



2016-04-01

Predicting Externalizing Behaviors in Latino Adolescents Using Parenting and Educational Factors

Sergio Benjamin Pereyra
Brigham Young University

Follow this and additional works at: <https://scholarsarchive.byu.edu/etd>

 Part of the [Marriage and Family Therapy and Counseling Commons](#)

BYU ScholarsArchive Citation

Pereyra, Sergio Benjamin, "Predicting Externalizing Behaviors in Latino Adolescents Using Parenting and Educational Factors" (2016). *All Theses and Dissertations*. 6297.
<https://scholarsarchive.byu.edu/etd/6297>

This Dissertation is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in All Theses and Dissertations by an authorized administrator of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.

Predicting Externalizing Behaviors in Latino Adolescents
Using Parenting and Educational
Factors

Sergio Benjamín Pereyra

A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

Roy A. Bean, Chair
Jonathan G. Sandberg
Richard B. Miller
Jeremy B Yorgason
Chien-Ti Lee

School of Family Life
Brigham Young University

April 2016

Copyright © 2016 Sergio Benjamín Pereyra

All Rights Reserved

ABSTRACT

Predicting Externalizing Behaviors in Latino Adolescents Using Parenting and Educational Factors

Sergio Benjamín Pereyra
School of Family Life, BYU
Doctor of Philosophy

Externalizing behaviors among adolescents continue to concern researchers and clinicians nationwide, especially among Latinos who are part of the largest and fastest growing minority population in the U. S. This dissertation begins by describing an eco-developmental model, which provides the theoretical framework used to conceptualize the systemic factors being studied and by reviewing the relevant literature regarding the influence of parental warmth, parental behavioral control, the adolescent-teacher relationship, and academic achievement on externalizing behavior among Latino adolescents. This study uses the National Longitudinal Study of Adolescent Health survey (Add Health) data to analyze direct and indirect effects of parenting and school-related factors on externalizing behavior among Latino adolescents over four waves of time. Structural Equation Modeling (SEM), latent growth curve modeling, bootstrapping, and latent scoring were all employed to test the hypothesized models.

Results indicated that higher levels of maternal warmth, the adolescent-teacher relationship and academic achievement were all negatively associated with initial levels of externalizing behavior and in some cases negatively predicted the rate of change of externalizing behavior. Paternal warmth, behavioral control and academic achievement were all found to be positively associated with academic achievement. In terms of indirect effects, paternal warmth negatively predicted initial levels and the slope of externalizing behavior through academic achievement. Behavioral control was also negatively predictive of initial levels and the slope of externalizing behavior through academic achievement. Finally, direct and indirect effects were found between the adolescent-teacher relationship and both initial levels and the slope of externalizing behavior through academic achievement.

Implications for these findings are discussed according to an eco-developmental framework, and culturally appropriate recommendations for clinicians and educators are offered to facilitate the increase of parental warmth and behavioral control in Latino families and for improving the adolescent-teacher relationship in school systems. A culturally adapted parenting training model and a strong evidence-based, family therapy intervention is recommended to clinicians to address these issues in Latino families and critical race theory (CRT) and Latino critical race theory (LatCrit) are implemented to inform recommendations offered to educators to address the academic-specific factors influencing externalizing behaviors among Latino adolescents.

Keywords: Latino adolescents, externalizing behavior, parenting, academics

ACKNOWLEDGEMENTS

This has been an incredible journey for me, which has become most sacred to me. Although it has cost me a great deal, it has been one of the most rewarding experiences of my life. For and foremost, I would like to thank my Heavenly Father and my Savior, Jesus Christ. Without their divine guidance and grace, I would not have been able to achieve this enormous accomplishment. I am deeply grateful for Roy's commitment and investment in me. As my Committee Chair for the MFT doctoral program, he has been at the forefront of my work. He has helped me improve my research capabilities, has offered indispensable mentorship for my professional development and has offered encouraging feedback for all of my work. I don't think I would have even applied to the doctoral program if it were not for my master's program Chair, Jonathan Sandberg; he was also the first professor I met with from the MFT program and made me believe that I was good enough to apply to the master's program. His belief in me gave me the courage to apply to the doctoral program and he has been nothing but loving and encouraging the whole way through it, for which I am also deeply grateful.

I would also like to thank Jeremy for taking extra time to help me with my difficult methodological and statistical questions. His kindness and reassurance was paramount in helping me through what I deem to be the most difficult part of this dissertation- the actual analysis and statistical details of the project. Another person I cannot forget to thank is Chongming. He also spent countless hours with me getting my data ready to run, finding the smallest problems that would not allow my model to run, and estimating model after model to find the right way to proceed with my extremely complicated analysis. I would also like to thank Rick for his support and encouragement. He was also helpful in making me think that I was good enough to be

counted among the other academics putting out quality research. I could also count on Professor Lee for pointing out the smallest details that made my dissertation better.

Last but not least, I want to thank my dear family. My mother has been an inspiration example to me and her love and kindness has always been there to lift me up. I want to thank my brothers, Danny, Vic, Mario, and Sam for that special brotherly bond and for providing me with essential priesthood blessings when I needed them the most. I am grateful for my favorite sister, Nana for being the best of us siblings. She also played a vital role in helping me get through the most stressful times with her gifted hands and loving spirit. I also could not have done this without the love of my life, Raques. My heart swells with emotion when I think about all she has endured with me throughout this long and difficult journey. She has always been by my side and as my loving companion, she has been the one I have shared most of my tears of frustration, failure, anxiety and happiness with. I love her eternally. The last imperatively important family members I want to thank are my pride and joy- my two wonderful boys, Sinaí and Alema. I could always count on Sinaí's joyful disposition to cheer me up; his smile and laughter brings light to my soul. I have also been revitalized numerous times by Alema's warmth, loyalty and "goodness" through his "deliciously" comforting hugs. My family is the driving force of my motivation but I would also like to dedicate this work to my Latino "gente", "mi raza".

TABLE OF CONTENTS

	Page
1. INTRODUCCION	1
2. LITERATURE REVIEW	4
2.1 Underlying Theoretical Framework	4
2.2 Parental Warmth	7
2.3 Parental Behavioral Control	8
2.4 Maternal and Paternal Differences in Parenting Practices among Latinos	10
2.5 Adolescent-Teacher Relationship	12
2.6 Academic Achievement	13
2.7 The Current Study	15
2.7.1 Hypotheses	16
3. METHODS	17
3.1 Participants	17
3.2 Measures	18
3.2.1 Maternal/ paternal warmth	18
3.2.2 Behavioral control	19
3.2.3 Academic achievement	19
3.2.4 Adolescent-teacher relationship	20
3.2.5 Externalizing behaviors	20
3.3 Analysis	21
4. RESULTS	23
4.1 Basic Statistics	23
4.2 Unconditional Latent Growth Curve Model	24
4.3 Conditional Latent Growth Curve Model	24
4.3.1 Direct effects	24
4.3.2 Indirect effects	25

5. DISCUSSION	27
5.1 Predicting Variables of Externalizing Behavior	27
5.2 Predicting Variables and Academic Achievement	29
5.3 Indirect Effects of Academic Achievement and Externalizing Behavior	30
6. IMPLICATIONS FOR CLINICIANS AND EDUCATORS	33
6.1 The Parental System	33
6.2 The Family System	35
6.3 The School System	37
7. LIMITATIONS	39
8. CONCLUSION	40
9. REFERENCES	42
10. TABLE 1	65
11. TABLE 2	66
12. FIGURE 1	67
13. FIGURE 2	68

Introduction

Externalizing behaviors can be defined as overt behaviors that have a negative effect on a person's external environment (Liu, 2004), including aggression, delinquency, difficulties in self-control and substance use (Mason et al., 1994). Many externalizing behavior problems originate in childhood but develop further during adolescence and adulthood (Beyers et al. 2003).

Although researchers have examined externalized problems with adolescents (Lynch & Cicchetti, 1998; Mason et al., 1994; Batum & Yagmurlu, 2007, etc.), most studies have focused on the majority-culture population (referred to here as Anglos). In fact, while the number of studies focused on externalized problems has increased for U. S. ethnic minority groups overall, relatively few studies have been conducted with Latinos despite the group's status as the largest and one of the fastest growing ethnicities in the United States (U. S. Census, 2008; Ennis, Ríos-Vargas, Albert, 2011).

In order to address this shortfall and better understand the topic, it is important to study interpersonal relationships, as these are among the most important factors to consider when examining adolescent behavior in Latino and other youth (Wills & Cleary, 1996; Broman et al., 2006; Mogro-Wilson, 2008; Wang et al., 2012; Perra et al., 2012; Rassiger, 2012; Wissink et al., 2014). Prominent Latino cultural values such as "familismo" and "educación" provide valuable direction to researchers interested in studying externalizing behavior among Latino adolescents (Kennedy & Ceballo, 2013; Piña-Watson et al., 2013; Turcios-Cotto & Milan, 2013; Barker et al., 2010; Ceja, 2004) by informing studies to focus on interpersonal relationships within the family (between parents and their children) and school system (adolescent-teacher relationships). Accordingly, the purpose of this study is to examine associations among parenting behaviors, the adolescent-teacher relationship and a number of key predictor variables (including academic

achievement) in relation to externalizing behaviors among Latino youth. Furthermore, in a desire to move beyond past cross-sectional analyses of Latino families, this study will examine these associations longitudinally, utilizing four waves of data from the ADD Health dataset (Harris, 2005; 2009).

Latino parents are likely to experience a number of cultural challenges such as language barriers, isolation, and limited access to social and health care services (Ku & Matani, 2001; Pantin et al., 2003; Parra-Cardona et al., 2009). Research has demonstrated that these disparities can lead to the disruption of parenting practices among Latino families and can also lead to child adjustment difficulties such as delinquency, drug abuse and other externalizing problems in childhood and adolescence (e.g. Domenech Rodríguez, Rodríguez, & Davis, 2006). Given the systemic nature of the challenges experienced by Latino families, researchers have responded by studying contextual factors (especially parenting) related to externalizing behaviors (Amato & Fowler, 2002; Eamon & Mulder, 2005; Forehand et al. 1997), but very little research has been conducted on the proximal extra-familial factors, such as the influence of the adolescents' experience in school, related to externalizing behaviors in Latino youth.

The student-teacher relationship and academic achievement have been linked to externalizing behaviors among adolescents (Bryant & Zimmermann, 2002; Diego et al., 2003; Wissink et al., 2014) and some studies show similar patterns in Latino youth (Bachman et al., 2007; Lopez et al., 2008; Vaughn et al., 2011), but very little is known about the influence of the adolescent-teacher relationship in relation to Latino adolescent behaviors. As academic performance disparities continue to exist among Latino adolescents (Turcios-Cotto & Milan, 2013; Irizarry, 2012; Gándara & Contreras, 2009; Oliva, 2008; Solórzano, Villalpando, & Oseguera, 2005), it becomes increasingly important to explore factors influencing academic

achievement and how the adolescent-teacher relationship affects Latino youth outcomes. Taking into account the importance of interpersonal relationships (parent-adolescent and teacher-adolescent), the purpose of this longitudinal study is to examine the associations among specific parenting behaviors, the adolescent-teacher relationship, and youth academic achievement in relation to externalizing behaviors among Latino youth over time.

Literature Review

Previous studies regarding factors that influence externalizing behaviors in adolescents will be reviewed, along with the theoretical foundation for the study (as an eco-developmental model). Similarly, the research regarding parenting, specifically parental warmth and behavioral control as it applies to Latino adolescents will be summarized. The literature regarding academic functioning and student-teacher relationships will be outlined as well. As they relate to Latinos, limitations in findings and the corresponding gaps in the literature will be presented, providing additional rationale for this longitudinal study of systemic factors influencing externalized behavior among Latino youth.

Underlying Theoretical Framework

The theoretical foundation of the current study is eco-developmental theory (Prado et al., 2010; Pantin et al., 2004; Szapocznik & Coatsworth 1999- see Figure 1), an integration of Bronfenbrenner's ecological systems theory (1979) and classical developmental theory (e.g. Braveman & Barclay, 2009). Accordingly, adolescent functioning is influenced by three interacting elements, including the child's ecosystem, their development over time, and an emphasis on social interactions (Prado & Pantin, 2011). In an eco-developmental theoretical model, multiple influential factors of adolescent adjustment are organized by Bronfenbrenner's (1979) ecosystems according to their proximity to the adolescent such as the family's cultural

beliefs (macrosystem), the family or parental system in which the adolescent is involved with directly (microsystem), and interactions between larger systems (e.g. school system) and closer family system (mesosystem). In reference to the developmental aspect of this conceptualization, adolescent behavior is influenced by the changing nature of the child as a function of the child's current social context as well as the changing condition of the child's social context over time (Prado et al., 2010). Finally, the social-interactional component of eco-developmental theory pertains to the influence of relationship patterns and direct interactions between individuals and processes within and across levels of context, such as the family or school system (Pantin et al., 2004).

Following this ecological framework (Bronfenbrenner, 1979), Latino adolescent behavior is conceptualized in this study as being influenced by an ecosystem involving the following key factors: (a) influence of Latino cultural values such as "personalismo", "familismo", etc. (at the macrosystemic level), (b) parenting factors and academic factors from closer systems (microsystemic), and (c) the influence of closer systemic parental and teacher relationships on the larger school system (academic outcomes) as the mesosystem. Eco-developmental theory also recognizes the developmental nature of adolescent behavior over time which applies to studies such as this one, interested in examining factors that influence those behaviors longitudinally. In the third eco-developmental construct, the importance of interpersonal interactions here refers to the influence of interpersonal relationships (i.e. adolescents with parents and teachers) on adolescent behavior, but associations between the three constructs are also considered in this study (Prado et al., 2010). For example, eco-developmental theory provides a guiding framework for how social interactions (such as the adolescent-teacher relationship) are influenced by Latino-cultural values (such as "personalismo"). In summary,

eco-developmental theory takes the social context into consideration along with the changing nature of the adolescent across time and emphasizes patterns of interpersonal relationships across different contextual levels (Prado & Pantin, 2011).

The social context selected for examination in this study includes the adolescent's familial and academic environment because most of the adolescent's time is spent in these two areas. The focus on these two social/contextual factors can also be defended based on the extant body of literature tying parenting and academic factors to externalizing behaviors among at-risk youth (e.g. Wang et al., 2012; Bachman et al., 2007).

Culture and time as identified in this study, are also factors that are congruent with eco-developmental theory. In regards to time, four waves of data from the Add Health study (Harris, 2005; 2009) will be used to investigate the nature of change in adolescent externalizing behavior over time as influenced by the variables employed in the investigation. Moreover, this theory has been useful in informing other Latino-specific models related to problem behavior in children, offering additional support for its use here (Santisteban et al., 2003; Prado & Pantin, 2011). For example, Prado and colleagues (2010) found strong support for an eco-developmental model among their Latino adolescent sample, noting that a parent-adolescent acculturation gap (conceptualized as macrosystemic) was indirectly related to externalizing behavior via family functioning and academic functioning (microsystem), among other ecosystemic factors included in their study.

Models designed to address behavioral problems among Latino youth such as Brief Strategic Family Therapy (BSFT) and the "Familias Unidas" program have also successfully incorporated aspects of eco-developmental theory into their protocols (Santisteban et al., 2003; Pantin et al., 2003; Pantin et al., 2009; Prado et al., 2007). In fact, one randomized clinical trial

found that their parent-centered preventive intervention, based on eco-developmental principles, increased family processes associated with protection against externalizing behaviors in their sample of Latino youth (Pantin et al., 2003). Results of Pantin and colleagues' (2009) efficacy study showed that the "Familias Unidas" treatment was efficacious in preventing further externalizing behavioral problems among at risk Latino adolescents. Given the empirical support for this particular model in its application to Latino families, this study will analyze parenting and academic factors that are consistent with an eco-developmental framework and their impact on Latino adolescent externalizing behavior over time.

