not fit the data significantly better than the baseline model, despite the significant predictor at Level 2. The proportion of variance between families explained by cultural socialization is pseudo-R^2 = -0.17. The proportion of unexplained variance increased by 2 percentage points, ICC = 0.15.

In the fourth and final conditional model, family worldview was reentered as a Level-2 variable (grand-mean centered) to predict the intercept and slope. Family worldview did not explain variation in mean self-regulation scores for youth between families (Level-2), γ = < -0.01, $t(171) = -0.57$, $p = 0.57$. The regression coefficient relating cultural socialization at Level-2 to self-regulation was not statistically significant, $\gamma = 0.08$, $t(171) = 1.33$, $p = 0.20$. Cultural socialization as a level-1 predictor did not explain variation in mean self-regulation scores for youth within families (level-1), γ = 0.11, pseudo-$R^2 = 0.05$, $t(305) = 1.07$ $p = .29$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family worldview (Level-2 predictor) was not statistically significant, $\gamma = 0.01$, $t(305) = 1.47$, $p = .14$. The cross-level interaction between youth cultural socialization (Level-1 predictor) and family cultural socialization (Level-2 predictor) was statistically significant, $\gamma = 58$, $t(305) = 3.34$, $p < .01$. This significant interaction indicates that the presence of higher than average family cultural socialization increases the effects of youth cultural socialization on self-regulation. A youth with one point higher cultural socialization score would be expected to have a self-regulation score of 3.63. As in the previous models, the intercept remained significant, γ = 3.05, $t(171) = 93.71$, $p < .01$. The proportion of unexplained variance increased by 3 percentage point, ICC = 0.16. A restricted maximum likelihood deviance test indicated

Table 11

Parameter Estimates for the Family-Level Predictor Variables, Family Worldview and Cultural Socialization, and the Youth-Level Outcome Variable, Self-Regulation

	Fixed Effect			Random Effect		
	Coef.	*SE*	*t*	*Variance Component*	*df*	χ^2
Model 1						
Intercept, γ_{00}	3.05**	0.03	94.19	0.04	173	230.28**
Youth Cult. Social, γ_{10}	-0.03	0.14	-0.22			
Model 2						
Intercept, γ_{00}	3.05**	0.03	94.23	0.04	172	235.94**
Mean Family Wv, γ_{01}	<0.01	<0.01	0.09			
Youth Cult. Social, γ_{10}	0.03	0.11	0.29			
FW X Youth CS, γ_{11}	0.02*	0.01	2.22			
Model 3						
Intercept, γ_{00}	3.05**	0.03	93.54	0.04	172	239.87**
Mean Cult. Social, γ_{01}	0.06	0.06	1.15			
Youth Cult. Social, γ_{10}	0.09	0.12	0.75			
CS X Youth CS, γ_{11}	0.69**	0.18	3.86			
Model 4						
Intercept, γ_{00}	3.05**	0.03	93.71	0.05	171	242.41**
Mean Family Wv , γ_{01}	<-0.01	<0.01	-0.57			
Mean Cult. Social, γ_{02}	0.08	0.06	1.33			
Youth Cult. Social, γ_{10}	0.11	0.10	1.07			
FW X Youth CS, γ_{11}	0.01	0.01	1.47			
CS X Youth CS, γ_{12}	0.58**	0.17	3.34			

Note. Results are based on data from 311 youth distributed across 174 families.

$^{+}p < .10$, $*p < .05$, $**p < .01$.

that there still was significant variance in the intercept term across families, χ^2 (171, N = 311) = 242.41, $p < .01$. The proportion of explained variance at Level-2 is, pseudo-R^2 = -0.26. These results reaffirm results from previous models that a significant amount of unmodeled variability remains at both levels. The deviance increased by 12.55 points, which indicated that Model 4 was not a better fit for explaining the family-to-family variation in mean self-regulation scores than the baseline model.

In summary, the best fitting model was the unconditional model meaning that cultural socialization and family worldview were not significant predictors of self-regulation. The average self-regulation scores across families is 3.05 scale score points. The proportion of unexplained variance did not improve across models. The results from the restricted likelihood deviance tests did not indicate that entering the Level-2 predictors significantly improved the fit of the models.

Overall, the results indicated that the amount of variance between families for each of the positive youth outcomes was substantial enough to justify HLM. Pro-social activity had the greatest amount of variance between families (34%). Future orientation had the smallest amount of variance between families (8%), with most of its variance existing at the youth level. However, none of the HLM models provided a better fit for the data than the unconditional (null) model, which indicates that cultural socialization and family worldview did not statistically significantly explain the variation in mean positive youth outcomes for youth within or between families. When entered into the models as a predictor at Level 1 or Level 2, family worldview actually frequently worsened the fit of the model. In Model 4 of positive family relationships, a significant cross-level interaction emerged between family worldview and cultural socialization,

indicating that higher than average family worldview increases the effects of youth cultural socialization on positive family relationships. Cultural socialization demonstrated some potential as a statistically significant predictor for the intercepts of ethnic identity and future orientation. Additionally, significant cross-level interactions emerged between family cultural socialization and cultural socialization for positive youth outcomes, positive family relationships, future orientation, and self-regulation. These cross-level interactions suggest that of higher than average family cultural socialization increases the effects of youth cultural socialization on the respective positive youth outcomes. For positive youth outcome, future orientation, some interesting results emerged in Model 3 and Model 4. Although none of the predictor variables were not statistically significant in explaining the variation of mean future orientation scores for youth within or between families, the values for pseudo-R^2 at Level 2 and *ICC* seemed to point towards an increase in proportion of variance explained. However, it was determined that the null model provided a better fit since the results were not significant or conclusive.

Exploratory Analyses

Age and Sex

Multiple regression analyses were conducted to evaluate whether the relationships between cultural socialization and the positive youth outcomes were significantly different based on youth age and sex. Statistically significant results emerged in the regression of ethnic identity on cultural socialization and sex and the regression of positive family relationships on cultural socialization and age. The regression analyses of

all the other positive youth outcomes based on youth age and sex were not significant (see Tables 18 to 39 in the Appendix).

The regression of ethnic identity on cultural socialization and sex (male) was statistically significant, F (3,306) = 6.86, MSR = 0.44, $p < .05$, $R^2 = 0.06$ (see Table 12). Cultural socialization was a statistically significant predictor of ethnic identity, b = -0.18, SE = 0.08, $p < .05$. Sex (male) also was a statistically significant predictor of ethnic identity, b = -0.28, SE = 0.08, $p < .05$. The interaction effect of cultural socialization by sex was not a significant predictor of ethnic identity, b = -0.11, SE = 0.12, $p > .05$. Regression coefficients for the model are outlined in Table 13. Examination of the squared semipartial correlation revealed that 4% of the variation of ethnic identity was uniquely accounted for by sex (male). Cultural socialization accounted for 2% of the variation of ethnic identity.

