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Testing the Support Erosion Hypothesis on Parenting and Problem Behaviors during Adolescence: Evidence from a Cross-Ethnic Comparison Study

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Testing the Support Erosion Hypothesis on Parenting and Problem Behaviors During Adolescence: Evidence from a Cross-Ethnic Comparison Study

A Dissertation submitted in partial satisfaction of the requirements for the degree of

Doctor of Philosophy

in

Psychology

by

Kevin Frank Kaeochinda

June 2012

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DEDICATION

I dedicate this dissertation to my parents. Thank you for always believing in me.

To

Frank Kiattiphan Kaeochinda (1949 – 2006)

And

Pam Punwadee Kaeochinda (1953 – 2007)

With all my love and strength.
This study investigated cross-lagged associations between child effects (i.e., adolescents’ internalizing and externalizing behaviors) and parenting behaviors (i.e., parental support and monitoring) during high school (i.e., 9th, 10th, and 11th grades). The focus of this study was to determine whether child effects paths were greater than parent effects path, whether the cross-lagged relationship suggests erosion of parental support and monitoring, and whether ethnic differences are found for these effects. The sample consisted of 2,939 adolescents from a larger longitudinal study who have identified themselves as Chinese \((n = 611)\), Korean \((n = 572)\), Mexican \((n = 612)\), Filipino \((n = 355)\), and European American \((n = 789)\).

A series of cross-lagged simplex models with three time points (i.e., 9th, 10th, and 11th grades) and two constructs (i.e., parental behaviors and adolescents’ outcome) using maximum likelihood estimation was used to examine the parent-adolescent relationship. First, a parsimonious model in which the cross-lagged paths for child and parent effects
were constrained to be equal was examined for each pairing of parent behaviors and adolescents’ outcomes. Second, models in which child effects were unconstrained were used to assess ethnic group differences. A chi-square difference test ($\Delta \chi^2$) between the parsimonious model and the series of unconstrained model determined which model best fit the data. In the base model, parent and child effects were constrained to be equal and then these effects were allowed to vary over time. Ethnic differences in these cross-lagged paths were then examined and reported.

The results of the cross-lagged simplex models provide evidence that child effects paths were greater than parent effects path for three of the four models (i.e., parental support and adolescents’ externalizing behaviors, parental monitoring and adolescents’ internalizing behaviors, and parental support and adolescents’ internalizing behaviors). Two of the four models (i.e., parental support and adolescents’ externalizing behaviors, and parental support and internalizing behaviors) provide evidence of support erosion (i.e., child to parent cross-lagged paths are negative and significant), where initial and continued problem behaviors eroded parenting behaviors. This pattern of erosion suggests that only erosion of parental support occurred and not erosion of parental monitoring. Additionally, there was evidence of increased parental monitoring as adolescents displayed initial and continued internalizing behaviors. Ethnic differences for East Asians, Mexican, Filipino, and European Americans are discussed in detail.
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CHAPTER 1: INTRODUCTION

Recent research suggests that adolescents play an active role in shaping how parents react to their (adolescents’) behaviors (e.g., acting out) rather than the parents being the most significant or sole source of influence in this relationship (Collins & Laursen, 2004; Laursen & Hafen, 2009). Furthermore, there is increasing evidence that parents may pull back or withdraw their parenting (e.g., support) when faced with initial and continued problem behaviors from their adolescents (e.g., Chung, Chen, Greenberger, & Heckhausen, 2009). Further investigation on this issue is important to fully understand the erosion of parent-adolescent relationships.

This study contributed to the growing literature in several ways. First, this study showed how adolescents’ problematic behaviors (i.e., internalizing and externalizing behaviors) have effects greater than that of parenting behaviors (e.g., 9th grade adolescents’ internalizing behaviors predicting 10th grade parental support). For example, parents may withdraw their care and attention from their adolescents when their adolescents exhibit problematic behaviors such as acting out.

Second, this study examined two parenting primary aspects of parent behavior, parental support and monitoring, which are important to the socialization of adolescents. In addition, this study included two facets of behavioral problems, adolescents’ internalizing and externalizing behaviors. Few studies have investigated multiple parenting dimensions (e.g., parental support and monitoring) and adolescent outcomes (e.g., internalizing and externalizing behaviors) in a single study (Barber, Stolz, Olsen,
By examining different facets of parenting and adolescent behavioral problems, this study will be able to determine whether different aspects of parenting influence adolescent behavioral problems.

Third, this study used a three time point model (i.e., 9th, 10th, and 11th grade) instead of the typical two time point model. It is important to include more than two time points in order to track the continuous interplay between the adolescents’ problem behavior, parents’ reaction to these problem behaviors, and adolescents’ reaction to their parents’ reaction (Sameroff & Chandler, 1975). A three time point model will also allow to control for prior levels of parenting and child effects to assess both child effects on parenting variables and vice versa, regardless if the parent was non-supportive or if the adolescent was initially problematic. In order to achieve the aims mentioned above, this study examined longitudinal models. Specifically, this study used cross-lagged models to examine the relationship between parents’ behaviors (i.e., acceptance and monitoring) and adolescents’ behaviors (i.e., internalizing and externalizing behaviors) over the course of three time points (i.e., 9th, 10th, and 11th grade), and determined whether child effects are greater than that of parent effects. The results of the cross-lagged models gave us a better understanding of parent-adolescent dynamics in the etiology and maintenance of adolescents’ problem behaviors.

Fourth, this study examined whether this relationship differs for East Asians (i.e., Chinese and Koreans), Mexicans, Filipinos, and European Americans. Cultural
childrearing practices may contribute to the way parents react to their adolescents’
problem behaviors. For example, parents of East Asian American families may believe
that their role as parents is life-long and this belief may prevent them from backing away
or withdrawing parenting behaviors. Investigating diverse samples of adolescents helped
to determine whether there are ethnic and socio-cultural differences in the way parents
withdraw their support and other parenting behaviors as has been found in studies
involving primarily European American samples (Compas, Wagner, Slavin, & Vannatta,
1986; Dishion, Nelson, & Bullock, 2004; Prinstein, Borelli, Cheah, Simon, & Aikins,
2005; Slavin & Rainer, 1990; Stice, Ragan, & Randall, 2004; Young, Bereson, Cohen, &
Garcia, 2005). This is important for understanding how parent-adolescent relationships
may differ across ethnic groups. This study examined data from samples of East Asians
(i.e., Chinese and Korean), Filipino, and Mexican American immigrant families.

The Child-Driven Model and Support Erosion Hypothesis

Bell’s (1968) seminal work on parent-child relationships was one of the earliest
studies to suggest that adolescents’ problem behaviors influenced their parents’
behaviors. In respect to this theoretical viewpoint, children and adolescents play an
active role in influencing or shaping their parents’ behaviors. At the time of Bell’s
seminal work, the majority of the studies were correlational studies that did not allow for
examination of the direction of effects (Bell, 1968). These studies focused on explaining
their results as parent effects models or unidirectional models that dismissed or
downplayed adolescents’ influence on parents (Bell, 1968). The accumulated evidence
suggested that the child effects model and reciprocal, or bidirectional, effects between child and parent is important to investigate (Bell, 1968; Bell & Harper, 1977).

Despite the theoretical framework of the child effects by Bell (1968), research on parent-adolescent relationships in the past decade has been dominated by parent-driven models (Collins, 2002; Collins & Laursen, 2004; Laursen & Hafen, 2009). Collins (2002) defined a parent-driven model as a model where parenting behavior drives the change in the parent-adolescent relationship. That is, parent behaviors, such as the monitoring of their adolescent, change the outcomes (e.g., externalizing, internalizing, and grade-point-average) of adolescents. Although parent-driven models have dominated the field, recent research has provided evidence for the child-driven model (e.g., Arum, Dahinten, Marshall, & Shapka, 2011; Chung et al., 2009; Hafen & Laursen, 2009; Hale et al., 2011; Hawes, Dadds, Frost, & Hasking, 2011; Kerr & Stattin, 2003; Pardini, Fite, & Burke, 2008; Stice & Barrera, 1995). For example, a study by Hawes, Dadds, Frost, and Hasking (2011) found reciprocal effects of parenting practices and child’s problematic behaviors across two time points (one-year interval). Specifically, the authors found that parental monitoring, parental support, and parental involvement were affected by the child’s problematic behaviors (i.e., antisocial personality, depression, anxiety, and stress) and vice versa. That is, the child’s problematic behaviors predicted lower subsequent parenting behaviors, and lower levels of parental involvement, monitoring, and support predicted greater subsequent problematic behaviors in the child. Other studies such as Hale et al. (2011), as mentioned above, indicates only a child-driven model and not a reciprocal effects model.
The *Support Erosion Hypothesis* is consistent with the child-driven model and refers specifically to the deterioration of the support that parents provide for their youth as the youth continues to display problematic behaviors (Chung et al., 2009; Kerr & Stattin, 2003). Over time, adolescent-sustained problematic behavior, such as depressed mood or acting out, may erode the relationship with parents. Although both child and parent effects are important for understanding the overall relationship, there is increasing evidence that child effects may be stronger than parent effects and suggest support erosion. For example, Pardini, Fite, and Burke (2008) examined reciprocal relationships (i.e., parent-child and teacher-child) of three cohorts of boys at first grade ($n = 1,165$), fourth grade ($n = 1,146$), and seventh grade ($n = 1,125$) over two time periods (i.e., baseline at T1 and six months later, at T2). The authors found a full reciprocal relationship between parenting behaviors (i.e., monitoring and involvement) and adolescent problem behaviors (i.e., conduct problems) with child effects ($z$ ranges from 4.49-8.61) being stronger than parent effects ($z$ ranges from 2.49-5.35). In addition, the authors noted that changes in parenting behaviors were stronger than teacher behaviors when adolescents exhibited conduct problems.

*Why Study Parenting Practices?*

Parenting behaviors have typically been described by two primary dimensions of support and control (Barber, 1996, 1997; Maccoby & Martin, 1983; Schaefer, 1959, 1961). One important component of parenting behavior that affects adolescent behavioral outcomes (i.e., externalizing behaviors) is parental monitoring (Barber, 1996). Parental monitoring constitutes one dimension of parental behavioral control (Barber et
al., 2005) and describes the parents’ attempt to minimize the adolescents’ involvement in risky behaviors (e.g., association with deviant peers) through vigilance, supervision (Barber, 1996, 1997; Li, Stanton, & Feigelman, 2000), and age-appropriate demands for maturity (Baumrind, 1965, 1983). The second important component is parental support. Parental support refers to the adolescents’ perception of the parent as involved, responsive, and warm (Barber, Stolz, Olsen et al., 2005; Chao, 1994; Smits et al., 2008). This includes parent behaviors such as acknowledging the adolescent, providing respect and feedback, and guiding them (Barber, 1996, 1997; Bean et al., 2006).

Just as parents provide a secure base for young children to explore and learn from their environment (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1977, 1982, 1988; Sroufe & Fleeson, 1986), parents provide a similar secure base for adolescents to explore new relationships, including peer and romantic relationships (Cauce & Srebnik, 1990; Compas et al., 1986; Meeus, Oosterwegel, & Vollebergh, 2002). In this stage, adolescents strive to achieve their own identity (e.g., identity exploration) and autonomy from parents, and to establish a separate network of relationships outside the family (some researchers call this the second separation-individuation; Blos, 1968, 1970; Grotevant & Cooper, 1985, 1986; Meeus, 1994). During this transition, adolescents will experience less difficulty if they have a stable and supportive relationship with their parents (Grotevant & Cooper, 1985, 1986; McNeely & Barber, 2010).

In this stage of life, adolescents are more likely to take risks (e.g., drug use, hanging out with troublesome peers, etc.), but parents can help minimize adolescent risk-
taking behaviors through vigilance (i.e., parental monitoring) and rapport, as well as by providing non-verbal instrumental support (e.g., cooking for them, providing a place to live and childcare, etc.) (Wu & Chao, 2005) and financial support (Barber, 1997; Bean, Barber, & Crane, 2006; Grotevant & Cooper, 1985, 1986). A secure parent-adolescent relationship that promotes closeness and involvement in daily life (Barnes & Olson, 1985; Choo, 2000; Gottfried, Flemming, & Gottfried, 1998) is also important for promoting the positive growth and mature development of the adolescent to adulthood (Grotevant & Cooper, 1985, 1986). Mature development includes emotional maturity and the ability to maintain relationships with significant others (Cauce & Srebnik, 1990; Compas et al., 1986). Other research has suggested that adolescents who experience a lack of parental support have increased problematic behaviors, poor relationships with others, and poor overall academic performance (Ge, Lorenz, Conger, & Elder, 1994; Murray & Greenberg, 2000).

Specialized Model of Parenting Behaviors and Adolescents’ Outcomes

Parental support and parental monitoring were found to be more predictive of adolescents’ outcome than other dimensions of parenting behaviors (Barber, Olsen, & Shagle, 1994; Barber, Stolz, Olsen et al., 2005). A review of the literature by Barber and colleagues (Barber, Stolz, Olsen et al., 2005) suggested that specialized relationships between parenting behaviors (i.e., parental support and monitoring) and adolescents’ outcome (i.e., internalizing and externalizing) exist. That is, parental support (i.e., warmth and acceptance) is related to psychosocial competence, whereas parental
monitoring is related to competence in behavioral adjustment and behavioral norms (e.g., lower externalizing symptoms and antisocial behaviors).

The accumulated work in the past decade have supported such claims of a specialized relationship between parenting behaviors and adolescent outcomes (Barber, 1997; Eccles, Frasier, Belansky, & McCarthy, 1997; Garber, Robinson, & Valentiner, 1997; Goldner, 2009; Gray & Steinberg, 1999; Herman et al., 1997; Steinberg, Dornbusch, & Brown, 1992). For example, the study by Gray and Steinberg (1999) suggested that parental control and parental warmth is uniquely related to adolescents’ misconduct (e.g., externalizing behavior) and psychosocial development (e.g., internalizing behavior), respectively. The study found that parental control accounted for a larger proportion of the variance explained for adolescents’ misconduct, whereas parental warmth accounted for a larger proportion of the variance explained for adolescents’ psychosocial adjustment.