Parental Warmth

Diana Baumrind's (1978) seminal work has served as a theoretical framework for numerous studies on parenting (e.g., Bulcroft et al., 1996; Guilamo-Ramos et al., 2007; Baumrind 1991; 1996), including studies of the parenting process in Latino families (Mogro-Wilson, 2008; Guilamo-Ramos et al., 2007). Although her work is mostly known for its typology of parenting styles, a careful examination of Baumrind's (1978, 1980, 1991) conceptualization reveals two main dimensions of significant value and influence in child-rearing; namely, warmth and behavioral control (see Mogro-Wilson, 2008). As in most studies, parental warmth is defined here as the amount of love, acceptance, and closeness that a child feels from their parents (Wills & Cleary, 1996). However, according to a cultural values model, parenting behaviors may be interpreted differently depending on the adolescents' cultural context (Lamborn & Felbab, 2003). Thus, parental warmth could look differently in Latino families than in Anglo families depending on the perspective. For instance, acceptance and emotional security may be perceived by Latino children through high behavioral expectations and maybe not as much through praise (Hill et al., 2003). In this regard, a Latino child might be able to perceive that a parent really does love them

when they are disciplined because the child understands that a parent who loves their child will be completely invested in their success and that a parent will intervene when “bad” behavior is preventing that success.

Although it might look different to between ethnicities, the literature of parental warmth is generally favorable to adolescent adjustment (White & Renk, 2012; Choi et al. 2005; Beyers et al. 2004; Ryan et al., 2007). Wills and Cleary (1996) found that increased parental warmth was associated with fewer risk factors and increased protective factors of externalizing behaviors. Longitudinal research also suggests that decreases in parental warmth predict increased levels of externalizing behaviors in adolescents (Wang et al., 2012). Although studies of parental warmth are less common among ethnically diverse populations, there is evidence to support similar effects of parental warmth on externalizing behaviors among Latinos families (e.g. Amato & Fowler, 2002). Furthermore, Broman and colleagues (2006) found that parental warmth was a greater protective factor for Latino adolescent externalizing behavior, namely substance use, than it was for African-American and Caucasian youth. In another study specific to Latinos, Mogro-Wilson (2008) found that parental warmth directly and indirectly (via parent-adolescent relationship) decreased alcohol use among those Latino adolescents. Although there is substantial cross-sectional evidence that suggests the positive influence of parental warmth on externalizing behavior, this study is among the very few (see Wang et al., 2012) that purposefully examines the longitudinal effects of parental warmth on externalizing behavior for Latinos.

Parental Behavioral Control

As the other key parenting dimension, behavioral control (Baumrind, 1978) refers to parental efforts to set limits, discipline or direct their child’s behavior (e.g. Mogro-Wilson, 2008). As noted above, behavioral control could look differently in Latino families who have different

cultural perspectives than the U. S. majority population (Lamborn & Felbab, 2003). Latino parents have often been characterized in the literature as being more strict, dominant and more insistent on discipline than Anglo parents (Florsheim et al., 1996; Julian et al., 1994), but this harsh depiction is usually not held by Latino scholars. In fact, several studies of Latino parental control have found favorable outcomes, such as lower adolescent smoking (Shakib et al., 2003), higher female self-esteem (Carlson, Uppal, & Prosser, 2000) and higher academic motivation and educational aspirations (Plunkett & Bámaca-Gómez, 2003). One interesting cross-cultural study found that Latino parents were less restrictive in terms of children's intra-familial behaviors (e.g., amount of TV watched) but Latino parents used more extra-familial control (e.g., stricter curfews) than Anglo parents (Bulcroft et al., 1996). Valuable qualitative research of Latino parenting alludes to the fact that Latinos are more reluctant to use physical discipline (such as spanking) commonly accepted in their countries of origin for various reasons, but that they are interested in learning more effective ways of behavioral control that are culturally relevant to their contextual experience (Parra-Cardona et al., 2009).

Until relatively recently, the majority of studies have used the terms behavioral control and monitoring interchangeably, with an abundant set of findings connecting monitoring to less externalizing behavior (as examples, see Yabiku et al., 2010; Coohy et al., 2013; Kerr & Stattin, 2000). Scholars have typically defined monitoring as the process of obtaining knowledge about the child's activities, whereabouts, environment and relationships (Tebes et al. 2011; Lippold et al., 2011), but there is some debate about the legitimacy of the term in describing parental behavior. For instance, Kerr and colleagues (2000; 2010) argue that the use of parental knowledge in operationalizing monitoring could convolute results and that monitoring should be broken down into three different constructs: child disclosure, parental solicitation and parental

control. The current study will only focus on the monitoring construct of parental control (behavioral control, as it is referred to in this study).

In 2012, Kerr and colleagues stated that “behavioral control, to distinguish it from psychological control, concerns active monitoring and regulation of the adolescent’s activities and associations” (p.1541). Using this definition of behavioral control allows room for discussion of parental monitoring and attempts to gain knowledge of the child’s situation but also can include the parents’ attempts to set limits to mold their child’s behavior. The current conceptualization of behavioral control (defined as parents establishing limits on child behavior) is consistent with other studies that measure parental attempts to regulate the child’s behavior and social interactions (Stattin & Kerr, 2000; Mogro-Wilson, 2008).

Although researchers have found that parental monitoring is associated with less externalizing behavior in Latino adolescents (e.g., Pokhrel et al., 2008), there was only one study found to date which used the same conceptualization of behavioral control with a Latino sample (as conceptualized here - parents establishing behavioral limits). In that particular study, Mogro-Wilson (2008) found that higher behavioral control was associated with less alcohol use among Latino adolescents. While expounding upon the results of her study, the author stated that, “some of the literature on non-Latinos indicates that more controlling parents have adolescents who use alcohol more” (Mogro-Wilson, 2008, p. 101). Although her findings add a valuable contribution to the youth behavioral literature for Latinos, she failed to provide any evidence or other studies to support this statement. Furthermore, a limitation in her explanation is evident in the way she lumped various types of controlling parenting behavior together and failed to differentiate between psychological control and behavioral control as it is delineated in the literature (Barber, 1996; Bradford et al., 2003; Bean et al., 2006). In fact, when separated from psychological

control, behavioral control has been found to be a positive parenting skill; specifically, it has been shown to be associated with less norm-breaking behavior on the part of teens, which can also be considered as externalizing behavior (see Stattin & Kerr, 2000). In this regard, parents (including Latinos) who are able to set clear limits and effectively regulate adolescent behavior, while demonstrating high levels of warmth and love are consistent with Baumrind's theoretical construct of authoritative parenting (1978, 1991, 1996) and are more likely to have adolescents who engage less in destructive or externalizing behavior.

Maternal and Paternal Differences in Parenting Practices among Latinos

Decades of research have generally indicated that fathers are less directly involved in the day-to-day parenting practices and processes of their children (Baumrind, 1980; Pleck, 1997; Ozgun & Honig, 2005). The literature on parental responsibilities and behaviors also seem to differ by gender. For example, Moon and Hoffman (2008) found that mothers were more likely to engage in physical care and emotional support than fathers in their study despite evidence of both parents being seen as appropriate to engage in the majority of the everyday parenting behaviors. Research with Latino families similarly suggests traditional parenting roles, with mothers as the primary caregivers and fathers as economic providers and authority figures (Cauce & Domenech Rodríguez, 2002; Fuligni, 1998), with this division-of-labor even more pronounced among immigrant parents or those with strong cultural ties to Mexican heritage (Leaper & Valin, 1996; Parra-Cardona et al., 2008; Raffaelli & Ontai, 2001).

It should be noted that there is a relatively small body of literature distinguishing the effects of maternal and paternal parenting practices on Latino adolescent functioning. Gender-specific findings were noted in Updegraff and colleagues' (2009) study, where they found that mothers had more knowledge about their children's day-to-day activities than did the fathers in

their study, and Crockett et al. (2007) found that adolescents reported more open communication with their mothers than fathers. There is also some evidence in the literature that suggests that fathers tend to guide sons' gender socialization, whereas mothers guide their daughters' gender socialization in Latino families (Raffaelli & Ontai, 2001).

Although research on parental gender differences and adolescent externalizing behavior is extremely limited, studies indicate that the effects of parenting on externalized behavioral outcomes can differ by parent gender among Latino families as well (e.g. Killoren et al., 2011). Among the few studies found analyzing these effects, sexuality has been included in the conceptualization of youth externalizing behavior (Delgado et al., 2013; Jessor & Jessor, 1977; Nijjar et al., 2016). Sexuality in adolescents is consistent with the definition of externalizing behavior used in this study (Liu, 2004), in that adolescent sexual behavior is an outward action that is often associated with negative consequences for youth such as teen-pregnancy, unsafe sexual practices, sexual misconduct, etc. (East et al., 2006; Nijjar et al., 2016; Centers for Disease Control and Prevention, 2010; 2011). Adolescent sexual risks, substance use and externalizing behavior have often been studied together, particularly among Latino youth (Prado et al., 2010; Prado & Pantin, 2011; Santisteban et al., 2003; Prado et al., 2013) and for the purposes of this literature review adolescent sexuality will be characterized as one aspect of externalizing behavior.

In a study of gender differences in parenting and externalized outcomes among Latinos, Killoren and colleagues (2011) demonstrated that associations between parent-adolescent relationship quality and cultural orientations and adolescents' sexual intentions differed by parent gender. Conflict with Latino fathers' has been associated with adolescent involvement in risky behaviors (Delgado et al., 2013), while maternal support has been associated with less adolescent

sexual risk (Trejos-Castillo & Vazsonyi, 2009). Finally in their longitudinal study, Killoren and Deutsch (2014) found that more strictness by mothers and less strictness by fathers at Time 1 was associated with less sexual risk for Latino adolescents in Time 2 and that paternal support at Time 1 was negatively correlated with sexual risk at Time 2, but that maternal support was not predictive of sexual risk at any time. Unfortunately, it was difficult to capture any clear rationale from the authors regarding these unusual findings, but it could be important to consider the meaning that the sample might have placed on the constructs themselves. For example, strictness and monitoring were two separate constructs in their study, but it might have been difficult for the adolescents to delineate the difference between the two based on the author's Eurocentric views of each, especially given the differences found between Latino and Anglo youth perceptions of parental rule setting (Halgunseth et al., 2006). Killoren & Deutsch's (2014) measure of parental (both maternal and paternal) support also contained only one item making it more difficult concisely capture what Latino adolescents perceive as parental support. One of the goals of this study is to shed some light on differences between maternal and paternal parenting effects on externalizing behaviors while examining other systems in the adolescent's environment that can affect those outcomes, such as the school system.

Adolescent-Teacher Relationship

When compared with other academic-related factors such as a sense of school belonging, the student-teacher relationship has more predictive power as it pertains to youth outcomes (McNeely, 2005). Racial and ethnic minorities have been shown to experience less positive relationships with their teachers (Kesner, 2000; Saft & Pianta, 2001) and there is even some literature which mentions discriminatory experiences of Latinos by their educators (e.g. Irizarry, 2012). This can be of particular concern given that student-teacher relationships have been found

to influence academic outcomes in students indirectly (Goodenow, 1993) and even directly (Osher et al., 2002; Košir & Tement, 2014; U. S. Department of Education, 1998). Although the influence of the student-teacher relationship on academic achievement is not as widely studied among ethnic minority adolescents, there is evidence suggesting that adolescent-teacher relationships can affect academic outcomes among these at-risk youth. For example, Rassiger (2012) found that a positive adolescent-teacher relationship was predictive of academic success among at-risk Latino and African-American students.

As scholars continue to study adolescent functioning, there is a growing acknowledgement of teachers' influence on not only academic achievement but also the behavioral aspect of their students (Jennings & Greenberg, 2009). While more attention has been historically given to the influence of negative student behavior on the student-teacher relationship (Fry, 1983; Coie & Koepl, 1990; Birch & Ladd, 1998; Blankemeyer et al., 2002), there is also evidence of an inverse relationship, in that the student-teacher relationship has been found to have an impact on negative student behavior (Hughes, Cavell, & Jackson, 1999). Wissink and colleagues (2014) recently found that a positive adolescent-teacher relationship was not only found to be associated with less misconduct inside the school but also to less externalizing behavior outside the school. Longitudinal studies also show that student-teacher relationships have an effect on behavioral outcomes in young children (Hamre & Pianta, 2001), but less is known about the influence of the teacher relationship on externalizing behavior among adolescents over time. One longitudinal study targeting adolescents found that a positive adolescent-teacher relationship did, in fact, reduce the risk of externalizing behaviors for both males and females (Perra et al., 2012), but no studies were found analyzing this phenomenon among Latino adolescents.

Academic Achievement

In using a systemic perspective to analyze adolescent functioning, it is important to include academic factors because so much of their time is spent in a school environment. Additionally, there are salient ethnic differences in the academic achievement of U. S. youth and Latino students are a particularly vulnerable population for dropping out or under-performing (Turcios-Cotto & Milan, 2013; Lopez, 2009). One informative qualitative study was very useful in dispelling the misconception that Latinos do not care as much about doing well in school (Ceja, 2004). This scholar discovered that subjects in her study received both direct and indirect messages from parents about the importance of doing well in school and this in turn was related to adolescents' academic success (Ceja, 2004). Recently, increased attention has been focused on the underrepresentation of Latino/a students in postsecondary educational institutions (Astin & Oseguera, 2004; Gándara & Contreras, 2009; Oliva, 2008; Santiago, 2007; Solórzano, Villalpando, & Oseguera, 2005), but fewer studies have been dedicated to explaining the factors that contribute to these educational disparities. Among the somewhat limited studies on the topic, findings suggest that lower levels of parental monitoring can be predictive of lower academic achievement (Demo & Acock, 1996; Boyce Rogers & Rose, 2001) and that lower levels of parental warmth can be detrimental to Latino adolescent academic achievement (Eamon & Mulder, 2005; Delgado et al., 2013).

Much of the research on Latino adolescent academic functioning has been geared towards finding out how to make Latinos more successful in school or to find factors that improve academic achievement. For example, higher levels of parental monitoring have been associated with lower levels of school dropout among Latino youth (Martinez et al., 2004; Henry et al., 2011). Another study demonstrated that parents' educational monitoring was associated with

more positive academic outcomes among Latinos (Woolley et al., 2009). In addition, parental warmth and support have been shown to have a positive effect on adolescent academic achievement (Boyce Rogers & Rose, 2001), which can be true for ethnic minorities as well (Taylor et al., 1995; Lowe & Dotterer, 2013). In fact, Alfaro and colleagues (2009) found parental warmth was associated with positive academic outcomes in their Latino adolescent sample.

There are numerous studies that have found a connection between academic achievement and externalizing behaviors (e. g., Zimmermann et al., 2013; Bachman et al., 2007; Bryan et al., 2013), indicating that students with higher academic achievement may be less at risk to engage in substance use (Bryant & Zimmermann, 2002; Diego et al., 2003; Hallfors et al., 2006; Bryant et al., 2003). However, very few of these studies have been conducted with a Latino adolescent sample. Out of the small body of literature available, a few studies were found that show that academic achievement can affect externalizing behavior among Latino youth (Bachman et al., 2007; Lopez et al., 2008; Vaughn et al., 2011). For example, poor school functioning (Lopez, Bergren, & Painter, 2008) and failing grades (Vaughn et al., 2011) have been shown to be positively associated with externalizing behaviors among Latino adolescents. While there is evidence in the literature of the influence of academic achievement on externalizing behaviors in Latino youth, this study will address the gap in the literature regarding these effects over time.