Table 12
Overall Results for Regression Model Predicting Ethnic Identity

Model Summary

	R	R^2	Adjusted R^2
	0.25	0.06	0.05

ANOVA

Source	*SS*	*df*	*MS*	*F*	*P*
Regression	9.00	3	3.00	6.86	.00
Residual	132.45	303	0.44		
Total	141.44	306			

Table 13

Regression Coefficients for Model Predicting Ethnic Identity

Variable	*b*	*SE*	*t*	*β*	*sr*	*P*
Sex x Cult. Social	-0.11	0.12	-0.94	-0.07	-0.05	.35
Sex (male)	-.28	0.08	-3.75	-0.21	-0.21	.00
Cult. Socialization	-.18	0.08	2.35	0.17	0.13	.02

Note. *SE* = standard error, *sr* = semipartial correlation.

The regression of ethnic identity on cultural socialization and sex (female) was statistically significant, F (3,306) = 6.86, MSR = 0.44, $p < .05$, $R^2 = 0.06$. Overall results for the regression model predicting ethnic identity can be found in Table 14. Regression coefficients from the model are presented in Table 15. Cultural socialization was not a statistically significant predictor of ethnic identity, $b = 0.07$, $SE = 0.09$, $p > .05$. Sex (female) was a statistically significant predictor of ethnic identity, $b = 0.28$, $SE = 0.08$, $p < .05$. The interaction effect of cultural socialization by sex was not a significant predictor of ethnic identity, $b = 0.11$, $SE = 0.12$, $p > .05$. Regression coefficients for the model are outlined in Table 15. Examination of the squared semipartial correlation revealed that 4% of the variation of ethnic identity was uniquely accounted for by sex.

Tukey's *post hoc* test was used to examine the group mean differences along ethnic identity. The female youth ($M = 3.417$) had a higher mean than the male youth ($M = 3.129$), HSD =5.64, MSR = 0.44, p < .05. Overall, sex accounted for 4% of the variation of ethnic identity.

Table 14

Overall Results for Regression Model Predicting Ethnic Identity

Model Summary

	R	R^2	Adjusted R^2
	0.25	0.06	0.05

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	9.00	3	3.00	6.86	0.00
Residual	132.45	303	0.44		
Total	141.44	306			

Table 15

Regression Coefficients for Model Predicting Positively Ethnic Identity

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	0.11	0.12	0.94	0.08	0.05	.35
Sex (female)	0.28	0.08	3.75	0.21	0.21	.00
Cult. Socialization	0.07	0.09	0.79	0.07	0.04	.44

The regression of positive family relationships on cultural socialization and age was statistically significant, F (3,302) = 5.73, MSR = 0.86, $p < .01$, $R^2 = 0.05$. Overall results for the regression model predicting positive family relationships can be found in Table 16. Regression coefficients from the model are presented in Table 17. Cultural socialization was not a statistically significant predictor of positive family relationships, b = 0.12, SE = 0.08, $p > .05$. Age was a statistically significant predictor of positive family relationships, b = -0.1, SE = 0.00, $p < .01$. The interaction effect of cultural socialization by age was not a significant predictor of positive family relationships, b = -0.00, SE =

0.00, $p > .05$. Examination of the squared semipartial correlation revealed that 4% of the variation of positive family relationships was uniquely accounted for by age.

Table 16

Overall Results for Regression Model Predicting Positive Family Relationships

Model Summary

	R	R^2	Adjusted R^2
	0.23	0.05	0.05

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	14.76	3	4.92	5.73	0.00
Residual	256.59	299	0.86		
Total	271.35	302			

Table 17

Regression Coefficients for Model Predicting Positive Family Relationships

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Cult. Social x Age	-0.00	0.00	-0.79	-0.04	-0.04	0.43
Cult. Socialization	0.12	0.08	1.47	0.08	0.08	0.14
Age	-0.01	0.00	-3.78	-0.21	-0.22	0.00

CHAPTER IV

DISCUSSION

The purpose of this study was to better understand the factors that contribute to the positive development of American Indian youth. Specifically, I wanted to explore how family worldview and cultural socialization relate to positive outcomes, including ethnic identity, pro-social activity, positive family relationships, future orientation and self-regulation, in American Indian youth. Furthermore, I was interested in exploring the potential moderating effect of cultural socialization on the relationship between family worldview and the positive outcomes. In this chapter, I discuss in detail the findings of the study. Additionally, I describe strengths and limitations of this study, as well as implications for future research and practice.

Overall, the study findings were mixed and more questions emerged than were answered. The results of the HLM models support the claim that hierarchical structures, such as families, do matter and can impact youth outcomes. The impact of the family context, especially the primary caregiver, is evident in the substantial variance that was present between families for each of the positive youth outcomes. However, the hypothesized relationships between family worldview, cultural socialization and the positive youth outcomes were partially, but not fully supported by the findings. When entered into the HLM models, family worldview and cultural socialization did not significantly explain the variation in mean positive youth outcomes for youth within or between families. However, when looked at individually, cultural socialization emerged

as a significant predictor for mean ethnic identity and future orientation scores, but did not significantly moderate the relationship between family worldview and the positive youth outcomes. Additionally, family worldview did not moderate the relationship between youth cultural socialization and the positive youth outcomes. These findings stir up more questions about what other variables might explain the variation within and between families. Despite the mixed findings, the results of the study provide important information about the influence of family worldview and cultural socialization on the positive development of American Indian Youth. A detailed review of the results, in conjunction with the current literature, explores the implications of these findings and how they may influence future research and practice.