Barber and colleagues (2005) suggested that more research is needed before such specialized models can be confirmed, and that research should include and assess both parenting behaviors in the same study. The majority of the literature focused on only one aspect of parenting behavior or one adolescent outcome and rarely examined their effects or influences longitudinally. This study contributed to the literature by investigating both parental support and monitoring.

*Parental Monitoring*

Parental monitoring is conceptualized as the parents’ awareness of the
adolescents’ activities and the conveyance of their concern about those activities. This definition of monitoring is similar to Schaefer’s original conceptualization (Dishion & McMahon, 1998; Schaefer, 1965a, 1965b). Although parental control is a multidimensional construct that includes parental monitoring (as part of behavioral control) and psychological control, researchers have found that parental monitoring efforts through vigilance and supervision are important for developing a positive relationship between adolescents and parents, and predict adolescents’ well-being beyond other parental control dimensions (Barber & Harmon, 2002; Barber et al., 1994; Barber, Stolz, Olsen et al., 2005; Goldner, 2009). This effective behavioral control contributes to adolescents’ success and maturity. Furthermore, adolescents need rules, guidelines, and limits from parents for optimal development and transitioning to adulthood (e.g., mature, emotionally stable adults) (Baumrind, 1991). Previous research found parental monitoring to be an important protective factor for adolescents. Specifically, parental monitoring was found to reduce youths’ behavioral problems and deviant behaviors such as acting-out which, in turn, led to mature growth and internalization of rules and regulations set by parents (Barber, 1996; Barber, Stolz, Olsen et al., 2005; Brown, Mounts, Lamborn, & Steinberg, 1993; Patterson & Dishion, 1992). Furthermore, Barber and colleagues (2005) review of the parent-adolescent studies have found parental monitoring to be more predictive of lower externalizing than parental support.

It is well documented that higher levels of parental monitoring are associated with lower levels of adolescents’ externalizing behaviors and greater psychosocial competence and functioning (Brody, Dorsey, Forehand, & Armistead, 2002; Crouter & Head, 2002;
Research by Barber and colleagues (Barber, 1997; Barber et al., 1994; Barber, Stolz, Olsen et al., 2005; Bean et al., 2006) and their review of the literature has documented that greater initial parental monitoring was related to lower adolescents’ externalizing behaviors. Thus, parental monitoring is beneficial in maintaining adolescents’ conduct.

Other cross-sectional studies have shown a similar relationship between high parental monitoring and lower adolescent delinquency and externalizing behaviors (Barber et al., 1994; Beyers, Bates, Pettit, & Dodge, 2003; Herman et al., 1997). Taken as a whole, these cross-sectional studies suggested that parental monitoring is more predictive of adolescents’ externalizing behaviors than internalizing behaviors.

Investigating multiple ethnic groups (i.e., East Asians, Mexican, Filipino, and European Americans) in this study further contributed to the understanding of parental monitoring in the parent-adolescent relationship for ethnic groups other than European Americans. Longitudinal studies have shown high parental monitoring to be related to lower externalizing behaviors (Barber, Stolz, Olsen et al., 2005; de Kemp, Scholte, Overbeek, & Engels, 2006; Willoughby & Hamza, 2011). For example, de Kemp, Scholte, Overbeek, and Engels (2006) found evidence of this in their study on 1,012 Dutch adolescents in the Netherlands. The study relied on three waves of data in a cross-lagged design to test for reciprocal effects of parents’, friends’, and adolescents’ behaviors. The authors found that parental monitoring, rather than peer delinquency, was directly related to adolescents’ deviant behaviors and delinquency over time, and that
adolescents’ initial delinquency was related to changes in levels of parental monitoring over time.

Other studies have found similar longitudinal associations between parental monitoring and adolescents’ externalizing behaviors, as well as evidence for specialized models. One such study by Barber (1996) found that delinquent behaviors are negatively associated with parental monitoring. Another study by Beyers and colleagues (2003) on the longitudinal associations between parental monitoring, adolescents’ externalizing behaviors, and the neighborhood environment (e.g., unsafe neighborhoods) found that low initial parental monitoring predicted subsequent increases in adolescents’ externalizing behaviors. Thus, parental monitoring is important in reducing adolescents’ misconduct and initial levels of parental monitoring should be accounted for in studies. Similarly, a study by Goldner (2009) found parental monitoring to be more predictive of adolescents’ externalizing behaviors than parental warmth. In addition, this study also found parental warmth to be more predictive of adolescents’ internalizing behaviors than parental monitoring. Other studies found low levels of parental monitoring to be associated longitudinally and concurrently with greater externalizing symptoms and poorer behavioral adjustment (Crouter & Head, 2002).

Studies have generally reported parental monitoring to be stable across time. One such study by Conger and Ge (1999) reported gradual increases in externalizing behaviors with gradual decreases in parental monitoring from early to mid-adolescence. Another such study by Laird and colleagues (2003) reported that parents’ monitoring
efforts remain highly stable from 9th to 12th grade. Furthermore, the authors found reciprocal effects of parental monitoring and adolescents’ externalizing behaviors. That is, lower parental monitoring efforts at 9th grade predicted increases in adolescents’ externalizing behaviors in 10th, 11th, and 12th grade, and greater levels of adolescents’ externalizing behaviors at 9th grade predicted lower parental monitoring efforts in 10th, 11th, and 12th grade. However, the sample from this longitudinal data set (i.e., Child Development Program; see Dodge, Bates, & Pettit, 1990; Laird et al., 2003; Pettit, Bates, & Dodge, 1997) consisted mainly of European Americans (83%) and caution must be taken in generalizing these findings to other ethnic groups.

Parental Support

Although parental monitoring in the parent-adolescent relationship is important, it is not enough that parents monitor and regulate their adolescents’ activities (Dishion & McMahon, 1998). Specifically, parents must also provide their youths with warmth and acceptance. This warmth and acceptance defines the overall quality of the parent-adolescent relationship. Parental support is a multi-dimensional construct with past studies conceptualizing parental support as warmth and affection (e.g., acceptance-rejection), instrumental support, or overall family environment of care and affection (Barber et al., 2005; Chao & Kaeochinda, 2010; Khaleque & Rohner, 2002; McNeely & Barber, 2010; Rohner, 1960; Rohner, Khaleque, & Cournoyer, 2005). Rohner and colleagues (2005) reported that perceived warmth and affection (e.g., acceptance-rejection) predicted up to 26% of the variability of children’s and adolescents’
psychological and behavioral adjustment, regardless of ethnicity.

Previous cross-sectional research has shown that high levels of perceived parental support are related to positive psychological and behavioral adjustment in adolescents that includes lower internalizing symptoms (Barber, Stolz, Olsen et al., 2005; Goldner, 2009; Maccoby & Martin, 1983; McNeely & Barber, 2010; Rohner et al., 2005; Schaefer, 1965b; Steinberg, 1989, 1990). Parents who show their support through warmth and acceptance may affect their adolescents’ overall sense of self-worth, even after accounting for environmental effects (Whitbeck, Simons, Conger, Lorenz, Huck, & Elder, 1991). Adolescents who know that their parents care about them are less likely to develop internalizing problems. In other words, the rapport created between parent and adolescents through warmth and acceptance may be a safeguard against negative psychosocial outcomes such as depression. Cross-sectional studies have found parental support to be associated with lower internalizing behaviors (i.e., depression rate) (Cheng, 1997) and lower general psychological distress (Helsen, Vollebergh, & Meeus, 2000; Ystgaard, 1997). Other studies have suggested that parental support is a protective factor against internalizing behaviors. One such study by Yoon and Lau (2008) demonstrated that greater levels of parental support (i.e., warmth, attention, and acceptance) buffered the negative effects (e.g., depression) associated with maladaptive perfectionism, and that adolescents will experience fewer internalizing symptoms with greater initial parental support. In addition, previous research has found parental support to be beneficial for a number of different ethnic groups, including Chinese Americans (Chao, 1994, 2001; Wu & Chao, 2005), Korean Americans (E. Kim, Han, & McCubbin, 2007), Mexican
Americans (Crockett, Brown, Russell, & Shen, 2007), and African Americans (Bean et al., 2006; Kerpelman, Eryigit, & Stephens, 2008). A recent study by McNeely and Barber (2010) also found positive effects of supportive parenting on adolescent well-being across cultures (for review, see McNeely & Barber, 2010).

There is an increasing amount of longitudinal evidence that suggests that parental support is beneficial to adolescents’ psychological well-being and is a protective factor against adolescent internalizing behaviors (Armsden & Greenberg, 1987; Demaray, Malecki, Davidson, Hodgson, & Rebus, 2005; Helsen et al., 2000; Rueger, Malecki, & Demaray, 2010). One such study by Rueger, Malecki, and Demaray (2010) investigated gender differences in relation to perceived support from parent, teacher, classmate, friend, and general school support on the outcome of academic adjustment. Using a sample of 636 middle school students (49% male) over two time points (i.e., Fall and Spring data), the authors found parental support to be the best predictor of academic adjustment, lower internalizing behaviors (i.e., depressive symptoms), and higher self-esteem for both boys and girls. Rueger, Malecki, and Demaray (2010) also noted that parental support served as a unique predictor of adolescent outcomes whereas other support contributed non-uniquely (e.g., combined or overlapping effect).

Parental support (i.e., warmth and affection) is generally reported to have high stability across time (Laursen, Furman, & Mooney, 2006) with noted declines of parental support during early and middle adolescence (Conger & Ge, 1999; Thornton, Orbuch, & Axinn, 1995; Loeber et al., 2000). Although other studies have suggested decline of
parental warmth and affection in adolescence, other studies suggested that this decline varies between adolescents with some adolescents experiencing less steep declines than others (Shanahan et al., 2007; Feinberg et al., 2003), and the rate of decline depends upon the quality of the relationships including the parent-adolescent relationship (Grotevant, 1978; Grotevant & Cooper, 1985). However, a study by Barber, Maughan, and Olsen (2005) suggested that mean levels of parental acceptance is stable across time and that only parental physical affection decreases during early to late adolescence (e.g., hugging and kissing).

Studies have shown that lack of initial support from parents predicts greater internalizing symptoms at later times. One such study by Laursen, Furman, and Mooney (2006) examined longitudinal associations and concordance rates of different types of support (i.e., mother’s support, peer support, and romantic partner’s support) and different types of competence (i.e., self-worth, interpersonal, romantic) for adolescents over two time points (i.e., 10th grade and 12th grade). The authors found that a lack of parental support is a precursor to low self-worth and to increased internalizing symptoms in later time points.

There is increasing amount of evidence for longitudinal associations of parental support and adolescents’ externalizing behaviors. One such study by Fletcher and colleagues (2004) that examined perceived parental warmth, control, and knowledge, found parental warmth to be highly predictive of lower externalizing behaviors in high school students. The authors suggested that it was through this close relationship (i.e.,
parent-adolescent relationship with high parental warmth) that prevented adolescents from engaging in delinquent and externalizing behaviors. Another such study by Hair and colleagues (2005), which used the 1997 cohort of the National Longitudinal Survey of Youth with data at three time points of 1997, 1999, and 2000/2001, found that parental support predicted lower externalizing behaviors and greater mental well-being in a positive parent-adolescent environment. The literature on longitudinal associations between parental support and externalizing behavior is limited and further investigation is warranted.

Although the reviewed studies indicate a connection between parental support efforts and adolescents’ internalizing behaviors, few studies have reported child effects of internalizing behaviors on parental support (Collins & Laursen, 2004; Laursen & Hafen, 2009). That is, the majority of the literature is either parent driven in nature or reported mixed finding of reciprocal effects. One longitudinal study by Hale et al. (2011) of maternal support, in the form of maternal expressed emotion, on 497 Dutch adolescents’ internalizing and externalizing symptoms found a child effect with both internalizing and externalizing behaviors. Interestingly, adolescents’ initial internalizing symptoms subsequently predicted mothers’ diminished support (with increased criticism, irritation, and lack of emotional support), indicating a child effect model but not a reciprocal effects model for mother’s emotional support and adolescents’ internalizing symptoms.

Ethnic Differences in Effects of Parenting on Adolescent Outcomes

This study contributed to the literature by investigating sub-ethnic Asian groups
(e.g., Chinese and Koreans, and Filipinos). Specifically, Asian Americans are typically combined into a pan-ethnic group in most research studies. However, research has shown that there is considerable variation among Asian sub-ethnic groups (e.g., Chinese, Korean, Filipinos) in parenting behaviors and adolescents’ behavioral outcomes (Arnett, 2008; Betancourt & López, 1993; Chao, 1994; Chao & Aque, 2009; Chao & Tseng, 2002; Sue & Okazaki, 2009). For example, Filipino Americans display greater externalizing behaviors than their Chinese or Korean counterparts (Choi, 2008).

Previous studies have suggested differences between European American, Asian American, and Mexican American adolescents on parental practices and adolescent outcomes (Chao, 1994, 1995, 2001; Chao & Aque, 2009; Chao & Kaechohinda, 2010; Chao & Tseng, 2002; Chavez, Oetting, & Swaim, 1994; Crockett et al., 2007; Fuligni, 1998; Fuligni, Tseng, & Lam, 1999; Fuligni & Yoshikawa, 2002; Germán, Gonzales, & Dumka, 2003; Knight et al., 2010; Parke & Buriel, 2006; Rumbaut, 1994; Wu & Chao, 2005). For example, in comparison to European American adolescents, Greenberger, Chen, Tally, and Dong (2000) found that Chinese Americans had greater risk for internalizing behaviors (i.e., depressive symptoms) when parental support was low. The authors suggested that since Chinese adolescents were trained to rely on family (e.g., familial piety) from a young age, they would be more adversely affected by parental withdrawal of support.