The Current Study

Latino adolescent research is now receiving much more attention from scholars interested in this topic but there are still many unanswered questions and gaps in the literature which this study seeks to address. Parental warmth is known to have an association with less externalizing behavior in Latino adolescents (Broman et al., 2006), but less is known about those effects over

time or if the warmth of Latino mothers and fathers impact externalizing behavior differently. There is evidence in the Latino literature of the positive influence of parental behavioral control on externalizing behavior (Yabiku et al., 2010; Mogro-Wilson, 2008), but less is known about those effects among Latino adolescents over time. A better adolescent-teacher relationship has also been shown to be associated with less adolescent externalizing behavior (Wissink, 2014) however, no information was found on these effects among Latino adolescents longitudinally or cross-sectionally. There is an abundance of literature regarding the effects of academic achievement on externalizing behavior among Latino adolescents (Bachman et al., 2007; Lopez et al., 2008; Vaughn et al., 2011), but these effects are yet to be determined among Latino adolescents over time.

In terms of indirect effects, Latino research provides clear evidence that parenting practices have been linked to academic achievement (Alfaro et al., 2009) and academic achievement has been linked to externalizing behavior (Lopez et al., 2008; Vaughn et al., 2011), but this is the first study which will test those paths simultaneously with a Latino sample. Similar associations have been found between the adolescent-teacher relationship, academic achievement, and externalizing behavior among Latino adolescents (Rassiger, 2012; Lopez, Bergren, & Painter, 2008) but this indirect pathway has not been analyzed across four waves of data from a Latino sample until now. With academic disparities on the rise among Latino youth in the U. S. (Turcios-Cotto & Milan, 2013; Gándara & Contreras, 2009; Oliva, 2008) it becomes increasingly important for researchers to include academic factors along with family influences in their investigations on externalizing behaviors among this at-risk population. This study seeks to bridge the gap between Latino family dynamics research and Latino adolescent academic

research in one systemic framework (Bertalanffy, 1968; Prado & Pantin, 2011; Szapocznik & Coatsworth, 1999).

Under the umbrella of eco-developmental theory (Prado et al., 2010; Szapocznik & Coatsworth, 1999), this study is designed to examine the systemic effects of parental warmth and behavioral control along with key school/academic factors (parent-child relationship, youth academic achievement) in relation to externalizing behavior among Latino adolescents. This hypothesized model (see Figure 1), will be examined across four waves of data and will be tested for direct and indirect effects of the variables mentioned. The purpose of this unique longitudinal study is to examine the predicting effects of parenting variables (maternal/ paternal warmth, behavioral control) and the adolescent-teacher relationship, and the indirect influence of academic achievement between those predictor variables and externalizing behavior over time (across four time points), while controlling for adolescent gender, grade level, and family structure.

The following hypotheses were proposed in reference to the model presented here (see Figure 1):

H1: It is hypothesized that higher levels externalizing behaviors (both initial levels and rate of change) will be predicted by lower levels of parental warmth (both maternal and paternal), behavioral control, adolescent-teacher relationship, and academic achievement.

H2: It is hypothesized that higher levels of academic achievement will be positively associated with higher levels of parental warmth (both maternal and paternal), behavioral control and the adolescent-teacher relationship.

H3: It is hypothesized that higher levels of all four predictor variables (maternal warmth, paternal warmth, behavioral control and the adolescent-teacher relationship) will negatively

predict both initial levels (intercept) and of the rate of change (slope) of externalizing behaviors over time through academic achievement indirectly (although not theoretically hypothesized as a mediator in this study).

Method

Participants

This study utilized a sample of 743 Latino adolescents drawn from Add Health data (see Harris, 2005; 2009 for details on the sampling design and data collection methodology). The Add Health study is a nationally-representative, probability-based survey of adolescents in grades 7 through 12 conducted between 1994 and 2009. The study collected data of interest to researchers with different theoretical backgrounds in social and behavioral sciences. The sample for the current study was taken from the non-restrictive public dataset which comprised of 6,504 respondents. Participants were tracked over time comprising four waves of data. Regarding attrition, 74 percent of the participants were retained between the first and second waves, and 75 percent were retained between the second and third waves, and 79 percent were retained between the third and final waves.

Since adolescent subjects were allowed to identify their race and ethnic background with more than one answer, subjects in this study were limited to those who exclusively classified their ethnicity into Hispanic or Latino groups, confirming being “of Hispanic or Latino origin”. Out of the 743 participants at Wave I, 358 (48.2%) were male and 385 (51.8%) were female. In terms of grade level at Wave I, 16.9% reported being freshmen, 20.4% reported being sophomores, 16.7% reported being juniors and 13.9% reported being seniors. In terms of family structure, 50 (6.7%) participants reported living in a single parent home, 408 (54.9%) reported that their parents were married to each other, 26 (3.5%) reported that their parents were

widowed, 87 (11.7%) reported that their parents were divorced, and 48 (6.5%) reported that their parents were separated. Interestingly, 454 (61.1%) participants reported being born in the U. S. and 196 (26.4%) reported being born outside the U. S., but 423 (56.9%) participants reported speaking English in the home and 308 (41.5%) spoke Spanish. Based on the demographics reported, it is suggested that this is a moderately acculturated group of Latino adolescents.

Measures

Maternal/ paternal warmth. The measure of parental warmth (maternal warmth, Cronbach's alpha = .86 and paternal warmth, Cronbach's alpha = .90) is comprised of four items, regarding the adolescent's report of parenting behaviors from Wave I (Mogro-Wilson, 2008). For the first item, adolescents rated the emotional closeness of their relationship with each parent on a 5-point scale ranging from "not at all" (1) to "very much" (5). The other three items asked about the youth's perception of their parent being warm and loving to them, their satisfaction with the way they communicate with their parent, and their overall satisfaction with their relationship with their parent. All three of these items were recoded into a 5-point scale from "strongly disagree" (1) to "strongly agree" (5). A confirmatory factor analysis (CFA) was used to identify the items that loaded appropriately onto each scale and factor loadings for the maternal variable ranged from .59 to .97 and factor loadings for the paternal variable ranged from .82 to .95. Although maternal warmth and paternal warmth were significantly correlated with each other, models were tested with variations of the two variables (together as one, each separately, etc.) to rule out multicollinearity issues between these two parenting variables (expected directions of associations did not change).

Behavioral control. The behavioral control measure included adolescent-report items, focusing on Wave I of parental behaviors (associated with control) in relation to different

adolescent behaviors (Mogro-Wilson, 2008). Adolescents responded to seven questions about whether they were allowed to make their own decisions on amount of television watched, on weekend curfew, dressing style, TV programs watched, bedtime on week nights, eating habits, and the people whom they hang around with. Because all of the items were dichotomous, the behavioral control measure was treated as a count variable. Higher counts of behavioral control would be indicated by more items answered in the affirmative (“yes”) and lower counts would be indicated by more items answered in the negative (“no”). These dichotomous items were combined to create a latent variable of behavioral control and all of the items were labeled as “categorical” in Mplus software in order to be analyzed appropriately. Unlike the other measures employed in this study, a Cronbach’s alpha was not obtained for behavioral control because a Cronbach’s alpha statistic is not appropriate for dichotomous variables. Instead, a Kuder-Richardson 20 (KR20) internal consistency test was used because it is the correct reliability statistic to use for dichotomous items; the KR20= .66. A confirmatory factor analysis (CFA) was used to identify the items that loaded appropriately onto the scale and all factor loadings ranged from .60 to .87.

Academic achievement. Adolescent academic achievement (Cronbach’s alpha = .69) was measured at Wave I using youth self-reports of recent grades in math, science, language arts, and social studies (Ryabov, & Van Hook, 2007). These four items were reported on a four-point scale and were recoded to reflect 4 = "A", 3 = "B", 2 = "C", and 1 = "D or lower". A confirmatory factor analysis (CFA) was used to identify the items that loaded appropriately onto each scale and all factor loadings ranged from .58 to .73.

Adolescent-teacher relationship. The adolescent-teacher relationship (Cronbach’s alpha = .49) was measured by a combination of items describing the adolescent’s perception of their

relationship with teachers at Wave I. The three items that make up this latent variable include: how they feel their teachers care about them, whether they have trouble getting along with their teachers, and if they think that their teachers treat students fairly. All three items were rated by the adolescents on a 5-point scale ranging from "strongly agree" (1) to "strongly disagree" (5). A confirmatory factor analysis (CFA) was used to identify the items that loaded appropriately onto each scale; factor loadings were as follows: .58, .65, and .69. Although the reliability of this measure was not as high as the other measures used for this study, this measure has been shown to be a viable choice as demonstrated by the numerous studies that have used these exact three items to conceptualize the adolescent-teacher relationship using data from the Add Health study (e.g., Joyce, 2015; Crosnoe, Johnson, & Elder, 2004a; Crosnoe, Johnson, & Elder, 2004b; McNeely & Falci, 2004; Russell, Seif, & Truong, 2001). In previous Add Health-based studies (Crosnoe, Johnson, & Elder, 2004a; Crosnoe, Johnson, & Elder, 2004b; Russell, Seif, & Truong, 2001), the Cronbach's alpha scores for this three-item measure have been found to be higher (.59 to .68) than for the current Latino sample. This raises the question as to whether closeness with a mentor (teacher) in a higher power position from a Latino's perspective (most likely through the cultural value of "personalismo") differs from the majority culture or from a Euro-centric perspective.

Externalizing behaviors. Adolescent externalizing behaviors (Time 1,) were measured using 4 out of 15 items from a delinquency scale (Stephens et al., 2012) as reported by the adolescents themselves. Only the four items that were measured consistently in each wave (important when using a growth curve to measure effects longitudinally) were included in this analysis. This variable was comprised of the following four items: how often they damaged property in last 12 months, how often they sold drugs in the last 12 months, how often they stole

less than \$50 in the last 12 months, and how often they participated in a physical fight in a group in the last 12 months. Cronbach's alpha for this four item measure at Wave I was .84, at Wave II was .83, at Wave III was .68, and at Wave IV was .72. The questions in each of the four waves contained four response categories: "never," "1 or 2 times", "3 or 4 times," and "5 or more times". A confirmatory factor analysis (CFA) was used to identify the items that loaded appropriately onto each scale and all factor loadings for the first wave ranged from .42 to .54, all factor loadings for the second wave ranged from .45 to .68, and all factor loadings for the third wave ranged from .43 to .66, and all factor loadings for the final wave ranged from .38 to .50.

Analysis

Descriptive statistics are reported for all variables (see table 1) and bivariate correlations are presented in Table 2. Structural equation modeling (Kline, 2010) was used to test the hypothesized model. Direct and indirect effects were analyzed between the predictors (maternal/paternal warmth, behavioral control, adolescent-teacher relationship) and the outcome variable of adolescent externalizing behavior over time, via adolescent academic achievement. For the longitudinal portion of the analysis, an unconditional latent growth curve (LGC) model was first used to describe initial levels (intercept) and the rate of change (slope) of adolescent externalizing behavior with all four time points. Afterwards, predictor variables and adolescent academic achievement were then added to a conditional LGC model to test direct and indirect effects as hypothesized. As mentioned previously, Mplus software was used to estimate all models.

Out of the three most commonly used approaches for analyzing indirect effects (i.e., causal-steps approach (Baron & Kenny, 1986); product-of-coefficients approach (Preacher & Hayes, 2004); and bootstrapping (Kline, 2010; Preacher & Hayes, 2008), the bootstrapping

method was chosen for this particular analysis for a couple of reasons. First and foremost, it is important to note that this study is not employing academic achievement as a mediator because there is no theoretical basis for explaining the relationship between the predictor variables of this study and externalizing behavior through academic achievement as an important mechanism of change. Since Baron and Kenny's (1986) causal steps approach is specifically relevant to a mediation analysis, it was disregarded. The product-of-coefficients approach (Preacher & Hayes, 2004) was not appropriate for the current analysis because it assumes that the indirect effect has a normally distributed sampling distribution (Hayes, 2009; Preacher & Hayes, 2004), which is not the case with the current sample; the externalizing behaviors variable (at each time point) was quite heavily skewed towards zero. The bootstrapping method was chosen not only because it does not rely on the restrictive assumption that the sampling distribution is normally distributed (Anderson et al., 2014) but also because it is considered to be the most appropriate way to examine indirect effects (Hayes, 2013; MacKinnon, 2008; Hayes et al., 2011). In the bootstrapping process a specified number of samples is taken from the original sample (N) and "used to generate the point estimate of ab (indirect effect) by taking the mean ab of the (specified number) of samples" (Anderson et al., 2014, p. 539). In the analysis of this study, 5,000 bootstrap samples were used to examine the indirect effects of academic achievement on the relationship between all predictor variables (maternal/paternal warmth, behavioral control, and the adolescent-teacher relationship) and all time points of externalizing behavior. The bootstrapping method also adjusts standard errors so they are appropriate for indirect effects (Kline, 2010).

Hipp and colleagues (2015) recently evaluated different methodological approaches to handle missing data among longitudinal datasets and they analyzed the Add Health data as part

of their study. In their results, they found little evidence for systematic attrition in the Add Health dataset as a whole. Attrition rates for the current dataset ranged between 21 and 26% (from wave I to wave 4) and were not considered to be Missing Completely At Random (MCAR), therefore, no further missing values analysis was undertaken due to the results found in Hipp and colleagues' (2015) article. For the purposes of this study, Full Information Maximum Likelihood (FIML) was implemented because it is imbedded in most SEM analysis programs and because FIML and Multiple Imputation are the most proficient ways to deal with missing data (Wilson et al., 2014).

Due to the complexity of the model, there were a few adjustments that needed to be made to the initially proposed analysis in order to achieve optimal results. Specifically, direct, indirect and interaction effects were all included in the original analysis of longitudinal data using a latent growth curve analysis, but even after omitting interaction effects from the analysis, the Mplus software used to run the data could not estimate the final model. Yang and colleagues (2010) provided some insightful solutions in the estimation complex models, namely parceling, latent scoring, and shortening scales. Out of the three proposed approaches, the latent scoring method was implemented in the current analysis due to the ample size of the current sample and longitudinal growth component. According to Hambleton and colleagues (1991), large ordinal scales can be transformed into latent scores to simplify complicated models when samples are larger than 350 (current $n= 743$). Since factor scores obtained from a confirmatory factor analysis (CFA) are equivalent to latent scores from a latent scoring perspective (Yang, Nay & Hoyle, 2010), the factor scores of the CFA performed on each variable employed in the model were used in place of the latent variables in the current analysis to estimate the final path model which was analyzed to test both direct and indirect effects on the growth curve.

Results

Basic Statistics

Descriptive statistics are reported for all variables (see table 1) and bivariate correlations are presented in Table 2. Some correlations were found to be significant among the variables and all significant correlations found were in the expected direction. For example, maternal warmth was positively correlated with paternal warmth, maternal warmth was negatively correlated with externalizing behavior at time 1, the adolescent-teacher relationship was positively correlated with academic achievement and externalizing behavior at time 1 was positively correlated with externalizing behavior at time 2.

Unconditional Latent Growth Curve Model

After employing Yan and colleagues' (2010) latent scoring method to measurement models of each variable, factor scores were used to create an unconditional latent growth curve (LGC) model without covariates to describe the initial level and rate of change of adolescent externalizing behavior. Model fit statistics for the unconditional LGC model revealed a Chi-Square coefficient of 100.808, $p < .001$, ($df = 6$), with the following fit indices: CFI = .994, TLI = .989, RMSEA = .015, and SRMR = .018. Based on fit index standards, these results indicated that the model was a very good fit for the data based on the following recommendations: CFI values above .90, RMSEA value below .05, SRMR value below .08 (Hu & Bentler, 1999). Although the Chi-Square coefficient was significant, it was not used to evaluate the goodness of fit because of the larger sample size ($n = 743$) of the current study (Hampton & Xiao, 2008; Bentler & Bonett, 1980). Means of the intercept ($\mu = .59$, $p < .001$) and of the slope ($\mu = -.99$, $p < .01$) were both significant, indicating that the baseline level of externalizing behavior was appreciably different from zero and more importantly, that externalizing behaviors among this

sample significantly declined over time. Although no significant variance was found in the slope, there was significant variance around the intercept ($\beta = .17, p < .001$), which means that this sample started at significantly different levels of externalizing behaviors in the beginning.