For the first research question, the study's findings did not support the hypothesis that family worldview would be significantly and positively related to ethnic identity, pro-social activity, positive family relationships, future orientation and self-regulation. Bivariate correlations and simple regression analyses revealed that family worldview was not significantly correlated with any of the positive outcome variables. The results of the HLM models suggest that family worldview did not statistically explain the variation of any of the mean positive youth outcomes for youth within or between families. Given the state of the literature, it seems rather surprising that family worldview was not significantly related to ethnic identity (e.g., McCubbin, 2006; McCubbin et al., 1998). This unexpected finding may be due to two reasons. First, the family worldview scale was developed to measure family identity, values, beliefs, rules and boundaries within a cultural/ethnic values context (McCubbin, 2006). It includes items that seem to reflect the cultural values, beliefs, traditions and practices of American Indian communities,

including a strong belief in spirituality, a respect for the earth and nature, a belief in the harmony between the individual and nature, social connections, kinship and mutual assistance (House et al., 2006; Juntunen & Cline, 2010; Montgomery et al., 2000; Red Horse, 1997; Stiffman et al., 2007). Although this family worldview scale demonstrated good internal consistency, it was normed and validated with Native Hawaiians and has been used in very few studies involving American Indians (McCubbin, 2006). So, the scale may lack predictive validity for the population represented in this study's sample. More specifically, it may not accurately reflect family worldview as conceptualized by American Indians living in the Pacific Northwest. Another reason may be that the family worldview changes as it is transmitted from one generation to the next. Researchers have posited that cultural knowledge and traditions may change over time as it passes through different generations as a result of personal, familial and environmental factors (House et al, 2006; Huang & Gibbs, 2003; McCubbin et al., 1998). Furthermore, research has established that ethnic identity also is dynamic and changes over time and context (Juang & Syed, 2010; Phinney, 1992; Phinney & Ong, 2007; Weaver & Yellow Horse Brave Heart, 1999). The values, traditions and practices of parents and caregivers do not always translate directly to the values and practices of youth within the same family because of the fluid nature of ethnic identity development.

Unsurprisingly, family worldview was significantly and positively correlated with cultural socialization. This finding is consistent with the literature in that cultural socialization involves the active transmission of cultural information, values, and beliefs through parenting practices (Hughes et al., 2006). As previously mentioned, family worldview encompasses cultural identity, values, beliefs and traditions. The relationship

between these two variables is strong, signifying that primary caregivers with greater family worldview are likely to be more invested in their cultural heritage and, thus, more inclined to actively pass on cultural values, beliefs, traditions and practices to their children. Although this finding supports the transmission of cultural knowledge from parents and caregivers to youth, again it is important to consider personal, familial and environmental factors that may disrupt this transmission.

For the second research question, the study's findings partially supported the hypothesis that cultural socialization would be significantly and positively related to ethnic identity, prosocial activity, positive family relationships, future orientation and self-regulation. As expected, cultural socialization was significantly and positively related to ethnic identity. Youth who received higher levels of cultural socialization had higher ethnic identity scores. Additionally, cultural socialization significantly explained the variation in the mean ethnic identity scores between families. These results confirm results from previous studies establishing a positive relationship between ethnic-racial/cultural socialization practices and ethnic identity development and imply that the degree to which primary caregivers teach or socialize youth around cultural beliefs and values significantly impacts their ethnic identity development (Coard et al., 2007; Hughes et al., 2006; Juang & Syed, 2010; Smalls, 2010; Umana-Taylor et al., 2006). These findings highlight a point of intervention for tribal communities. Tribal communities looking to foster strong cultural identities and community connectedness in their youth can emphasize parenting practices that accentuate cultural values, beliefs and traditions when designing community intervention programs.

Cultural socialization also was significantly and positively related to future orientation. The link between cultural socialization and future orientation is important and has greater implications for the future success of American Indian youth. There exists a vast disparity in economic opportunities and vocational achievement between American Indians and majority culture. In 2005, 49% of the available American Indian labor force was unemployed; whereas only 4.4% of Whites were unemployed (Bureau of Indian Affairs, 2005; U.S. Bureau of Labor Statistics, 2005). Of the total number of employed American Indians, 29% lived below the poverty line (Bureau of Indian Affairs, 2005). In the face of these statistics, American Indians continue to be a neglected population in vocational literature. Numerous researchers have called for the advancement of our understanding of American Indian vocational achievement, including their needs and issues related to barriers and access (Juntunen, Barraclough, Broneck, Seibel, Winrow & Morin, 2001; Juntunen & Cline, 2010; Turner & Lapan, 2003; Turner, Trotter, Lapan, Czajka, Yang & Brissett; 2006). Turner and colleagues (2006) argue that fostering positive educational and career development in American Indian youth is critical for both their personal stability and their communities' economic stability. Juntunen and colleagues (2001) conducted a qualitative study with American Indians to explore their perceptions of career. They found that participants' career decisions were most influenced by the perception of need in their tribal communities and that the meaning of work or career, as well as success, were experienced collectively with the individual acting as a reflection of their community. Additionally, Turner and Lapan (2003) found that the career self-efficacy of American Indians was significantly and positively related to perceived parental support. The fact that career self-efficacy,

success, and personal achievement were closely tied to the larger community points to the major influence of others on career decision-making and provides intervention opportunities. Previous literature supports the implications of this study's finding, in that cultural socialization practices can be used to promote the positive future orientation of American Indian youth and consequently improve their career self-efficacy and overall future vocational and economic success, while maintaining congruence with their cultural values.

Cultural socialization was not significantly related to prosocial activity, positive family relationships or self-regulation. Although the hypothesis was not fully supported, it is not so surprising when considering the literature on racial/ethnic socialization and youth outcomes. Rodriguez and colleagues (2009) conducted a review of the findings of seven studies that researched the effect of racial-ethnic socialization and identity on youth outcomes across multiple racial/ethnic groups, including African-Americans, American Indians, Chinese, Mexican-Americans and Whites. Their findings suggested that youth outcomes are related to racial-ethnic socialization through indirect associations with ethnic-racial identity and self-esteem. Positive ethnic identity development involves the internalization of direct or indirect messages, beliefs, values, and attitudes about a particular ethnic culture and subsequent positive identification with it. The results from the study conducted by Rodriguez and colleagues (2009) illustrate the importance of cultural socialization practices in the formation of a positive ethnic identity, which has been shown to act as a buffer against negative outcomes (Galliher et al., 2011; House et al., 2006; Phinney & Ong, 2007; Whitesell et al., 2006). Youth with positive ethnic identity are less likely to engage in problematic or deviant behavior, and, therefore, more

likely to have a higher self-esteem, participate in prosocial activities and have better outcomes overall (LaFromboise & Dizon, 2003; McCubbin et al., 1998; Zimmerman et al., 1998). Previous studies support the idea that positive ethnic identity development serves as a mechanism through which cultural socialization is associated with positive youth outcomes. This mechanism should be more explicitly explored in future studies.