In contrast to Asian American and European American adolescents, Mexican American adolescents reported more externalizing problems and were at greater risk for
problematıc behaviors (Chavez et al., 1994; Gorman-Smith, Tolan, Henry, & Florsheim, 2000; Jones & Krisberg, 1994; Rumbaut, 1994). Although Mexican American adolescents reported greater problematic behaviors than their Chinese American counterparts, research has shown that parental monitoring is a protective factor against delinquent and externalizing behaviors for Mexican American adolescents (Caldwell, Beutler, Ross, & Silver, 2006). That is, Mexican American adolescents with lower externalizing behaviors had parents who monitored and supervised them. Previous studies have shown that internalizing behaviors was problematic for both Asian American and Mexican American adolescents.

**Ethnic Group Differences in Support Erosion**

There has been little research on support erosion on diverse ethnic groups (e.g., East Asians and Filipinos) and much of the longitudinal research on support erosion has focused on European American samples (Chung et al., 2009; Compas et al., 1986; Prinstein et al., 2005; Slavin & Rainer, 1990; Stice et al., 2004) and very few studies have investigated family-oriented or collectivistic style families (e.g., Chinese). For the current study, support erosion may not have been applicable to some ethnic immigrant groups. Specifically, support erosion may not occur for East Asian Americans (i.e., Chinese and Koreans) and Mexican Americans with family-oriented or collectivist style backgrounds, as it may for their European American counterparts with a Western style of parenting (reasons discussed below). Chung, Chen, Greenberger, and Heckhausen (2009) examined parental erosion of support (i.e., peer and parental support) in response to
adolescent depressed mood across two time points. The authors found erosion of support for European Americans but not for Mexican Americans. Also, there were mixed findings for the Asian American population, consisting mainly of Filipinos (i.e., over 50%). Furthermore, Filipino Americans with their unique social-cultural history, preference for the English language, and greater willingness to endorse Western ideology (e.g., devotion to Catholicism and language usage) may not be similar to their East Asian American counterparts. This study attempted to address these issues by examining separate Asian ethnic groups (e.g., Chinese, Korean).

*East Asian Americans.* Both Confucian and Buddhist tenets for Chinese Americans, as well as their Korean American counterparts, have influenced or defined specific hierarchical roles of parents and adolescents (Chao, 1994; K. Kim & Rohner, 2002; Park & Chelsa, 2007). That is, parents of East Asian American adolescents (i.e., Chinese and Koreans) are expected to govern their adolescents with benevolence, while the adolescents are expected to be respectful, to be obedient, and to adhere to their parents’ wishes (Chao & Tseng, 2002; Fuligni et al., 1999). Furthermore, parents of East Asian descent are expected to *train* their adolescents on how to be a member of the family and society (a concept similar to *filial piety*) that includes: (1) reliance on family as the central unit of support, (2) self-control and self-inhibition (including self-sacrificing behaviors), and (3) interdependency with the family (Chao & Tseng, 2002; Fuligni et al., 1999; Yang, 1981). Adolescents are also expected to maintain close contact with the family and to take care of their siblings, perform household chores, and provide primary care for their aging parents, an overall pattern promoting
interdependency between family members (Chao & Tseng, 2002; Chen, Bond, & Tang, 2007; Fuligni et al., 1999; Kwak & Salmon, 2007).

East Asian parents may believe that adolescents are an extension of themselves and an investment for the future which, in turn, leads them to make sacrifices for their children that also extend to their children’s adult lives (e.g., success in college, career, and the children’s own family) (Chao, 1995; Chao & Tseng, 2002; Fuligni, 1998; Fuligni et al., 1999; Fuligni & Yoshikawa, 2002). Although this is not unique to East Asian families, instrumental support is important in the understanding of their parenting practices. These sacrifices are often expressed as investments of time and resources in their children that reflect their care and concern, rather than over-intrusiveness. Although instrumental support is important for East Asian parents, research by Rohner and colleague have shown that parental support (i.e., warmth and acceptance) is also important to fostering positive growth and maturity as well as a protective factor against problem behaviors and maladjustments (Rohner, 1975; Rohner et al., 2005; Rohner & Pettengill, 1985). Other studies have found similar findings for Chinese American adolescents with greater parental warmth and acceptance associated with lower adolescents’ internalizing behaviors of depressive mood (Greenberger & Chen, 1996; Greenberger et al., 2000; Uba, 1994). McNeely and colleagues (2010) suggested that warmth and acceptance is more important to adolescents of all ethnic groups rather than a provision of resources. Furthermore, parents of East Asian families may be more reluctant to withdraw their support than Western style families and to be persistent in their monitoring, even when youths continue to be resistant and display problematic
symptoms (e.g., acting out).

*Mexican Americans.* Mexican American/Chicano families, like their East Asian counterparts, also have strong family-oriented backgrounds. Mexican American families’ concept of *familism*, or *familismo*, defined by strong relational ties and closeness (e.g., relying on kin or their extended family members) (Campos et al., 2008; Fuligni et al., 1999; Garcia-Presto, 1996; Germán et al., 2003; Hardway & Fuligni, 2006; Knight et al., 2010; McHale, Updegraff, Shanahan, Crouter, & Killoren, 2005; Parke & Buriel, 2006; Suarez-Orozco & Suarez-Orozco, 1995) is an important aspect of family life that shapes inter-family relationships. Such values serve as an overarching cultural norm, and as a protective factor for adolescents (Masten & Coatsworth, 1998; Organista, Organista, & Kurasaki, 2003; Roosa, Wolchik, & Sandler, 1997). This notion of family extends beyond the typical “nuclear family” that is reflected in European American parenting (i.e., family consisting of parents and their off-spring) and includes several generations of kin in an interlocking network (e.g., two or more generations under a single household). Every family member has a moral and social obligation to help each other in times of need (e.g., housing family members traveling to your area) and to celebrate holidays and events together (e.g., birthdays, quinceañera, etc.). Specifically, these *familism* values are a set of normative beliefs that put family first and foremost (Germán et al., 2003; Knight et al., 2010; Oyserman, Coon, & Kemmelmeier, 2002; Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987; Suarez-Orozco & Suarez-Orozco, 1995). These values are described in terms of three types of obligations: (1) obligation to the family, where family members are expected to provide emotional and
financial support to all kin, (2) obligation of dependency and closeness to kin, where family members are seen as dependable sources of help and rapport, and (3) obligation where a member of the family and kin must act as an extension or representative of the whole family (e.g., if honesty is an upheld virtue of the family then all family members are expected to act honestly across all situations and encounters).

Mexican American parents may regard or see their adolescents as part of a larger family with interlocking relationships in which each member is dependent upon one another as their main social, emotional and economic support. That is, the family unit is expected to remain cohesive even in the face of on-going problems (e.g., adolescents acting-out). Like East Asian American parents, Mexican American parents may also be reluctant to withdraw from their youths no matter how they behave and believe that family members should remain cohesive (e.g., stick together) at all times. This would be consistent with the concept of *familism*.

*Filipino Americans.* Filipino American cultural values are harder to define because there is no unifying ethos or system, but rather amalgams of cultural systems that vary between islands (Bacho, 1997; David & Okazaki, 2006; Uba, 1994). Research by Blair and Qian (1998) and David and Okazaki (2006) has suggested that Filipinos, as compared to their East Asian counterparts, differ considerably with respect to language usage (e.g., speaking English over Tagalog), educational aspirations, and attitudes towards Western ideologies. Specifically, Filipino families tend to use English at home, and Blair and Qian suggested that this would enable them to adopt Western ideologies.
faster than their East Asian peers. Furthermore, Filipinos have a unique history of colonization and religion (i.e., Catholicism) that may contribute to endorsing a more Western style of parental practice (Bacho, 1997; David & Okazaki, 2006; Espiritu, 1995; Kitano & Daniels, 1995).

Relative to their East Asian counterparts, Filipino American parents’ understanding and conceptualization of parenting practices may be more similar to European Americans. Therefore, Filipino American parents may be less persistent with adolescents when they continue to display problematic behaviors, especially with older adolescents on the cusp of adulthood. This may explain why Chung and colleagues (2009), whose Asian American population consisted of mostly Filipinos, reported mixed findings.

Purpose of the Study

The purpose of this study was to extend the previous research by Chung et al. (2009) that examined parental erosion of their support for adolescents in response to adolescent depressive mood. Consistent with the child-driven model, the Support Erosion Hypothesis recognizes the reciprocal effects between youth behaviors and parenting behaviors. High levels of adolescents’ problematic behaviors (e.g., depressed mood) may erode the parent-adolescent relationship which may lead to the withdrawal of parental support (Chung et al., 2009; Slavin & Rainer, 1990; Stice et al., 2004). However, this may not be the case with family-oriented or collectivistic style families, such as Chinese, Koreans, and Mexican Americans, who view childrearing as a lifelong
process. Therefore, parents may be less likely to withdraw their support (i.e., warmth and affection) as a response to adolescent problematic behaviors. This is in contrast to the more individualistic or Western style parenting of European Americans.

On the one hand, parents of European American adolescents, with a more individualistic or Western style of parenting, may feel that they should not be overly controlling of their adolescents (Slavin & Rainer, 1990). On the other hand, Chinese and Korean parents may feel that the persistence or exertion of control may be beneficial for their adolescents. Filipino Americans, as compared to their Chinese and Korean American counterparts may endorse more individualistic or Western style of parenting and may be more similar to their European American counterparts. In addition, parents of Mexican American adolescents may operate under the notion of familism and may feel that they need to provide consistent support no matter how their adolescents behave or even if they are resistant, which is more similar to East Asian Americans than European Americans.

This study extended the research from Chung et al. (2009) by also examining whether such erosion was found for parental monitoring and for the outcome of externalizing symptoms. In addition, rather than pooling all Asian Americans together as a pan-ethnic group, this study examined the above associations across three ethnic subgroups (i.e., Chinese, Korean, and Filipinos). Specifically, this study examined cross-lagged associations for capturing the reciprocal parent-to-child and child-to-parent effects (Ferrer & McArdle, 2010; Kenny & Campbell, 1989; Marsh & Yeung, 1997) after
controlling for prior levels of parenting and the child outcomes of internalizing and externalizing symptoms. Controlling for prior levels of parenting and child effects allowed the study to assess both child effects on parenting variables and vice versa regardless if the parent was non-supportive or if the adolescent was initially problematic. In addition, a three time point model allowed the study to determine whether there are child effects or bidirectional effects and observe interactive processes between parents and adolescents (Bell, 1968; Sameroff & Chandler, 1975). Then, this study examined whether ethnic groups (i.e., European Americans, Mexican Americans, Chinese, Filipinos, and Koreans) differ in these cross-lagged associations.

Typically, research on parent-adolescent relationships advocate the parent-driven model, where parents are the main or sole source of change and parenting behavior drives adolescent outcomes (Collins, 2002; Laursen & Hafen, 2009). Instead, this study proposed the child-driven model (Collins, 2002), where adolescents are the main agents of change. That is, parenting behaviors change in response to initial and continued adolescent problematic behaviors (i.e., internalizing and externalizing behavior) (Chung et al., 2009; Crouter, Bumpus, Davis, & McHale, 2005; Dishion et al., 2004; Stice et al., 2004; Vuchinich, Bank, & Patterson, 1992; Young et al., 2005). Furthermore, previous studies have only examined parental support and adolescent internalizing symptoms (e.g., depression). Studies have rarely examined both aspects of parenting (i.e., parental support and monitoring) in relation to both types of adolescent behavior problems (i.e., internalizing and externalizing behaviors) for Asian American sub-ethnic groups (e.g., East Asians and Filipino Americans). This study addressed these issues as well as
examined whether each aspect of parenting was associated or driven by different adolescent outcomes (e.g., parent support by adolescents’ internalizing behavior and parental monitoring by adolescents’ externalizing behaviors).

Hypotheses and Research Questions

**Research Question 1 (RQ1):** Is there evidence of both child effect and parent effect? And, is there evidence that these child effects will be larger or of greater magnitude than parent effects? This study will determine whether the child effects (i.e., adolescents’ internalizing and externalizing behaviors) are greater than that of parent effects (i.e., parental support and monitoring), indicating a child-driven model. Specifically, this study showed that the initial and subsequent cross-lagged paths for child effects (i.e., child to parent paths) are significant and larger than parent effects (i.e., parent to child paths).

**Research Question 2 (RQ2):** If a child driven model is found, do these child driven models suggest erosion of parental support and monitoring? In support of previous studies, this study hypothesized that adolescents’ problem behaviors (i.e., internalizing and externalizing behaviors) at T2 would be significantly and negatively associated with parenting behaviors (i.e., parental support and monitoring) at T3 (see Figure 1), after accounting for the cross lag effects of parental support and monitoring (at T2) on adolescents’ internalizing/externalizing symptoms (at T3), and prior levels of parental support/monitoring and adolescents’ internalizing/externalizing symptoms (at T1).
Research Question 2a (RQ2a). Do the cross-lagged models suggest specialized models? In addition and for the overall sample, this study proposed that parental monitoring will be negatively associated with adolescents’ externalizing behaviors, whereas parental support will be negatively associated with internalizing behaviors and externalizing behaviors. This is consistent with specialized models suggested by Barber and colleagues (2005).

Research Question 3 (RQ3): Are the child effects stronger for European Americans and Filipino Americans compared to East Asian Americans (i.e., Chinese and Koreans) and Mexican Americans? And, are there differences in the erosion of support and monitoring between ethnic groups (i.e., different patterns of erosion of parenting behaviors)? This study hypothesized that group differences will be found between European American and Filipino Americans, and family-oriented or collectivistic style families, East Asian Americans and Mexican Americans. Specifically, the child effect will be stronger for European American and possibly Filipino Americans, compared to East Asian Americans and Mexican Americans. More specifically, the erosion of support and monitoring efforts will be stronger for European Americans and Filipino Americans compared to East Asians and Mexican Americans. That is, the cross-lag effects for adolescents’ problem behaviors on parental support and monitoring, described above, will be more apparent for European American and Filipino American adolescents than for Chinese, Korean, and Mexican American adolescents. Furthermore, this study predicted different parent-adolescent relationships patterns to emerge for each ethnic group.
CHAPTER 2: METHODS

Participants

The total sample consisted of 2,939 adolescents, who were followed from 9th to 11th grade, from eight different high schools in the greater Los Angeles area, including 611 Chinese Americans (312 females and 294 males; 5 did not report gender), 572 Korean Americans (283 females and 288 males; 5 did not report their gender), 612 Mexican Americans (340 females and 267 males; 5 did not report their gender), 355 Filipino Americans (154 females and 200 males; 1 did not report their gender), and 789 European Americans (377 females and 404 males; 8 did not report their gender). There were a total of 1,466 females and 1,453 males (17 adolescents did not report their gender total). See Table 1 for demographic information.