Conditional Latent Growth Curve Model

Direct effects. After determining that the unconditional latent growth curve model had good model fit statistics, predictor variables were added to create a conditional latent growth curve model in order to test the direct and indirect paths impacting the outcome variable (externalizing behavior). The model fit for the conditional (final) LGC model was adequate ($\chi^2 = 478.716, p < .001, df = 45, n = 595, CFI = .946, TLI = .889, RMSEA = .042, \text{ and } SRMR = .030$). One hundred forty-eight cases were omitted from the final model leaving 595 cases analyzed. The majority of these cases (124) were omitted due to missing data from the family structure control variable, the remaining 26 omitted cases were a result of missing data from the grade level control variable. Although approximately 185 cases identified as coming from a single parent home (reported either single parent, widowed or separated in the family structure item), they were asked to report on their perception of both parents' warmth to the best of their recollection, which is why there were no missing cases on either paternal or maternal warmth.

In the longitudinal portion of the analysis, a growth curve was used to estimate the externalizing behavior over time. The full model presentation can be found in Figure 2; however, several key hypothesized relationships are emphasized here. Regarding the first hypothesis (i.e. that independent variables will be negatively associated with the intercept and slope of externalizing behavior), maternal warmth was negatively associated with initial levels of externalizing behavior ($\beta = -.16, p < .05$) and the adolescent-teacher relationship was negatively associated with initial levels of externalizing behavior ($\beta = -.25, p < .01$). Academic achievement

also had a significantly negative relationship with initial levels of externalizing behavior ($\beta = -.22, p < .01$).

In terms of the trajectories of externalizing behavior, the adolescent-teacher relationship was negatively predictive of the rate of change of externalizing behavior ($\beta = -.29, p < .01$). This means that the more favorable the relationship between the adolescent and teacher is the more rapid the decline of the slope of externalizing behavior will be. Academic achievement was also negatively predictive of the rate of change of externalizing behavior over time ($\beta = -.28, p < .01$). This means that the better the academic achievement is for the adolescents the more rapid the decline of the slope of externalizing behavior will be.

In answer to the second hypothesis (i.e. that all four of the predictor variables will be positively associated with academic achievement), paternal warmth had a significantly positive relationship with academic achievement ($\beta = .29, p < .001$) and behavioral control had a significantly positive relationship with academic achievement ($\beta = .08, p < .01$). The adolescent-teacher relationship was also positively associated with academic achievement ($\beta = .66, p < .001$) as expected.

Indirect effects. Following Anderson and colleagues' (2014) modern approach to indirect effects, 5,000 bootstrap samples were used to test the indirect effects of academic achievement between the relationships of the predictor variables and externalizing behavior over time to address the third and final hypothesis (i.e. there will be significant indirect effects on both the intercept and slope of externalizing behaviors through academic achievement). Although paternal warmth had a non-significant direct effect on initial levels of externalizing behavior (intercept), it was found to have a significant negative association with initial levels of externalizing behavior through academic achievement ($\beta = -.06, p < .05$, 95% biased-corrected CI [-0.03,

-0.11]). Similarly, behavioral control was found to have a significant negative association with initial levels of externalizing behavior through academic achievement ($\beta = -.02, p < .05$, 95% biased-corrected CI [-0.01, -0.04]). The adolescent-teacher relationship was also found to have a significant negative association with initial levels of externalizing behavior through academic achievement ($\beta = -.02, p < .01$, 95% biased-corrected CI [-0.24, -0.06]).

In relation to the rate of change in externalizing behavior (slope), paternal warmth was negatively related to externalizing behavior through academic achievement ($\beta = -.08, p < .05$, 95% biased-corrected CI [-0.15, -0.04]), signifying that higher levels of paternal warmth predicted more rapid declines in the trajectory of externalizing behavior through academic achievement. Behavioral control was negatively predictive of externalizing behavior over time through academic achievement ($\beta = -.02, p < .05$, 95% biased-corrected CI [-0.05, -0.08]), signifying that higher levels of behavioral control predicted more rapid declines in the trajectory of externalizing behavior through academic achievement. Finally, the adolescent-teacher relationship was negatively predictive of the slope of externalizing behavior through academic achievement ($\beta = -.18, p < .01$, 95% biased-corrected CI [-0.08, -0.32]), signifying that a better adolescent-teacher relationship predicted more rapid declines in the trajectory of externalizing behavior through academic achievement. All other paths were non-significant. The overall variance (R^2) explained in the model was 29% for the initial levels of externalizing behavior and 36% for the rate of change of externalizing behavior.

In terms of maternal and paternal comparisons of parental warmth, both turned out to have vastly different effects on the adolescent outcomes. Maternal warmth had the only direct effect on initial levels of externalizing behavior (negative association), while paternal warmth had the only direct effect on academic achievement (positive association). Paternal warmth had a

significant indirect relationship with initial levels of externalizing behavior and with externalizing behavior over time through academic achievement, while maternal warmth had no such indirect effects. Although 6.7% of the current sample (50 adolescents) specifically reported coming from single parent homes, 21.7 % of the sample (161) reported that their parents were either widowed, divorced or separated but they did not indicate whether their parents remarried or not making it difficult to accurately compare adolescents who have both parents living with them to those actually living in single parent homes. It was also difficult to compare data on single fathers versus single mothers, especially since there were so many cases that had missing data on the family structure control variable (124 cases).

In terms of the effects of control variables on the outcome variable, adolescent gender and grade level were both found to be significantly associated with the outcome variables. Boys were more likely than girls to engage in initial levels of externalizing behavior ($p < .01$) and in externalizing behavior over time ($p < .01$). In terms of grade level, upperclassmen were more likely than younger students to engage in initial levels of externalizing behavior ($p < .05$). Family structure was not significantly associated with either initial levels of externalizing behavior or externalizing behavior over time.

Discussion

This study revealed many significant direct and indirect effects of parenting and school related factors on externalizing behavior over time among Latino adolescents and there were a few key findings which will be discussed in detail. Maternal warmth, the adolescent-teacher relationship and academic achievement were all negatively associated with initial levels of externalizing behavior. Although none of the parenting factors were shown to have a direct effect on the rate of change of externalizing behavior, both academic achievement and the adolescent-

teacher relationship negatively predicted the rate of change of externalizing behavior. As hypothesized, paternal warmth, behavioral control and academic achievement were all found to be positively associated with academic achievement. In terms of indirect effects, paternal warmth, behavioral control and the adolescent-teacher relationship were all negatively associated with initial levels of externalizing behavior through academic achievement and were also all negatively predictive of the rate of change of externalizing behavior through academic achievement. Implications for these findings are discussed according to an eco-developmental framework and through a Latino cultural perspective.

Predicting Variables of Externalizing Behavior

In regards to the first hypothesis (i.e. that independent variables will be negatively associated with the intercept and slope of externalizing behavior), maternal warmth was the only parenting variable that had a direct significant association with externalizing behavior in the current study. Consistent with the literature regarding gender differences (based on parent gender) among Latino parenting behaviors (Behnke et al., 2008), maternal warmth was significantly related to youth externalizing behaviors whereas paternal warmth was not associated significantly. Specifically, higher levels of maternal warmth were significantly associated with lower initial levels of externalizing behavior. This difference in significance in relation to externalizing behavior (between paternal and maternal warmth) may be explained via traditional Latino childrearing roles, where mothers are typically more responsible for the care and nurturance of their children (Falicov, 1998). As Latina mothers spending more time with their children, the influence of their love and warmth may outweigh that of their male counterparts in regards to the direct influence of initial levels of externalizing behavior in their adolescent children. Of course, this finding should not be seen as discounting the importance of

paternal involvement in childrearing regarding the prevention of externalizing behavior among Latino adolescents as will be explained later.

Contrary to the parenting research cited in this study concerning the direct effects of behavioral control on externalizing behavior (Kerr & Stattin, 2000; Pokhrel et al., 2008; Mogro-Wilson, 2008), this study found these direct relationships to be non-significant. Interestingly, there are mixed findings on the effects of parental monitoring on adolescent externalizing behavior in the Latino family literature as well (Smith & Krohn, 1995; Pokhrel et al., 2008), which implies that more research is needed to accurately depict the distinction between parental monitoring and behavioral control and their direct effects on externalizing behavior among Latino adolescents. Although Mogro Wilson (2008) found direct effects of behavioral control on substance use among Latinos in this same dataset, it seems that using dichotomous items to measure the parent's ability to apply clear limits and consistent discipline could be insufficient to capture their direct effects on a broader measure of externalizing behavior (Coohey, Renner, & Sabri, 2013). Restricting responses to two options might not adequately capture the complete spectrum of parental behavioral control or allow for the variability that actually exists in Latino families regarding parenting practices, discipline and parental attempts to direct child behavior (Parra-Cardona et al., 2008; Parra-Cardona et al., 2009; Barker et al., 2010).

The first hypothesis was also supported through the adolescent-teacher relationship variable. For the current sample, a better adolescent-teacher relationship was not only associated with lower initial levels of externalizing behaviors but it was also predictive of less externalizing behavior over time. This finding is consistent with the existing literature (albeit limited in quantity) that supports a significant association between the student-teacher relationship and externalizing behaviors (e.g., Hughes, Cavell, & Jackson, 1999; Hamre & Pianta, 2001). This is a

particularly significant finding because it gives teachers an opportunity to make a difference in the lives of young Latino students regarding externalizing behavior both in the short- and long-term. This finding could also be explained by the interacting elements of Latino cultural values, namely, “personalismo” and its fit within eco-developmental theory (Prado et al., 2010; Pantin et al., 2004; Szapocznik & Coatsworth, 1999). In the context of interpersonal relationships, “personalismo” refers to more intimate interactions and connections between people (Committee for Hispanic Children and Families 2004; Barker et al., 2010; Falicov, 2006). When focusing on the social interaction element of eco-developmental theory in the adolescent-teacher relationship, “personalismo” can play a key role in the teacher’s influence on the adolescent’s behavior. For example, a Latino student who greatly values his/her close relationship with his/her teacher (inherently because of “personalismo”) will allow his interactions with his teacher (e.g. advice, mentoring, etc.) to influence his engagement in or avoidance of externalizing behavior.

Results from this study also supported the first hypothesis in that higher levels of academic achievement negatively were associated with lower initial levels of externalizing behaviors, and that academic achievement was predictive of less externalizing behavior over time. This finding was also consistent with previous literature (Bachman et al., 2007; Vaughn et al., 2011) suggesting that students who do well academically are less likely to get involved with externalizing behavior. One culturally relevant explanation of this phenomenon could also be tied to the Latino cultural value of “educación” or “ser buen educado” (Turcios-Cotto & Milan, 2013; Barker et al., 2010). Literally translated, “ser buen educado” means to “be well educated”, however, this phrase is far more substantial in significance (Turcios-Cotto & Milan, 2013), as it means to be well mannered, respectful, socially well behaved in front of others, and to have high morals as well as having a good formal education (Valdes, 1996; Barker et al., 2010; Halgunseth

et al., 2006). From this cultural perspective, those Latino adolescents who are trying to be “buen educado” are making efforts not only to do well in school but to stay out of trouble and not engage in externalizing behaviors.

Predicting Variables and Academic Achievement

The second hypothesis was also partially supported in that all of the parenting predictor variables except for maternal warmth had a significant direct effect on Latino adolescents' academic achievement. Consistent with previous literature (Boyce Rogers & Rose, 2001; Taylor et al., 1995; Alfaro et al., 2009), paternal warmth was positively associated with academic achievement. Behavioral control was also positively associated with academic achievement and although it was difficult to find studies connecting behavioral control and academic achievement (especially among Latino families), the available literature does support the current finding as it relates to the parents' efforts to prevent their children from engaging in externalizing behavior (Demo & Acock, 1996; Boyce Rogers & Rose, 2001). Using the same cultural perspective of education and Latino cultural values mentioned above, it is easy to see how Latino parents can be invested in the education of their children (Ceja, 2004; Barker et al., 2010). But whether in the case of behavioral control or parental (paternal) warmth, both of which imply more active parenting behaviors of limit setting or affirmations of love, more involved parents have been found to do better in helping their children succeed in school (see also Melby & Conger, 1996).

As hypothesized and as supported by the literature (i.e., Osher et al., 2002; Košir & Tement, 2014; U. S. Department of Education, 1998; Rassiger, 2012), the adolescent-teacher relationship was found to be positively associated with academic achievement. Given that systemic theory lends well to the power of meaningful relationships (Bertalanffy, 1968), it is only logical that a good relationship with the teacher could be a major influential factor to an

adolescent excelling in school. Teachers can and should do more to help Latino students in their academic achievement, especially given the prevalent disparities Latinos face in school systems (Gándara & Contreras, 2009; Lopez, Bergren, & Painter, 2008; Santiago, 2007). As a matter of fact, Valenzuela (1999) and Toshalis (2001) insightfully suggest that teachers can adopt “authentic care” (as opposed to “aesthetic care”- little or no action) into their teaching repertoire, which entails actions that incorporate genuine consideration of the person and their capacities, in order to improve student-teacher relationships. Cammarota and Romero (2006) also point out that many Latino students desire deeper and more intimate relationships with their teachers.

Indirect Effects of Academic Achievement and Externalizing Behavior

In regards to the final hypothesis, academic achievement was found to have a significant indirect effect on externalizing behavior with three of the predictor-outcome relationships at both initial levels and rates of change of externalizing behavior. First, paternal warmth had an indirect effect on externalizing behavior at initial levels and over time through academic achievement, which means that the influence of paternal warmth was only impactful to externalizing behavior through academic achievement. This particular finding is consistent with Xu and colleagues’ (2007) and the other limited literature supporting evidence of academic achievement as a factor of indirect effects in adolescent adjustment (Zychinski & Polo, 2012; Yong et al., 2014).

This indirect pathway might have more to do with the Latino cultural values of “respeto” and “familismo” than anything else. “Respeto” (respect in English) pertains to the importance of adhering to authority and respecting elders (Antshel, 2002; Arcia et al., 2000) and “familismo” is a term often used to describe this Latino cultural value of the family importance among Latino families (Calzada et al., 2014; Kennedy & Ceballo, 2013; Piña-Watson et al., 2013). With fathers being more characterized than mothers as the authority figure of the home in many Latino

families (Cauce & Domenech-Rodríguez, 2002; Fuligni, 1998) one possible explanation can be that Latino adolescents are more driven to honor their father's love by trying harder to do better in school and in turn lowering the risk of engaging in externalizing behavior. Interestingly, a previous study found that the "familismo" values held by the father had a stronger protective effect than those of the mother and adolescent in the relationship between deviant peer associations and externalizing behavior (German, Gonzales, & Dumka, 2008), thus supporting stronger indirect effects of paternal influence over maternal influence in externalizing behaviors.

The third hypothesis was also partially supported in that behavioral control had an indirect effect on externalizing behavior at initial levels and over time through academic achievement in this study. Although there were no studies found that analyzed the indirect effect of academic achievement on the relationship between behavioral control and externalizing behavior in Latino adolescents (or in any other population), this finding is consistent with studies showing positive relationships between parental monitoring (a form of behavioral control) and more favorable academic outcomes (Martinez et al., 2004; Woolley et al., 2009) and negative relationships between higher academic achievement and externalizing behavior (Bryant & Zimmermann, 2002; Diego et al., 2003; Hallfors et al., 2006). As Latino parents become more aware of the disparities their children face in the education system (Turcios-Cotto & Milan, 2013; Irizarry, 2012; Gándara & Contreras, 2009), they might be more compelled to focus their limit setting, discipline and behavioral control as it pertains specifically to their academic performance and educational monitoring (Woolley et al., 2009) in hopes that their school engagement and involvement steers them away from externalizing behavior. This study supports the idea that if Latino parents engage in effective behavioral control geared toward improving

their children's academic achievement, the more successful their children can become in school and the less likely they are to engage in externalizing behaviors (as an indirect effect).

