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The Relation of Exposure to Community Violence to Self- Efficacy Based on Neighborhood, Family, and School Effects in a Community Sample of Latino-American Youth

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THE RELATION OF EXPOSURE TO COMMUNITY VIOLENCE TO SELF-EFFICACY BASED ON NEIGHBORHOOD, FAMILY, AND SCHOOL EFFECTS IN A COMMUNITY SAMPLE OF LATINO-AMERICAN YOUTH

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ABSTRACT

Community violence is considered a "public health epidemic" in the US. Latino youth and families are a burgeoning population in the United States, and many of whom live in neighborhoods exposed to community violence. Multiple contexts should be assessed identifying developmental assets youth use to adjust positively when exposed to violence. This study examines how different environmental contexts, i.e., home, school, neighborhood and acculturation, influence the relationship between exposure to community violence and self-efficacy for Latino youth. The current study uses an archival dataset of a larger longitudinal study (Project on Human Development in Chicago Neighborhoods). A confirmatory factor analysis was conducted to examine the structure of self-efficacy for the Latino youth and found a multifactor model with the best fit. While many main effects were found in the moderational analyses, only positive family quality revealed a significant interaction effect. Youth who reported higher levels of witnessing community violence experienced lower levels of home efficacy if they had lower levels of positive family quality. This continues to support the extensive past research where positive family support serves to predict adaptive youth outcomes, even when faced with stressful situations like violence exposure. Using or creating interventions to capitalize on family and these values would be important to disseminate through school- or community-based groups to support favorable outcomes.

CHAPTER ONE

INTRODUCTION

Exposure to community violence is a continuing social concern throughout the United States, but especially so in metropolitan environments like Chicago. The intersection of exposure to community violence with poverty exacerbates the negative outcomes faced by urban residents. In a review of this literature, Fowler and colleagues (2009) demonstrated that youth exposed to community violence were more likely to have difficulty with substance use, aggression, academic problems, and psychopathological symptoms. These negative outcomes are especially salient for inner-city, minority youth, who face higher levels of exposure to community violence (Bureau of Justice Statistics, 2010; Farrell et al., 2014; Selner-O'Hagan et al., 1998). Studies have found that African-American youth experience higher levels of exposure to community violence compared to other youth (Cooley-Strickland, Quille, Griffin, Stuart, Bradshaw, & Furr-Holden, 2009; Fowler et al., 2009; Malik, Sorenson, S. B., & Aneshensel, 1997). For example, in a study with a nationally representative sample of teenagers, 57% of African American youth had witnessed violence compared to 50% of Latino youth and 34% of the European American youth (Crouch et al. 2000). This has prompted increased research examining community violence exposure for urban African-American youth (e.g., Sweeney, Goldner, & Richards, 2011; Edlynn, Gaylord-Harden, & Richards, 2008;

Dinizulu, Grant, Bryant, Boustani, Tyler, & McIntosh, 2014).

However, less research has been conducted on community violence exposure in Latino youth (Aisenberg & Herrenkohl, 2008; Reingle et al., 2013). Researchers have recommended that psychosocial concerns confronting Latino youth have been understudied (Acosta et al., 2004). There is a need for more research examining this issue in Latinos considering multiple factors: the exponential population growth for Latinos, who now make up 16% of the total population, the highest minority population in the country (US Census, 2010); complexity of immigration and the poor neighborhoods where immigrants reside (Card & Raphael, 2013); and more issues between Latinos and the criminal justice system (Lopez & Livingston, 2009; Stowell, Martinez, & Cancino, 2012). Thus, exposure to community violence is a salient concern for Latino adolescents and more research is needed to learn about the specific predictors and effects of exposure to community violence for these youth.

Due to the more conspicuous nature of the negative psychosocial outcomes related to violence exposure, the literature has focused on a deficit-centered model (Aisenberg & Herrenkohl, 2008). While it is necessary to study how to prevent these negative consequences of community violence exposure, research has also revealed that not all youth exposed to such violence experience maladaptive development (Jain & Cohen, 2013; Garbarino, 1992). This focus on risk and negative outcomes has meant that the positive variables such as self-efficacy, civic engagement, and resilience, have been overlooked. This scarcity makes research on positive outcomes and protective factors even more important (Cooley-Quille et al., 2001), especially positive strengths-based

variables that go beyond academic achievement and reduced psychopathology symptoms.

The present study will be conducting a secondary data analysis of the Project on Human Development in Chicago Neighborhoods (PHDCN) dataset, a longitudinal study spanning seven years with measures collected from children, adolescents, and their primary caregivers. This large, longitudinal dataset makes it possible to examine the development of urban Latino youth more thoroughly and comprehensively compared to smaller and/or cross-sectional datasets. By examining the development of self-efficacy for Latino youth who experience community violence exposure using structural equation modeling, this research will extend the literature by better understanding the formation of positive outcomes like self-efficacy for Latino youth. This burgeoning US minority group disproportionately lives in low-income, urban neighborhoods, and is thus exposed to increased risk. With investigating whether self-efficacy is predicted by community violence exposure, and whether that relationship is moderated by neighborhood characteristics, family quality, and school connectedness, the study will also enhance research on ecological influences of self-efficacy. This work may allow for mental health clinicians and those working in school, policy, or health domains to apply this research in urban communities to promote positive outcomes.

Ecological Theory

This study is based on two theoretical models: ecological theory and the positive youth development theory. When examining contexts, a widespread perspective to employ is the ecological model proposed by Bronfenbrenner (1979). This model has also been enhanced by more recent research looking at the effects of community violence

(Cicchetti & Lynch, 1993; Overstreet & Mazza, 2003). This ecological theory conceptualizes that the different contexts of an individual (e.g., the child) are systems nested within one another, and in turn, they are inextricably linked in their influence on development. For example, within the microsystem, one would examine the most proximal environments which the child directly participates in (e.g., family, school); the mesosystem reflects connections between these microsystems; the exosystem refers to settings child may be indirectly connected to but can still influence his/her development such as neighbors, community resources, and media; and the macrosystem is viewed as the overarching economic, ideological, social characteristics of society (Bronfenbrenner, 1979). The interrelationships of these contexts along with how the child engages in these systems as an active agent are the basis of what guides development and outcomes.

It is important to emphasize that these systems do not act in isolation but rather possess transactional/bidirectional relationships with each other as well as with the child. For example, recent research has begun to study more nuanced models, such as those where parental mental health (family context) mediates the relationship between exposure to community violence (neighborhood context) and child internalizing and externalizing behaviors (individual context), and investigators have suggested that community violence research should shift from focusing on an individual child to a combined child, parent, family, community approach to better capture the context in which violence exposure affects subsequent mental health prevention and intervention (Linares et al. 2001; Aisenberg & Ell, 2005). Although the current study will not necessarily examine transactional relationships between systems, it will use the ecological theory to frame the

importance of considering multiple contexts, such as neighborhood, home, and school, in a youth's development.

Positive Youth Development

Numerous research studies, especially those examining exposure to community violence, focus on negative outcomes such as psychopathology symptoms, aggression, and substance abuse. Larson (2000) has emphasized that developmental psychology has focused on understanding and treating psychopathology instead of examining and advancing trajectories that lead to positive success. Positive youth development (PYD) is an emerging field of research that can be identified by four particular characteristics. These include (a) emphasis on development, growth, and the ability for youth to be agents in this process; (b) a comprehensive view of ecological contexts (e.g., family, school, and neighborhood) that can provide experiences to enhance positive outcomes; (c) promotion of youth access to such resources and experiences; and (d) symbiosis in using ideas, strategies, and practices from parallel fields (e.g., public health, prevention) (Benson & Pittman, 2001). In a recent review of multiple approaches towards positive development for youth, Tolan (2014) noted that taking into account protective and promotive variables in addition to risk factors helps explain more youth outcomes rather than focusing on how risk factors (or lack thereof) can lead to negative psychosocial outcomes.

One common thread is an emphasis on developmental assets and capitalizing on youth strengths instead of deficits. A developmental asset is a characteristic of the individual or his/her contexts that is associated with a higher likelihood for a positive

outcome (Benson, Scales, & Syversten, 2011). As presented in the 40 Developmental Assets by the Search Institute (2005), these characteristics can be internal or external. Additionally, the widespread model of PYD by Lerner, Lerner, and colleagues (Lerner et al., 2005; Lerner et al., 2011) underscores the bidirectional individual-context relations that promote thriving and can prevent risky, maladaptive behaviors. This model has been examined using a longitudinal study, the 4-H Study of PYD (Bowers et al., 2010; Lerner et al., 2005) that honed in on the 5C's of PYD: competence, confidence, character, connection, caring (Eccles & Gootman, 2002; Lerner et al., 2005). These 5C's represent constructs analogous to earlier research by federal agencies that began looking at characteristics (what could now be called "assets") that keep "good kids on track" like a sense of competence; sense of usefulness; sense of belonging; and sense of power (U.S. Department of Health and Human Services Administration of Children and Families, 1996; Benson et al., 2006). This study will examine the multiple contextual asset influences on self-efficacy, which can be regarded as an individual-level asset conceptually similar to (though not the same as) competence and confidence.

Recent research has highlighted the importance of ecological developmental assets (e.g., home, neighborhood, school) (Theokas & Lerner, 2006). In a majority Latino and Caucasian sample of 5th grade students from the 4-H study, researchers found that different elements of a youth's ecology influenced PYD, as represented by a composite measuring the 5 C's listed above. For example, the components positively associated with PYD across contexts were: collective activity and physical resources in the family; accessibility in school (i.e., student-teacher ratio and overall school size); and human

resources in the neighborhood (i.e., educational attainment of residents; work status of residents; presence of mentor in student's life) (Theokas & Lerner, 2006). This research highlights the distinctive effects of a youth's different ecological assets that can influence individual assets, such as self-efficacy.