Given the literature, it was surprising cultural socialization was not significantly related to positive family relationships. The traditions and values of American Indians, and how they are communicated through multiple generations, continues to be an area of great study in social and behavioral science research; and it has been noted by many scholars and indigenous communities, that family, kinship and community are major cornerstones of American Indian culture (House et al., 2006; Montgomery et al., 2000; Red Horse, 1997; Stiffman et al., 2007). However, the results from a study conducted by Whitesell and colleagues (2009) provide a possible explanation for the seemingly perplexing finding of the current study. Whitesell and colleagues tested a mediational model exploring the developmental trajectories of self-esteem and cultural identity among American Indian high school students and their relationship to positive psychosocial and academic outcomes. Positive relationships were found between cultural identity and self-esteem, as well as self-esteem and positive psychosocial outcomes. It is possible that cultural socialization, which encourages ethnic pride and contributes to positive ethnic identity development, may also foster self-confidence and a positive self-esteem. Being self-confident and having a positive self-esteem, in turn, may contribute to a more positive outlook regarding future orientation. Personal and socioeconomic factors, such as parental depression, substance abuse, inter-parental conflict, and financial

stress, may further explain why cultural socialization was not significantly related to positive family relationships. Previous studies have shown that the aforementioned factors negatively impact the quality of family relationships (Cummings & Schatz, 2012). According to Cummings and Schatz (2012), a youth's ability to establish emotionally secure relationships with family members may be undermined within the context of frequent conflict within the parental relationship or between family members. Parental depression, substance abuse and financial stress can further strain parental relationships and increase conflict. These personal and socioeconomic factors may distract and prevent caregivers from parenting in ways that are positive, affirming and effective, which ultimately impact youth outcomes (Cummings & Schatz, 2012; Fosco, Stormshak, Dishion, & Winter, 2012)

For the third research question, I hypothesized that cultural socialization would significantly and positively moderate the relationship between family worldview and ethnic identity, pro-social activity, positive family relationships, future orientation and self-regulation. The results of simple regression analyses and HLM models did not support this hypothesis. The interaction effect of family worldview and cultural socialization was not a significant predictor in any of the HLM models conducted, suggesting that cultural socialization is not a significant moderating variable for the relationship between family worldview and the positive youth outcomes measured here. Although cultural socialization was significantly related to ethnic identity, this relationship was not strong enough to moderate the relationship between family worldview and ethnic identity. A possible explanation for why cultural socialization did not emerge as a significant moderating variable is the relatively high correlation between

family worldview and cultural socialization, suggesting an issue of multicollinearity. According to Stevens (2002), moderate to high correlation among predictors substantially limits the size of *R*, makes it difficult to determine the importance of given predictor variable, and increases the variance of regression coefficients. So, in the presence of multicollinearity, it would have been harder to detect the effect of cultural socialization on the positive youth outcomes.

Another explanation for why cultural socialization did not significantly moderate the relationship between family worldview and the other positive youth outcomes may be that they have an indirect relationship in which ethnic identity is an essential intermediary. As previously discussed, multiple studies have established that ethnic identity mediates the relationship between cultural socialization and positive academic and psychosocial outcomes in youth across ethnocultural groups (Galliher et al., 2011; House et al., 2006; Phinney & Ong, 2007; Whitesell et al., 2006). In their review of studies that examined the effect of racial-ethnic socialization and identity on youth outcomes across multiple racial/ethnic groups, Rodriguez and colleagues (2009) found that youth outcomes were indirectly related to racial-ethnic socialization through ethnic-racial identity and self-esteem. Their finding suggests that cultural knowledge, values, beliefs and traditions are internalized as a positive ethnic identity is established and thus contribute to positive outcomes.

Sex Differences

I hypothesized that the relationships between cultural socialization and positive youth outcomes were significantly different based on youth sex. The hypothesis was partially supported by the data, particularly in regards to ethnic identity. The interaction

between cultural socialization and sex did not significantly predict ethnic identity scores. Sex was a statistically significant predictor of ethnic identity scores of the youth. Female youth had higher ethnic identity than male youth. These results are consistent with the findings by Juang and Syed (2010), who explored the relationship between family cultural socialization and ethnic identity with Asian American, Latino, White, and mixed-ethnic college students. Juang and Syed (2010) found that the relationship between family cultural socialization and ethnic identity commitment was stronger for females compared to males. They suggest that parents place greater emphasis on socializing daughters more than sons to preserve traditional cultural values and practices, as well as monitor female children more than male children. Furthermore, many American Indian tribes are maternally oriented and female parents/caregivers play a central role in the transmission of cultural values and traditions (Cheshire, 2001; Galliher et al., 2011; Schweigman, Soto, Wright, & Unger, 2011). Chesire asserted that "it is the women – the mothers, grandmothers, and aunties – that keep Indian nations alive. Even in the face of oppression, Indian women seem to grow stronger and more resilient in their efforts to transmit culture" (pg.1534). This finding supports current literature affirming the importance of females in the preservation and promotion of culture, a value that is reinforced as it is passed down to younger generations of females

Age Differences

I hypothesized that the relationships between cultural socialization and positive youth outcomes were significantly different based on youth age. Specifically, I predicted that mean scores of the positive outcomes would be significantly and positively correlated with age. The results supported the hypothesis only for positive family

relationships. Cultural socialization and age did not have a joint relationship with positive family relationship, meaning that they did not interact in such a way as to significantly predict positive family relationships. Age, however, was a significant predictor of positive family relationship. Older youth tended to report lower positive family relationships than their younger counterparts. Although contrary to predicted expectations, at second glance, these results may not be so surprising. Adolescence is a period of great physiological and psychosocial change for youth and has a tremendous impact on their relationships with their families (Lauver & Jones, 1991). During this developmental, youth usually receive less supervision and begin to spend less time at home and more time with their peers; thus, they may feel less connected to their families (Fosco et al., 2012). Furthermore, adolescence is a critical period in which American Indian youth are given the task of creating new relationships and negotiating previously established relationships and learn about interdependence. Researchers also assert that experiences of discrimination and acculturation level likely contribute to increased feelings of disconnection and alienation between youth and their families (Chesire, 2001; Harper, 2011; LaFromboise et al., 2010). This claim has been supported by previous studies in which significant relationships between experiences of discrimination and negative psychosocial outcomes, such as low self-esteem, anxiety, depression and substance use were found (Galliher et al., 2011; Whitbeck, Hoyt, McMorris, Chen & Stubben 2001). LaFromboise and colleagues (2010) argued that interacting with the dominant culture, particularly when confronted with negative stereotypes of American Indians and pressures to assimilate, may bring about feelings of confusion, rejection, anxiety and shame in American Indian youth; thereby, causing them to withdrawal from

their family and community. This finding supports the importance of fostering positive family connectedness and community engagement in youth, especially during adolescence.