Procedures

Parental consent was obtained prior to students’ participation in the study. Consent forms were mailed beforehand to parents of adolescents to request their children’s participation. Parents were required to send back the consent forms only if they did not wish their child to participate in this study. All parents received copies of consent letters in English, Chinese, Korean, and Spanish along with a postage-paid, self-addressed envelope. Adolescents’ consent was also required; provided on the cover page of their survey. Adolescents completed paper-and-pencil surveys, consisting of the following measures, during one of their class periods.

Measures
Ethnicity. A single, self-reported item (i.e., “What is your ethnic background?”) was used to determine adolescents’ ethnic group affiliation which included Chinese, Korean, Mexican, Filipino, and European American (non-Hispanic White). This item also included other Asian sub-ethnic groups and Latino or Hispanic sub-ethnic groups (i.e., 8 Asian sub-ethnic groups and 6 Latino or Hispanic sub-ethnic groups). Separate dichotomous variables were created for East Asians, Mexicans, Filipinos, and European Americans.

Parental Support. This study conceptualized parental support as perceived parental acceptance and warmth using the adjusted Children’s Report of Parents’ Behavior Inventory (CRPBI) for older children and adolescents (Schaefer, 1959, 1961; Schuldermann & Schuldermann, 1970, 1983, 1988). Specifically, parental support was measured through the acceptance-rejection sub-scale of the Children’s Report on Parent Behavior (CRPBI; Schaefer, 1965a, 1965b) adapted by Schuldermann and Schuldermann (1988) for adolescents (Youth Self Report). The scale includes 10 items involving parental responsiveness, and involvement. See Appendix A for the list of items. Responses to the items were measured on a five-point Likert-type scale from: 1 = “not at all like” to 5 = “a lot like.” Parental Acceptance items had good internal consistencies (α = .92 for the whole sample; .90 to .92 for all ethnic groups).

Parental Monitoring. Parental monitoring was measured through the Parental Monitoring Scale created by Steinberg, Dornbusch, and Darling (1992) to assess parenting practices related to supervision. The scale included 5 items that ask how much parents try to know of their adolescents’ activities and whereabouts. It included such
items as “How much do your parents try to know who your friends are?” and “How much
do your parents try to know what you do with your free time?” See Appendix A for the
list of items. Responses to the items were measured on a three-point Likert-type scale
from: 1=doesn’t try, 2=tries a little, and 3=tries a lot. Parental monitoring items had
acceptable internal consistencies (α = .76 for the whole sample; .71 to .81 for all ethnic
groups).

**Internalizing/Externalizing Behaviors (Youth Self Report).** The Youth Self Report
(YSR; Achenbach, 1991; Achenbach & Rescorla, 2001; Crijnen, Achenbach, & Verhulst,
1997, 1999) was used to measure adolescents’ behavioral adjustment. This measure was
divided into two subscales, internalizing and externalizing problems. The response for all
items were on a 3-point (0 = Not True, to 2 = Very True or Often True) Likert-type scale.
The internalizing subscale of the YSR consisted of 31-items and assessed adolescents’
 depression/anxiety, withdrawn, and somatic complaints. It included such items for
depression/anxiety, withdrawn, and somatic complaints as “I feel that no one loves me”,
“I keep from getting involved with others”, and “I feel dizzy or lightheaded”,
respectively. The externalizing subscale of the YSR consisted of 32-items for assessing
adolescents’ aggressive, delinquent/rule-breaking, and intrusive behaviors that included
such questions as “I argue a lot”, “I break rules at work or elsewhere”, and “I brag”,
respectively. Scale scores were created by averaging the items for each scale.
Internalizing items had good internal consistencies (α = .91 for the whole sample; .90 to
.92 for all ethnic groups). Externalizing behavior items had good internal consistencies
(α = .89 for the whole sample; .87 to .91 for all ethnic groups).
Covariates

Ninth grade covariates were added to the model to control for their potential effects on adolescents’ internalizing and externalizing symptoms. This included several covariates (e.g., mother’s education) that were found to be important socio-demographic factors. Typically, researchers use mother’s and father’s education as a proxy for gauging socioeconomic status (SES). By statistically controlling for levels of SES, researchers can rule out that observed ethnic differences on a given measure are due to differences in SES (Hughes & Perry-Jenkins, 1996; Crouter, Bumpus, Davis, & McHale, 2005). Other socio-demographic variables that are important to control for are the child’s gender (Arum et al., 2011) and the child’s age at the time of collection (Steinberg, 1987). Age may be an important marker of maturity and developmental maturation, and gender is related to pubertal onset. Controlling for these variables rules out possible ethnic differences that may be due to maturation and the onset of puberty (Arum et al., 2011; Steinberg, 1987). Household factors, such as the child’s primary caregiver and single family household, are important to control statistically. This is especially the case for Mexican American adolescents because they are more likely to come from single parent households than are European American adolescents (Ventura & Bachrach, 2000). Covariates means and standard deviations for all ethnic groups are presented in Table 1.

Child’s age was determined at the time of data collection based on self-reported month, day, and year of birth.

Mother’s and Father’s Education were assessed as the highest level of education
attained by each parent, which included the following possible responses: 1 = *no formal* schooling, 2 = *some elementary school*, 3 = *finished elementary school*, 4 = *finished middle school*, 5 = *finished high school*, 6 = *some vocational or college training*, 7 = *finished four-year college training*, 8 = *finished graduate degree*.

*Primary Caregiver (Mother)* was based on a single item asking the adolescent to identify their primary caregiver, that was coded with 0 = *mother is not the primary caregiver*, 1 = *mother is the primary caregiver*.

*Single Parent Household* was assessed based on a single item asking the adolescent to identify with whom they lived with. The selection of “only with my mother” and “only with my father” was recoded as single parent household: 0 = *non-single parent household*, 1 = *single parent household*.

*Gender (Female)* was determined from a single item asking the adolescent to identify their gender, which was included the following response: 0 = *male*, 1 = *female*.

**CHAPTER 3: PLAN OF ANALYSIS**

*Attrition Analysis*

Initial attrition analysis was conducted to determine whether missing data is missing at random (MAR) or not missing at random (NMAR). A series of *t*-tests was conducted comparing those who have 9th grade and 10th grade data (i.e., parental support, parental monitoring, internalizing behaviors, and externalizing behaviors) to those who have 9th grade data but are missing 10th grade data, for each ethnic group (i.e.,
East Asians, Mexicans, Filipinos, and European Americans). For significant \( t \)-tests, students with complete data (i.e., both 9th and 10th grade data points) were used for the analysis. For non-significant \( t \)-tests, cross-lagged models with maximum likelihood (ML) estimation were used.

The data included three time points at 9th \((n = 1208)\), 10th \((n = 1475)\), 11th grades \((n = 256)\). For Chinese, there was a missing rate of .5% for 9th grade, 24.1% for 10th grade, and 33.2% for 11th grade. For Koreans, there was a missing rate of .9% for 9th grade, 33.6% for 10th grade, and 48.6% for 11th grade. For Filipinos, there is a missing rate of .6% for 9th grade, 33.0% for 10th grade, and 57.7% for 11th grade. For Mexicans, there was a missing rate of .7% for 9th grade, 59.5% for 10th grade, and 75.7% for 11th grade. For European Americans, there was a missing rate of .1% for 9th grade, 31.9% for 10th grade, and 58.6% for 11th grade. Furthermore, modeling in \textit{Mplus} statistical program provided adequate handling of missing data points and uses maximum likelihood (ML) estimation under MCAR (missing completely at random) and MAR (missing at random) (L. K. Muthén & Muthén, 1998-2010). Furthermore, ML estimation in \textit{Mplus} uses a missing data estimation approach called full information maximum likelihood (FIML) which is robust for handling MAR or MCAR with unbiased estimates and low convergence error, and provided information optimized against Type-1 errors (Arbuckle, 1957; Kenward & Molenberghs, 1998; Little & Rubin, 2002; L. K. Muthén & Muthén, 1998-2010; Wothke, 2000). Specifically, FIML produced unbiased parameter estimates and standard errors by estimating a likelihood function for each case (e.g., function of observed covariates) based on all available data (for further review, see \textit{Mplus}
Mean Levels and Bivariate Associations

Means and standard deviations for parent behaviors (i.e., parental support and monitoring), adolescents’ outcomes (i.e., internalizing and externalizing behaviors), and covariates was reported for each ethnic group (i.e., Chinese and Korean, Mexican, Filipino, and European Americans). Mean levels between ethnic groups were also assessed and reported.

A series of bivariate correlations split by ethnic groups (i.e., Chinese and Korean, Mexican, Filipino, and European Americans) were used to examine the relationship between parental behaviors (i.e., parental support and monitoring) across three time points (i.e., 9th, 10th, and 11th grades); adolescents’ outcomes (i.e., internalizing and externalizing behaviors) across the same time points. Then, correlations between parent behaviors (i.e., parental support and monitoring) and between adolescents’ outcomes (i.e., internalizing and externalizing behaviors) were assessed at each time point (i.e., at 9th, 10th, and 11th grade) for each ethnic group and whether the correlations suggested that parent behaviors and adolescents’ outcomes are comparable in the SEM context between ethnic groups.

Cross-Lagged Simplex Model

This study used a three wave (i.e., 9th grade, 10th grade, and 11th grade), two construct, cross-lagged simplex model (Farrell, 1994; Finkel, 1995) (See Figure 1). This
method is similar to Chung et al. (2009) study with two waves, cross-lagged models, but included an additional wave and an additional construct of adolescents’ externalizing behaviors. Furthermore, this study extended Chung and colleague’s study to include another parenting behavior of parental monitoring and compare Asian sub-ethnic groups. This allowed for the estimation of models with lagged causal effects, where prior levels of adolescent variables (e.g., internalizing behavior) influence future levels of parent variables (or the change in adolescents’ variable) (Finkel, 1995). Specifically, the lagged effect static-score model of a parent variable (i.e., parental monitoring and parental acceptance) and an adolescents’ variable (i.e., internalizing and externalizing behavior) were used to estimate cross-lagged effects over three waves and this model allowed for the investigation of continuous child-driven effects across time. Furthermore, this allowed the determination of the direction of causal influence (Dwyer, 1983, p. 352), and thus, whether child effects (i.e., adolescents’ internalizing and externalizing behaviors) were larger than parent effects. *Mplus* statistical analysis program was used to conduct all cross-lagged, simplex models (B. O. Muthén, 2002; L. K. Muthén & Muthén, 1998-2010).

First, overall models were evaluated for the whole sample followed by multiple-group analysis, comparing ethnic groups (i.e., Chinese and Koreans, Mexicans, and European Americans). Ninth-grade covariates were added to the models to control for their effects, see Table 1. Then, subsequent freeing of parent and child cross-lagged effects over time allowed testing of the effects of adolescents’ variable (i.e., internalizing behaviors and externalizing behaviors) on parents’ variables (i.e., parental monitoring
and parental support) and vice versa. This determined whether or not child effects (i.e., adolescent internalizing and externalizing behaviors) were greater than that of parent effects.

**Base Model (Model 1):** An overall model (base model) was first tested with child effects ($B_3$ and $B_7$) and parent effects ($B_1$ and $B_5$) constrained to be equal across all ethnic groups (see Figure 1). This was done for each parenting behavior (i.e., support and monitoring) and adolescent outcome (i.e., internalizing behaviors and externalizing behaviors) pairing (e.g., parental support and adolescents’ externalizing behaviors) for a total of four constrained models. Model fit statistics of the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of the approximation (RMSEA), and the standardized root mean square residual (SRMR) were used to assess goodness of fit.

**Unconstrained Model (Model 2):** A series of models were run with child effects ($B_3$ and $B_7$) freed, comparing across ethnic groups (i.e., Chinese and Korean, Mexican, Filipino, and European Americans) (see Figure 1). This was done for each parenting behavior (i.e., support and monitoring) and adolescent outcome (i.e., internalizing behaviors and externalizing behavior) pairing for a total of four freed models per ethnic group (i.e., sixteen models in all). Since Model 2 is nested is Model 1, the two competing models were compared by chi-square ($\chi^2$) difference test. In addition to chi-square ($\chi^2$) statistics, model fit statistics of CFI, TLI, RMSEA, and SRMR are assessed. A significant chi-square ($\chi^2$) difference test (i.e., Model 2 fits the data better than Model 1)
indicated ethnic group differences and that possible child effects were greater than that of parent effects. Then, for each ethnic group, examination of adolescents’ cross-lagged coefficients ($B_3$ and $B_7$) was assessed and reported.

CHAPTER 4: RESULTS

Attrition analysis

$T$-tests were conducted to test whether those who have 9th grade and 10th grade data were different from those who have only 9th grade data. For East Asians, there were 839 for adolescents with 9th and 10th grade data and 344 for adolescents with only 9th grade data. For Mexicans, there were 247 for adolescents with 9th and 10th grade data and 365 for adolescents with only 9th grade data. For Filipinos, there were 237 for adolescents with 9th and 10th grade data and 118 for adolescents with only 9th grade data. For European Americans, there were 537 for adolescents with 9th and 10th grade data and 252 for adolescents with only 9th grade data. For parental support, parental monitoring, adolescents’ internalizing behavior, and adolescent’s externalizing behaviors, $t$-tests were not significant for all ethnic groups (i.e., East Asians, Mexicans, Filipinos, and European Americans) indicating that the data was most likely missing at random (MAR). With the results of the $t$-tests, analysis with maximum likelihood (ML) estimation was used for the cross-lagged models.