Though they may be expressed differently, researchers view developmental assets as universally relevant across diverse types of youth. Assets are also considered cumulative, where more assets may lead to better outcomes, along with ecologies being cumulative so, when configured in certain ways, they can enhance asset-building opportunities for youth (Benson et al., 2006; Benson, Scales, & Syversten, 2011). In their review article on PYD, Benson and colleagues (2006) suggest that potential areas for further study include topics such as developmental attentiveness to contexts; enhancing skills and competencies of youth; as well as creating processes for youth to become active agents in changing their contexts. The current study aims to incorporate these ideas by examining the important ecologies of neighborhood, family, and school and how these contexts enhance youth self-efficacy (i.e., a skill/competency), which could be considered a component in helping youth feel more confident as agents in their contexts. In this study, exposure to community violence is viewed as a risk factor, while family quality, school connectedness, and certain neighborhood variables (e.g., collective neighborhood efficacy) are viewed as ecological assets that will enhance the development of the individual-level asset of youth self-efficacy.

Self-efficacy

Within Bandura's (1997) sociocognitive theory of understanding mechanisms that

motivate and regulate behavior, self-efficacy is proposed as the beliefs of one's capability to carry out certain behaviors. Self-efficacy helps describe how much control we believe we have over lives or how much agency we can exercise (Bandura, 1997). Additionally, these efficacy beliefs are identified as influencing behavior more directly (e.g., judging one's ability to execute a behavior) whereas an outcome expectancy would be the judgment of a likely consequence of the behavior (Bandura, 1977; 1997). Bandura (1977, 1997) enumerated four sources that contribute to self-efficacy: performance accomplishments/mastery; vicarious experience, verbal persuasion, and physiological states. Self-efficacy beliefs are also considered multidimensional, where they can vary depending on the level of demand of the behavior; on the strength of the belief; and the generality across different domains of functioning, like school, athletics, or health (Bandura, 1997).

It may be helpful to contextualize self-efficacy in relation to other similar constructs. One such construct is hardiness. Hardiness involves three components: commitment, control, and challenge (Kobasa, Maddi, & Kahn, 1982). Committed people have a sense of purpose and ability to find meaning in the events, people and places they encounter; the control component involves the belief that one has some (not complete) influence on what occurs in one's life through imagination, knowledge, skill and choice; and the challenge element corresponds to the sense that change is to be expected in life rather than stability and perceiving these changes as opportunities to adapt and grow (Kobasa, Maddi, & Kahn, 1982). These characteristics help hardy people to reduce distress by actively coping with problems, seeking support, and viewing stressful events

as less threatening (Bonanno, 2004; Soderstrom et al., 2000). While self-efficacy may relate to different domains of functioning, it also captures the idea of an individual's beliefs about control and agency over one's behaviors and potential purpose if one looked at future efficacy.

Self-enhancement and narcissism may also be traits related to self-efficacy. Self-enhancement involves biases that create exaggerated, unrealistic positive self-perceptions (Greenwald, 1980; Taylor & Brown, 1988). These can include enhanced memory for one's personal actions in an event; "beneffectance," a combination of beneficence and effectance or competence where persons view attribute good outcomes to themselves but not bad outcomes; and cognitive conservatism, where one maintains the beliefs (e.g., positive self-beliefs) one already has (Greenwald, 1980). Unrealistically positive views of the self, illusions of control, and unrealistic optimism or positive future outlook are also components of self-enhancement (Taylor & Brown, 1988). These initially may appear maladaptive but they can lead to positive effects like being happy and content, being able to care for others, and being able to engage in creative, productive work (Taylor & Brown, 1988). However, one extreme of such biases is narcissism, which encompasses superiority, entitlement, and self-admiration (Emmons, 1984). One study found that over the course of 7 brief meetings, self-enhancers were initially rated by others as presenting positively in friendliness and competence but rated negatively and more narcissistic by the end (Paulhus, 1998). A similar bias is the Dunning-Kruger effect where low-skilled individuals have an illusion of superiority and rate themselves as more competent than they actually are (Dunning & Kruger, 1999). Thus, beliefs and self-reports on the

different domains of self-efficacy, like future-, sports- or school-based, may reflect these biases than actual abilities or competence

Numerous studies have examined specific domains of self-efficacy beliefs in youth, such as academic-, nutrition-, and health-related self-efficacy. These beliefs are frequently associated with behavior change and positive outcomes. For example, when increased academic self-efficacy was reported in a large international representative sample of Belgian adolescents, it predicted increased academic achievement (Ferla, Valcke, & Cai, 2009). When a sample of primarily African-American urban middle school youth were instructed using nutrition-based interventions, they reported increases in nutrition self-efficacy and related positive dietary changes, such as reducing fat and sweetened beverage consumption, (McCaughtry et al, 2011), with similar results in a primarily Latino adolescent sample (Contento et al., 2010).

Additionally, contextual factors are understood to influence how the individual cognitively appraises environmental events (Bandura, 1977). For example, in one study, researchers found that parental advising and support on school topics positively predicted academic self-efficacy beliefs in a large representative sample of US high school youth (Fan & Williams, 2010) while another study identified higher levels of school satisfaction and belonging predicting higher levels of academic self-efficacy in low-income ethnically heterogeneous 4th and 5th grade students (McMahon, Wernsman, & Rose, 2009). If a (pre)adolescent has strong self-efficacy and has an environment that positively responds to the individual's achievements, this will more likely produce a sense of control and accomplishment for that individual and encourage continued agency and activity. Self-

efficacy becomes a crucial component for future outcomes particularly for adolescents, who are developing their individual identity, personal habits and coping strategies, as well as being increasingly evaluated (especially in Westernized societies) based on independent performance. Thus, for urban Latino youth who potentially face environments that are less responsive where they may feel less competent and in less control, discerning factors that can improve their self-efficacy is a valuable endeavor to enhance present and future wellbeing. Self-efficacy is an important variable to consider, especially for pre- to early adolescents, since adolescence is a life stage where the self, identity, and autonomy become more prominent concerns.

Developmental Stages of Pre- to Early Adolescence

In the widely known psychosocial stages postulated by Erikson (1959, 1964), he lists that for pre-adolescent youth ages 5-12, competence (or the conflict between industry vs. inferiority) is a primary objective. Competence maps closely unto the concept of self-efficacy, highlighting the importance of examining self-efficacy in the 9- and 12-year-old cohorts of the PHDCN. In addition, as these youth aged over the three timepoints of the PHDCN, and entered adolescence, the numerous changes of this stage include physical, cognitive, and social development. Frequently adolescents mature physically before developing a more individual identity, before gaining the necessary skills for adult relationships and roles, and before their brains (and consequently ability for abstract reasoning) more fully develop (Best, Miller, & Jones, 2009; Steinberg, 2008). This leaves adolescents more prone to impulsivity and susceptible to pressures to engage in high risk behavior, such as drug use, unintentional/intentional injury, and aggression

(Kambam & Thompson, 2009).

While gender will be discussed again in the context of community violence exposure, it also is an important developmental factor. Gilligan (1982) postulated a "crisis of confidence" for adolescent girls, whereby the primarily patriarchal society causes them to question their self-worth. Females also frequently report higher symptoms of depression once entering adolescence as well (Hankin & Abramson, 2001; Twenge & Nolen-Hoeksema, 2002). Thus as the girls in this sample began going through puberty, their beliefs about self-efficacy could have been affected. Age and development also influence the outcomes for youth facing violence. For example, in a sample of Palestinian youth, mothers reported that the younger children between ages 5-8 had significantly different behavioral and personality changes compared to youth ages 12-15 (Kostelny & Garbarino, 1994).

Additionally, as they are working towards independence, adolescents continue to depend on family, schools, communities, health services, and workplaces to train them in important skills in order to cope with this transition between childhood and adulthood (Smetana, Campione-Barr, & Metzger, 2006). This period of change leaves adolescents vulnerable to psychosocial adjustment difficulties and mental health concerns.

Latino Youth

With Latinos being the fastest growing ethnic/racial minority group in the country (US Census, 2010), it is important to study the adjustment of Latino youth as they transition from childhood to adolescence. Between 1995-2012, the number of first- and second-generation immigrant children in the U.S. increased by 66 percent to 18.7 million,

which accounted for approximately 25% of children in the U.S. (ChildTrends, 2013). In 2012, 56% of all first- and second-generation immigrant youth were Latino (ChildTrends, 2013). The families of these Latino immigrant youth frequently reside in under-resourced, inner-city communities, which heightens the likelihood they will encounter hazards such as gangs and community violence (Orfield & Yun, 1999; Suárez-Orozco, Todorova, & Qin, 2006). Latino adolescents are exposed to high risk, not only because gun violence is the second leading cause of death in youth ages 1-19 but Latino teens were 3.3 times more likely to be injured by a gun compared to European-American counterparts (Children's Defense Fund, 2013). Thus, it is crucial to study adolescence as a developmental time period as well as Latino youth who are exposed to high levels of risk in their neighborhoods.

Another important construct to address when studying ethnic minority youth is acculturation. Acculturation has broadly been defined as involving two types of activity: maintaining one's original culture and creating connections to a new culture (Berry, 2003). Four strategies have been identified to better detail the overall acculturation processes: integration, assimilation, separation, and marginalization (Berry, 2003). Alegria (2009) underscored the difficulty of what one needs to measure when looking at acculturation as opposed to what information can be obtained within the constraints of larger surveys. However, proxy measures reveal other controversies in measuring acculturation, such as using only behavioral indicators (i.e., speaking a certain language). These proxy measures also might be focusing on a specific process of acculturation (i.e., learning a language) but do not capture the related effects, such as increased stress within

the family and/or the stress experienced during the process of acculturation (Alegria, 2009). In addition, contexts of reception within a community also affect acculturation (Alegria, 2009). For example, if a Spanish-speaking immigrant of Latino descent moves to Miami, they may be perceived and received differently compared to the same person moving to a rural town in the Midwest.

Some extant research has examined the relationship between acculturation and self-efficacy. One study comparing Asian-American and European-American college students found that adherence to Asian values positively predicted the importance of collective self-esteem and adherence to European American values positively predicted general self-efficacy (Kim & Omizo, 2005). Much Latino-based research has examined acculturation effects on career self-efficacy and college self-efficacy. For example, in one study Anglo-acculturation and English language use were significant predictors of career self-efficacy (Miranda & Umhoefer, 1998). In another study, ethnic identity was a significant predictor of career self-efficacy for boys and Anglo-acculturation was a significant predictor of career self-efficacy for girls (Ojeda et al., 2011). In a sample of Mexican-American high school students, Anglo-acculturation was significantly positively related to both educational goal expectations and aspirations, but Mexican-oriented acculturation, college self- efficacy, and college outcome expectations were not significantly related to educational goals, aspirations or expectations (Flores et al., 2008). These types of efficacy could relate to the respective future and school efficacy scales.