Strengths and Limitations

This study has a number of strengths. First, HLM was used to examine the data and thus avoided common pitfalls associated with analyzing data at one unit of analysis (Luke, 2004; Merritt, 2009). Additionally, examining the data within its nested structures is more reflective of the real world interplay that individuals experience with the systems surrounding them. This especially is important when working with American Indians because of the emphasis placed on family and community.

Second, this study takes a strengths-based approach in exploring psychosocial outcomes in American Indian youth. For too long, American Indian youth have been conceptualized within the deficit-based framework (Silmere & Stiffman, 2006). In ignoring the resiliency, adaptability, and effective coping that exists within these communities, a distorted picture of American Indians is perpetuated. This study responded to the call from researchers and members of the American Indian community to move away from the existing paradigm and looked at the strengths and positive behaviors that could influence the success, health, and the prevention of problem behaviors in American Indian youth (LaFromboise & Dizon, 2003; LaFromboise et al., 2006; Mitchell & Beals, 1997; Silmere & Stiffman, 2006; Stiffman et al., 2007; Zimmerman, Ramierez, Washeinko, Walter & Dyer, 1998).

Third, the study contributes to the literature on cultural socialization. The results of this study advance our understanding of how the transmission of traditions and culture

impacts the positive development of American Indian youth. The information gained furthers our knowledge base about the process of ethnic identity development in American Indian youth and the positive outcomes that are specifically related to cultural socialization that occurs within the family unit. Specifically, this study demonstrated that families who more frequently engaged in cultural socialization practices were likelier to have youth with more positive ethnic identities.

Finally, one of the greatest strengths of this study is that the data came from an intervention study that used collaborative, community-based, and participatory research methods. The study included a community sample; thus, all individual who met tribal requirements as official members were invited to participate in and had access to the intervention study. Additionally, members of the participating communities had active voices in the design and direction of the measurement and intervention components of the larger study as well as the measurement and conceptualization of this study. Furthermore, this culturally sensitive approach to working with a historically marginalized community works against the cycle of oppression and promotes empowerment of the communities to participate in meaningful and culturally relevant studies that may impact the communities themselves.

Along with study strengths, there are several limitations to this study that should be considered when interpreting study findings. First, a minor potential limitation is that this study did not examine differences between tribes. Although tribes are important hierarchical structure that the data are nested within, the sample size was not large enough and lacked the power to examine the data at a third level. Another reason that tribal differences were not examined was out of respect for the complex social and

historical contexts in which these communities are embedded. Although recognizing and attending to differences between tribes may have yielded interesting and useful information, it is important to attend to and recognize the impact of making such comparisons as potentially irrelevant or even harmful given that the social and historical contexts for each group vary considerably.

Second, the natural differences between American Indian groups and tribes suggest that study findings may have limited generalizability. The data collected was limited to three tribal communities and one region in the U.S. Caution should be used when extrapolating the findings across other tribal communities. It is uncertain whether and how these results would vary across other communities because of the rich diversity existing between tribes. Future research should consider adding a level of analysis that allows for this examination.

Third, no experimental research design was implemented in the collection of data and a constraint of using extant data is that there was a limited number and type of variables that I had access to. One example of how my study's design was affected is my conceptualization of positive youth development. Positive youth development previously has been measured in four broad domains: (a) educational achievement and cognitive attainment, (b) health and safety, (c) social and emotional development, and (d) self-sufficiency (Anderson Moore et al., 2004; Silmere & Stiffman, 2006). In this study, social and emotional development and self-sufficiency were measured. Ideally, I would have included youth outcomes for educational achievement and cognitive attainment to accurately measure positive youth development as it has been done before. Using extant data limited my ability to do this. Additionally, the measures that are commonly used to

measure positive youth development fail to accurately and fully capture positive youth development as by defined by American Indians (LaFromboise & Dizon, 2003; Silmere & Stiffman, 2006). Furthermore, this study would have been improved by including more multisource data or by inclusion of additional reporters for the variables measured (e.g., extended family, teachers, community members, etc). Future research should consider using these methods and strategies to improve assessment of similar constructs.

Fourth, the population mean for each of the variables, except for prosocial activity, was above the mean and there was serious ceiling effect for both ethnic identity and positive family relationships. A review of the histograms for ethnic identity and positive family relationships, highlights that there is a bunching of scores at the upper level of these two variables (see Figures 3 and 4). According to Cramer and Howitt (2004), ceilings undermine the ability of investigators to make accurate conclusions regarding the data and increase chances of overlooking real effects that may be present. A ceiling effect, which occurs when the variance of a variable is not measured or estimated above a certain level, may have contributed to the null findings of this study and may be due to psychometric issues and a lack of sensitivity in the instruments measuring ethnic identity and positive family relationships. Additional alternative explanations for the ceiling effect are that it reflects a sampling bias and/or general response bias. Potential remedies for the ceiling effect in future studies include revising the instruments at the item level and expand the scale to allow for more variation.

Given the nature of the intervention study from which the data was obtained, it is highly likely that there is a sampling bias. The Community Shadow Project was a culturally adapted, family-centered intervention study designed to help families

effectively reduce problem behavior and mental health issues in children and adolescents. The families that participated in this intervention study represent a moderate to high at risk community sample of the American Indian population, which may explain why some of the hypothesized relationships did not hold. The findings of this study may different given a more diverse sample. However, it was important to superimpose a strengths-based model on a moderate to high risk community sample because exploring potentially protective mechanisms, that exist within American Indian people and American Indian communities, are equally relevant focal points and instrumental in the prevention of negative outcomes. Furthermore, focusing only on problem behaviors and negative outcomes perpetuates a negative conceptualization on American Indian youth.

A final limitation of the study is the relatively low sample size and the subsequent limitation of the study power, leading to a lower ability to detect effects. An analysis of power determined that a family with 1 child would have an effect size of .43 and power of .80 and a family with 6 children would have an effect size of .18 and power of .80. Consequently, the ability to detect significant effects is much harder with families with fewer children than with families with more children. This is an important consideration in view of the fact that a majority (83%) of the study's families had 2 or fewer children. The limited sample size may have increased the chance of making a Type II error, in which the null hypothesis was not rejected when it should have been (Mertler & Vannatta, 2005; Stevens, 2002). Effects might have been present but were too small for this study to detect because of the constrained sample size.