Mean Levels and Bivariate Correlations

Before discussing cross-lagged models, mean levels and bivariate correlations
across ethnic groups are presented. The means, standard deviations, and mean level differences across ethnic groups of parent variables (i.e., parental support and monitoring), adolescents’ outcomes (i.e., internalizing and externalizing behaviors), and covariates (e.g., mother’s education) can be found in Table 1. All bivariate correlations for parent variables (i.e., parental support and monitoring) and adolescents’ outcomes (i.e., internalizing and externalizing behaviors) for each ethnic group can be found in Table 2.

Mean Levels. In turning to mean levels, I examined ethnic group differences for parent variables (i.e., parental support and monitoring), adolescent outcomes (i.e., internalizing and externalizing behaviors), and covariates. For mean levels of parental support, East Asian American adolescents had lower parental support compared to Mexican American adolescents and European American adolescents across all time points (i.e., 9th, 10th, and 11th grade). Filipino American adolescents had lower parental support than both European American adolescents and Mexican American adolescents in 9th grade, but Filipino American adolescents only had lower parental support than European Americans in 10th and 11th grade.

For mean levels of parental monitoring, European American adolescents reported that their parents monitored them more than Mexican Americans and Filipino Americans in 9th and 10th grade. Additionally, European American adolescents reported that their parents monitored them more than East Asian Americans in 10th and 11th grade. East Asian American adolescents reported that their parents monitored them more than
Mexicans Americans and Filipino Americans in 9th grade. Mexican American adolescents reported that their parents monitored them more than Filipino Americans in 11th grade.

For mean levels of adolescents’ internalizing behaviors, Filipino American adolescents reported more internalizing behaviors than European American adolescents across all time points (i.e., 9th, 10th, and 11th grade). Filipino American adolescents also reported more internalizing behaviors than Mexican American adolescents in 9th and 10th grade. East Asian American adolescents reported more internalizing behaviors than European Americans in 9th and 10th grade.

For mean levels of adolescents’ externalizing behaviors, Filipino American adolescents reported more externalizing behaviors than East Asian American adolescents across all time points (i.e., 9th, 10th, and 11th grade). Filipino American adolescents also reported more externalizing behaviors than European American adolescents in 9th grade. Mexican American adolescents reported more externalizing behaviors than East Asian American adolescents in 9th and 10th grade. European American adolescents reported more externalizing behaviors than East Asian American adolescents in 11th grade.

Turning to the mean levels of the covariates, adolescents in all ethnic groups did not differ in age at the time of collection. Mexican American adolescents reported the lowest rate of homeownership, the lowest educational levels for mothers and fathers, the highest proportion of single parent household, and the most females (i.e., self reported to be female) compared to all other ethnic groups (i.e., East Asians, Filipinos, and European
Americans). European American and Filipino American adolescents reported higher levels of education for mothers than East Asian American adolescents. East Asian American adolescents as well as European American adolescents reported higher levels of education for fathers than Filipino American adolescents. A greater proportion of East Asian American adolescents reported their mothers were the primary caregiver than Filipino American and European American adolescents.

**Bivariate Correlations.** Before proceeding to the cross-lagged analyses, bivariate correlations are presented to check for relationships across time. All bivariate correlations are reported in Table 2. For all variables (i.e., parental support, parental monitoring, adolescents’ internalizing behaviors, and adolescent’s externalizing behaviors), bivariate correlations within construct between 9th and 10th grade were significant and positive, and bivariate correlations within construct between 10th and 11th grade were significant and positive.

Next, bivariate correlations between pairs of parent behaviors (i.e., parental support and monitoring) and adolescent outcomes (i.e., internalizing and externalizing behaviors) were checked at each time point (9th, 10th, and 11th grades). This was to check for patterns of relationship between parent behaviors and adolescent outcomes. For all pairing at 9th, 10th, and 11th grades that were statistically significant, bivariate correlations between parent behaviors and adolescent outcomes were negative.

**Cross-Lagged Analysis: Overall Model for the Whole Sample (Model 1)**

Chung et al. (2009) used a two time-point, three constructs (i.e., Parental Support,
Peer Support, and Adolescents’ Depression) cross-lagged model to investigate the erosion of support for European Americans, Asian Americans, and Hispanic Americans. According to Singer and Willett (2003), and also Rogosa, Brandt, and Zimowski (1982), two time points of data will not accurately measure the change over time, or, in this case, the erosion of parental support over time. That is, cross-lagged models with two or more time points can tell us the influences across different variables (e.g., Parental Support and Adolescents’ Depression) and address changes of one variable on another across time (Ferrer & McArdle, 2010). A series of cross-lagged models with three time points allowed the study to capture the change of parenting behaviors (i.e., parental support and parental monitoring) and adolescents’ behaviors (i.e., internalizing behaviors and externalizing behaviors) (McArdle, 1989). Specifically, after controlling for initial levels of parent and adolescent variables (T1, Figure 1), this study examined the adolescents’ effects at T2 to T3 (See Figure 1).

Although it was not the focus of the study, a model with only parent effects (i.e., parent-to-child cross-lagged pathways) was compared to a model with both parent and child effects (i.e., child-to-parent and parent-to-child cross-lagged pathways) to determine if adding child effects improved the overall model fit or if parent effects alone best explained the data. For all pairing of parent behaviors (i.e., parental support and monitoring) and adolescent outcomes (i.e., internalizing and externalizing behaviors), and for the whole sample, the results suggested that adding child effects (i.e., child-to-parent cross-lagged pathways) to the model improved the overall model fit. Thus, the analyses below for the whole sample were based on the proposed conceptual model (Figure 1)
with both parent and child effects.

This study first tested, for the overall sample, both child and parent effects and whether child effects are greater than that of parent effects. Additionally, this study tested whether the child effects would be greater in magnitude than the parent effects for the overall sample. Contrary to predictions, parental monitoring and adolescents’ externalizing behaviors did not suggest that child effects were greater than that of parent effects (Figure 2). That is, child effects (i.e., child-to-parent cross-lagged pathways) were unrelated to parent behaviors (i.e., parental monitoring) between 9th to 10th grade, and 10th to 11th grade. Furthermore, parent effects (i.e, parent-to-child cross-lagged pathways) were unrelated to adolescent outcomes (i.e., externalizing behaviors) between 9th to 10th grade, and 10th to 11th grade. However, the other three models suggest that child effects were greater than that of parent effects. Specifically, the three models are parental support and adolescents’ externalizing behaviors (Figure 3), parental monitoring and adolescents’ internalizing behaviors (Figure 4), and parental support and adolescents’ internalizing behaviors (Figure 5). Furthermore, for these models (Figures 3-5), all child effects were larger in magnitude than parent effects. Additionally, parent effects (i.e., parent-to-child cross-lagged pathways) were unrelated to the adolescent outcomes (i.e., internalizing and externalizing behaviors) from 9th to 10th grade, and 10th to 11th grade.

Next, this study examined, for the overall sample, whether these child-to-parent effects reflected an erosion of support (i.e., decreases in parental support as adolescent problem behaviors increase) and also whether the data suggest specialized models (i.e.,
parental monitoring is related to adolescents’ externalizing whereas parental support is related to adolescents’ internalizing behaviors). For the direction of the coefficients in the models (Figures 2-5), two of the four models suggested evidence of erosion of support for the whole sample. Specifically, parental support and adolescents’ externalizing behaviors (Figure 3), and parental support and adolescents’ internalizing behaviors (Figure 5). Thus, erosion of parental support, but not parental monitoring, was evident in this study. That is, the results suggest no erosion of parental monitoring. Instead, 9th grade adolescents’ internalizing behavior was related to increases in parental monitoring efforts in the subsequent time point (Figure 4). Thus, instead of erosion of parental monitoring efforts, this study found increases or strengthening of parental monitoring when adolescents displayed internalizing behaviors, such as depressive symptoms.

The results did not suggest specialized models as Barber and colleagues (2005) had conceptualized, where parental support is related to adolescents’ internalizing behaviors, whereas, parental monitoring is related to adolescents’ externalizing behaviors. Instead, the results for the whole sample suggested that adolescents’ internalizing and externalizing behaviors are related to decreases in parental support, whereas adolescents’ internalizing behaviors are related to increases in parental monitoring.

Cross-Lagged Analysis: Ethnic Differences (Model 2)

Next, this study examined whether child effects are stronger for European
Americans and Filipino Americans compared to East Asian and Mexican Americans. A summary of all models in which ethnicity was freed is presented in Table 3. The evidence shows that three of the four models suggest ethnic group differences. Specifically for the models of parental support and adolescents’ externalizing behaviors ($\Delta \chi^2(2)=13.30, p<.01$), parental monitoring and adolescents’ internalizing behaviors ($\Delta \chi^2(2)=11.65, p<.01$), and parental support and adolescents’ internalizing behaviors ($\Delta \chi^2(2)=6.95, p<.05$). The only model that did not suggest ethnic differences was parental monitoring and externalizing behaviors ($\Delta \chi^2(2)=2.28, p=n.s.$).

**Parental Monitoring and Adolescents’ Externalizing Behaviors.** First, the effects of adolescents’ externalizing behaviors on parental monitoring were examined. The results suggested no ethnic differences in the effects of adolescents’ externalizing behaviors on parental monitoring and no erosion of parental monitoring. Specifically, for all ethnic groups, adolescents’ externalizing behaviors did not predict changes in parental monitoring from 9th to 10th grade, nor from 10th to 11th grade. Furthermore, for all ethnic groups, parental monitoring was unrelated to adolescents’ externalizing behaviors and suggested no parent effects.

**Parental Support and Adolescents’ Externalizing Behaviors.** For East Asians, Filipinos, and European Americans, adolescents’ externalizing behaviors did not predict changes in parental support from 9th to 10th grade, nor from 10th to 11th grade. However, adolescents’ externalizing behaviors did predict changes in parental support for Mexican Americans from 9th to 10th grade and from 10th to 11th grade. That is, for
Mexican Americans, adolescents’ externalizing behaviors were related to decreases in parental support in initial and subsequent times.

**Parental Monitoring and Adolescents’ Internalizing Behaviors.** For East Asians and European Americans, adolescents’ internalizing behaviors did not predict changes in parental monitoring from 9th to 10th grade, nor from 10th to 11th grade. On the other hand, adolescents’ internalizing behavior predicted changes in parental monitoring for Mexican and Filipino Americans. For Filipino Americans, adolescents’ internalizing behaviors predicted changes in parental monitoring from 9th to 10th grade, but not from 10th to 11th grade. For Mexican Americans, adolescents’ internalizing behaviors predicted changes in parental monitoring from both 9th to 10th grade and from 10th to 11th grade. That is, adolescents’ internalizing behaviors, such as depressive symptoms, predicted increases in parental monitoring efforts for both Mexican Americans and Filipino Americans.

**Parental Support and Adolescents’ Internalizing Behaviors.** Lastly, effects of adolescents’ internalizing behaviors on parental support were examined. For East Asians and Filipino Americans, internalizing behaviors did not predict changes in parental support from 9th to 10th grade, nor from 10th to 11th grade. Thus, for East Asian and Filipino Americans, adolescent behaviors did not predict changes in parent behavior of parental support. On the other hand, adolescents’ internalizing behavior did predict changes in parental support for Mexican and European Americans. For Mexican Americans, internalizing behaviors did not predict changes in parental support from 9th
to 10th grade, but did predict changes in parental support from 10th to 11th grade. For European Americans, internalizing behaviors predicted changes in parental support from 9th to 10th grade, and from 10th to 11th grade. Thus, adolescents’ internalizing behaviors predicted decreases in parental support for both Mexican and European Americans. Similar to previous studies, European Americans, adolescents’ internalizing behaviors predicted decreases in parental support at both time points (i.e., 9th grade and 10th grade).

CHAPTER 5: DISCUSSION

This study investigated longitudinal associations between parent behaviors (i.e., parental support and monitoring) and adolescent outcomes (i.e., internalizing and externalizing behaviors) using a three-wave (i.e., 9th, 10th, and 11th grades) cross-lagged simplex model. The following research questions that have not been adequately answered in previous studies guided this study. The first research question asked whether there is evidence of both parent and child effects and whether the magnitudes of child effects are larger than the parent effects. The second research question asked, if models for child effects were found, do these child driven models indicate erosion of supportive parenting behaviors (i.e., parental support and monitoring)? Additionally, this study investigated if those effects were specific to the type of parenting and type of outcomes (i.e., parental support is related to psychosocial competence, whereas parental monitoring is related to competence in behavioral norms) as suggested by Barber and colleagues (2005). The third research question asked whether there are ethnic differences in the
patterns of child effects, and whether these child effects are stronger for European Americans and Filipino Americans compared to East Asians and Mexican Americans that have stronger family-oriented backgrounds.

The strength of this study included using three time points instead of the typical two time points for all modeling. This is important when investigating interactions and reciprocal effects between parenting behaviors and adolescents’ outcomes (Sameroff & Chandler, 1975). The typical two time point model would not fully capture the parent-adolescent interaction over time. Models with three or more time points and repeated measures from the same sample (e.g., panel data), would enable the examination of the interplay between parent behaviors and adolescents’ outcomes over time. For example, a two time point model may suggest that adolescent effects at 9th grade change parents’ behavior at 10th grade. This particular model would not be able to capture possible changes, or bidirectional effects, from 10th to 11th grade, such as the adolescents’ response to parents’ behavior in 10th grade by increasing their (adolescents’) problem behaviors (i.e., 10th grade child effects) from 10th to 11th grade.