Finally, the adolescent-teacher relationship had an indirect effect on externalizing behavior at initial levels and over time through academic achievement. Although the specific variables differ from Xu and colleagues' (2007) study, the general indirect effects of academic achievement between the school system (i.e. adolescent-teacher relationship) and externalizing behaviors (or the lack thereof) are still supportive of each other. It is also important to note that both of the academic variables (academic achievement and the adolescent-teacher relationship) had significant effects that were both direct and indirect in all of their connections to externalizing behavior in this study. As mentioned before these indirect effects can also be explained by the theoretical framework employed in this study, namely eco-developmental theory (Prado et al., 2010; Pantin et al., 2004; Szapocznik & Coatsworth, 1999) and basic systems theory (Bertalanffy, 1968) in that the teacher becomes a change agent for the Latino adolescent because she is more involved in his ecosystem. This not only impacts the academic achievement of the adolescent but his/her academic success then becomes a significant indirect factor of change for their behavior in the short term and over time as levels of externalizing behavior decrease. Although it is not proposed that teachers are more important than parents or more responsible for the guidance of Latino adolescents, the potential for teachers to positively influence and make lasting a difference in the lives of Latino adolescents cannot be underestimated or underemphasized given that the adolescent-teacher relationship had larger coefficients than the other predicting variables and that it was the only predicting variable to have a significant effect with every one of its associations.

Implications for Clinicians and Educators

Based on findings of the current study, a few treatment points are offered to assist clinicians and educators more adequately address issues of externalizing behavior among adolescents when working with Latino families. Clinicians and educators can begin by specifying three areas of focus including working with the parental system, the family system and with the school system. A culturally adapted parenting training model is suggested for clinicians addressing the parental system and a strong evidence-based, family intervention is suggested for working with the family system. Furthermore, critical race theory (CRT) and Latino critical race theory (LatCrit) are implemented to inform the recommendations offered to educators to address the academic-specific factors influencing externalizing behaviors among Latino adolescents.

The Parental System

As demonstrated in this study, Latino adolescents can benefit greatly from a parenting training program that addresses parental warmth and consistent and effective limit setting or discipline (Baumrind, 1978, 1980, 1991). Although there are many evidence-based parenting training programs available, Latino researchers caution the use of culturally appropriate protocols with Latino families because there are many cultural nuances that can affect diagnoses, treatment interventions, and family dynamics in general (Parra-Cardona et al., 2008; Parra-Cardona et al., 2009; Barker et al., 2010). Although some would argue that there is a risk of losing treatment efficacy in the process of changing original treatment interventions (Kumpfer et al., 2002), empirical research has shown that Latino parents are more inclined to participate in culturally adapted parenting interventions that are culturally relevant, respectful and responsive to their specific life experiences (Parra-Cardona et al., 2009). In fact, the most recent meta-

analysis regarding cultural adaptation research demonstrated that culturally adapted treatments were more effective than non-adaptive treatments (Smith et al., 2011).

Many Latino researchers have begun adapting parenting training protocols to fit better with Latino families (see Martinez & Eddy, 2005; McCabe et al., 2005; Domenech Rodriguez, 2008 for examples) and although these programs show much promise, there is still relatively little information available to clinicians to effectively address some of the cultural factors that may influence treatments focused on the findings of the current study, specifically, how to improve parental warmth and consistent limit setting, while staying in line with Latino cultural values. Out of the many parenting training programs available, the Love, Limits and Latitudes approach is one that focuses on increasing parental love and warmth and improving effective behavioral control, while teaching parents to allow room for the child's individuality and growth (Wells et al., 2005). This model is a synthesis of evidence-based parenting treatments with theoretical underpinnings of Bowlby's (1969, 1973) attachment theory, Baumrind's (1967, 1971) parenting styles, Rogoff's (1990) appropriation work and research of moral development from Damon and Hart (1998), among others. Interestingly, the Love, Limits and Latitude model shares many key points that Latino parents look for in parenting models that they feel would be appropriate to them, such as a need to instill good (cultural) values into their parenting practices (Parra-Cardona et al., 2008).

Guided by Barker and colleagues' (2010) work, the following integrates cultural adaptation (Parra-Cardona et al., 2009; Parra-Cardona et al., 2012) into the Love, Limits and Latitude protocol. When working with Latino parents, it is extremely important for the clinician to look for ways in which they can relate and connect and to create an environment of warmth from the very beginning (Bean et al., 2001); this will allow the clinician to model the

foundational importance of warmth in the treatment protocol. As Latinos parents reach the “instilling values” section of the Love, Limits and Latitude protocol (Wells et al., 2005) they can teach their children about, “familismo”, “respeto”, “ser buen educado” and any other cultural value that would diminish the risk of their children engaging in externalizing behavior. In the “limits” portion of the intervention, the parents can use effective behavioral control techniques that are consistent with their culture. As pointed out by Guilamo-Ramos and colleagues (2007), Latino parents see the value in more closely monitoring the behavior of their adolescent children, but if clinicians help Latino parents integrate more “familismo” into their parenting repertoire, they will find that this can help them be more consistent with their discipline and increase effective parental monitoring (Romero & Ruiz, 2007).

The Family System

Another major portion of systemic treatment for externalizing behavior of Latino youth would include family therapy. Numerous family therapy models aim at improving family functioning and reducing behavioral problems of children in the process (e.g. Nixon et al., 2004; Conoley et al., 2003) and there is one particular model called Brief Strategic Family Therapy (BSFT), which has been specifically created to treat behavioral problems among adolescents in Latino families (Szapocznik et al., 2003). Although there is a strong structural (Minuchin, 1974) and strategic (Madanes, 1981) component to the theoretical foundation of BSFT, it has also been demonstrated to be consistent with the working framework of eco-developmental theory (Szapocznik & Coatsworth, 1999; Pantin et al., 2004). BSFT includes six stages of treatment from joining to restructuring and even includes a particular appendage of treatment that was specifically created to get “buy-in” from the decision makers of Latino families called Strategic Structural Systems Engagement (SSSE- Szapocznik et al., 1988). This is particularly important

with Latino families given the cultural value of “personalismo”, which often is the doorway or roadblock (if it is not achieved) to gaining their trust (Barker et al., 2010; Falicov, 2006).

Although BSFT is not the only treatment protocol for behavioral problems among Latino youth (see Pantin et al., 2003 and Pantin et al., 2009 for descriptions of the alternative “Familias Unidas” treatment intervention), it has received the most empirical support in terms of randomized clinical trials and efficacy studies (e.g. Szapocznik et al., 1986; Coatsworth et al., 2001; Santisteban et al., 2003) and has been named among the top four empirically supported, family-based treatment programs for adolescent behavioral problems (Henggeler & Sheidow, 2012). As clinicians employ BSFT in efforts to address the issues and solutions suggested in this study, they are encouraged to take into consideration the cultural values specifically mentioned previously (“familismo”, “respeto”, “ser buen educado”). For example, clinicians can not only look for ways in which parents can effectively teach their children about “respeto” to enhance behavioral control practices but the clinician can also model this respectful behavior in front of the adolescents in treatment by asking the parents how they would like to be addressed, what language preferences they would have and so for (Barker et al., 2010). Lastly, clinicians can focus on academic specific themes in BSFT treatment that would help the family system reinforce the school-related issues, which will be expounded upon in the next section.

The School System

The final suggestions of treatment for Latino youth at risk of externalizing behaviors are offered to educators in the school systems in which these Latino youth reside. Due to the pervasiveness of the influence race and ethnicity in the challenges faced by Latino youth in the educational systems throughout the U. S., critical race theory (CRT) and Latino/a critical race theory (LatCrit) are utilized in the theoretical foundation of the recommendations posed here

(Irizarry, 2012). CRT not only challenges ideologies and epistemologies such as neutrality, meritocracy and objectivity, while seeking to uncover racialized power dynamics that effect the experiences of people of color, but can also offer helpful ways in which people of higher power positions (educators) can make lasting differences in the lives of those underprivileged individuals and families (Sleeter & Delgado Bernal, 2004; Bell, 1980; Chapman, 2007). LatCrit builds upon CRT by infusing the intersection of race with other important factors such as language, gender, ethnicity, immigration status, etc. and challenges the Black/White (Anglo) dichotomy, which allows the inclusion of racial considerations to those of any race/ethnicity or multiracial and multicultural people (Huber, 2010; Yosso, 2006). These theories are meant to offer educators a frame of reference, which will allow them opportunities to understand the challenging experiences of their young Latino students.

In connection with the current study, LatCrit contains five themes of application and three of which (commitment to inclusion of cultural implications to challenge dominant ideology, the centrality of experiential knowledge, and the interdisciplinary perspective- Solórzano & Delgado Bernal, 2001) are consistent with the eco-developmental framework used throughout this study (Prado et al., 2010; Pantin et al., 2004; Szapocznik & Coatsworth, 1999). As evidenced by the current findings, improving the adolescent-teacher relationship is a crucial part of directly and indirectly lowering the risk of Latino adolescents engaging in externalizing behavior in the short and long term. The Latino cultural value of “personalismo” has been offered as an explanation for why this relationship matters so much, but other researchers have also provided information that supports this idea. For example in a qualitative study, which obtained the data directly from the Latino youth themselves, Irizarry (2012) found that many students identified non-Latino/a teachers with whom they had excellent relationships who were able to make a difference in their

lives, although it seemed as though the students were most grateful for and receptive to the aid offered to them by educators of color because they were able to draw from their own personal experiences which the Latino students were able to identify with. This suggests that the initiative to recruit more teachers of color into higher education is warranted and beneficial to helping Latino youth gain life-changing relationships.

The final suggestions to educators are borrowed from Ayala's (2012) work on Latino academic attainment. First, she poses that it is "necessary to develop an educational system that is culturally, structurally, and racially sensitive to encourage a diversity that goes beyond the student population" (p. 1043). Cultural sensitivity and a commitment to diversity is shown by educators who are willing to take an informed "not-knowing stance" as they take the time to get to know their Latino students on a deeper interpersonal level (Basham, 2004). Ayala (2012) also mentions the importance of identity development in Latino youth as they navigate the school system and that educators should allow room for these students to explore their own identities. One specific suggestion would be for educators to be aware of their own ideas of Latino stereotypes and not allow them to dictate their interactions with their students. Lastly, educators are encouraged to remember the heterogeneity of the Latino people and to pay attention to the differences in the experiences of Latinos within the culture (Ayala, 2012). In order to allow individual differences of culture, educators can use the knowledge of the interactions of cultural values and factors with their individual Latino students as discussed in these implications in hypothesis formulation (Barker et al., 2010). Educators of all backgrounds are reminded that because they are in power positions over their Latino students (some in more ways than others), they can be powerful change agents to these at-risk youth.

Limitations

While this study offers a valuable contribution to the Latino adolescent behavioral literature it is not without its limitations. There were some measurement issues which could not be overlooked, the first of which was the low reliability of the adolescent-teacher relationship variable used in this study. Because of the nature of the utilization of secondary data, there was little control over the actual items used that constitute each measure; some of the measures including the adolescent-teacher relationship only had three items to measure it. Using more items to measure the adolescent-teacher relationship could have increased the probability of finding more items that matched well with each other, thereby increasing the internal consistency of the measure.

Missing data and specifically the lack of responses to the acculturation variable, which would have been used as a control variable, was another measurement issue that resulted in the omission of its inclusion in the final model. As mentioned before, Wilson and colleagues (2014) offer some insightful suggestions in dealing with missing data, but no extra measures were taken to address this issue and the acculturation variable was simply dropped from the path analysis because it was not central to this particular study. The other measurement issue was in regards to the lack of consistency with the parenting variables taken from the Add Health dataset. For some reason data for the parental warmth measure was derived from both parents, whereas behavioral control was only taken from the parental system as a whole and a separate analysis of gender specific behavioral control effects was not possible.

The complexity of the proposed analysis and model itself proved to be a different limitation as well. A moderated mediation analysis was proposed in the beginning but deviation from this strategy was necessary because the model was not able to be estimated even after

following Yang and colleagues' (2010) simplification process. A related limitation was the omission of data from the parents' and teachers' perspectives; adolescent self-reports were used for all of the measures employed in this study. Although there was some of this information available on a few of the variables in this study, triangulation of the data from the measures utilized was not achieved because it would only add to the complexity of the model; the inclusion of parent and teacher perspectives also seemed to be outside the scope of the current study.

Conclusion

The purpose of this study was to test parenting and academic effects on externalizing behavior among Latino adolescents over time. A foundational framework of eco-developmental theory was used to conceptualize the rationale for studying the variables and their relationships and was also used to interpret the findings and guide the implications suggested. In support of previous research, the results indicated that maternal warmth, the adolescent-teacher relationship and academic achievement were all negatively associated with initial levels of externalizing behavior. The adolescent-teacher relationship and academic achievement were also both found to be negatively predictive of the rate of change of externalizing behavior. In addition, these findings support existing research that suggests that paternal warmth, behavioral control, and the adolescent-teacher relationship have positive associations with academic achievement.

Although there is limited research regarding the indirect effects of academic achievement in conjunction with the predictor variables mentioned, the current study found that academic achievement was a significant indirect factor for the negative relationship between paternal warmth and both the intercept and slope of externalizing behavior. Academic achievement was also a significant indirect factor for the negative relationship between behavioral control and

both the intercept and slope of externalizing behavior. Lastly, a direct and indirect effect was found between the adolescent-teacher relationship and both initial levels of externalizing behavior and externalizing behavior over time and that academic achievement was found to be a significant indirect factor through which that negative associate was manifest. Culturally appropriate recommendations for clinicians and educators respectively to facilitate the increase of parental warmth and behavioral control in Latino families and for improving adolescent-teacher relationships are offered. But further research is needed to find other factors that could influence the impediment or facilitation of these processes in Latino families to aid clinicians and educators in providing culturally sensitive services and education to the largest and fastest growing minority population in the United States.

References

- Alfaro, E. C., Umaña-Taylor, A. J., Gonzales-Backen, M. A., Bámaca, M. Y., & Zeiders, K. H. (2009). Latino adolescents' academic success: The role of discrimination, academic motivation, and gender. *Journal of Adolescence, 32*, 941-962.
- Amato, P. R., & Fowler, F. (2002). Parenting practices, child adjustment, and family diversity. *Journal of Marriage and Family, 64*(3), 703-716.
- Anderson, J. & Durtschi, J. Solosky, K. L., & Johnson, M. D. (2014). Mediation and moderation: Conceptual foundations and analytical applications. In L. Johnson & R. Miller (Eds.), *Advanced methods in family therapy research: A focus on validity and change* (pp. 254-279). New York, NY: Routledge.
- Antshel, K. M. (2002). Integrating culture as a means of improving treatment adherence in the Latino population. *Psychology, Health & Medicine, 7*, 435-449.
- Arcia, E., Reyes-Blanes, M. E., & Vazquez-Montilla, E. (2000). Constructions and reconstructions: Latino parents' values for children. *Journal of Child and Family Studies, 9*, 333-350.
- Astin, A. W., & Oseguera, L. (2004). The declining "equity" of American higher education. *Review of Higher Education, 27*, 321-341.
- Ayala, M. I. (2012). The state of research in Latino academic attainment. *Sociological Forum, 27*(4), 1037-1045.
- Bachman, J. G., Freedman-Doan, P., O'Malley, P. M., Schulenberg, J. E., Johnson, L. D., & Messersmith, E. E. (2007). *Education-drug relationships: An examination of racial/ethnic subgroups* (Monitoring the future occasional paper no. 66). Ann Arbor, MI: Institute for Social Research.

- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*(6), 3296-3319.
- Barker, C. H., Cook, K. L., Borrego, J. Jr. (2010). Addressing cultural variables in parent training programs with Latino families. *Cognitive and Behavioral Practice, 17*, 157-166.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Basham, K. (2004). Weaving a tapestry: Anti-racism and the pedagogy of clinical social work practice. *Smith College Studies in Social Work, 74*(2), Special issue: Pedagogy and Diversity. 389-314.
- Batum, P., & Yagmurlu, B. (2007). What counts in externalizing behaviors? The contributions of emotion and behavior regulation. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues, 25*(4), 272-294.
- Baumrind, D. (1978). Parental disciplinary patterns and social competence in children. *Youth and Society, 9*, 239-276.
- Baumrind, D. (1980). New directions in socialization research. *American Psychologist, 35*, 639-652.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*, 56-95.
- Baumrind, D. (1996). The discipline controversy revisited. *Family Relations, 45*, 405-414.
- Bean, R. A., Perry, B. J., & Bedell, T. M. (2001). Developing culturally competent marriage and family therapists: Guidelines for working with Hispanic families. *Journal of Marital and Family Therapy, 27*(1), 43-54.

- Bean, R. A., Barber, B. K., & Crane, R. D. (2006). Parental support, parental knowledge, and psychological control among African American youth. *Journal of Family Issues, 27*(10), 1335-1355.
- Behnke, A. O., Macdermid, S. M., Coltrane, S. L., Parke, R. D., Duffy, S. & Widaman, K. F. (2008). Family cohesion in the lives of Mexican American and European American parents. *Journal of Marriage and Family, 70*(4), 1045-1059.
- Bell, D. (1980). *Race, racism and American law*. Boston, MA: Little, Brown.
- Bentler, P. M. & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*, 588-606.
- Bertalanffy, L. Von (1968). *General systems theory: Foundation, development, applications*. New York: George Braziller.
- Beyers, J. M., Bates, J. E., Pettit, G. S., Dodge, K. A. (2003). Neighborhood structure, parenting processes, and the development of youths' externalizing behaviors: A multilevel analysis. *American Journal of Community Psychology, 31*(1-2), 35-53.
- Birch, S.H., & Ladd, G.W. (1998). Children's interpersonal behaviors and the teacher-child relationship. *Developmental Psychology, 34* (5), 934-946.
- Blankemeyer, M., Flannery, D. J., & Vazsonyi, A. T. (2002). The role of aggression and social competence in children's perceptions of the child-teacher relationship. *Psychology in the Schools, 39*(3), 293-304.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation, anxiety and anger*. London: Hogarth Press.

- Boyce Rodgers, K. & Rose, H. A. (2001). Personal, family, and school factors related to adolescent academic achievement: A comparison by family structure. *Marriage & Family Review, 33*(4), 47-61.
- Bradford, K., Barber, B. K., Olsen, J. A., Maughan, S. L., Erickson, L. D., Ward, D., & Stolz, H. E. (2003). A multi-national study of interparental conflict, parenting, and adolescent functioning: South Africa, Bangladesh, China, India, Bosnia, Germany, Palestine, Colombia, and the United States. *Marriage & Family Review, 35*(¾), 107-137.
- Braveman, P., & Barclay, C. (2009). Health disparities beginning in childhood: A life-course perspective. *Pediatrics, 124*, 163-175.
- Broman, C. L., Reckase, M. D., & Freedman-Doan, C. R. (2006). The role of parenting in drug use among Black, Latino, & White adolescents. *Journal of Ethnicity in Substance Abuse, 5*(1), 39-50.
- Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist, 34*, 844-850.
- Bryant, A. L. & Zimmermann, M. A. (2002). Examining the effects of academic beliefs and behaviors on changes in substance use among urban adolescents. *Journal of Educational Psychology, 94*(3), 621-637.
- Bryant, A. L., Schulenberg, J. E., O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (2003). How academic achievement, attitudes, and behaviors relate to the course of substance use during adolescence: A 6-year, multiwave national longitudinal study. *Journal of Research on Adolescence, 13*(3), 361-397.

- Bulcroft, R. A., Carmody, D. C., & Bulcroft, K. A. (1996). Patterns of parental independence giving to adolescents: Variations by race, age, and gender of child. *Journal of Marriage and Family, 58*, 866-883.
- Calzada, E. J., Huang, K., Linares-Torres, H., Singh, S. D., Brotman, L. (2014). Maternal familismo and early childhood functioning in Mexican and Dominican immigrant families. *Journal of Latina/o Psychology, 2*(3), 156-171.
- Cammarota, J., & Romero, A. (2006). A critically compassionate pedagogy for Latino youth. *Latino Studies, 4*, 305-312.
- Carlson, C., Uppal, S., & Prosser, E. (2000). Ethnic differences in processes contributing to the self-esteem of early adolescent girls. *Journal of Early Adolescence, 20*, 44-67.
- Cauce, A. M. & Domenech-Rodríguez, M. (2002). Latino families: Myths and realities. In J. M. Contreras, K. A. Kerns, & A. M. Neal-Barnett (Eds.), *Latino children and families in the United States: Current research and future directions* (pp. 3-25). Westport, CT: Praeger Publishers/Greenwood Publishing Group.
- Centers for Disease Control and Prevention. (2010). Sexually transmitted diseases surveillance: STDs in racial and ethnic minorities. Retrieved from <http://www.cdc.gov/std/stats10/minorities.htm>.
- Centers for Disease Control and Prevention. (2011). Youth risk behavior surveillance-United States. *Morbidity and Mortality Weekly Report, 61*(N. SS-4). <http://www.cdc.gov/mmwr/pdf/ss/ss6104.pdf>.
- Ceja, M. (2004). Chicana college aspirations and the role of parents: Developing educational resiliency. *Journal of Hispanic Higher Education, 3*(4), 338-362.

- Chapman, T. (2007). Interrogating classroom relationships and events: Using portraiture and critical race theory in education research. *Educational Researcher, 36*(3), 156-162.
- Choi, Y., Harchi, T., Gillmore, M. R., & Catalno, R. (2005). Applicability of the social development model to urban ethnic minority youth. *Journal of Research on Adolescents, 15*, 505-534.
- Coie, J.D., & Koepl, G.K. (1990). Adapting intervention to the problems of aggressive and disruptive children. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 309-337). New York: Cambridge University Press.
- Committee for Hispanic Children and Families (2004). *Creating a Latino child welfare agenda: A strategic framework for change*. Committee for Hispanic Children and Families, Inc: New York.
- Conoley, C. W., Graham, J. M., Neu, T., Craig, M. C., O'Pry, A., Cardin, S. A., Brossart, D. F., Parker, R. I. (2003). Solution-focused family therapy with three aggressive and oppositional-acting children: An N=1 empirical study. *Family Process, 42*(3), 361-374.
- Coohy, C., Renner, L. M., & Sabri, B. (2013). Victimization, parenting, and externalizing behavior among Latino and White adolescents. *Journal of Family Violence, 28*(4), 359-368.
- Coatsworth, D., Santisteban, D. A., McBride, C. K., Szapocznik, J. (2001). Brief strategic family therapy versus community control: Engagement, retention and an exploration of the moderating role of adolescent symptom severity. *Family Process, 40*, 313-332.
- Crockett, L. J., Brown, J., Russell, S. T., & Shen, Y. (2007). The meaning of good parent-child relationships for Mexican American adolescents. *Journal of Research on Adolescence, 17*, 639-668.

- Crosnoe, R., Johnson, M. K., & Elder, G. H., Jr. (2004a). Intergenerational bonding in school: The behavioral and contextual correlates of student-teacher relationships. *Sociology of Education, 77*(1), 60-81.
- Crosnoe, R., Johnson, M. K., & Elder, G. H., Jr. (2004b). School size and the interpersonal side of education: An examination of race/ethnicity and organizational context. *Social Science Quarterly, 85*(5), 1259-1274.
- Damon, W. & Hart, D. (1988). *Self-understanding in childhood and adolescence*. New York: Cambridge University Press.
- Delgado, M. Y., Killoren, S. E., & Updegraff, K. A. (2013). Economic hardship and Mexican-origin adolescents' adjustment: Examining adolescents' perceptions of hardship and parent-adolescent relationship quality. *Journal of Family Psychology, 27*, 827-837.
- Demo, D. H., & Acock, A. C. (1996). Family structure, family process, and adolescent well-being. *Journal of Research on Adolescence, 6*, 457-488.
- Diego, M. A., Field, T. M., Sanders, C. E. (2003). Academic performance, popularity, and depression predict adolescent substance use. *Adolescence, 38*, 35-42.
- Domenech Rodríguez, M., Rodríguez, J., & Davis, M. R. (2006). Recruitment of first generation Latinos in a rural community: The essential nature of personal contact. *Family Process, 45*, 87-100.
- Domenech Rodríguez, M. (2008). *Criando con Amor: Promoviendo Armonía y Superación*. Logan, UT: Utah State University.
- Eamon, M. K. & Mulder, C. (2005). Predicting antisocial behavior among Latino young adolescents: An ecological systems analysis. *American Journal of Orthopsychiatry, 75*(1), 117-127.

- East, P. L., Khoo, S. T., & Reyes, B. T. (2006). Risk and protective factors predictive of adolescent pregnancy: A longitudinal, prospective study. *Applied Developmental Science, 10*, 188-199.
- Ennis, S. R., Ríos-Vargas, M., & Albert, N. G. (2011). *The Hispanic population: 2010*. 2010 Census Briefs (C2010BR-04). Washington, DC: Government Printing Office.
- Falicov, C. J. (1998). *Latino families in therapy: A guide to multicultural practice*. New York, NY: Guilford Press.
- Falicov, C. J. (2006). Family organization: The safety net of close and extended kin. In R. L. Smith & R. E. Montilla (Eds.), *Counseling and family therapy with Latino populations: Strategies that work* (pp. 41-62). New York, NY: Routledge, Taylor & Francis Group.
- Florsheim, P., Tolan, P. H., & Gorman-Smith, D. (1996). Family processes and risk for externalizing behavior problems among African American and Hispanic boys. *Journal of Consulting and Clinical Psychology, 64*, 1222-1230.
- Forehand, R., Miller, K. S., Dutra, R., Chance, M. W. (1997). Role of parenting in adolescent deviant behavior: Replication across and within two ethnic groups. *Journal of Consulting and Clinical Psychology, 65*(6), 1036-1041.
- Fuligni, A. J. (1998). Authority, autonomy, and parent-adolescent conflict and cohesion: A study of adolescents from Mexican, Chinese, Filipino, and European backgrounds. *Developmental Psychology, 34*(4), 782-792.
- Fry, P. S. (1983). Process measures of problem and non-problem children's classroom behavior: The influence of teacher behavior variables. *British Journal of Educational Psychology, 53* (1), 79-88.

- Gándara, P., & Contreras, F. (2009). *The Latino education crisis: The consequences of failed social policies*. Boston, MA: Harvard University Press.
- German, M., Gonzales, N. A., & Dumka, L. (2008). Familism values as a protective factor for Mexican-origin adolescents exposed to deviant peers. *Journal of Early Adolescence, 29*, 16-42.
- Goodenow, C. (1993). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence, 13*, 21–43.
- Guilamo-Ramos, V., Dittus, P., Jaccard, J., Johansson, M., Bouris, A., & Acosta, N. (2007). Parenting practices among Dominican and Puerto Rican mothers. *Social Work, 52*(1), 17-30.
- Halgunseth, L. C., Ispa, J. M., & Rudy, D. (2006). Parental control in Latino families: An integrated review of the literature. *Child Development, 77*, 1282-1297.
- Hallfors, D., Cho, H., Brodish, P. H., Flewelling, R. & Khatapoush, S. (2006). Identifying high school students “at risk” for substance use and other behavioral problems: Implications for prevention. *Substance Use and Misuse, 41*, 1-15.
- Hambleton, R. K., Swaminathan, H., & Rogers, H. J. (1991). *Fundamentals of item response theory*. Thousand Oaks, CA: Sage.
- Hampton, N. Z. & Xiao, F. (2008). Psychometric properties of the mental retardation attitude inventory-revised in Chinese college students. *Journal of Intellectual Disability Research, 52*(4), 299-308.
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children’s school outcomes through eighth grade. *Child Development, 72*, 625-638.

- Harris, K. M. (2005). *Design features of Add Health*. Unpublished manuscript, Carolina Population Center, University of North Carolina, Chapel Hill, North Carolina.
- Harris, K. M. (2009). The National Longitudinal Study of Adolescent Health (Add Health), Waves I & II, 1994–1996; Wave III, 2001–2002; Wave IV, 2007–2009 [machine-readable data file and documentation]. Chapel Hill, NC: Carolina Population Center, University of North Carolina at Chapel Hill. <http://dx.doi.org/10.3886/ICPSR27021.v9>.
- Hayes, A. F., Preacher, K. J., & Myers, T. A. (2011). Mediation and the estimation of indirect effects in political communication research. In E. P. Bucy & R. Lance Holbert (Eds.), *Sourcebook for political communication research: Methods, measures, and analytical techniques* (pp. 434-465). New York: Routledge.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76, 408-420.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford.
- Henggeler, S. W. & Sheidow, A. J. (2012). Empirically supported family-based treatments for conduct disorder and delinquency in adolescents. *Journal of Marriage and Family Therapy*, 38(1), 30-58.
- Henry, C. S., Plunkett, S. W., & Sands, T. (2011). Family structure, parental involvement, and academic motivation in Latino adolescents. *Journal of Divorce and Remarriage*, 52, 370-390.
- Hill, N. E., Bush, K. R., & Roosa, M. W. (2003). Parenting and family socialization strategies and children's mental health: Low-income Mexican American and Euro-American mothers and children. *Child Development*, 74, 189-204.

- Hipp, J. R., Wang, C., Butts, C. T., Jose, R., & Lakon, C. M. (2015). Research note: The consequences of different methods for handling missing network data in stochastic actor based models. *Social Networks, 41*, 56-71.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55.
- Huber, L. P. (2010). Using Latina/o critical race theory (LatCrit) and racist Nativism to explore intersectionality in the educational experiences of undocumented Chicana college students. *Educational Foundations, 24*(1-2), 77-96.
- Hughes, J. N., Cavell, T. A., & Jackson, T. (1999). Influence of the teacher-student relationship on childhood conduct problems: A prospective study. *Journal of Clinical Child Psychology, 28*(2), 173-184.
- Irizarry, J. G. (2012). Los caminos: Latino/a youth forging pathways in pursuit of higher education. *Journal of Hispanic Higher Education, 11*(3), 291-309.
- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research, 79*, 491-525.
- Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Joyce, H. D. (2015). School connectedness and student-teacher relationships: A comparison of sexual minority youths and their peers. *Children & Schools*. Advance online publication. doi: 10.1093/cs/cdv012.

- Julian, T. W., McKenry, P. C., & McKelvey, M. W. (1994). Cultural variations in parenting: Perceptions of Caucasian, African-American, Hispanic, and Asian-American parents. *Family Relations, 43*, 30-37.
- Kennedy, T. M. & Ceballo, R. (2013). Latino adolescents' community violence exposure: Afterschool activities and familismo as risk and protective factors. *Social Development, 22*(4), 663-682.
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology, 36*, 366-380.
- Kerr, M., Stattin, H., Burk, W. J. (2010). A reinterpretation of parental monitoring in longitudinal perspective. *Journal of Research on Adolescence, 20*(1), 39-64.
- Kerr, M., Stattin, H., Özdemir, M. (2012). Perceived parenting style and adolescent adjustment: Revisiting directions of effects and the role of parental knowledge. *Developmental Psychology, 48*(6), 1540-1553.
- Kesner, J. E. (2000). Teacher characteristics and the quality of child-teacher relationships. *Journal of School Psychology, 38*(2), 133-149.
- Killoren, S. E., Updegraff, K. A., & Christopher, F. S. (2011). Family and cultural correlates of Mexican-origin youths' sexual intentions. *Journal of Youth and Adolescence, 40*, 707-718.
- Killoren, S. E., & Deutsch, A. R. (2014). A longitudinal examination of parenting processes and Latino youth's risky sexual behaviors. *Journal of Youth and Adolescence, 43*(12), 1982-1993.
- Kline, R. B. (2010). *Principles and practice of structural equation modeling* (3rd ed.). New

York: Guilford Press.