Familismo is also a related construct underlying the more collectivistic nature of Latino communities. *Familismo* refers to a primary cultural value whereby the person has

a responsibility and duty to the family's needs (both nuclear and extended) as well as uses the family as a source of support and decision-making (Negy & Woods, 1992; Sabogal et al., 1987; Smith-Morris et al., 2013). This might be even more important for families of recent immigrants. In the sample for the current study, 73% of primary caregivers stated they came to the USA at age 18 or older and 70% of primary caregivers identified Mexico as their country of origin. Thus, issues of acculturation (and related *familismo*) might affect youths' beliefs of what they can do based on their more independent, personal abilities (like self-efficacy) compared to what is expected from the family and/or community. In this study, acculturation will be used as a moderator variable in one model as well as a covariate in other models.

Exposure to Community Violence

With greater recent attention to community violence exposure, it has been recognized as a public health epidemic in the USA (US Surgeon General, 2001; Finkelhor, Turner, Ormod, Hamby, & Kracke, 2009). Additionally, exposure to community violence has been linked to negative outcomes for youth, both cognitive outcomes such as impaired attention and decreased academic achievement (Guterman, Cameron, & Hahm, 2003; Lynch, 2003) as well as psychosocial outcomes such as internalizing symptoms (e.g., anxiety, post-traumatic stress symptoms, depression) and externalizing symptoms (e.g., aggression) (Cooley-Quille et al., 2001; McDonald & Richmond, 2008). Youth are affected not only through being victimized directly by community violence but also by witnessing it; this is particularly salient for urban youth because about 90% of inner city have witnessed at least one act of violence in their

community and about 65% of these youth have been a victim of at least one incident of community violence (Bender & Roberts, 2009).

Children who reside in low-income, urban neighborhoods are exposed to the highest levels of community violence, with calculations anywhere between 50% to 96% (Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003). With youth of color living in disadvantaged neighborhoods of concentrated poverty more often than European-American counterparts, they are being exposed to community violence at higher rates (Stein et al., 2003). African-American youth not only are exposed to more violence than Caucasian, Asian, and Latino peers (Cooley-Strickland et al., 2009; Fowler et al., 2009), they also account for higher levels of victimization (Bureau of Justice Statistics, 2007). This has spurred increased attention to violence exposure research on African-American youth.

However, the population of inner-city Latino youth is rising, putting them at similar risk as African-American youth. Latino families, especially immigrant families, often are found to reside in disadvantaged, urban neighborhoods segregated from other ethnicities where they encounter increased risk of exposure to community violence (Orfield & Yun, 1999; Suárez-Orozco, Todorova, & Qin, 2006). For example, between 1993-2003, Latinos were more likely to be a victim of a violent crime by a gang member compared to non-Latinos, 5.7 vs. 2.4, respectively (Harrell, 2005). A study on immigrant and non-immigrant Latino youth found that exposure to violence was the strongest predictor for traumatic symptoms and externalizing behaviors, even when accounting for relevant immigration-related stressors (Gudiño, Nadeem, Kataoka, & Lau, 2011). In

addition, the Gang Violence Reduction Program was implemented in Chicago to reduce gang-related violence between two of the city's most violent Latino gangs by integrating outreach, an intervention team, case management, youth services, and suppression; it identified that the program was more effective with older (17-24 years), high-rate, violent gang offenders than with younger, less violent offenders (Spergel, 2007).

This underscores the importance of increased research to potentially identify positive, protective factors that may prevent violent behaviors among younger Latino adolescents since a more intensive violence-focused intervention may not effectively curb these developing violent behaviors for younger teens. Yet, research examining the prevalence of, protective factors to, and psychosocial sequelae of community violence exposure in Latino youth is limited (e.g., Gudiño et al., 2011; 2012; Kataoka et al., 2003; Jaycox et al., 2002; McGee et al., 2005; Santiago & Wadsworth, 2011; Wadsworth et al., 2008). The current study will enhance the literature by studying exposure to community violence in a younger adolescent Latino sample.

Gender

Although there are mixed findings in the extant literature, males and females have been shown to have distinctive rates and types of community violence exposure in addition to differing psychosocial sequelae based on community violence exposure. One meta-analysis on studies of community violence found that boys generally reported more exposure to community violence, especially victimization (Stein et al., 2003). However, this same review additionally identified a number of studies where gender was unrelated to exposure to community violence (Stein et al., 2003). Other reviews have observed that

males report higher levels of victimization/assault (Finkelhor et al., 2009) as well as older male adolescents witnessing higher rates of and more severe violent events (Cooley-Strickland et al., 2009). In regards to differential effects of community violence exposure, research studies have demonstrated that girls exposed to community violence are more likely to report general internalizing symptoms compared to boys but both genders report similar rates of post-traumatic stress symptoms (Cooley-Strickland et al., 2009).

However, some have either found no differences (Martinez & Richters, 1993) or others have observed community violence exposure related to externalizing behaviors, such as school suspension or arrest, for girls rather than boys (Lipsitz et al., 2000). It is unclear why there may be increased exposure for males but it could potentially be accounted for by social control and expectations (Booth, Farrell, & Varano, 2008), increased opportunity for violence in neighborhoods of poverty (Fraser, Kirby, & Smokowski, 2004) or susceptibility to aggressive behavior (Department of Health and Human Services, 2004). Due to increased reports of witnessing and victimization for males, male gender has been considered as a risk factor in certain prospective studies (Weist, Acosta, & Youngstrom, 2001). Presently, gender will be included as a covariate to better understand the differential role it may have in predicting self-efficacy when Latino youth are exposed to community violence.

Neighborhood

Decades of research have established that neighborhoods with negative conditions of poverty have damaging effects on their residents. Disadvantaged neighborhoods, recognized by conditions such as high rates of poverty and exposure to community

violence, have been related to higher levels of psychological and behavioral concerns for children and adolescents (Leventhal & Brooks-Gunn, 2000; Fowler, et. al, 2009).

In an early review of the literature, Jencks and Mayer (1990) presented three mechanisms (peer influences, indigenous adult influences, and outside adult influences) and four models (epidemic; collective socialization; institutional; relative deprivation) to help elucidate how neighborhood quality could influence children's adjustment. In the epidemic model, theorists suggested that peer influences cause children to behave like one another, where behavior, especially negative behavior, is understood as a contagion. In the second model, collective socialization, it is hypothesized that adults from the neighborhood affect children's behavior through modeling, which the youth imitate. For example, affluent adults could be role models of success from hard work whereas adults who use aggressive behaviors to deal with problems could teach children this behavior is acceptable. In the third model, the institutional model instead posits that non-neighbor adults, such as those from institutions that serve the neighborhood (e.g, parks, schools, police department), affect youth outcomes by offering potentially differential services based on the neighborhood in which the child lives. Fourth and last, the relative deprivation model highlights the competition for restricted resources between neighbors since residents, even children, evaluate their success or failure in comparison to their neighbors, classmates, or friends.

As part of ecological context, researchers frequently use individual- or family-level variables, such as income or SES, to represent neighborhood-level variables like neighborhood economic distress. However, this does not properly represent

neighborhood-level research and prohibits results from being generalized as neighborhood effects (Roosa et al., 2003). Existing research has established that negative neighborhood quality introduces risk above and beyond more proximal, individual-based variables such as biology/genetics (Bush, Lengua, & Colder, 2010; Caspi, Taylor, Moffitt, & Ploman, 2000; Leventhal & Brooks-Gunn, 2000). Knowing the possibility for substantial differences between neighborhoods, especially when studying Chicago, and that neighborhood represents a significant context for child development (Levanthal & Brooks-Gunn, 2000; Roosa et al., 2003), it is important to study its influence on youth self-efficacy.

Research has not focused on direct relationships between neighborhood quality and child outcomes because of related theoretical as well as methodological ambiguities, affecting interpretation of findings (Nicotera, 2007; Roosa et al., 2003). Nicotera (2007) highlights the "environment-place" duality that exists in conceptualizing neighborhoods; this duality can be observed in a common definition of neighborhoods as "the immediate social contexts in which individuals and families engage with the institutions and social agents that regulate and control access to community opportunity structures and resources" (Gephardt, 1997, p. 9). Thus, the "environment" aspect of neighborhood is considered the more objective component, such as geographic and physical information, while the "place" aspect is the more subjective component, such as perceptions of neighborhood. The difficulty arises when researchers must focus on one aspect (e.g., "place"/subjective component) as a substitute for broader neighborhood quality based on the restrictions of the data; this reduces the ability to understand actual effects of

neighborhood. In a recent longitudinal examination of a low-income African-American adolescent sample, both objective neighborhood measures and subjective perceptions of neighborhood were utilized and identified that negative youth perceptions of neighborhood predicted subsequent youth aggression (Romero, 2012). To continue such work and to address the substitution issue, the current study will use coded data of physical information from Chicago neighborhoods (objective measures) in addition to questionnaire reports of neighborhood quality by residents (subjective measures) in order to better understand neighborhood effects on self-efficacy in Latino youth.