The results suggested that for three of the four models (i.e., parental support and externalizing behaviors, parental monitoring and internalizing behaviors, and parental support and internalizing behaviors), child effects paths were greater than parent effects path for the whole sample. However, contrary to predictions, adolescents’ externalizing behaviors did not predict changes in parental monitoring efforts. Thus, child effects were not stronger than parent effects, and externalizing behaviors, such as aggressiveness and
acting out, did not increase or decrease the amount of parental monitoring efforts in initial and subsequent times. Huh, Tristan, Wade, and Stice (2006) suggested that drug use and not externalizing behaviors predicted changes in parental monitoring. Because parents may believe that externalizing problems are a natural part of adolescence, they may be unlikely to react to their adolescents’ rule breaking or acting out. However, parents may pull back or withdraw their parenting in response to adolescents’ drug use (Huh et al., 2006; Stice & Barrera, 1995). This differential response from parents may explain this particular finding.

For the other three models (i.e., parental support and externalizing behaviors, parental monitoring and internalizing behaviors, and parental support and internalizing behaviors), child effects were found to be stronger than parent effects with only one exception where adolescents’ internalizing behaviors at 10th grade was unrelated to parental monitoring efforts at 11th grade. Taken as a whole, the data supported the first hypothesis in which child effects were stronger than parent effects in most models.

For the overall sample, only two of the four models indicated erosion of support, where child effects predicted decreases in parenting behaviors in initial and subsequent times. Consistent with previous studies, adolescents’ internalizing behaviors predicted decreases in parental support over time. Thus, parents of adolescents who display depressive symptoms or other internalizing symptoms tend to somewhat back away or withdraw their supportive behaviors over time. Furthermore, this study also found that adolescents’ externalizing behaviors predicted decreases in parental support. Thus,
parents of adolescents who display aggressive behaviors and other externalizing symptoms tend to somewhat back away or withdraw their support over time. It would be harder for parents to form close relationships with adolescents who displayed conduct problems or depressed or withdrawn behaviors. On the other hand, this study did not find evidence of erosion of parental monitoring. Instead, 9th grade adolescents’ internalizing behaviors predicted increases in parental monitoring in subsequent times. Taken as a whole, parental support was the only parenting behavior to erode in response to adolescents’ initial and continued behavioral problems.

The results did not suggest specialized models as Barber and colleagues (2005) had conceptualized. Specifically for Barber and colleague’s specialized models, parental support is related to adolescents’ internalizing behaviors, whereas parental monitoring is related to adolescents’ externalizing behaviors. Instead, this study found evidence of more specific erosion, where adolescents’ problem behaviors eroded one type of parenting behavior (i.e., parental support) and not the other. On one hand, erosion of parental monitoring efforts did not occur as it had for parental support. Instead, a pattern of increased parental monitoring efforts occurred when adolescents displayed initial internalizing behaviors, such as depressive symptoms. In other words, parents reacted to their adolescents’ depressive mood by monitoring their whereabouts. On the other hand, in agreement with past studies, the data also suggests erosion of parental support when adolescents displayed initial and continued internalizing behaviors. In other words, when adolescents displayed depressive moods and aggressive behaviors that are toxic to the parent-adolescent relationship, parents tended to reduce their warmth and acceptance
over time. This may reflect a greater difficulty for parents to relate to adolescents who continuously display either depressive mood or socially unacceptable behaviors (i.e., aggressiveness). This erosion of parenting behavior was found to be unique to parental support. Researchers should be aware that predictions for one specific parenting behavior, such as parental support, should not be generalized to other parenting behaviors, such as parental monitoring. Instead, to capture the full picture of the parent-adolescent relationship, researchers should include multiple parenting behaviors as well as multiple adolescents’ outcomes in future studies.

**Ethnic Differences in the Cross-Lagged Analysis**

Next, this study examined whether there are ethnic differences in the patterns of child effects and support erosion. Taken as a whole, the patterns that emerged of adolescents’ outcomes (i.e., internalizing and externalizing behaviors) and parenting behaviors (i.e., parental support and monitoring) were different for East Asians, Mexican, Filipino, and European Americans. Consistent with predictions as well as previous studies (Chung et al., 2009; Compas, Wagner, Slavin, & Vannatta, 1986; Dishion, Nelson, & Bullock, 2004; Prinstein, Borelli, Cheah, Simon, & Aikins, 2005; Slavin & Rainer, 1990; Stice, Ragan, & Randall, 2004; Young, Bereson, Cohen, & Garcia, 2005), support erosion occurred for European Americans. Although it should be noted that no erosion in parental support occurred for the specific outcome of externalizing behaviors, nor did any erosion occur for parental monitoring. Contrary to predictions, Filipino Americans in this study did not exhibit patterns similar to European Americans. Instead,
Filipino Americans exhibit patterns more similar to East Asians with no evidence of erosion of support. In other words, Filipino American adolescents’ problem behaviors did not erode the parent-adolescent relationship. Contrary to prediction, Mexican Americans adolescents’ problem behaviors (i.e., internalizing and externalizing behaviors) predicted changes in parenting behaviors (i.e., parental support and monitoring). Although Mexican Americans and East Asians both possess a strong family-oriented background, they differed in patterns of child effects and support erosion. Cultural implications for each ethnic group are discussed next.

For East Asian Americans, no erosion of support or monitoring was suggested by the results. Specifically, East Asian American adolescents’ problem behaviors (i.e., internalizing and externalizing behaviors at 9th grade and then at 10th grade) were not negatively related to their parents’ monitoring efforts or support in subsequent times. That is, East Asian American adolescents’ problem behaviors did not erode the parent-adolescent relationship. This is consistent with East Asian American’s notion of family and interdependency. Specifically, East Asian American parents may view their role as a parent as life-long and remain steadfast in their parenting efforts (Chao, 1994, 1995; Chao & Tseng, 2002).

East Asian immigrant parents may endorse a culturally appropriate childrearing practice of “training” or “governing” over their adolescents (Blair & Qian, 1998; Chao, 1994; Chao & Tseng, 2002; Fuligni et al., 1999; Uba, 1994). During adolescence, this particular form of parenting consists of less expressiveness in physical and emotional
warmth, and greater emphasis in balance and control over emotional expressivity. This Confucian-based tenet of “training” or “governing” may explain the results of this dissertation in two ways. First, parents of East Asian American parents may not respond to internalizing symptoms like European American parents since East Asian American parents advocate balance and control over emotional expressiveness. That is, when East Asian American adolescents display depressive symptoms or somatic complaints, their parents may have a strict set of expectations in place and do not feel the need to change their parenting behaviors (e.g., increasing their monitoring efforts). Second, East Asian American parents may respond more to overt problem behaviors, such as externalizing behaviors. For this sample, East Asian American adolescents reported the lowest level of externalizing behaviors across all time points, and this may be the result of parental regulation of externalizing symptoms at an earlier time point (e.g., childhood). The East Asian American adolescent sample in this study may not have exhibited enough (i.e., baseline threshold) externalizing symptoms during high school to elicit a parental reaction. In other words, since the East Asian American adolescents in this sample showed the lowest amount of externalizing symptoms, their parents may not have felt the need to intervene or change their parenting behaviors. Caution, however, must be taken before generalizing that East Asian American parents do not react to their adolescents’ problem behaviors.

For Mexican Americans, the data suggested two different patterns for parental monitoring and for parental support. Specifically, Mexican American parents may reduce or withdraw their supportive behaviors in reaction to their adolescents’ initial and
continued internalizing and externalizing behaviors. However, these parents may increase their monitoring efforts or vigilance over their adolescents in the face of behavioral problems. This is consistent with the concept of *familismo* and that Mexican American parents may feel the need to continue to monitor their adolescents and intervene when necessary. Furthermore, increased monitoring efforts in the face of adolescents’ problem behaviors may be an effort to stabilize overall family structure (McCord, 1991; Patterson & Stouthamer-Loeber, 1984; Wagner et al., 2010). Although, Mexican American parents may reduce their supportive behaviors in reaction to their adolescents’ internalizing and externalizing behaviors, they still continue to monitor their adolescents.

Since cohesiveness and obligations to the family are core values to many Mexican American immigrant families (Campos et al., 2008; Fuligni et al., 1999; Garcia-Presto, 1996; Germán et al., 2003; Hardway & Fuligni, 2006; Knight et al., 2010; Parke & Buriel, 2006; Suarez-Orozco & Suarez-Orozco, 1995), continued problem behaviors by their adolescents may be a violation of this cultural norm of family cohesiveness. Mexican American parents may view their adolescents’ problem behaviors as disruptive and Mexican American parents may react in two ways. Mexican American parents may view their adolescents’ problem behaviors (i.e., internalizing and externalizing behaviors) as disruptive and may react by showing their disapproval for their adolescents’ problem behaviors by withdrawing warmth and acceptance. These parents may instead react by increasing their watch over their adolescents (i.e., increased parental monitoring) in response to only their adolescents’ internalizing behaviors, such as depressive symptoms.
This may be a culturally appropriate way of showing care. The results of this study are consistent with this cultural understanding of Mexican American adolescents (Campos, et al., 2008; Fuligni, et al., 1999; Garcia-Presto, 1996; Germán, et al., 2003; Hardway & Fuligni, 2006; Knight, et al., 2010; McHale, Updegraff, Shanahan, Crouter, & Killoren, 2005; Parke & Buriel, 2006; Suarez-Orozco & Suarez-Orozco, 1995). Furthermore, this study contributes to this understanding with evidence that suggests that Mexican American parents are reacting to their adolescents’ problem behaviors in culturally appropriate ways (i.e., increased parental monitoring but decreased in parental support).

For Filipino Americans, we can see a pattern that is unique from their Mexican and European American counterparts. Similar to East Asian Americans, no erosion of parent behaviors (i.e., parental support and monitoring) occurred in the face of initial and continued adolescents’ internalizing and externalizing behaviors. However, Filipino American parents, similar to Mexican American parents, may increase their initial monitoring efforts or vigilance over their adolescents.

The findings from this study suggest that Filipino American parents attempted to counteract adolescents’ internalizing symptoms, such as depressive symptoms, by increasing their monitoring efforts. This study’s findings add to the growing literature of Filipino Americans as a distinct ethnic group, separate from East Asian Americans (Bacho, 1997; Blair & Qian, 1998; David & Okazaki, 2006; Kitano & Daniels, 1995). For future study, caution must be taken when generalizing findings for East Asian American samples to Filipino American samples, as Filipino American adolescents have
different historical and developmental backgrounds (David & Okazaki, 2006; Okazaki, David, & Abelmann, 2007; Uba, 1994). Specifically for Filipino American immigrants, understanding their unique socio-cultural history, such as colonization (for review, see Okazaki et al., 2007), may help researchers understand their childrearing practices and overall parent-adolescent dynamics.

For European Americans, we can see a very unique pattern that is different from their East Asian, Mexican, and Filipino American counterparts. Consistent with previous findings (Chung et al., 2009), this study found erosion of support in the face of initial and continued internalizing behaviors. That is, European American parents may respond by backing away or withdrawing support from their adolescents in the face of initial and continued internalizing behaviors. In contrast to other ethnic groups, we found no child driven effects for parental monitoring and, thus, no parental reaction of increased monitoring efforts or vigilance when adolescents display initial and continued problematic behaviors. Furthermore, no parent driven effects were found for this model as well. Caution must be taken in generalizing findings from European American samples to other ethnic groups, such as East Asians, Mexican, and Filipino Americans.

**Implications for Future Study**

While erosion of parental support and monitoring was not found for our East Asian American sample, future studies may examine parental sacrifice or instrumental support (e.g., taking the time to cook, clean, and making sure the adolescent does her/his homework) for ethnic groups with family-oriented or collectivistic style parenting.
Specifically, parental sacrifice or instrumental support instead of parental acceptance and warmth may be culturally appropriate and important to these families (Chao & Kaeochinda, 2010). Especially for East Asians, instrumental support may be considered more important than emotional or verbal support (Chao & Tseng, 2002; Paramar & Rohner, 2008). Furthermore, East Asian parents may feel that they must provide instrumental support to ensure that their adolescents’ daily needs are met so that they succeed in school (Chao & Tseng, 2002; Hyman, Vu, & Beiser, 2001). For future studies, parental support in the form of instrumental support may be important to investigate the parent-adolescent relationship in East Asian American families.

The study suggests that the parent-adolescent relationship for Mexican Americans is different from their East Asian American counterparts with similarly strong family-oriented backgrounds. Unique to Mexican Americans, this study found erosion of support in reaction to adolescents’ internalizing and externalizing behaviors, whereas there was an increase in parental monitoring over time in reaction to adolescents’ internalizing behaviors. For future studies, measuring Mexican American adolescents’ endorsement of Mexican cultural values may help understand this parent-adolescent dynamic (Berkel et al., 2010; Caldwell et al., 2006; Gonzales et al., 2008; Warren, Wagstaff, Hecht, & Elek, 2008). As part of their cultural understanding of parental care and support, increased parental monitoring may be a way for Mexican American parents to express their care in culturally understandable ways (Crockett et al., 2007; Hill, Bush, & Roosa, 2003) that may be more meaningful to Mexican American adolescents than verbal affection and acceptance. Further investigation is warranted for Mexican
American adolescents’ interpretation of parental monitoring efforts and their levels of endorsement of cultural family values.

For future studies, investigating gender in child-driven models may provide a better understanding of the parent-adolescent relationship between boys and girls during high school. There are few studies that have examined whether child effects vary by the adolescents’ gender (e.g., Arum et al., 2011) or gender by ethnicity, although, there have been studies that have suggested possible gender differences in the parent-adolescent relationship that may be important when investigating these child-driven and reciprocal effects (e.g., Laird et al., 2003). One such observation is that girls, when compared to boys, consistently report higher perceived parental monitoring (e.g., Arum et al., 2011; Claes, Lacourse, Bouchard, & Perucchini, 2003; Shek, 2005; Smetana & Daddis, 2002). Another such observation is that boys, but not girls, reported decrease in parental monitoring which in turn lead to increased delinquent behaviors (Laird et al., 2003). Although most studies agree that warmer and supportive parents are beneficial to all adolescents regardless of gender, few studies have suggested that parental warmth and support may be more important in the psychological and emotional adjustment of girls (Colarossi & Eccles, 2003; Helsen et al., 2000; Slavin & Rainer, 1990), whereas other studies have suggested this for boys (Lifrak, McKay, Rostain, Alterman, & O'Brien, 1997; Weist, Freedman, Paskewitz, Proescher, & Flaherty, 1995). Further research is needed.