Implications for Research

This study enhanced knowledge about the relationships of family worldview, cultural socialization, and positive youth development among a sample of Pacific Northwest American Indian youth. The study's results highlight the need for additional research in these areas. One way in which to expand on this study is to include more predictor variables at both the individual and group level. The results of the study indicate that there was a significant amount of variation that is unaccounted for at both levels. A great deal can be learned if more predictors are included. Future studies should examine other predictors, such as primary caregiver's ethnic identity, parental monitoring, parenting style, and religious/spiritual identity, which may account for that unexplained variance. Additionally, future research studies should include additional outcome measures to examine variables such as academic achievement, cognitive attainment, and health and safety in order to provide a more complete picture of positive youth development. Furthermore, more effort is needed around the development of reliable and valid measures that are reflective of how American Indians view positive youth development. In this study, the scales for prosocial activity and future orientation were somewhat questionable in their ability to reliably measure the intended constructs. It is important for future studies to examine how well these scales fit with other samples of American Indian youth. It may be necessary to reduce and redefine the items using factor analysis. Although the family worldview scale demonstrated excellent reliability with this sample population, factor analysis of the scale revealed that the items primarily loaded on five factors. Future studies may want to explore the relationships between

each of the factors and the positive youth outcomes, as they may yield different results than those obtained from looking at the overall family worldview scale.

This study provided a snapshot of positive youth development among study participants, as only one time point was measured. Additional time points of measurement should be included to reflect youth development over time. So, longitudinal studies, which would yield important information regarding the trajectory of positive youth development and the influence and stability of individual and group level factors at different points in time among American Indian youth, are clearly warranted.

Implications for Practice

Results of this study have implications for clinical practice by providing insights into points of intervention that might help to promote positive youth development in American Indian youth. Each and every day, youth are inundated, both directly and indirectly, with messages about their racial-ethnic culture. This, in turn, impacts their ethnic identity development, as well as educational and psychosocial functioning. The results of this study confirm that cultural socialization is related to ethnic identity. Since altering individual characteristics that impact positive youth development present a time consuming and complicated challenge to most direct service providers, it may be more efficient to focus interventions on contextual factors at the group and systems level. Counselors, social workers, family therapists, and community organizers can develop and facilitate culturally based parent-training programs that incorporate cultural socialization practices. Participants should include primary caregivers, extended family members, community leaders, and tribal elders. A similar prevention program was developed and carried out by Coard, Foy-Watson, Zimmer and Wallace (2007), called the Black

Parenting Strengths and Strategies Program. They had designed a strengths- and culturally-based parenting program intended to improve aspects of parenting associated with the early development of conduct problems and the promotion of social and cultural competence. They compared families that participated in the BPSS program with a control group. Relative to control caregivers, intervention caregivers used significantly more racial socialization strategies, positive parenting practices, and less harsh discipline, and reported improved child functioning. Coard and colleagues (2007) study support the feasibility, acceptability, and potential efficacy of a culturally relevant intervention program that has implications for American Indian youth as well. Results of this study also support this approach to intervention.

Workshops could also be developed for teachers, medical professionals, and other social service providers to increase their cultural competence in working with this population. They also could learn strategies for promoting affirming images of American Indians through their interactions with members of the community, as well as the programs and services they offer. As with the call for a paradigm shift in research involving American Indians, it is imperative that we move away from a deficit based model in how we look at healthy youth development and move towards a strengths-based and culturally inclusive models of intervention as well. Models such as this exist, and this study supports using them more fully and developing them even more thoroughly.

Conclusion

This study makes an important contribution to our understanding of family worldview, cultural socialization and the positive youth development in American Indian youth. Although not all of these predictors were significantly related to positive youth

outcomes, the results points to the fact that family matters and highlights the particular influence of primary caregivers. Teaching and socializing youth around cultural beliefs and values is an important aspect of health promotion and risk prevention and should be a focus for future research in exploring more optimal outcomes. Additionally, cultural socialization was significantly and positively related to ethnic identity and future orientation. Numerous studies have shown that positive ethnic identity development is associated other positive psychosocial outcomes for youth, such as academic achievement, higher self-esteem, use of healthy coping strategies and less substance use. These findings illuminate practical mechanisms for promoting positive youth development through strengths- and culturally-based prevention and intervention programs geared toward family members, community members, leaders and organizers, as well as educators and health care and social service providers. The findings from this study are an important contribution to the literature on cultural socialization and positive youth development as related to American Indian youth, an oft-neglected and misunderstood population. Researchers and practitioners should continue exploring the different strengths, inherent in American Indian families and communities, which could be emphasized to cultivate the positive health and future success of this population.

APPENDIX A

REGRESSION MODELS

Table 18

Overall Results for Regression Model Predicting Self-Regulation

Model Summary

R	R^2	Adjusted R^2
0.08	0.01	-0.00

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	0.58	3	0.19	0.66	0.58
Residual	87.90	303	0.29		
Total	88.48	306			

Table 19

Regression Coefficients for Model Predicting Self Regulation

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	0.07	0.10	0.73	0.06	0.04	0.46
Sex (male)	-0.04	0.06	-0.63	-0.04	-0.04	0.53
Cult. Socialization	0.02	0.06	0.28	0.02	0.02	0.78

Table 20

Overall Results for Regression Model Predicting Self-Regulation

Model Summary

R	R^2	Adjusted R^2
0.08	0.01	-0.00

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	0.58	3	0.19	0.66	0.58
Residual	87.90	303	0.29		
Total	88.48	306			

Table 21

Regression Coefficients for Model Predicting Self Regulation

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	-0.07	0.10	-0.73	-0.06	-0.04	0.46
Sex (female)	0.04	0.06	0.63	0.04	0.04	0.53
Cult. Socialization	0.09	0.07	1.21	0.11	0.07	0.23

Table 22

Overall Results for Regression Model Predicting Prosocial Activity

Model Summary

R	R^2	Adjusted R^2
0.12	0.01	0.00

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	1715.92	3	571.97	1.45	.23
Residual	119218.45	303	393.46		
Total	120934.37	306			

Table 23

Regression Coefficients for Model Predicting Prosocial Activity

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	-2.64	3.51	-0.75	-0.06	-0.04	.45
Sex (male)	3.68	2.28	1.62	0.09	0.09	.12
Cult. Socialization	3.08	2.29	1.34	0.10	0.08	.18

Table 24

Regression Coefficients for Model Predicting Prosocial Activity

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	2.64	3.51	0.75	0.07	0.04	0.45
Sex (female)	-3.68	2.28	-1.62	-0.09	-0.09	0.11
Cult. Socialization	0.44	2.66	0.16	0.01	0.01	0.87