Collective neighborhood efficacy[1] has been conceptualized as composed of two primary components: informal social control and social cohesion/trust. Informal social control pertains to strategies residents employ to deal with neighborhood issues on a daily basis, such as monitoring of spontaneous play-groups of children and readiness to mediate negative youth behaviors like truancy or loitering in groups (Sampson, Raudenbush, & Earls, 1997; Sampson, 2012). These behaviors highlight underlying shared expectations of action within the collective group (e.g., neighborhood). When these shared expectations of action are repeatedly performed and observed across the neighborhood, norms for future behavior are established and reflect mutual trust and social cohesion, the second aspect of collective neighborhood efficacy (Sampson, 2012). This social cohesion/trust is proposed to surpass the expectations of behavior based on kinship ties and friendships, and instead infer conduct carried out by general

[1] While the official term from the PDHCN data is "collective efficacy" (Sampson, Raudenbush, & Earls, 1997), I will be labeling it as "collective neighborhood efficacy" to distinguish it from the youth outcome variable of self-efficacy.

neighborhood residents (Sampson, 2012). One can use variables of social processes, such as cohesion and control, to interpret that in neighborhoods with higher crime residents will likely participating in that behavior more because there is a lack of control and trust, and youth may view the violent behavior as acceptable and imitate it. If children observe higher levels of community violence and if parents perceive the neighborhood as dangerous and fear the residents, children may believe they have no control over what is happening to them and lack competence to change themselves or their surroundings, resulting in reduced self-efficacy. On the other hand, if adults, and consequently children, perceived their neighborhood as cohesive and supervised, the youth could feel as if they are supported as agents in their ecological contexts, resulting in higher levels of self-efficacy and ultimately positive developmental outcomes.

Based on research of the PHDCN, both the informal social control and social cohesion aspects were so strongly associated with each other across neighborhoods that they were combined into one collective neighborhood efficacy measure with aggregate-level reliabilities in the high .80s (Sampson, Raudenbush, & Earls, 1997). For the PHDCN, collective neighborhood efficacy also has been aggregated to the Neighborhood Cluster (NC) level (please see Methods for explanation), but the current study will examine the individual-level data to better understand the subjective aspect of the participants' neighborhoods. In addition, when controlling for factors such as concentrated disadvantage, numerous individual-level characteristics, and previous neighborhood violence, higher levels of collective neighborhood efficacy predicted lower rates of homicide and violent victimization (Sampson et al., 1997). Higher levels of

collective neighborhood efficacy had direct and indirect effects on youth outcomes as well, such as lower reports of violent victimization, lower levels of substance use, and lower levels of antisocial behavior (Maimon & Browning, 2012; Fagan, Wright, & Pinchevsky, 2013; Odgers et al., 2009). This study will utilize the questionnaire data provided by adult respondents to represent a subjective measure of neighborhood effects.

This study will incorporate the suggestions of Nicotera (2007) and Roosa and colleagues (2003) by examining both subjective and objective aspects of neighborhood. Questionnaire-based variables such as neighborhood activities/services and collective neighborhood efficacy represent more subjective, strengths-based variables while concentrated poverty along with physical and social disorder will represent more objective variables. Additionally, these variables map unto recommended types of neighborhood information to be utilized: social composition, economic composition, social processes, and physical composition/resources (Nicotera, 2007); Roosa et al., 2003). By looking at both subjective and objective aspects of neighborhoods while controlling for family level socioeconomic status, the current study will add to the literature on the impact of context on self-efficacy in Latino youth.

School Connectedness

School represents another important ecological domain in a child's life, a place where their competence and abilities are evaluated, similar to an adult's job. Understanding a child's attitude towards school is critical in evaluating the potential effects introduced by the school context. School connectedness reflects how supported youth feel at school and how dedicated they are to school. According to McNeely & Falci

(2004), it encompasses a student's sense of safety, support, belonging, and engagement at school. In previous research, school connectedness has been associated with academic achievement (Battin-Pearson et al., 2000; National Research Council, 2003), as well as other positive outcomes, such as lower levels of substance use and deviant behavior (Battistich & Hom, 1997) along with improved emotional health and less aggression, drug use, and risky sexual behavior in samples that include minority youth as well (Resnick et al., 1997).

Additionally, exposure to community violence has been found to affect an adolescent's connection to school. Previous cross-sectional research has found that exposure to community violence was associated with lower school engagement and higher levels of psychological symptoms (Voisin, Neilands, & Hunnicutt, 2011). Another longitudinal study of urban minority youth found that higher levels of witnessing and experiencing community violence predicted lower levels of school connection (Mrug & Windle, 2009).

School engagement has been related to PYD and youth outcomes. Li, Lerner, & Lerner (2010) found that school engagement (measured by emotional engagement and behavioral engagement with school) mediated the relationship between certain ecological and individual assets and academic competence. When examining personal assets such as intentional self-regulation and educational expectations, both were positively associated with behavioral engagement, which subsequently predicted higher levels of academic competence longitudinally (Li, Lerner, & Lerner, 2010). In regards to ecological assets, higher levels of parental involvement, maternal warmth, and peer support, along with a

more positive school climate indirectly related to higher academic competence via emotional school engagement, which in turn was mediated by behavioral engagement (Li, Lerner, & Lerner, 2010). In a different study with the same population (4-H PYD study) but looking at trajectories of school engagement, it was found that males, youth of color, and youth from lower SES were more likely to be in less promising trajectory groups in regards to both behavioral and emotional engagement with school (Li & Lerner, 2011). In this study, school connectedness will be viewed as an ecological asset that can enhance self-efficacy.

School engagement is particularly salient to consider for Latino youth. In recent educational research, Latino youth between 16-24 had the highest dropout rates (17.6% in 2009) compared to their African-American (9.3%) and European-American (5.2%) counterparts, approximately 2- to 3-times the rate, respectively (Snyder & Dillow, 2011). However, when school engagement was targeted as part of an intervention for Mexican-American middle school youth who received family support to increase school engagement in transitioning to high school, school engagement mediated the intervention effects on internalizing symptoms, substance use, and dropout rates (Gonzales et al., 2014).

It appears that youth who receive support across different sources (e.g., teachers, parents, peers) feel more connected to and engaged with their school. One study of low-income Latino youth at-risk for school failure found that youth who reported more teacher support also reported higher school meaningfulness, beyond parent support (Brewster & Bowen, 2004). Additionally, Garcia-Reid (2007) identified positive direct

effects of social support from teachers, peers, and parents on school engagement for a sample of low-income Latina-American adolescents along with the absence of perceived neighborhood danger. When considering social support from different sources, school engagement may relate to higher self-efficacy and feeling competent because, even if you are struggling, you will participate at school if you perceive teachers helping in the classroom, peers helping in extracurricular activities, and parents helping at home. However, for youth of color living in the context of low-income, urban neighborhoods, these supports may be strained, either emotionally or financially, such as families dealing with stressors like poverty and violence exposure, and teachers with crowded classrooms and limited resources. These factors could come together to negatively influence youth's engagement in school and ability to succeed in this important domain, which in turn could affect their level of self-efficacy. This study will expand upon previous research conducted on community violence exposure and self-efficacy by incorporating perceptions of school connectedness to better account for this important adolescent ecological domain as a moderator of youth self-efficacy along with neighborhood and family quality.

Positive Family Quality

A supportive family atmosphere can act as a developmental asset across all types of youth. Extant literature has identified that a positive family environment measured by parent-family connectedness as well as highly supportive and emotionally positive parents predicts that adolescents will have more positive outcomes across different variables such as committing violent acts and substance use (Resnick et al., 1997; Kingon

& O'Sullivan, 2001). In addition, for youth in high-violence neighborhoods, a more stable, positive family environment can mitigate or strengthen varying effects related to exposure to violence (Buka et al., 2001).

Previous research has suggested that supportive parenting and family environments have demonstrated positive effects for minority youth. For example, in a sample of low-income, inner-city African-American youth, a recent study found that parental warmth predicted lower youth internalizing symptoms, depending on perceptions of neighborhood danger (Goldner et al, in press). In a longitudinal sample of primarily urban youth, low levels of family conflict provided a protective-stabilizing factor for boys exposed to community violence: for those in families with higher conflict, community violence exposure predicted more internalizing and externalizing symptoms at age 18 but for those in families with low conflict, community violence exposure was not related to internalizing and externalizing symptoms (McKelvey et al., 2011). Similarly, Gorman-Smith, Henry & Tolan (2004) previously observed that disadvantaged, urban African-American and Latino adolescents who were exposed to high levels of community violence but resided with supportive families reported fewer violent acts than similarly exposed youth from less supportive families. This suggests that family support and low levels of family conflict may be especially salient for youth minority youth living in urban, low-income neighborhoods where they face more stressors, have access to less resources, and experience more volatility in their environments (Tolan & Gorman-Smith, 1997).

In addition to the benefits of these family variables, family environment is

considered strongly associated to primary sources of self-efficacy (Bandura, 1997). Having a positive family environment where parents are monitoring their children's activities and providing support can help youth experience more success when interacting within their ecological contexts, which can foster mastery experiences that affect self-efficacy. It is also important to recognize that Latinos frequently place cultural emphasis on family and duty to one's family, which is known as *familismo* (Harwood et al., 2002). This makes parenting and the family environment a salient context to incorporate when studying psychosocial outcomes for Latino youth. However, again acculturation may play a role; the level of acculturation of families and youth to a more Western, individualistic environment could enhance their beliefs of self-efficacy.

The research examining ethnic/cultural differences in family environment and general self-efficacy is limited. For example, one study identified that self-esteem fully mediated the relation between supportive parenting and perceived self-efficacy for European-Americans whereas ethnic identity and self-esteem, respectively, predicted perceived self-efficacy over and above the effect of supportive parenting for African-American youth (Swenson & Prelow, 2005). More research has been conducted outside of the US. In Australia, parental nurturance was positively associated with adolescent self-efficacy while parental rejection had the opposite relationship (Hoeltje et al., 1996). In a longitudinal study of West and East German adolescents, researchers found that youth who experienced consistent supportive parenting reported higher levels of self-efficacy over a three-year period (Juang & Silbereisen, 1999).

Moreover, in a sample of adolescents in Ecuador and Chile, Ingoldsby and

colleagues (2004) examined the relationship between the perception of parenting behaviors (e.g., parental monitoring and positive induction, where parents explain to adolescents how their behavior affects others while being accepting, warm, and approving) along with adolescent self-efficacy. The study used father's education as a proxy for family SES, and the results revealed that higher levels of paternal education were related to higher reports of youth self-efficacy (Ingoldsby et al, 2004), which suggests that Latino youth from lower SES environments may have lower levels of self-efficacy, similar to neighborhood effects as described earlier. Additionally, for Ecuadorian adolescents, punitiveness and permissiveness were negatively related to self-efficacy, while maternal positive induction was positively related to self-efficacy; for Chilean adolescents, punitiveness was also negatively associated to self-efficacy while monitoring was positively associated with self-efficacy (Ingoldsby et al., 2004). In a recent study of immigrant Latino families, higher levels of family cohesion were found to predict improved social problem-solving and social self-efficacy for youth longitudinally over two timepoints (Leidy, Guerra, & Toro, 2010).