- Košir, K. & Tement, S. (2014). Teacher-student relationship and academic achievement: A cross-lagged longitudinal study on three different age groups. *European Journal of Psychology of Education, 29*(3), 409-428.
- Ku, L., & Matani, S. (2001). Left out: Immigrants' access to health care and insurance. *Health Affairs, 20*, 247-256.
- Kumpfer, K. L., Alvarado, R., Smith, P., & Bellamy, N. (2002). Cultural sensitivity in universal family-based prevention interventions. *Prevention Science, 3*, 241–244.
- Lamborn, S. D., & Felbab, A. J. (2003). Applying ethnic equivalence and cultural values models to African-American teens' perceptions of parents. *Journal of Adolescence, 26*, 601-618.
- Leaper, C. & Valin, D. (1996). Predictors of Mexican American mothers' and fathers' attitudes toward gender equality. *Hispanic Journal of Behavioral Sciences, 18*(3), 343-355.
- Lippold, M., Greenberg, M., & Feinberg, M. (2011). A dyadic approach to understanding the relationship of maternal knowledge of youths' activities to youths' problem behavior among rural adolescents. *Journal of Youth & Adolescence, 40*(9), 1178-1191.
- Liu, J. (2004). Childhood externalizing behavior: Theory and implications. *Journal of Child and Adolescent Psychiatric Nursing, 17*(3), 93-103.
- Lopez, B., Schwartz, S. J., Prado, G., Huang, S., Rothe, E. M., Wang, W., & Pantin, H. (2008). Correlates of early alcohol and drug use in Hispanic adolescents: Examining the role of ADHD with comorbid conduct disorder, family, school, and peers. *Journal of Clinical Child and Adolescent Psychology, 37*(4), 820-832.
- Lopez, C., Bergren, M., D., Painter, S. G. (2008). Latino disparities in child mental health services. *Journal of Child & Adolescent Psychiatric Nursing, 21*(3), 137-145.

- Lopez, M. H. (2009). *Latinos and education: Explaining the attainment gap*. Washington, DC: Pew Hispanic Center.
- Lowe, K. & Dotterer, A. M. (2013). Parental monitoring, parental warmth, and minority youths' academic outcomes: Exploring the integrative model of parenting. *Journal of Youth Adolescence, 42*, 1413-1425
- Lynch, M. & Cicchetti, D. (1998). An ecological-transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence, and children's symptomatology. *Development and Psychopathology, 10*(2), 235-257.
- Madanes, C. (1981). *Strategic family therapy*. San Francisco, CA: Jossey-Bass.
- Martinez, C. R., DeGarmo, D. S., & Eddy, J. M. (2004). Promoting academic success among Latino youths. *Hispanic Journal of Behavioral Sciences, 26*, 128-151.
- Martinez, C. R., & Eddy, J. M. (2005). Effects of culturally adapted parent management training on youth behavioral health outcomes. *Journal of Consulting and Clinical Psychology, 73*, 841-851.
- Mason, C. A., Cauce, A. M., Gonzales, N., Hiraga, Y., & Grove, K. (1994). An ecological model of externalizing behaviors in African-American adolescents: No family is an island. *Journal of Research on Adolescence, Special issue: Affective processes in adolescence, 4*(4), 639-655.
- Melby, J. N. & Conger, R. D. (1996). Parental behaviors and adolescent academic achievement: A longitudinal analysis. *Journal of Research on Adolescence, 6*(1), 113-137.
- McCabe, K. M., Yeh, M., Garland, A. F., Lau, A. S., & Chavez, G. (2005). The GANA program: A tailoring approach to adapting parent-child interaction therapy for Mexican Americans. *Education and Treatment of Children, 28*, 111-129.

- McNeely, C. A., & Falci, C. (2004). School connectedness and the transition into and out of health-risk behavior among adolescents: A comparison of social belonging and teacher support. *Journal of School Health, 74*, 284-292.
- McNeely, C. A. (2005). Connection to school. In K. A. Moore & L. H. Lippman (Eds.), *What do children need to flourish?: Conceptualizing and measuring indicators of positive development* (pp. 289-303). New York, NY: Springer.
- Minuchin, S. (1974). *Families and family therapy*. Cambridge, MA: Harvard University Press.
- Mogro-Wilson, C. (2008). The influence of parental warmth and control on Latino adolescent alcohol use. *Hispanic Journal of Behavioral Sciences, 30*(1), 89-105.
- Moon, M. & Hoffman, C. D. (2008). Mothers' and fathers' differential expectancies and behaviors: Parent \times child gender effects. *The Journal of Genetic Psychology: Research and Theory on Human Development, 169*(3), 261-279.
- Nijjar, R., Ellenbogen, M. A., & Hodgins, S. (2016). Sexual risk behaviors in the adolescent offspring of parents with bipolar disorder: Prospective associations with parents' personality and externalizing behavior in childhood. *Journal of abnormal child psychology, 1-13*.
- Nixon, R. D. V., Sweeney, L., Erickson, D. B., Touyz, S. W. (2004). Parent-child interaction therapy: One- and two-year follow-up of standard and abbreviated treatments for oppositional preschoolers. *Journal of Abnormal Child Psychology, 32*(3), 263-271.
- Oliva, M. (2008). Latino access to college: Actualizing the promise and potential of K-16 partnerships. *Journal of Hispanic Higher Education, 7*(2), 119-130.

- Osher, D., Dwyer, K., & Jackson, S. (2002). *Safe, supportive, and successful schools, step by step*. Rockville, MD: U. S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services
- Ozgun, O., & Honig, A. (2005). Parental involvement and spousal satisfaction with division of early childcare in Turkish families with normal children and children with special needs. *Early Child Development and Care, 175*, 259-270.
- Pantin, H., Schwartz, S. J., Sullivan, S., Coatsworth, J. D., & Szapocznik, J. (2003). Preventing substance abuse in Hispanic immigrant adolescents: An ecodevelopmental, parent-centered approach. *Hispanic Journal of Behavioral Sciences, 25*, 469-500.
- Pantin, H., Coatsworth, J. D., Feaster, D. J., Newman, F. L., Briones, E., Prado, G., Schwartz, S., Szapocznik, J., (2003). Familias Unidas: The efficacy of an intervention to promote parental investment in Hispanic immigrant families. *Prevention Science, 4*, 189-201.
- Pantin, H., Schwartz, S. J., Sullivan, S., Prado, G., & Szapocznik, J. (2004). Ecodevelopmental HIV prevention programs for Hispanic adolescents. *American Journal of Orthopsychiatry, 74*, 545-558.
- Pantin, H., Prado, G., Huang, S., López, B., Tapia, M. Sabillon, E. Brown, C. H., Branchini, J. (2009). A randomized trial of Familias Unidas for Hispanic adolescents with behavior problems. *Psychosomatic Medicine, 71*(9), 987-995.
- Parra-Cardona, J. R., Cordova, D., Holtrop, K., Villaruel, F. A., & Wieling, E. (2008). Shared ancestry, evolving stories: Similar and contrasting life experiences described by foreign born and U. S. born Latino parents. *Family Process, 47*(2), 157-172.
- Parra-Cardona, J. R., Holtrop, K., Cordova, D., Escobar-Chew, A. R., Horsford, S., Tams, L., Villaruel, F. A., Villalobos, G., Dates, B., Anthony, J. C., Fitzgerald, H. E. (2009).

- “Queremos aprender”: Latino immigrants’ call to integrate cultural adaptation with best practice knowledge in a parenting intervention. *Family Process*, 48(2), 211-231.
- Parra-Cardona, J. R., Domenech-Rodriguez, M., Forgatch, M., Sullivan, C., Bybee, D., Holtrop, K., Escobar-Chew, A. R., Tams, L., Dates, B., Bernal, G. (2012). Culturally adapting an evidence-based parenting intervention for Latino immigrants: The need to integrate fidelity and cultural relevance. *Family Process*, 51(1), 56-72.
- Perra, O., Fletcher, A., Bonell, C., Higgins, K., & McCrystal, P. (2012). School-related predictors of smoking, drinking and drug use: Evidence from the Belfast Youth Development Study. *Journal of Adolescence*, 35(2), 315-324.
- Piña-Watson, B., Ojeda, L., & Castellon, N. E., Dornhecker, M. (2013). Familismo, ethnic identity, and bicultural stress as predictors of Mexican American adolescents’ positive psychological functioning. *Journal of Latina/o Psychology*, 1(4), 204-217.
- Pleck, G. H. (1997). Paternal involvement: Levels, sources, and consequences. In M. E. Lamb (Ed.), *The role of the father in child development* (pp. 66-103). New York: Wiley.
- Plunkett, S., & Bámaca-Gómez, M. (2003). The relationship between parenting, acculturation, and adolescent academics in Mexican-origin immigrant families in Los Angeles. *Hispanic Journal of Behavioral Sciences*, 25, 222-239.
- Prado, G., Pantin, H., Briones, E., Schwartz, S. J., Feaster, D., Huang, S. Sullivan, S., Tapia, M. I., Sabillon, E., Lopez, B., Szapocznik, J. (2007). A randomized controlled trial of a parent-centered intervention in preventing substance use and HIV risk behaviors in Hispanic adolescents. *Journal of Consulting and Clinical Psychology*, 75(6), 914-926.
- Prado, G., Huang, S., Maldonado-Molina, M., Bandiera, F., Schwartz, S. J., de la Vega, P., Brown, C. H., & Pantin, H. (2010). An empirical test of ecodevelopmental theory in

- predicting HIV risk behaviors among Hispanic youth. *Health Education & Behavior*, 37(1), 97-114.
- Prado, G. & Pantin, H. (2011). Reducing substance use and HIV health disparities among Hispanic youth in the USA: The Familias Unidas program of research. *Psychosocial Intervention*, 20(1), 63-73.
- Prado, G., Huang, S., Cordova, D., Malcolm, S., Estrada, Y., Cano, N., Maldonado-Molina, M. et al. (2013). Ecodevelopmental and intrapersonal moderators of a family based preventive intervention for Hispanic youth: A latent profile analysis. *Prevention Science*, 14, 290-299.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, 36, 717-731.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879-891.
- Pokhrel, P., Unger, J. B., Wagner, K. D., Ritt-Olson, A., & Sussman, S. (2008). Effects of parental monitoring, parent-child communication, and parents' expectation of the child's acculturation on the substance use behaviors of urban, Hispanic adolescents. *Journal of Ethnicity in Substance Abuse*, 7(2), 200-213.
- Raffaelli, M., & Ontai, L. L. (2001). Gender socialization in Latino/a families: Results from two retrospective studies. *Sex Roles*, 50, 287-299.

- Rassiger, C. A. (2012). Student-teacher relationships and academic success in at-risk Latino and Black middle school students. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 72(7-A), 2577-2702.
- Rogoff, B. (1990). *Apprenticeship in thinking*. New York: Oxford University Press.
- Romero, A. J., & Ruiz, M. (2007). Does familism lead to increased parental monitoring?: Protective factors for coping risky behaviors. *Journal of Child and Family Studies*, 16, 143-154.
- Russell, S. T.; Seif, H.; & Truong, N. (2001). School outcomes of sexual minority youth in the United States: Evidence from a national study. *Journal of Adolescence*, 24(1), 111-127.
- Ryabov, I. K. & Van Hook, J. (2007). School segregation and academic achievement among Hispanic children. *Social Science Research*, 36(2), 767-788.
- Ryan, L. G., Miller-Loessi, K., & Nieri, T. (2007). Relationships with adults as predictors of substance use, gang involvement, and threats to safety among disadvantaged Urban high-school adolescents. *Journal of Community Psychology*, 35(8), 1053-1071.
- Saft, E. W. & Pianta, R. C. (2001). Teachers' perceptions of their relationships with students: Effects of child age, gender, and ethnicity of teachers and children. *School Psychology Quarterly*, 16(2), 125-141.
- Santiago, D. A. (2007). *Voces: A profile of today's Latino college students*. Washington, DC: Excelencia in Education.
- Santisteban, D. A., Perez-Vidal, A., Coatsworth, J. D., Kurtines, W. M., Schwartz, S. J., LaPerriere, A., et al. (2003). Efficacy of brief strategic family therapy in modifying Hispanic adolescent behavior problems and substance use. *Journal of Family Psychology*, 17, 121-133.

- Shakib, S., Mouttapa, M., Anderson Johnson, C., Ritt-Olson, A., Gallaher, P., & Unger, J. B. (2003). Ethnic variation in parental influences on adolescent smoking. *Journal of Adolescent Health, 33*, 89-97.
- Sleeter, C., & Delgado Bernal, D. (2004). Critical pedagogy, critical race theory, and antiracist education. In J. A. Banks & C. M. Banks (Eds.), *The handbook of research on multicultural education* (pp. 240-258). New York, NY: Macmillan.
- Smith, C. & Krohn, M. D. (1995). Delinquency and family life among male adolescents: The role of ethnicity. *Journal of Youth and Adolescence, 24*(1) 69–92.
- Smith, T., Domenech Rodríguez, M., & Bernal, G. (2011). Culture. *Journal of Clinical Psychology, 67*, 166-175.
- Solórzano, D. G., Villalpando, O., & Oseguera, L. (2005). Educational inequalities and Latina/o under-graduate students in the United States: A critical race analysis of their educational progress. *Journal of Hispanic Higher Education, 4*, 272-294.
- Solórzano, D. G., & Delgado Bernal, D. (2001). Examining transformational resistance through a critical race and LatCrit theory framework: Chicana and Chicano students in an urban context. *Urban Education, 3*, 308-342.
- Stattin, H. & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development, 71*(4), 1072-1085.
- Stephens, S. H., Hoft, N. R., Schlaepfer, I. R., Young, S. E., Corley, R. C., McQueen, M. B., Hopfer, C., Crowley, T., Stallings, M., Hewitt, J., & Ehringer, M. A. (2012). Externalizing behaviors are associated with SNPs in the CHRNA5/CHRNA3/CHRN4 gene cluster. *Behavior Genetics, 42*(3), 402-414.

- Szapocznik, J., Rio, A. T., Perez-Vidal, A., & Kurtines W. (1986). Bicultural effectiveness training (BET): an experimental test of an intervention modality for families experiencing intergenerational/intercultural contact. *Hispanic Journal Behavioral Science*, 8, 303-330.
- Szapocznik, J., Perez-Vidal, A., Brickman, A., Foote, F. H., Santisteban, D. A., Hervis, O. E., & Kurtines, W. M. (1988). Engaging adolescent drug abusers and their families in treatment: A strategic structural systems approach. *Journal of Consulting and Clinical Psychology*, 56, 552-557.
- Szapocznik, J., & Coatsworth, J. D. (1999). An ecodevelopmental framework for organizing the influences on drug abuse: A developmental model of risk and protection. In M. D. Glantz & C. R. Hartel (Eds.), *Drug abuse: Origins & interventions* (pp 331-366). Washington, DC, US: American Psychological Association.
- Szapocznik, J., Hervis, O., Schwartz, S. (2003). *Brief strategic family therapy for adolescent drug abuse*. Bethesda, Maryland: U. S. Department of Health and Human Services.
- Taylor, L. C., Hinton, I. D., & Wilson, M. N. (1995). Parental influences on academic achievement in African-American students. *Journal of Child and Family Studies*, 4(3), 293-302.
- Tebes, J., Cook, E., Vanderploeg, J., Feinn, R., Chinman, M., Shepard, J., Brabham, T., & Connell, C. (2011). Parental knowledge and substance use among African American adolescents: Influence of gender and grade level. *Journal of Child & Family Studies*, 20(4), 406-413.
- Toshalis, E. (2011). The rhetoric of care: Preservice teacher discourses that depoliticize, deflect, and deceive. *Urban Review*. doi:10.1007/s11256-011-0177-y.