Table 25

Overall Results for Regression Model Predicting Positive Family Relationships

Model Summary

R	R^2	Adjusted R^2
0.10	0.01	0.00

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	2.70	3	0.90	1.01	0.39
Residual	268.70	303	0.89		
Total	271.40	306			

Table 26

Regression Coefficients for Model Predicting Positive Family Relationships

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	0.02	0.17	0.12	0.01	0.01	0.91
Sex (male)	-0.08	0.11	-0.76	-0.04	-0.04	0.45
Cult. Socialization	0.12	0.11	1.09	0.08	0.06	0.28

Table 27

Overall Results for Regression Model Predicting Positive Family Relationships

Model Summary

R	R^2	Adjusted R^2
0.10	0.01	0.00

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	2.70	3	0.90	1.01	.39
Residual	268.70	303	0.89		
Total	271.40	306			

Table 28

Regression Coefficients for Model Predicting Positive Family Relationships

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	-0.02	0.17	-0.12	-0.01	-0.01	0.91
Sex (female)	0.08	0.11	0.76	0.04	0.04	0.45
Cult. Socialization	0.14	0.13	1.10	0.10	0.06	0.27

Table 29

Overall Results for Regression Model Predicting Positive Future Orientation

Model Summary

R	R^2	Adjusted R^2
0.12	0.01	0.00

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	1.56	3	0.52	1.39	0.25
Residual	113.23	303	0.37		
Total	114.79	306			

Table 30

Regression Coefficients for Model Predicting Positive Future Orientation

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	-0.04	0.11	-0.34	-0.03	-0.02	0.73
Sex (male)	-0.09	0.07	0.12	0.07	0.07	0.22
Cult. Socialization	0.10	0.07	1.45	0.11	0.08	0.15

Table 31

Overall Results for Regression Model Predicting Positive Future Orientation

Model Summary

R	R^2	Adjusted R^2
0.12	0.01	0.00

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	1.56	3	0.52	1.39	0.25
Residual	113.23	303	0.37		
Total	114.79	306			

Table 32

Regression Coefficients for Model Predicting Positive Future Orientation

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Sex x Cult. Social	0.04	0.11	0.34	0.03	0.02	0.73
Sex (female)	-0.09	0.07	-1.23	-0.07	-0.07	0.22
Cult. Socialization	0.07	0.08	0.80	0.07	0.05	0.43

Table 33

Overall Results for Regression Model Predicting Ethnic Identity

Model Summary

R	R^2	Adjusted R^2
0.15	0.02	0.01

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	3.33	3	1.11	2.41	0.07
Residual	138.02	299	0.46		
Total	141.35	302			

Table 34

Regression Coefficients for Model Predicting Ethnic Identity

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Cult. Social x Age	-0.00	0.00	-0.59	-0.03	-0.05	0.56
Cult. Socialization	-0.14	0.06	2.30	0.13	0.13	0.02
Age	0.00	0.00	1.26	0.07	0.07	0.21

Table 33

Overall Results for Regression Model Predicting Positive Future Orientation

Model Summary

R	R^2	Adjusted R^2
0.15	0.02	0.01

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	2.55	3	0.85	2.27	0.08
Residual	112.16	299	0.38		
Total	114.71	302			

Table 35

Regression Coefficients for Model Predicting Positive Future Orientation

Variable	*b*	*SE*	*t*	*β*	*Sr*	*p*
Cult. Social x Age	-0.00	0.00	-2.07	-0.12	-0.13	0.04
Cult. Socialization	0.08	0.05	1.51	0.09	0.08	0.13
Age	0.00	0.00	-0.32	-0.02	-0.01	0.75

Table 36

Overall Results for Regression Model Predicting Self Regulation

Model Summary

R	R^2	Adjusted R^2
0.13	0.02	0.01

ANOVA

Source	*SS*	*df*	*MS*	*F*	*P*
Regression	1.46	3	0.49	1.67	0.17
Residual	86.98	299	0.29		
Total	88.43	302			

Table 37

Regression Coefficients for Model Predicting Self Regulation

Variable	*b*	*SE*	*t*	*β*	*sr*	*P*
Cult. Social x Age	-0.00	0.00	-1.09	-0.06	-0.07	0.28
Cult. Socialization	0.05	0.05	0.96	0.06	0.04	0.34
Age	-0.00	0.00	-1.71	-0.10	-0.09	0.09

Table 38

Overall Results for Regression Model Predicting Prosocial Activity

Model Summary

R	R^2	Adjusted R^2
0.14	0.02	0.01

ANOVA

Source	*SS*	*df*	*MS*	*F*	*p*
Regression	2396.60	3	798.87	2.02	0.11
Residual	118467.35	299	396.21		
Total	120863.95	302			

Table 39

Regression Coefficients for Model Predicting Prosocial Activity

Variable	*b*	*SE*	*t*	*β*	*sr*	*p*
Cult. Social x Age	-0.10	0.06	-1.77	-0.10	-0.12	0.08
Cult. Socialization	1.94	1.76	1.11	0.06	0.05	0.27
Age	0.04	0.04	1.20	0.07	0.06	0.23

APPENDIX B

MEASURES

Demographics Questionnaire

Note: Although listed in the questionnaires, the actual names of the tribal communities are disguised here so as to protect their identities.

1. What is your gender?
   [ ] Male
   [ ] Female

2. What is your child/teen's gender?
   [ ] Male
   [ ] Female

3. Your birthday: (month/day/year)

4. Your child/teen's birthday: (month/day/year)

5. What is your tribe of membership or descent? (check all that apply)
   [ ] Tribal Site 1
   [ ] Tribal Site 2
   [ ] Tribal Site 3
   [ ] Other (please list):
   [ ] Non-Indian

Family Schema-Ethnic Scale

Directions: How true are the following statements for you and your family?