This suggests that previously established positive family environment appears to benefit the development of self-efficacy for culturally diverse adolescent samples. The current study will extend this work by examining the understudied relationship of positive family context (i.e., family support and low family conflict) and self-efficacy in US Latino youth, along with the other ecological contexts of neighborhood and school.

Previous Relevant Research From PHDCN Data

The present study will use data from the Project on Human Development in

Chicago Neighborhoods (PHDCN), a longitudinal study collected over seven years from a sample of children, adolescents, and their primary caregivers. The expansive and comprehensive data of the PHDCN permits researchers to study urban youth, ask certain questions, and utilize a variety of approaches that are not feasible with smaller or more limited datasets. Nevertheless, much of the work conducted using the PHDCN has focused on psychopathology and negative symptomatic behavior rather than more strengths-based, positive outcomes. Those studies that look at more positive outcomes frequently focus on academic achievement, yet there are a few that examine self-efficacy. The PHDCN dataset uses a self-report questionnaire to measure self-efficacy, and five subscales/domains of self-efficacy: future, street/neighborhood, school, home, and social. However, the social subscale will not be used in this study because it was only included in the final wave of data collection.

One recent study examined how neighborhood processes predict self-efficacy depending on neighborhood mobility, and subsequently how self-efficacy is associated with internalizing symptoms. Dupéré, Leventhal and Vitaro (2012) found that youth, who perceived high neighborhood violence and who stayed in Chicago, reported lower self-efficacy. However, youth who perceived high neighborhood violence and moved out of Chicago, reported higher self-efficacy. This same pattern of findings, of the dependence of self-efficacy on residential location, was found for youth who perceived low levels of collective neighborhood efficacy in their neighborhood (Dupéré, Leventhal & Vitaro, 2012). When examining the relationship between perceived neighborhood violence and self-efficacy, fear of violence and positive school beliefs explained this link, where

higher levels of fear related to lower self-efficacy and higher positive school beliefs related to higher self-efficacy (Dupéré, Leventhal & Vitaro, 2012). These positive school beliefs also explained the relationship between collective neighborhood efficacy and self-efficacy. Additionally, the researchers found that worse neighborhood conditions were indirectly related to higher internalizing symptoms through the effects of lower self-efficacy (Dupéré, Leventhal and Vitaro, 2012). While this study highlighted the importance of neighborhood processes and school-related attitudes on self-efficacy, the study only used two of the four subscales (street and future) to create a composite self-efficacy score. The current project will build upon this study by including all four subscales of the self-efficacy measure, with a singular focus on Latino youth. By adding the ecological context of family along with neighborhood context and school context components, this study will expand upon the research examining effects of context on Latino youth outcomes.

Using the PHDCN data, other studies have examined an even more specific component of self-efficacy, street or neighborhood efficacy. Street efficacy is considered youth "perceptions of their ability to avoid violent confrontations or to find ways to be safe in their neighborhoods" (Sharkey, 2006, online supplement). The subscale used was the mean of 5 items encompassing questions such as "Some kids feel they can figure out ways to be in their neighborhood safely," and "Some kids feel they have trouble avoiding fights in their neighborhood even when they try" ("Things I Can Do If I Try," Selner-O'Hagan & Earls, 1996). This study utilized multilevel Rasch models to analyze data from all youth and caregivers in the 9-, 12-, and 15-year-old cohorts. While data from all

three timepoints were used in the models, it is important to note that street efficacy was presented cross-sectionally because it was not administered at Wave 3 for the 15-year-old cohort. Sharkey (2006) found that neighborhood-based variables such as concentrated disadvantage (i.e., composite of 5 census variables: rates of poverty, the receipt of public assistance, unemployment, female-headed households, and the density of children) and collective neighborhood efficacy were related to youth street efficacy: higher concentrated disadvantaged associated with lower levels of street efficacy, and the opposite was true for collective neighborhood efficacy.

Although added into the models after the neighborhood-level variables (i.e., concentrated disadvantage and collective efficacy), which remained significant, individual characteristics such as less impulsivity and strong verbal ability, along with higher parental supervision were related to higher street efficacy (Sharkey, 2006). When ethnicity was added as a covariate, Mexican-American and Puerto Rican youth were found to report lower levels of street efficacy (Sharkey, 2006). Once incorporating personal level experiences with violence as moderators (i.e., exposure to violence, engagement in violent behavior, and delinquent peers) between the relationship of concentrated disadvantage and street efficacy, adolescents who had lower levels of these violence-related variables were found to have higher levels of street efficacy (Sharkey, 2006). The study also examined street efficacy as a predictor for violent environments. Sharkey (2006) identified that the higher street efficacy was related to lower self-reports of violent behavior and less association with deviant peers. Additionally, street efficacy partially mediated the relationship between concentrated disadvantage and adolescent

violent behavior.

A more recent study has examined street efficacy further from the PHDCN data. Gibson, Fagan, and Antle (2014) studied the relationship between street efficacy as a predictor of violent victimization based on differing levels of neighborhood concentrated disadvantage using multivariate logistic regression and odds ratio analyses. The researchers divided concentrated disadvantage (as explained above for Sharkey, 2006) into low, moderate, and high. They initially found that more African-American and Hispanic adolescents resided in high-disadvantage neighborhoods, along with low-SES families, compared to the other neighborhood types (Gibson, Fagan, & Antle, 2014). For the low-disadvantage neighborhoods, while street efficacy was not significantly related to violent victimization, being African American (compared to White), having lower self-control, and reporting more time in unstructured activities with peers were significantly related to higher reports of violent victimization (Gibson, Fagan, & Antle, 2014). For moderate-disadvantage neighborhoods, youth reporting higher levels of street efficacy were significantly less likely to report being victims of violence, whereas older youth, those with lower self-control, those participating in violent offending, and those reporting more time in unstructured activities with peers were significantly more likely to be victims of violence (Gibson, Fagan, & Antle, 2014). Street efficacy had the strongest inverse association with violent victimization for youth in high-disadvantage neighborhoods, where higher street efficacy significantly lowered the odds of reporting victimization, when compared to the low- and moderate-disadvantage neighborhoods using standardized coefficient comparison tests (Gibson, Fagan, & Antle, 2014).

Additionally, if the youth were male or reported more unstructured time with peers, they were also more likely to report being violently victimized in the high-disadvantage neighborhoods (Gibson, Fagan, & Antle, 2014). Compared to the two previous studies, the current project will hone in on Latino youth and use the multifaceted self-efficacy instrument, inclusive of the four subscales available from both timepoints. This work will also incorporate school connectedness as an important ecological context and it will utilize positive family environment as a moderator representing the home context instead of a control variable.

Lastly, although unpublished, similar research has established early groundwork for the current study. In his unpublished dissertation, Ozdemir (2009) examined the psychometric qualities of the self-efficacy questionnaires along with testing multilevel predictors of self-efficacy and testing whether self-efficacy acts as a mediator between the initial predictors and youth developmental outcomes. Ozdemir (2009) used PHDCN data for cohorts aged 9, 12, and 15, and similar to Sharkey (2006), while data from all three timepoints were used in the overall models, self-efficacy was presented cross-sectionally because it was not administered at Wave 3 for the 15-year-old cohort. The lack of psychometric research led to a confirmatory factor analysis (CFA) on the *Things I Can Do If I Try* self-efficacy questionnaire developed by Sampson and colleagues for the PHDCN project. Based on the CFA, a correlated four-factor model provided the best fit to the data with school, future, home, and neighborhood/safety (corresponding to street efficacy from Sharkey (2006)) domains (Ozdemir, 2009). However, this factor model was tested on a combined European-, African-, and Latino sample and was not validated for

each ethnic group. This study will conduct a CFA to validate this correlated four-factor model for Latino youth in the sample, whose understanding of self-efficacy may differ based on cultural differences.

The study additionally examined multilevel (individual, family, peer, and neighborhood) predictors of adolescent self-efficacy beliefs. Neighborhood adversity was measured by a composite of three variables: neighborhood SES, neighborhood physical disorder (e.g., garbage/litter on a sidewalk, empty liquor bottles on ground, tagging graffiti) and neighborhood social disorder (e.g., adults congregating on street, residents drinking alcohol on street, intoxicated people on street). The neighborhood-level composite negatively predicted neighborhood/safety self-efficacy (Ozdemir, 2009). When examining the main effects of ethnicity (dummy-coded with European-American as the reference category) as an individual-level predictor alone, it was found that Latino adolescents were more likely to have lower home-efficacy and safety-efficacy than European-American adolescents while no significant associations were found between African-American ethnicity and any subscale of self-efficacy beliefs compared to other ethnicities (Ozdemir, 2009). Family SES positively significantly predicted safety-efficacy, where higher SES was related to higher safety-efficacy. Likewise, higher family support predicted higher levels of each of the self-efficacy subscales, demonstrating what an important context family is when examining self-efficacy (Ozdemir, 2009). Perceived peer support positively predicted safety self-efficacy while peer deviance negatively predicted school, future, and neighborhood/safety efficacy (Ozdemir, 2009).

In the third part of the study, Ozdemir (2009) examined if self-efficacy subscales

mediated the relationship between family/peer variables and developmental outcomes such as internalizing symptoms, substance use, and delinquency. Future efficacy helped explain the relationship between family support and internalizing symptoms, where higher family support was related to higher future efficacy, which predicted lower internalizing symptoms (Ozdemir, 2009). Additionally, the association between deviant peer relationships and internalizing symptoms was explained by future efficacy, where higher deviance of peers led to lower future efficacy and subsequently higher internalizing symptoms (Ozdemir, 2009).