Limitations and Concluding Remarks
The current study has several limitations that should be noted. First, all surveys were self-reported and were administered in English. Recent immigrants for Chinese, Korean, and Mexican Americans may be under-represented due to inability to complete the items for parental support and monitoring and for adolescents’ internalizing and externalizing behaviors. It is possible that multiple informants (e.g., parent reports, sibling reports, etc.) and multiple methods (e.g., observation, multiple informant reports, qualitative interviews, etc.) may yield different results as well.

One limitation for the study is the percentage of missing data (approximately 50% for the whole sample). Retaining participants or achieving low attrition rates would have increased the study’s overall predictive power. Although attrition analysis using t-tests was conducted to determined that the missing data was not systematic (i.e., missing at random), other likelihood-based methods, such as Bayes or Bayesian correction, may be an alternative (for review see Little, 1992; Little & Rubin, 1987).

Another concern is that this study did not include multiple measurements of support from sources other than parents (e.g., peer support, teacher support, mentoring, etc.) (e.g., Laursen et al., 2006) or check for moderating effects of the adolescents’ home and community environment (e.g., Beyers et al., 2003). Although other support besides parental support may be important, there is evidence that parental support (compared to peer support) is a unique predictor of adolescents’ adjustment during high school (de Kemp et al., 2006) and that parental support is a robust and unique predictor (compared to teacher, classmate, friend, and school support) of adjustment (Rueger et al., 2010).
Other longitudinal studies, such as Beyers and colleagues (Beyers et al., 2003), have suggested that neighborhood structure and other features of the community may moderate the longitudinal associations between parenting behaviors (i.e., parental monitoring) and adolescents’ externalizing behaviors.

The data was based on self-reported measures that may include perceptual bias that may have inflated the relationship between parenting behaviors reported and problem behaviors. In other words, adolescents who reported more problem behaviors may perceive their parents to be less warm and accepting, and vice versa. It is important to note that the results may differ with parent reported parenting behavior and adolescents’ outcomes. Parent report may provide a more accurate report of how much support they provide for their adolescent. One study suggested using difference scores between adolescent-reported and mother-reported levels of parental monitoring to reduce reporting bias based on adolescents’ self-report (De Los Reyes, Goodman, Kliewer, & Reid-Quiñones, 2010). Because adolescents may exaggerate their parents’ behaviors, another possible approach would be the use of both parent-reported and adolescent-reported surveys. Parents may be influenced by social desirability bias and over-report good parenting behaviors (e.g., high support). On the other hand, adolescents with high problem behaviors may under-report good parenting behaviors (e.g., high support). Pairing parental reports with adolescent reports may provide a more accurate picture of the support and monitoring parents provide their adolescents.

The parental monitoring measurement used in this study is similar to the original
definition and conceptualization of parental monitoring developed by Patterson and colleagues (Patterson, 1986; Patterson & Dishion, 1985; Patterson & Stouthamer-Loeber, 1984) and revised by Schuldernann and Schuldernann (1988) for adolescents. Recent research by Kerr and Stattin (Kerr & Stattin, 2000, 2003; Kerr, Stattin, & Pakalniskiene, 2008; Stattin & Kerr, 2000) suggested revisions to the parental monitoring measurements to a more narrowly defined construct of adolescents’ disclosure of parental knowledge. They suggested that adolescents’ disclosure of parental knowledge may be a more important predictor to adolescents’ behavioral and psychological outcomes than parents’ awareness of activities and the conveyance of this concern to the adolescent. More specifically, this new conceptualization of parental monitoring includes parental solicitation and adolescent disclosure of knowledge of activities separate from parents’ attempts to gain knowledge of their adolescents’ activities (Stattin & Kerr, 2000).

However, research by Barber, Maughan, and Olsen (2005) on both parental knowledge and parental monitoring efforts has found that parental knowledge was less consistent and varied across gender, ethnicity, and parents (i.e., mother’s report or father’s report). Yet other research has suggested using both measures of parental monitoring and parental knowledge. One such study by Fletcher and colleagues (2004) has suggested that both conceptualizations of parental monitoring have merits in future studies. Future studies should include both measures of parental monitoring efforts, as conceptualized by Patterson and colleagues (Patterson, 1986; Patterson & Dishion, 1985; Patterson & Stouthamer-Loeber, 1984), as well as the disclosure of parental knowledge by the adolescent, as conceptualized by Stattin and Kerr (2000).
Another important concern is that this study included only three time points of data (i.e., 9th, 10th, and 11th grade), and all of these time points are during the course of high school. Additional time points before (i.e., 1st-8th grade) and after high school (i.e., first and second year of college or work) would capture the transition into (Shanahan et al., 2007) and out of the stage of adolescence. Statistically, this would allow capturing non-linear changes over time of the parent-adolescent relationship which would allow researchers to accurately capture both growth and continuity. Furthermore, it would also be interesting to investigate whether the erosion of support occurs in late childhood and persists through adolescence. There may be possible markers or precursors for erosion of support prior to adolescence. Further investigation is warranted.

Other covariates such as family size and generational status may be important to include. Parents with larger families may not be as sensitive to their adolescents as those with smaller families. Although the current data did not allow for generational breakdown due to small sample sizes in 11th grade (e.g., Mexican Americans, \( n = 17 \) for first generation and \( n = 91 \) for second generation in 11th grade), generational status may be an important covariate to control for in future studies. Second generation adolescents who may expect a more Western-style of parenting from their parents could experience frustration and greater difficulty in understanding their immigrant parents (e.g., Wu & Chao, 2005). This may lead to conflict between immigrant parents and second generation adolescents, which may contribute to increases in the adolescents’ problem behaviors.
The findings from this study highlight the importance of child effects in parent-adolescent relationship as well as cross-ethnic differences in understanding these effects. Furthermore, this study highlights the often overlooked complexity in the relationship between parenting behaviors and adolescent outcomes. Specifically, reliance on multi-dimensional parenting behaviors, such as parental support and monitoring, and multiple adolescents’ outcomes, such as internalizing and externalizing behaviors, contribute to a better understanding of the complexity of the parent-adolescent relationship. This study contributes to this understanding in several ways. First, unique parent-adolescent patterns emerged for parental monitoring and support. This study found evidence of support erosion for parental support and both adolescent outcomes (i.e., internalizing and externalizing behaviors). This study also found evidence that parents increased their monitoring effects when adolescents’ displayed initial and continued internalizing behaviors. Second, unique patterns emerged for each ethnic group (i.e., Chinese and Korean, Mexican, Filipino, and European Americans). This study found evidence of support erosion (i.e., parental support and adolescents’ internalizing behaviors) consistent with the findings of previous studies on European American adolescents (e.g., Chung et al., 2009). The study also found partial erosion of support for Mexican American adolescents, but not for East Asian Americans (i.e., Chinese and Koreans) and Filipino American adolescents. In addition, the findings suggest ethnic differences in the way that parents react to their adolescents’ problematic behaviors. Caution must be taken in generalizing these findings to non-European American populations.
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connection, regulation, and autonomy in the family. *Journal of Adolescent Research, 12*, 5-11.


and parent-adolescent relationships (pp. 61-77): Springer New York.


Schaefer, E. S. (1965b). A configurational analysis of children's report on parent


Adolescence, 40, 463-478.


Table 1. Means, Standard Deviations, and Mean Levels of Parent Measures and Adolescent Outcomes

<table>
<thead>
<tr>
<th>Parenting Behaviors</th>
<th>Whole Sample</th>
<th>Chinese/Mexicans</th>
<th>Mexicans</th>
<th>Filipinos</th>
<th>Europeans</th>
<th>Differences Across Ethnic Groups (Mean Levels)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 2,924 M (SD)</td>
<td>n = 1,183 M (SD)</td>
<td>n = 612 M (SD)</td>
<td>n = 355 M (SD)</td>
<td>n = 789 M (SD)</td>
<td></td>
</tr>
<tr>
<td>Par Support 9th</td>
<td>3.64 (.86)</td>
<td>3.50 (.82)</td>
<td>3.78 (.88)</td>
<td>3.46 (.85)</td>
<td>3.83 (.85)</td>
<td>CK &lt; M, E; F &lt; M, E</td>
</tr>
<tr>
<td>Par Support 10th</td>
<td>3.53 (.84)</td>
<td>3.40 (.80)</td>
<td>3.55 (.89)</td>
<td>3.43 (.77)</td>
<td>3.75 (.86)</td>
<td>CK &lt; M &lt; E; F &lt; E</td>
</tr>
<tr>
<td>Par Support 11th</td>
<td>3.50 (.84)</td>
<td>3.37 (.80)</td>
<td>3.62 (.83)</td>
<td>3.43 (.78)</td>
<td>3.74 (.88)</td>
<td>CK &lt; M, E; F &lt; E</td>
</tr>
<tr>
<td>Par Monitoring 9th</td>
<td>2.42 (.46)</td>
<td>2.45 (.43)</td>
<td>2.38 (.47)</td>
<td>2.30 (.51)</td>
<td>2.49 (.45)</td>
<td>M, F &lt; CK, E</td>
</tr>
<tr>
<td>Par Monitoring 10th</td>
<td>2.40 (.47)</td>
<td>2.38 (.47)</td>
<td>2.33 (.47)</td>
<td>2.34 (.44)</td>
<td>2.47 (.47)</td>
<td>CK, M, F &lt; E</td>
</tr>
<tr>
<td>Par Monitoring 11th</td>
<td>2.36 (.45)</td>
<td>2.33 (.44)</td>
<td>2.42 (.42)</td>
<td>2.28 (.45)</td>
<td>2.41 (.49)</td>
<td>CK &lt; E; F &lt; M, E</td>
</tr>
</tbody>
</table>

Adolescents Outcomes

<table>
<thead>
<tr>
<th></th>
<th>9th</th>
<th>10th</th>
<th>11th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internalizing</td>
<td>.46 (.31)</td>
<td>.45 (.33)</td>
<td>.43 (.34)</td>
</tr>
<tr>
<td>Externalizing</td>
<td>.37 (.27)</td>
<td>.39 (.31)</td>
<td>.37 (.32)</td>
</tr>
</tbody>
</table>

(continued).
### Covariates

<table>
<thead>
<tr>
<th>Covariate</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th>M &lt; CK, F, E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescents’ Age</td>
<td>14.51 (.48)</td>
<td>14.48 (.45)</td>
<td>14.53 (.62)</td>
<td>14.52 (.45)</td>
<td>14.52 (.43)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Homeownership</td>
<td>.70 (.46)</td>
<td>.76 (.43)</td>
<td>.44 (.50)</td>
<td>.75 (.43)</td>
<td>.78 (.41)</td>
<td>M &lt; CK, F, E</td>
</tr>
<tr>
<td>Mother’s Education</td>
<td>6.25 (1.64)</td>
<td>6.47 (1.45)</td>
<td>4.79 (1.69)</td>
<td>6.83 (1.39)</td>
<td>6.66 (1.35)</td>
<td>M &lt; CK &lt; F, E</td>
</tr>
<tr>
<td>Father’s Education</td>
<td>6.40 (1.73)</td>
<td>6.85 (1.38)</td>
<td>4.72 (1.88)</td>
<td>6.33 (1.76)</td>
<td>6.88 (1.41)</td>
<td>M &lt; F &lt; CK, E</td>
</tr>
<tr>
<td>Primary Caregiver (Mother)</td>
<td>.81 (.39)</td>
<td>.84 (.36)</td>
<td>.82 (.38)</td>
<td>.75 (.43)</td>
<td>.79 (.42)</td>
<td>F, E &lt; CK</td>
</tr>
<tr>
<td>Single Parent Household</td>
<td>.14 (.34)</td>
<td>.12 (.36)</td>
<td>.19 (.40)</td>
<td>.09 (29)</td>
<td>.14 (.35)</td>
<td>CK, F, E &lt; M</td>
</tr>
<tr>
<td>Gender (Female)</td>
<td>.50 (.50)</td>
<td>.51 (.50)</td>
<td>.56 (.50)</td>
<td>.43 (.50)</td>
<td>.48 (.50)</td>
<td>F, E &lt; M</td>
</tr>
</tbody>
</table>

Note. CK = Chinese/Koreans, M = Mexicans, F = Filipinos, E = Europeans; Internalizing = Internalizing Behaviors; Externalizing = Externalizing Behaviors; Par = Parental.
Table 2. Bivariate Correlations for Parenting Behaviors (i.e., Parental Support and Monitoring) and Adolescents’ Outcomes (i.e., Internalizing and Externalizing Behaviors).