- Trejos-Castillo, E., & Vazsonyi, A. T. (2009). Risky sexual behaviors in first and second generation Hispanic immigrant youth. *Journal of Youth and Adolescence*, 38, 719-731.
- Turcios-Cotto, V. Y. & Milan, S. (2013). Racial/ethnic differences in the educational expectations of adolescents: Does pursuing higher education mean something different to Latino students compared to White and Black students? *Journal of Youth and Adolescence*, 42(9), 1399-1412.
- Updegraff, K. A., Delgado, M. Y., Wheeler, L. A. (2009). Exploring mothers' and fathers' relationships with sons versus daughters: Links to adolescent adjustment in Mexican immigrant families. *Sex Roles*, 60(7-8), 559-574.
- U. S. Census Bureau. (2008). *Projections of the population by sex, race, and Hispanic origin for the United States: 2010 to 2050 (NP2008-T4)*. Washington, DC: Author. Retrieved from <http://www.census.gov/population/www/projections/summarytables.html>.
- U. S. Department of Education. (1998). *A guide to safe schools: Early warning timely response*. Washington, DC: Author.
- Valdes, G. (1996). *Con respeto: Bridging the distances between culturally diverse families and schools. An ethnographic portrait*. New York: Teachers College Press.
- Valenzuela, A. (1999). *Subtractive schooling: U. S.-Mexican youth and the politics of caring*. Albany, NY: State University of New York Press.
- Vaughn, E. L., Kratz, L., & D'Argent, J. (2011). Academics and substance use among Latino adolescents: Results from a national study. *Journal of Ethnicity in Substance Abuse*, 10, 147-161.

- Wang, Y., Kim, S., Anderson, E., Chen, A., & Yan, N. (2012). Parent-child acculturation discrepancy, perceived parental knowledge, peer deviance, and adolescent delinquency in Chinese immigrant families. *Journal of Youth & Adolescence, 41*(7), 907-919.
- Wells, M. G., Law, D. D., & Johnson, J. E. (2005). *Love limits, and latitude: A thousand small moments of parenting* (2nd ed). Brigham Young University: BYU Academic Publishing.
- White, R. & Renk, K. (2012). Externalizing behavior problems during adolescence: An ecological perspective. *Journal of Child and Family Studies, 21*(1), 158-171.
- Wills, T. A. & Cleary, S. D. (1996). How are social support effects mediated? A test with parental support and adolescent substance use. *Journal of Personality & Social Psychology, 71*(5), 937-952.
- Wilson, C. M., Houston Barrett, R., & Stuchell, S. C. (2014). Missing Data. In L. Johnson & R. Miller (Eds.), *Advanced methods in family therapy research: A focus on validity and change* (pp. 254-279). New York, NY: Routledge.
- Wissink, I. B., Deković, M., Stams, G., Asscher, J. J., Rutten, E., & Zijlstra, B. J. H. (2014). Moral orientation and relationships in school and adolescent pro- and antisocial behaviors: A multilevel study. *The Journal of School Nursing, 30*(3), 216-225.
- Woolley, M. E., Kol, K. L., & Bowen, G. L. (2009). The social context of school success for Latino middle school students: Direct and indirect influences of teachers, family, and friends. *Journal of Early Adolescence, 29*, 43-70.
- Xu, A., Zhang, J., & Xia, Y. R. (2007). Impacts of parents' divorce on Chinese children: A model with academic achievement as a mediator. *Marriage & Family Review, 42*(3), 91-119.

Yabiku, S. T., Marsiglia, F. F., Kulis, S., Parsai, M. B., Becerra, D., & Del-Colle, M. (2010).

Parental monitoring and changes in substance use among Latino/a and non-Latino/a preadolescents in the southwest. *Substance Use & Misuse, 45*(14), 2524-2550.

Yang, C., Nay, S., & Hoyle, R. H. (2010). Three approaches to using lengthy ordinal scales in structural equation models: Parceling, latent scoring, and shortening scales. *Applied Psychological Measurement, 34*(2), 122-142.

Yong, M., Fleming, C. B., McCarty, C. A., & Catalano, R. F. (2014). Mediators of the associations between externalizing behaviors and internalizing symptoms in late childhood and early adolescence. *The Journal of Early Adolescence, 34*(7), 967-1000.

Yosso, T. J. (2006). *Critical race counterstories along the Chicana/Chicano educational pipeline*. New York, NY: Routledge.

Zimmermann, F. Schütte, K., Taskinen, P. & Köller, O. (2013). Reciprocal effects between adolescent externalizing problems and measures of achievement. *Journal of Educational Psychology, 105*(3), 747-761.

Zychinski, K. E. & Polo, A. J. (2012). Academic achievement and depressive symptoms in low-income Latino youth. *Journal of Child and Family Studies, 21*(4), 565-577.

Table 1

Means, SDs, and Ranges for observed variables

	Adolescent Females				Adolescent Males				T Test	
	Min - Max	Range	Mean	SD	Min - Max	Range	Mean	SD	T score	P value
Maternal Warmth	5 – 20	15	16.56	3.40	5 – 20	15	17.64	2.69	4.66	.000
Paternal Warmth	5 – 20	15	15.63	3.80	5 – 20	15	16.35	3.50	2.19	.029
Behavioral Control	0 – 5	5	1.25	1.32	0 – 5	5	1.26	1.38	.16	.872
Adolescent-Teacher Relationship	1 – 12	11	8.55	2.02	1 – 12	11	8.46	2.08	-.56	.583
Academic Achievement	4 – 16	12	10.89	2.89	4 – 16	12	10.50	2.83	-1.51	.131
Externalizing Behavior T1	0 – 10	10	.98	1.58	0 – 10	10	1.37	2.06	2.84	.005
Externalizing Behavior T2	0 – 10	10	.89	1.75	0 – 10	10	1.11	1.54	.29	.774
Externalizing Behavior T3	0 – 10	10	.43	1.09	0 – 10	10	1.03	1.02	.06	.949
Externalizing Behavior T4	0 – 10	10	.29	1.03	0 – 10	10	.59	1.05	-2.03	.043

Table 2

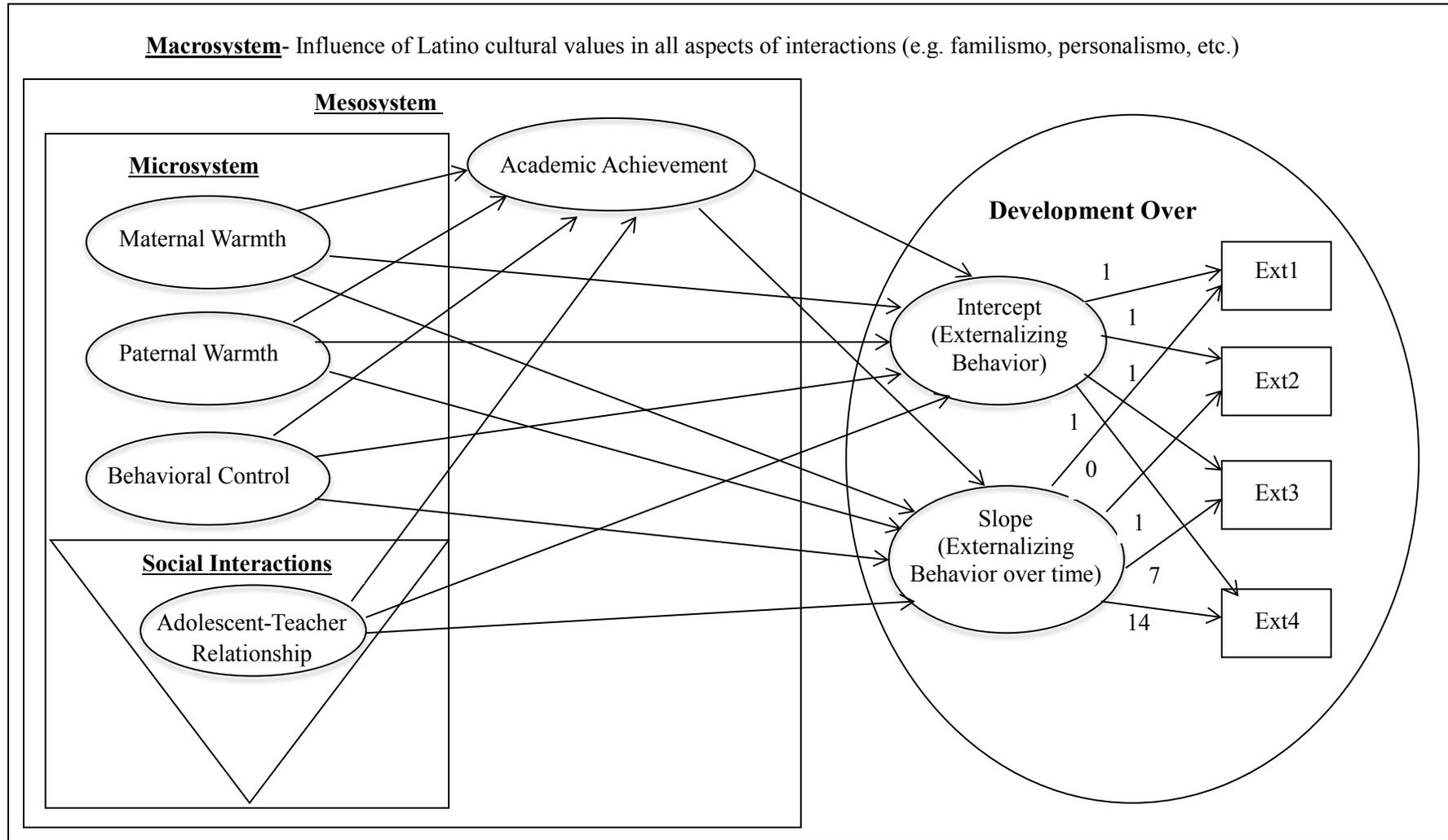
Males- Bivariate Correlations for observed variables in SEM model.

	1	2	3	4	5	6	7	8	9
1. Maternal Warmth	–	.539***	.021	.198**	.092	-.142*	-.029	-.066	-.105
2. Paternal Warmth	.475**	–	.038	.222**	.158	-.214**	-.039	-.107	-.103
3. Behavioral Control	-.028	.029	–	.032	.013	-.123*	-.160	-.033	-.022
4. Adolescent-Teacher Relationship	.184**	.267**	.036	–	.095	-.368**	-.030	-.018	-.124*
5. Academic Achievement	.032	.055	.033	.307**	–	-.237**	-.112	-.065	-.042
6. Externalizing Behavior T1	-.266**	-.181**	-.022	-.224**	-.254**	–	.014	.051	.156**
7. Externalizing Behavior T2	-.031	-.025	-.031	-.029	-.030	.151*	–	.085	.253
8. Externalizing Behavior T3	-.039	-.056	-.022	-.018	-.047	.100	.017	–	.187
9. Externalizing Behavior T4	-.079	.066	-.025	-.051	-.017	.023	.068	.069	–

Notes: * $p < .05$. ** $p < .01$. *** $p < .001$.

Correlations below the diagonal correspond to girls, while correlations above the diagonal are for boys

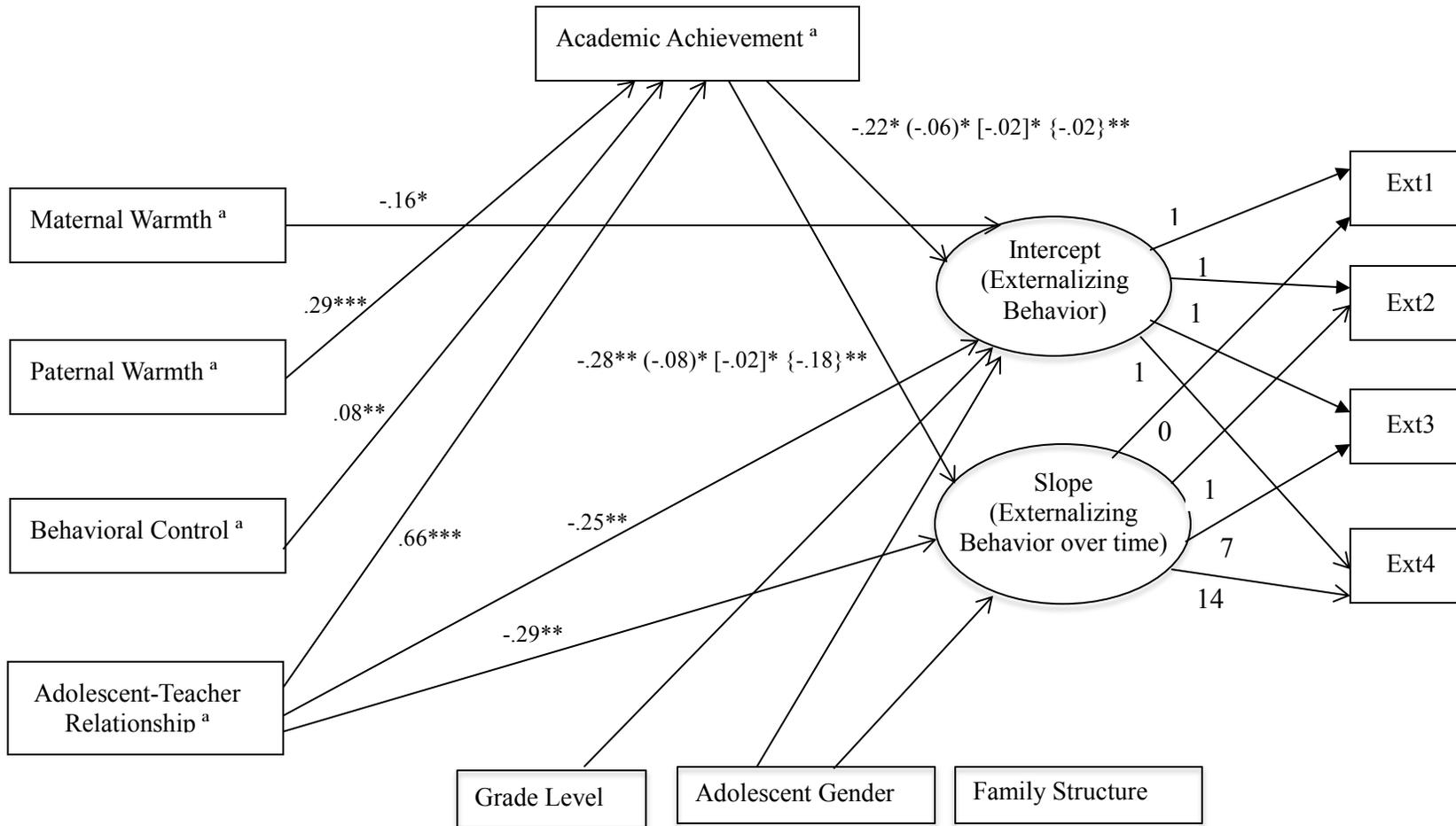
Figure 1



Graphical representation of Eco-developmental Model

1. Ecosystems: macrosystem, mesosystem, & microsystem- □
2. Development over time: growth curve- ○
3. Social interactions: Adolescent-teacher relationship- ▽

Figure 2



Model Fit Statistics: $\chi^2 = 478.716, p < .001, df = 45, CFI = .946, TLI = .889, RMSEA = .042, \text{ and } SRMR = .030$

* $p < .05$. ** $p < .01$. *** $p < .001$. Notes: significant direct paths, (indirect effects for paternal warmth in parentheses), [indirect effects for behavioral control in brackets], {indirect effects for adolescent-teacher relationship in other brackets}

^a Factor score obtained through a confirmatory factor analysis (CFA) of a latent variable