Not surprisingly, home efficacy was a mediator in three models looking at family support as the predictor variable. In each of the models, home efficacy was positively related to family support and, respectively, predicted lower internalizing symptoms; less delinquency; and less substance use (Ozdemir, 2009). Neighborhood/safety efficacy was a significant mediator for three models, each with a different, single predictor. Neighborhood adversity and deviance of peers were both negatively related to safety efficacy, which in turn predicted higher internalizing symptoms in both models (Ozdemir, 2009). However, family support was positively related to safety efficacy and higher safety efficacy predicted lower internalizing symptoms (Ozdemir, 2009). The present project will enhance our understanding of self-efficacy with a focus on Latino adolescents in a short-term longitudinal manner (at Waves 2 and 3) instead of examining self-efficacy among all ethnicities only using data from Wave 2 as in Ozdemir (2009). Additionally, this study will examine community violence exposure as a predictor of self-efficacy, which is a significant risk factor for Latino youth who are more prone to living

in neighborhoods where they experience such exposure. School connectedness will also be included as a moderator in this study to address another important ecological context for the developmental time period of adolescence.

Current Study

The purpose of the current study is to examine how the multiple contexts of urban Latino adolescents influence the relationship between community violence exposure and youth self-efficacy. The extant literature has studied various outcomes of exposure to community violence but it has primarily concentrated on negative psychosocial outcomes or the absence of such negative outcomes. The differences in youth outcomes do not appear to be only a result of differences in violence exposure or individual differences but also related to influences from important contexts in an adolescent's life like home, school, and neighborhood. Additionally, researchers frequently have focused on either minority youth combined or African-American youth in particular, with less attention given to Latino youth.

With these challenges in mind, the present project will examine the structure of self-efficacy for Latino adolescents as well as its development for these youth at risk for community violence exposure using SEM modeling techniques. In addition, it will take into account how the ecological contexts of neighborhood, home, and school act as moderators for the relationship between exposure to community violence and self-efficacy (or in the case of school connectedness, its potential influence on this relationship has not been examined before). This study will include both objective (neighborhood-level) and subjective (individual-level) measures of neighborhood, which

will enhance the literature of neighborhood effects on youth outcomes. Furthermore, it will use a positive youth development (PYD) approach to examine self-efficacy and extend research on positive outcomes for youth.

Hypotheses

This study will utilize a large, longitudinal sample of Latino youth with high exposure to community violence to better understand the development of self-efficacy and its relationship with neighborhood, family, and school. Specifically, this study will address the following questions:

1. Does self-efficacy have the same structure for Latino adolescents as for other urban youth? A confirmatory factor analysis will be conducted on the multidimensional "Things I Can Do If I Try" self-efficacy questionnaire to examine the structure of this measure for Latino adolescents by randomly splitting into 2 sub-samples in order to conduct initial tests of alternative models and subsequently to test the proposed model with a cross-validation sample. The proposed model will then be compared to the previous model presented by Ozdemir (2009) for all youth from the 9-, 12- and 15 year-old cohorts.
2. In order to build up to the later moderation analyses, this study will ask what is the direct effect of exposure to community violence (ECV) and school connectedness on Latino adolescents' self-efficacy? A model testing the main effects will be run with a focus on ECV and school connectedness predicting self-efficacy because those have not been tested in this sample of Latino youth. It is expected that higher levels of community violence exposure will lead to lower

levels of total self-efficacy while higher levels of school connectedness will lead to higher levels of self-efficacy. Moreover, because the self-efficacy measure was not collected at Wave 1, initial levels of self-efficacy cannot be controlled for, but Wave 2 self-efficacy will act as a covariate.

3. How do the different contexts of adolescents' lives (i.e., neighborhood, family, acculturation and school) contribute to the relationship between exposure to community violence and the development of self-efficacy? It is predicted that more adaptive objective and subjective neighborhood indicators (i.e., lower levels of physical disorder and social disorder; along with higher levels of perceived neighborhood activities/services and collective neighborhood efficacy), higher levels of positive family quality, higher levels of acculturation and higher levels of school connectedness will buffer the relationship of exposure to community violence and predict higher levels of self-efficacy.
4. How does gender influence the relationship between exposure to community violence and self-efficacy, based on these 4 contexts? It is predicted that the effects of the positive contexts will provide a stronger effect for boys compared to girls, buffering the relationship of exposure to community violence and predicting higher levels of self-efficacy, such that the interaction(s) will vary significantly between the genders.

CHAPTER TWO

METHODS

Participants, Design, and Procedures

This study used data from the larger Project on Human Development in Chicago Neighborhoods (PHDCN) study (Sampson, Raudenbush, & Earls, 1997). The PHDCN was a longitudinal study conducted over seven years based on a sample of children, adolescents, and primary caregivers. Participants were obtained from a multistage probability sample. Initially, using Chicago's data from 1990 US Census, the 847 census tracts were assigned to one of 343 neighborhood clusters (NCs), which included two to three contiguous census tracts. These NCs were formed based on familiarity and knowledge of Chicago neighborhoods along with consideration of geographic boundaries. Subsequently, NCs were stratified along two dimensions: race/ethnicity (7 categories) and SES (3 categories), which resulted in 21 strata. A final probability sample of 80 NCs was drawn from approximately equal numbers of NCs randomly selected from all but three empty strata—low SES primarily White NCs, high SES primarily Latino NCs, and high SES primarily Black and Latino NCs. From the 80 NCs, samples were recruited separately for the Community Survey and for the Longitudinal Cohort Survey.

In 1994 to 1995, the Community Survey (CS) was conducted in all 343 NCs. The principal design for the CS had three steps: sampling city blocks within each NC; sampling dwelling units within each block; and sampling one adult resident within each

selected dwelling unit. However, the sample size and method of sampling differed slightly based on whether or not an NC had been drawn as part of the Longitudinal Cohort Study (LCS): 80 NCs associated with the LCS and the remaining 263 not associated with the LCS. For the NCs not associated with the LCS, the target sample size was 20 interviews. Thus, with response rates in mind, nine blocks were selected by systematic random sample with probability proportional to the number of dwelling units in the block; three dwelling units within a selected block were randomly selected; and then one person from a list of all persons 18 years and older within each selected dwelling unit was selected at random for the interview. For those NCs associated with the LCS, the target sample size was 50 interviews. The blocks were selected as a simple random sample; a systematic random sample of roughly 65.4 dwelling units per block were selected; and one person from a list of all persons 18 years and older within each selected dwelling unit was selected at random for the interview. Research assistants primarily interviewed participants face-to-face regarding different aspects about their neighborhoods. These responses were combined at the level of NCs in order to establish scales that demonstrate neighborhood characteristics.

For the Longitudinal Cohort Study (LCS), approximately 800-900 participants were sampled from each of the seven cohorts based on age at Wave 1 (birth/0, 3, 6, 9, 12, 15, and 18 years) from households in the 80 NCs mentioned above. The 80 NCs were sampled from 21 strata (7 racial/ethnic groups by 3 SES categories) intending to correspond to these 21 cells as close to equally as possible in order to reduce the confounding between race/ethnicity and SES. Wave 1 was conducted from 1994-1997

with a response rate of 75%. The LCS had reasonably high retention rates: at Wave 2 (1997-2000) 86% of the original sample and at Wave 3 (2000-2002) 77% of the original sample (Martin & Schoua-Glusberg, 2002). At each timepoint, participants filled out questionnaires to examine functioning across numerous domains: physical, social, psychological, behavioral, and academic. In addition to the youth, primary caregivers (e.g., the person found to spend the most time taking care of the child) were interviewed for all cohorts except 0 and 18. However, distinct research assistants administered caregiver vs. youth interviews. Data collection mainly consisted of face-to-face interviewing, but participants declining an in-person interview were administered a phone interview. Reimbursement included payment between $5 - $20 per interview, depending on age and wave of data collection, along with incentives such as free museum/aquarium passes and monthly drawing prizes.

The analytic sample for this study was drawn from youth in cohorts 9 and 12 (i.e., those who were 9 and 12 years old at Wave 1), who are pre- to early adolescents (defined as ages 10-19, WHO (2014)). In addition, only Latino youth were included in the current study. The youth did not directly answer questions on their ethnicity or culture. Thus, primary caregiver report was used to make distinctions, such as identifying themselves and their children as Latino. Examining this sample in greater detail, the majority of caregivers identified as Mexican (70%) and Spanish as their primary language (67%). The final sample for the current study is composed of 721 youth at Wave 1 (47.4% female, *M* age=10.60 years), with 583 youth at Wave 2 (47.3% female, *M* age = 12.64 years), and 456 youth at Wave 3 (48.2% female, *M* age = 15.10 years). Please see

Appendix A: Table 1 for a general chart of measures by Wave and by Reporter.

Measures

Community Violence Exposure

Exposure to community violence was measured using child report from the Exposure to Violence (ETV) questionnaire, specifically developed for PHDCN (Sampson et al., 1997). The ETV was adapted from a more widely used instrument, the Survey of Children's Exposure to Community Violence (SECV; Richters & Martinez, 1993; Richters & Saltzman, 1990; Selner-O'Hagan et al., 1998), which was created to measure the frequency of about 20 different forms of violence and violence-related activities (e.g., seeing someone stabbed with a knife; seeing someone shot) that a child may experience. At Wave 1, these experiences only involved witnessing violence. For those items endorsed by the child, subsequent questions were asked about location of violence, perpetrator, and time of event. A sum/count variable was created based on the child's endorsements. The SECV has been used in studies of urban minority youth with acceptable internal consistency: African-American adolescents (Brandt, Ward, Dawes & Fleisher, (2005)); and Latino adolescents (Epstein-Ngo et al., (2013)). In this study, the Cronbach's alpha was .55.

Neighborhood Characteristics: Objective

Two objective neighborhood characteristics were included. The two variables are based on the Systematic Social Observation (SSO) measure created for the PHDCN to assess neighborhood level disorder (Sampson et al., 2002; Sampson & Raudenbush, 1999). The researchers developed the SSO as a standardized instrument to observe block-

by-block the physical, social, and economic characteristics of neighborhoods. The SSO has two subscales: the physical disorder (e.g., litter on sidewalk, tagging graffiti) and social disorder (e.g., adults congregating on block, people drinking alcohol on block). Due to the high correlation between them and in consideration of the number of variables included in the models, a mean score was computed for the current study.