1 = Not true at all 2 = A little true 3 = True half the time 4 = Mostly True
5 = Very true

a. We believe that the land we live on is an important part of who we are.

b. If we have more than we need, we share with others.

c. We give up things we want for the good of others.

d. Children are precious because they carry our spirit on to the future.

e. We believe that if we destroy the land, water and air, we are hurting ourselves.

f. We will sacrifice personal goals for the family.

g. We help each other without being asked.

h. We believe children need strict discipline.

i. We don't hold grudges, we forgive and move on.

j. We expect members to place the needs of family first.

k. When there are problems, family members will come home to help out.

l. We encourage family members to take advantage of opportunities even if it means moving away.

m. Our ethnic/cultural roots (e.g., being White, American, African American, Asian) give strength to us.

n. Music teaches us about our ethnic/cultural roots.

o. Dance teaches us about our ethnic/cultural roots.

p. Using our native language helps us appreciate and value our ethnic/cultural roots.

a. When we try to fit in, we lose our identity.

b. We don't make a big deal of things.

c. In our family, we do not keep secrets for very long.

d. We believe that all families must take care of the land, water and air.

e. When we try to fit in, we lose our self-respect.

f. We do things for pleasure, not for personal gain.

g. We value and respect our elders (grandparents, parents, other older adults, etc).

h. Children are respected.

i. We do a lot to hold on to our ethnic/cultural identity and beliefs.

j. We are easygoing and open to others.

k. We believe that the future will depend on our taking care of the land, water and air.

l. We believe that giving to others or sharing is important.

m. Grandparents, aunts, and uncles have some say in the decision we make.

n. We teach children to support each other.

o. Storytelling is how we pass on information about our ethnic and/or cultural roots.

p. We are taught not to say anything that might upset others.

q. We only take from the land and water what we feel is necessary.

r. Happiness is more important than success.

s. We teach our children to listen to our elders and their opinions.

t. We practice and believe in traditions and celebrations.

u. We try to make our ethnic/cultural roots a part of our daily lives.

v. Children should be seen and not heard.

w. We are interested in the history of our family.

x. We believe it is good to say what we feel or think in front of others.

Cultural Socialization

1 = Not true at all 2 = A little true 3 = True half the time 4 = Mostly True
5 = Very true

8. How often do you?

c. Teach your child about respect?

d. Teach your child about sharing?

e. Teach your child about courage?

h. Teach your child the importance of working through difficult tasks, experiences, and life changes?

i. Teach your child to resist bad thoughts and behaviors?

j. Teach your child to help others?

n. How often do you teach your child about family relationships and expectations?

r. How often do you teach your child about your tribal history?

s. How often do you teach your child about your tribal culture and traditions?

t. How often do you teach your child about living in balance with their tribal culture and modern American culture?

Ethnic Identity

1 = Not really 2 = A little 3 = Somewhat 4 = A lot

a. I know what being in my ethnic group means to me.

b. I am happy that I am a member of my ethnic group.

c. I am very sure about what the role of being in my ethnic group plays in my life.

d. I feel proud of my ethnic group and of the good things we have done.

e. I do things that are common to my ethnic group, like eating special food, listening to certain music, or doing traditional activities.

f. I feel a strong connection with my ethnic group.

g. I feel good about my cultural or ethnic background.

h. I am comfortable with people of different cultural backgrounds.

Pro-Social Activity

Directions: In the month of (insert month) how many hours did you spend on each activity?

1 = 0 hrs 2 = 1-5 hrs 3 = 6-10 hrs 4 = 11-17 hrs 5 = 18-24 hrs 6 = 25 or more hrs

a. Working at a job or doing volunteer work?

b. Participating in teams (for example: sports, cheerleading, band, dance team) or clubs (chess, photography, etc.)?

c. Doing homework?

d. Doing household chores or helping the family with house projects?

e. Practicing a skill like playing a musical instrument, powwow dancing, or other skills?

f. Spending time with friends doing fun activities like going to the movies, bowling, etc?

Positive Family Relationships

Directions: During the month of (insert month), how true are the following statements for your whole family?

1 = Never 2 = Almost never 3 = Rarely 4 = Sometimes 5 = Frequently
6 = Almost Always 7 = Always

a. There has been a feeling of togetherness in my family.

b. Things my family did together have been fun and interesting.

c. Family members really backed each other up.

Directions: For the following statements, please mark how you feel about your family at the PRESENT time.

a. I feel loved by my family.

b. People in my family listen when I speak.

c. I feel like a stranger in my own house.

d. We are interested in the history of our family.

e. I feel respected by my family.

f. People in my family care about what I need.

g. My family sees me as a hopeless case.

h. My family accepts me as I am.

Directions: In my lifetime, how often have the following things happened in your family?

1 = Never 2 = Almost never 3 = Rarely 4 = Sometimes 5 = Frequently
6 = Often 7 = Very often

a. People in my family called me names like stupid, lazy, or ugly.

b. I thought that my parents wished that I had never been born.

c. People in my family said hurtful or insulting things to me.

d. I felt that someone in my hated me.

e. I believe that I was emotionally abused.

f. There was someone in my family who helped me feel that I was important or special.

g. I felt loved.

h. People in my family looked out for each other.

i. People in my family felt close to each other.

j. My family was a source of strength and support.

Directions: How satisfied are you with . . .

1 = Extremely dissatisfied 2 = Dissatisfied 3 = Somewhat dissatisfied
4 = Equal mix 5 = Somewhat satisfied 6 = Satisfied 7 = Extremely satisfied

a. . . . your family's life?

b. . . . your parents' relationship with each other?

c. . . . your relationship with your parents?

d. . . . your relationship with your brothers and /or sisters?

Future Orientation

1 = Not at all 2 = I'm not sure 3 = I think so 4 = Pretty sure
5 = Very sure

a. When I grow up, I know what I want to be.

b. I can imagine what my life will be when I'm grown up.

c. I can imagine myself being an important adult in my community.

d. Tomorrow seems unclear and confusing to me.

e. I feel confident that I will achieve my goals.

f. I think my future will be positive.

Self-Regulation

Directions: How true are each of these statements for you?

1 = Almost always not true 2 = Usually not true 3 = Sometimes true
4 = Usually true 5 = Almost always true

a. It is easy for me to really concentrate on homework problems.

b. I have a hard time finishing things on time.

c. It's hard for me not to open presents before I'm supposed to.

d. When someone tells me to stop doing something, it is easy for me to stop.

e. I do something fun for a while before starting my homework, even when I'm not supposed to.

f. The more I try to stop myself from doing something I shouldn't, the more likely I am to do it.

g. If I have a hard assignment to do, I get started right away.

h. I find it hard to shift gears when I go from one class to another at school.

i. When trying to study, I have difficulty tuning out background noise and concentrating.

j. I finish my homework before the due date.

k. I am good at keeping track of several different things that are happening around me.

l. It's easy for me to keep a secret.

m. I put off working on projects until right before they are due.

n. I pay close attention when someone tells me how to do something.

o. I tend to get in the middle of one thing, then go off and do something else.

p. I can stick with my plans and goals.

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