<table>
<thead>
<tr>
<th></th>
<th>Chinese and Koreans</th>
<th>Mexicans</th>
<th>Filipinos</th>
<th>Europeans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1  2  3  4  5  6  7  8  9  10  11  12</td>
<td>1  2  3  4  5  6  7  8  9  10  11  12</td>
<td>1  2  3  4  5  6  7  8  9  10  11  12</td>
<td>1  2  3  4  5  6  7  8  9  10  11  12</td>
</tr>
<tr>
<td>1. Support 9th</td>
<td>-- .64** .54** .42** .25** .20** .19** .08* .28** .23** .11**</td>
<td>-- .64** .57** .50** .15* .23** .21** .19** .25** .19** .11*</td>
<td>-- .70** .65** .60** .29** .16** .18** .03 .36** .22** .14**</td>
<td>-- .70** .69** .64** .30** .18** .16** .03 .36** .22** .14**</td>
</tr>
<tr>
<td>2. Support 10th</td>
<td>-- .67** .51** .34** .18** .16** .20** .06* .21** .26** .13**</td>
<td>-- .73** .43** .41** .23** .22** .16** .09 .35** .31** .14**</td>
<td>-- .71** .42** .35** .18** .12** .25** .07 .45** .34** .17**</td>
<td>-- .71** .69** .64** .39** .24** .21** .07 .45** .34** .17**</td>
</tr>
<tr>
<td>3. Support 11th</td>
<td>-- .28** .19** .14** .11** .09 .07 .05 .10 .17** .11**</td>
<td>-- .22** .06 .27** .20** .19** .10 .05 .12 .17** .11**</td>
<td>-- .38** .29** .30** .18** .12** .13** .09 .19 .24** .18**</td>
<td>-- .38** .29** .30** .18** .12** .13** .09 .19 .24** .18**</td>
</tr>
<tr>
<td>4. Monitoring 9th</td>
<td>-- .40** .28** .20** .18** .10 .07 .06 .20** .23** .16**</td>
<td>-- .39** .09** .07 .06 .20** .19** .16**</td>
<td>-- .40** .31** .20** .10 .09 .07 .06 .20** .23** .16**</td>
<td>-- .40** .31** .20** .10 .09 .07 .06 .20** .23** .16**</td>
</tr>
<tr>
<td>5. Monitoring 10th</td>
<td>-- .00 .05 .03 .04 .11*</td>
<td>-- .61** .54** .55** .31** .28**</td>
<td>-- .05 .04 .04 .03 .03 .02 .01 .02 .02 .02</td>
<td>-- .05 .04 .04 .03 .03 .02 .01 .02 .02 .02</td>
</tr>
<tr>
<td>6. Monitoring 11th</td>
<td>-- .61** .60** .53** .27**</td>
<td>-- .44** .41** .53** .40**</td>
<td>-- .57** .57** .57** .34** .31**</td>
<td>-- .57** .57** .57** .34** .31**</td>
</tr>
<tr>
<td>7. Internalizing 9th</td>
<td>-- .61** .54** .55** .31**</td>
<td>-- .45** .41** .53** .40**</td>
<td>-- .62** .64** .60** .39**</td>
<td>-- .62** .64** .60** .39**</td>
</tr>
<tr>
<td>8. Internalizing 10th</td>
<td>-- .58** .55** .59** .31**</td>
<td>-- .45** .41** .53** .40**</td>
<td>-- .62** .64** .60** .39**</td>
<td>-- .62** .64** .60** .39**</td>
</tr>
<tr>
<td>9. Internalizing 11th</td>
<td>-- .25** .27** .57**</td>
<td>-- .60** .49**</td>
<td>-- .60** .49**</td>
<td>-- .60** .49**</td>
</tr>
<tr>
<td>10. Externalizing 9th</td>
<td>-- .60** .49**</td>
<td>-- .60** .49**</td>
<td>-- .60** .49**</td>
<td>-- .60** .49**</td>
</tr>
<tr>
<td>11. Externalizing 10th</td>
<td>-- .56**</td>
<td>-- .56** .56**</td>
<td>-- .56** .56**</td>
<td>-- .56** .56**</td>
</tr>
<tr>
<td>12. Externalizing 11th</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Note. Support = Parental Support; Monitoring = Parental Monitoring; Internalizing = Adolescents’ Internalizing Behaviors; Externalizing = Adolescents’ Externalizing Behaviors; 9th, 10th, and 11th are data obtained during 9th grade, 10th grade, and 11th grade, respectively.

* *p < .05, ** *p < .01.
Table 3. Cross-Lagged Models with Child Effects Freed (Model 2) for Ethnic Groups.

<table>
<thead>
<tr>
<th></th>
<th>Chinese/Koreans</th>
<th>Mexicans</th>
<th>Filipinos</th>
<th>Europeans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring-Externalizing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \beta 4 ) (Parent 9th ( \rightarrow ) Parent 10th)</td>
<td>.67**</td>
<td>.67**</td>
<td>.67**</td>
<td>.67**</td>
</tr>
<tr>
<td>( \beta 8 ) (Parent 10th ( \rightarrow ) Parent 11th)</td>
<td>.63**</td>
<td>.63**</td>
<td>.63**</td>
<td>.63**</td>
</tr>
<tr>
<td>( \beta 2 ) (Child 9th ( \rightarrow ) Child 10th)</td>
<td>.81**</td>
<td>.81**</td>
<td>.81**</td>
<td>.81**</td>
</tr>
<tr>
<td>( \beta 6 ) (Child 10th ( \rightarrow ) Child 11th)</td>
<td>.81**</td>
<td>.81**</td>
<td>.81**</td>
<td>.81**</td>
</tr>
<tr>
<td>Cross-lagged effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \beta 1 ) (Parent 9th ( \rightarrow ) Child 10th)</td>
<td>-.05</td>
<td>-.05</td>
<td>-.05</td>
<td>-.05</td>
</tr>
<tr>
<td>( \beta 5 ) (Parent 10th ( \rightarrow ) Child 11th)</td>
<td>-.01</td>
<td>-.01</td>
<td>-.01</td>
<td>-.01</td>
</tr>
<tr>
<td>( \beta 3 ) (Child 9th ( \rightarrow ) Parent 10th)</td>
<td>.01</td>
<td>.25*</td>
<td>.25*</td>
<td>.05</td>
</tr>
<tr>
<td>( \beta 7 ) (Child 10th ( \rightarrow ) Parent 11th)</td>
<td>.04</td>
<td>.01</td>
<td>.01</td>
<td>-.12</td>
</tr>
</tbody>
</table>

| Support-Externalizing  |                 |          |           |           |
| \( \beta 4 \) (Parent 9th \( \rightarrow \) Parent 10th) | .72**          | .72**    | .72**     | .72**     |
| \( \beta 8 \) (Parent 10th \( \rightarrow \) Parent 11th) | .74**          | .74**    | .74**     | .74**     |
| \( \beta 2 \) (Child 9th \( \rightarrow \) Child 10th) | .92**          | .92**    | .92**     | .92**     |
| \( \beta 6 \) (Child 10th \( \rightarrow \) Child 11th) | .86**          | .86**    | .86**     | .86**     |
| Cross-lagged effects  |                 |          |           |           |
| \( \beta 1 \) (Parent 9th \( \rightarrow \) Child 10th) | .01            | .01      | .01       | .01       |
| \( \beta 5 \) (Parent 10th \( \rightarrow \) Child 11th) | .01            | .01      | .01       | .01       |
| \( \beta 3 \) (Child 9th \( \rightarrow \) Parent 10th) | -.02           | -.39*    | -.03      | -.34      |
| \( \beta 7 \) (Child 10th \( \rightarrow \) Parent 11th) | -.18           | -.51**   | .15       | -.17      |

| Monitoring/Internalizing |                 |          |           |           |
| \( \beta 4 \) (Parent 9th \( \rightarrow \) Parent 10th) | .67**          | .67**    | .67**     | .67**     |
| \( \beta 8 \) (Parent 10th \( \rightarrow \) Parent 11th) | .63**          | .63**    | .63**     | .63**     |
| \( \beta 2 \) (Child 9th \( \rightarrow \) Child 10th) | .76**          | .76**    | .76**     | .76**     |
| \( \beta 6 \) (Child 10th \( \rightarrow \) Child 11th) | .75**          | .75**    | .75**     | .75**     |
| Cross-lagged effects  |                 |          |           |           |
| \( \beta 1 \) (Parent 9th \( \rightarrow \) Child 10th) | -.01           | -.01     | -.01      | -.01      |
| \( \beta 5 \) (Parent 10th \( \rightarrow \) Child 11th) | .03            | .03      | .03       | .03       |
| \( \beta 3 \) (Child 9th \( \rightarrow \) Parent 10th) | .07            | .18**    | .19*      | .01       |
| \( \beta 7 \) (Child 10th \( \rightarrow \) Parent 11th) | .01            | .20*     | .02       | -.10      |

| Support/Internalizing  |                 |          |           |           |
| \( \beta 4 \) (Parent 9th \( \rightarrow \) Parent 10th) | .73**          | .73**    | .73**     | .73**     |
| \( \beta 8 \) (Parent 10th \( \rightarrow \) Parent 11th) | .75**          | .75**    | .75**     | .75**     |
| \( \beta 2 \) (Child 9th \( \rightarrow \) Child 10th) | .77**          | .77**    | .77**     | .77**     |
| \( \beta 6 \) (Child 10th \( \rightarrow \) Child 11th) | .77**          | .77**    | .77**     | .77**     |
| Cross-lagged effects  |                 |          |           |           |
| \( \beta 1 \) (Parent 9th \( \rightarrow \) Child 10th) | .01            | .01      | .01       | .01       |
| \( \beta 5 \) (Parent 10th \( \rightarrow \) Child 11th) | .03            | .03      | .03       | .03       |
| \( \beta 3 \) (Child 9th \( \rightarrow \) Parent 10th) | -.06           | .06      | -.10      | -.22**    |
| \( \beta 7 \) (Child 10th \( \rightarrow \) Parent 11th) | -.01           | -.31*    | -.11      | -.23**    |

Note. Unstandardized coefficients are presented. Adolescents’ cross-lagged effects were freed across ethnic groups (Model 2). Parent variable and child variable were allowed to correlate at 9th, 10th, and 11th grade. Support = Parental Support; Monitoring = Parental Monitoring; Internalizing = Internalizing behaviors; Externalizing = Externalizing behaviors.

* p < .05, ** p < .01
Figure 1. Three Waves, Two-Constructs, Cross-Lagged Conceptual Model

Note. Child = Adolescent outcomes (i.e., Internalizing and Externalizing Behaviors); Parent = Parenting behaviors (i.e., Parental Acceptance, Parental Monitoring); T1 = Time 1, T2 = Time 2, T3 = Time 3; Adolescents’ age at the time of collection, home ownership status, mother’s education, father’s education, primary caregiver (mother), single parent household, and gender (female) are added to the model at 9th grade but are not shown in the figure above.
Figure 2. Whole Sample (Base) Model 1 for Parental Monitoring and Adolescents’ Externalizing Behaviors.

\[ \chi^2 (1493) = 5010.10, \ p < .01, \ CFI = .782, \ TLI = .779, \ SRMR = .077, \ RMSEA = .057. \ n = 2657. \]

Note. Whole sample. Unstandardized coefficients are reported. Cross-lagged effects are constrained to be equal across ethnic groups. Solid lines indicate significant coefficient \( (p < .05) \) while dashed lines indicate non-significant coefficient \( (p = n.s.) \).
Figure 3. Whole Sample (Base) Model 1 for Parental Support and Adolescents’ Externalizing Behaviors.

\[ \chi^2 (3125) = 11327.07, \ p < .01, \ CFI = .809, \ TLI = .808, \ SRMR = .073, \ RMSEA = .060. \ n = 2455. \]

Note. Unstandardized coefficients are reported. Cross-lagged effects are constrained to be equal across ethnic groups. Solid lines indicate significant coefficient (\( p < .05 \)) while dashed lines indicate non-significant coefficient (\( p = n.s. \)).
Figure 4. Whole Sample (Base) Model 1 for Parental Monitoring and Adolescents’ Internalizing Behaviors.

$\chi^2 (1847) = 5821.72, p < .01, CFI = .795, TLI = .793, SRMR = .076, RMSEA = .054. n = 2624.$

Note. Unstandardized coefficients are reported. Cross-lagged effects are constrained to be equal across ethnic groups. Solid lines indicate significant coefficient ($p < .05$) while dashed lines indicate non-significant coefficient ($p = n.s.$).
Figure 5. Whole Sample (Base) Model 1 for Parental Support and Adolescents’ Internalizing Behaviors.

\[ \chi^2 (3623) = 12323.01, p < .01, \quad CFI = .813, \quad TLI = .812, \quad SRMR = .071, \quad RMSEA = .057. \quad n = 2425. \]

Note. Unstandardized coefficients are reported. Cross-lagged effects are constrained to be equal across ethnic groups. Solid lines indicate significant coefficient \((p < .05)\) while dashed lines indicate non-significant coefficient \((p = n.s.).\)
APPENDIX A

Description of Parental Acceptance Items as Parental Support and Parental Monitoring Items


<table>
<thead>
<tr>
<th>Construct</th>
<th>Item Wording</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Support</td>
<td>Enjoys doing things with me</td>
</tr>
<tr>
<td></td>
<td>Gives me a lot of care and attention</td>
</tr>
<tr>
<td></td>
<td>Praises me often</td>
</tr>
<tr>
<td></td>
<td>Is easy to talk to</td>
</tr>
<tr>
<td></td>
<td>Makes me feel like the most important person in her/his life</td>
</tr>
<tr>
<td></td>
<td>Is able to make me feel better when I am upset</td>
</tr>
<tr>
<td></td>
<td>Makes me feel better after talking over my worries with her/him</td>
</tr>
<tr>
<td></td>
<td>Smiles at me very often</td>
</tr>
<tr>
<td></td>
<td>Believes in showing her/his love for me</td>
</tr>
<tr>
<td></td>
<td>Cheers me up when I am sad</td>
</tr>
<tr>
<td>Parental Monitoring</td>
<td>How much does your parent TRY to know who your friends are?</td>
</tr>
<tr>
<td></td>
<td>How much does your parent TRY to know where you go at night?</td>
</tr>
<tr>
<td></td>
<td>How much does your parent TRY to know how you spend your money?</td>
</tr>
<tr>
<td></td>
<td>How much does your parent TRY to know what you do with your free time?</td>
</tr>
<tr>
<td></td>
<td>How much does your parent TRY to know where you are most afternoons after school?</td>
</tr>
</tbody>
</table>

Note. Parental Acceptance used a 3-point Likert-type scale: 1 = “doesn’t try”, 2 = “tries a little”, 3 = “tries a lot”. Parental Monitoring used a 5-point Likert-type scale: 1 = “not at all like”, 2 = “not like”, 3 = “somewhat like”, 4 = “like”, 5 = “a lot like”.

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