For the SSO, the National Opinion Research Center conducted the observations from June to October 1995 in 80 sampled Chicago neighborhoods. Driven down the designated blocks at 5 mph, research assistants were trained to observe the physical surroundings and log the characteristics of each block. Additionally, both sides of each block were videotaped. In the next step, research assistants were trained to code the videos of 15,141 block faces as well as to code the observer logs. Pairs of coders coded 90 block faces to confirm inter-coder reliability, with observations were compared and differences resolved. Subsequently, different observers coded a random sample of 10 percent of all block faces, and when compared to the original coding it revealed 98 percent inter-rater agreement. Both the physical (.98) and the social disorder (.83) subscales demonstrated high reliability coefficients (.98 and .83, respectively) by analyzing inter-(census) tract measurement for internal consistency reliability (Raudenbush & Sampson, 1999). The subscales also were significantly associated with survey data such as social cohesion and social control; census data such as concentrated poverty, as well as neighborhood crime victimization, which highlights divergent and convergent validity (Raudenbush & Sampson, 1999).

Neighborhood Characteristics: Subjective

Two subjective neighborhood characteristics were included based on adult report from the Community Survey (CS). (1) *Neighborhood activities and services* (14 items) represents programs/services for adolescents and neighborhood organizations. The second characteristic is (2) *collective neighborhood efficacy* (10 items), which measures social cohesion and informal social control in the neighborhood (Cronbach's alpha = .80 to .91; Sampson, Raudenbush, & Earls, 1997). Again, due to the high correlation between them and in consideration of the number of variables included in the models, a mean score was computed for the current study.

Acculturation

Acculturation was measured by 5 items from the demographic questionnaire completed by the primary caregivers: primary language spoken by caregiver; if they speak mostly or only Spanish with their children; watching TV mostly or only in Spanish; how much caregivers identify their customs reflecting their original culture. The items were summed to create a proxy acculturation scale, which is not ideal but understood to be necessary at times (Alegria, 2009). In this sample, Cronbach's alpha was .85.

Positive Family Quality

Family resolving. Family relationships and general shared environment were assessed using The Family Environment Scale (FES; Moos & Moos, 1994). The FES was completed by the primary caregiver of participants in cohorts 0-15 at Wave 1, measuring how he/she perceived the family's functioning. The original FES has 10 subscales grouped into 3 domains: relationship, personal growth, and system-maintenance

dimensions. The PHDCN overall selected to use three subscales: conflict, control, and moral/religious. This study utilized the FES subscale of Conflict, which includes 10 true-false items such as “Family members hardly ever lose their tempers” and “If there's a disagreement in our family, we try hard to smooth things over and keep the peace.” This project labeled this as “family resolving” because it is examining positive variables and other positive measures contributing to adolescent outcomes. Even though it is labeled as the “Conflict” subscale, 5 out of the 10 items focus on positive actions by family members (e.g., items quoted) and the other 5 items will be recoded to reflect positive aspects of family interactions, which matches the framework of the current study to focus more on positive contexts predicting self-efficacy. In recent research with PHDCN data, this subscale has exhibited moderate internal consistency for youth of all ethnicities combined (Skeer et al., 2011; Boyd, Gullone, Needleman, & Burt, 1997).

Family support. Perceived social support from family and friends was measured by The Provision of Social Relations (PSRS; Turner, Frankel, & Levin, 1983). The PSRS interview is answered by the child and covers questions about primary sources of help, sense of closeness to family members and friends, as well as presence or absence of feelings of loneliness (e.g., “No matter what happens, I know that my family will always be there for me should I need them,” “People in my family help me find solutions to my problems”). Apart from questions asking for a name and classification of a specific person, responses for the questions were coded as 1 = very true, 2 = somewhat true, 3 = not true. This study used the family support subscale, which has demonstrated good reliability in previous research (Milan, Turner et al., 1983; Turner, Grindstaff, & Phillips,

1990). Due to their high correlation and in order to reduce the number of variables in the models, a sum was created between the family resolving and family support subscales. In this study, the Cronbach's alpha for this new sum was .61.

School Connectedness

The school variables were measured by child report using the School Interview (Sampson et al., 1997), which was adapted from the school section of the Youth Interview Schedule (1990) used in the Philadelphia Family Management Study. As suggested by McNeeli & Falcy (2004), school connectedness encompasses safety, support, and belonging/engagement at school. To assess *safety*, nine "yes/no" questions were summed (e.g., are security guards posted at doors or in hallways?), where one negatively worded item was recoded so higher scores reflect more safety. To assess *support*, two items were used on a 4-point scale (e.g., You get along well with your teachers), where both items were recoded so higher scores meant better support. To assess *belonging/engagement*, four items on a 4-point scale (recoded so higher scores reflect positive belonging/engagement) and five "yes/no" items were used. Higher scores indicated more belonging/engagement. Again a sum score was computed in order to preserve a modest amount of variables in the models and for the sample size. The Cronbach's alpha was .58.

Self-efficacy

Self-efficacy was assessed by child report using a questionnaire designed in particular for the PHDCN: "Things I Can Do If I Try." It is composed of five domains: future efficacy (5 items: e.g., can make life better; can become successful), school

efficacy (7 items: can answer questions in school if try; can finish assignments if try), home efficacy (5 items: can get help from parents; can improve things at home), neighborhood/safety efficacy (6 items: feel safe if alone in neighborhood; can avoid gangs in neighborhood), and social efficacy (6 items: can always find a friend to do things with; can make new friends easily if they try). However, the social efficacy subscale was added at Wave 3, which means only a limited number of participants had valid data. Thus, this project did not use the social efficacy subscale. In previous research, the neighborhood/safety subscale has had low to average reliability (Sharkey, 2006) and the future and neighborhood subscales were combined to strengthen reliability in a recent study (Dupéré, Leventhal, & Vitaro, 2012). Each item was presented as two parallel statements from which the participant had to identify which one was more appropriate and to what extent (e.g., sort of true; very true). This resulted in a 4-point response scale, but the nine negatively worded items will be recoded so that low scores indicate positive self-efficacy. Then to improve interpretation, all scores will be reverse coded so that higher scores indicate positive self-efficacy. For Wave 2, the Cronbach's alphas were as follows: neighborhood efficacy = .43; future efficacy = .52; home efficacy= .68; school efficacy = .67. For Wave 3, the Cronbach's alphas were as follows: neighborhood efficacy = .57; future efficacy = .67; home efficacy= .79; school efficacy = .75.

CHAPTER THREE

RESULTS

Preliminary Analyses

Descriptives & Correlational Analyses

The correlations of the study variables are presented in Tables 2a and 2b and the means, standard deviations, and reliabilities of study variables are presented in Table 3 (Appendix A). Correlational analyses were conducted to assess the relations among all study variables. Numerous correlations were revealed to be significant. Those involving the main study constructs are reviewed. Correlational analyses revealed that gender was significantly and negatively related to ECV witnessing. With males coded as 1 and females coded as 2, being male was related to higher scores of ECV witnessing (r= -.104 p<.01). Gender was also significantly and positively correlated with school connectedness and T3 future efficacy, where being female was related to higher scores of school connectedness (r= .116, p<.01) and, to higher scores of T3 future efficacy (r= .098, p<.05). Acculturation was significantly and negatively correlated to the video data (r= -.116, p<.01). Higher acculturation was related to lower neighborhood observations of physical and social disorder. Acculturation was significantly and positively correlated to T2 neighborhood efficacy (r=.180, p<.01). Higher acculturation was also related to higher ECV witnessing (r= .088, p<.05).

The video data was significantly and negatively correlated to the neighborhood-level questionnaire data (r= -.244, p<.01). Lower levels of physical/social disorder were related to higher reports of social cohesion and community resources. The video data was also significantly and negatively correlated to neighborhood efficacy at T2 and T3 (r= -.149, p<.01; r= -.127, p<.01). Lower levels of physical/social disorder were related to higher scores on neighborhood efficacy at both timepoints. ECV witnessing was significantly and negatively correlated to future efficacy and home efficacy at T2 (r= -.110 p<.01; r= -.108 p<.01, respectively). ECV witnessing was negatively and significantly correlated to school connectedness (r= -.093, p<.05).

Positive family quality was significantly and positively correlated with many self-efficacy subscale scores such as T2 neighborhood efficacy (r= .146, p<.01) and T3 home efficacy (r= .137, p<.01). School connectedness was also significantly and positively correlated with many self-efficacy subscale scores. Unsurprisingly it was correlated with school efficacy at T2 and T3 (r= .251, p<.01; r= .156, p<.01, respectively). It was also correlated with future efficacy at both timepoints (r= .157, p<.05; r= .132, p<.05, respectively). School connectedness was also significantly and positively correlated with T2 home efficacy (r= .221, p<.01).

At Time 1, the total dataset of Latino youth in cohorts 9 and 12 had 721 participants. However, by Time 2, that was reduced to 583 due to attrition of 138 participants. In addition, for the school interview where the school connectedness items were derived, there were another 26 with missing data, which left 557. Then for the self-efficacy questionnaire, at Time 2, the 9-year-old cohort had 15 additional missing and the

12-year-old cohort had an additional 11 missing, leaving 557 remaining at Time 2. At Time 3, for the school connectedness and self-efficacy questionnaires, the 9-year-old cohort had 62-63 participants with missing data and the 12-year-old cohort had 64-65 participants with missing data. Conservatively, this left 455 participants at Time 3 due to attrition.

Analyses revealed that there were no significant differences between students with complete data and students who dropped out after Time 1 or had missing data. One set of t-tests revealed no significant differences between those participants with complete data and those with incomplete or missing data based on baseline demographic information: age, neighborhood cluster, and SES (range of *p*-values = .172 - .521). A second set of t-tests revealed only one significant difference for the neighborhood efficacy subscale at T3 ($t(454)=1.979$, p=.048). There were no significant differences between those participants with complete data and those with incomplete or missing data on the remaining study variables: video data mean; neighborhood questionnaire data mean; ECV witnessing T1; positive family quality T1; school connectedness T2; neighborhood efficacy T2; future efficacy T2; home efficacy T2; school efficacy T2; future efficacy T3; home efficacy T3; and school efficacy T3 (range of *p*-values = .073 - .968). Due to the limited baseline differences between those with complete data compared to those with incomplete data, MLR and WLSMV algorithms, two forms of model based imputation, were implemented to use all available cases. Previous research suggests that listwise deletion or mean imputation may lead to biased estimates when the missing data is "ignorable" (Scholmer, Bauman, & Card, 2010).

Confirmatory Factor Analysis

In order to prepare to conduct a test of invariance after identifying the best-fitting measurement model, the Time 2 self-efficacy data were randomized and divided into two sets. The first sub-sample (test sample, n = 363) was used to test the conceptual models, and the second sub-sample (validation sample, n = 363) was used to validate the factor structure of the final model. The items from the self-efficacy questionnaire were created to measure four domains of self-efficacy beliefs: neighborhood/safety efficacy, future efficacy, home efficacy, and school efficacy. The conceptual models for the current study were based on the previous work conducted by Ozdemir (2009): a unidimensional, 1-factor model; an uncorrelated 4-factor model (the 4 factors being the previously mentioned self-efficacy domains); a correlated 4-factor model; and a hierarchical/second-order model with a self-efficacy latent factor created from the 4 correlated factors.

For model estimation, Mplus 7.31 software was used (Muthén & Muthén, 2013). Since the items contributing to the self-efficacy questionnaire were on a 4-point Likert scale, they were considered ordinal in the CFA measurement model. Thus, the weighted least square parameter estimates with mean- and variance-adjusted chi-square test statistic (WLMSV) was used in order to provide a robust estimate of the model and buffer against any non-normality. It is also recommended to use a weighted least squares estimator with tetrachoric or polychoric correlations when the indicators of latent factors are measured on categorical or ordinal scales (Muthén & Muthén, 2013). The only item that was removed was one item previously measuring neighborhood efficacy because the item was the only one with a non-significant loading in the base model. In addition, it

was worded in an unclear manner: “Some kids feel like... they can do things to go places within a few blocks of their home safely.” It was removed from the CFA measurement models and subsequent analyses. Furthermore, due to use of WLSMV, the DIFFTEST function was used to test the significance in chi-square change between models.

In order to evaluate the models proposed in the current study, five indices were considered when assessing the overall model fit. One primary index that measured absolute fit was the maximum-likelihood goodness-of-fit chi-square (χ^2). This test identified whether the proposed covariance matrix was significantly different from the observed covariance matrix of measured variables, where a nonsignificant χ^2 value represented an acceptable model fit to the data. An additional index of absolute fit was the standardized root mean square residual (SRMR). SRMR was the standardized measure of the residuals between the observed data and the data predicted by the model, or how the observed data matrix differed from the predicted data matrix; it was suggested that SRMR <.08 confers acceptable model fit (Hu & Bentler, 1998). Likewise, the Weighted Root Mean Square Residual (WRMR) was a recently created index of absolute fit introduced by Muthén and Muthén. The WRMR used a variance-weighted approach meant for models with variables measured on different scales or have widely unequal variances (Muthén & Muthén, 2013; Yu, 2002). It had been tested with categorical variables and was also highly appropriate for non-normally distributed data. It was suggested that a value closer to 1 is better; however, the developers suggested that it was still an experimental index and the other indices should be given greater weight.

Relative fit indices were used to evaluate how the goodness-of-fit of the proposed model compares to that of a null model where sampling error accounts for the covariance between observed variables. The comparative fit index (CFI; Bentler, 1990) and the non-normed fit index/Tucker-Lewis index (NNFI/TLI; Bentler & Bonett, 1980) were the relative fit indices used, with higher values indicating better model fit. While some prominent recommendations advise that both CFI and NNFI/TLI values should be $\geq .95$ to denote a well-fitting model (Hu & Bentler, 1999), these values have been suggested to be more stringent, and that values $\geq .90$ can reflect acceptable fit (Marsh, Hau, & Wen, 2004). The root mean square error of approximation (RMSEA; Steiger & Lind, 1980) along with the SRMR listed above were used to evaluate model fit, with smaller values indicating less discrepancy and superior model fit, where values less than .05 indicated "close fit" and less than .10 indicated "acceptable fit" (Brown & Cudeck, 1993).

The fit statistics for the different models are presented in Tables 4-5 (See Appendix A). The one-factor model provided an adequate fit to the data, $\chi^2(230, N = 286) = 405.59$, RMSEA = .052, CFI = .905, TLI = .896, WRMR = 1.086. The orthogonal, uncorrelated four-factor model had a poorer fit with indices of absolute fit (RMSEA = .138) and relative fit (CFI = .327, TLI = .260). However, when allowing the factors to correlate, the 4-factor model fit the data significantly better than the unidimensional self-efficacy model, $\Delta \chi^2(6, N = 286) = 63.25$, $p < .0001$. These findings provide strong evidence that the different subscales capture separate dimensions of self-efficacy. The second-order model and the 4-factor correlated model exhibited similar variable levels of fit. In addition, it did not significantly improve the fit of the 4-factor

correlated model, $\Delta \chi^2(2, N = 286) = 1.084$, $p = .58$. Thus, due to these similarities and the fact that while the factors are correlated they remain distinct, it would make more sense to support the correlated 4-factor model (the items can be seen in Appendix A: Table 6 and the model can be seen in Appendix B: Figure 1).

The first factor was conceptualized as neighborhood efficacy. It involved a child maneuvering overall gang activity, one's personal fighting, and feelings of safety with friends or on the way to school. The second factor was conceptualized as future efficacy. This included an underlying theme of future orientation as well as a theme of potential to achieve a better life in the future with effort. Home efficacy was captured by the third factor. Relationships and interactions with parents are emphasized with both elements requiring effort from the child but also openness and availability from the parent. School efficacy represented the last factor. This scale included items ranging from the ability to complete work from specific subjects (like reading and math) as well as gauging the beliefs about being able to enact change through effort.

The stability of the final 4-factor correlated model was tested in the validation sample by examining the invariance of the model across the two randomized groups. This was done by examining the difference in chi-square when holding the factor loadings invariant by each latent factor. Thus, the program tested whether there is a significant difference between the models if those loadings are forced to be the same. If the chi-square difference test was not significant, then the two sets of data are invariant and the association between the latent variable and the indicators are not significantly different. However, if the chi-square difference test was significant after requiring the loadings to

be the same, that would suggest there was a significant difference in what is being measure between the two sets of data. Again due to the use of WLSMV, the recommendation of using the Mplus DIFFTEST function was followed. The 4-factor correlated model remained invariant across the two randomized groups for all factors (see Appendix A: Table 7). The model was additionally tested for invariance across time between the Time 2 and Time 3 self-efficacy data (see Appendix A: Table 8). The model remained invariant across the first three latent factors at Time 3 except for when the Neighborhood Efficacy T3 factor was included ($\Delta \chi^2(4, N = 286) = 11.742, p = .019$). Thus, the full model was not invariant across time and findings should be interpreted with caution because the neighborhood subscale might not be measuring the same construct over time.

Multiple Regression/Path Analyses

Many of the questionnaire/scale items in the analyses were binary or ordinal, which required creating latent variables based on categorical indicators as well as interaction terms. The models involving this number of categorical-based latent variables did not converge. Thus, the subsequent analyses using latent variables were not able to be conducted as planned. Since this was the case, latent variables were not used starting from Hypothesis 2 in order to maintain consistency. Instead observed variables (such as subscale sums and means) will be used in order to run these analyses.

Hypothesis 2 stated that higher scores on exposure to community violence (ECV) witnessing would be related to lower levels of self-efficacy whereas higher scores on school connectedness would be related to higher levels of self-efficacy. To test

Hypothesis 2, participant scores on ECV witnessing and school connectedness, respectively, were entered into two separate models, using the subscales of future efficacy, neighborhood efficacy, home efficacy, and school efficacy as dependent variables. The covariates entered into the model were gender, SES, acculturation, and Time 2 self-efficacy subscales scores. Thus, two path models were tested. Since the outcome variables for Hypothesis 2 and 3 are means and continuous, maximum likelihood parameters that are robust to non-normality and non-independence (MLR) were used instead of WLSMV, which is used for models with categorical outcomes.

Results from the path analyses for Hypothesis 2 are presented in Tables 9 and 10 (see Appendix A). For ECV witnessing predicting self-efficacy, the model had an adequate fit to the data, $\chi^2(12, N = 451) = 33.48$, RMSEA = .063, CFI = .960, TLI = .914, SRMR = .061. ECV witnessing was generally negatively related to the Time 3 self-efficacy subscales as predicted but with the control variables included in the model there were no significant loadings. However, in this model there were main effects of the covariates. Gender significantly positively predicted T3 future efficacy scores, where being female predicted greater T3 future efficacy scores ($\beta = .101$ $p = .036$). SES significantly positively predicted T3 neighborhood efficacy scores, where higher SES predicted greater T3 neighborhood efficacy scores ($\beta = .149$ $p = .003$).

For school connectedness predicting self-efficacy, the model provided an adequate fit to the data, $\chi^2(12, N = 451) = 30.43$, RMSEA = .058, CFI = .966, TLI = .926, SRMR = .055. Again while the effects were in the direction as predicted, higher school connectedness scores were only significantly associated with greater school efficacy

scores, β = .126 p = .005, and with greater future efficacy scores, β = .111 p = .018. School connectedness was not related to home or neighborhood efficacy. Again the same main effect of SES on T3 neighborhood efficacy appeared (β = .213 p < .001). In addition, acculturation significantly negatively predicted T3 neighborhood efficacy, where lower acculturation predicted greater T3 neighborhood efficacy scores, β = -.165 p = .003. (See Appendix B: Figure 2).

Moderation Analyses

Hypothesis Three stated that associations between ECV witnessing and the self-efficacy scores would be moderated by scores of positive family quality, school connectedness, acculturation, as well as observed and subjective neighborhood-level variables, respectively. Specifically, it was expected that participants who reported higher ECV witnessing and who experienced higher levels of positive family quality would display increased levels of self-efficacy compared to participants who experienced lower levels of positive family quality. It was expected that participants who reported higher ECV witnessing and who reported higher levels of school connectedness would display increased levels of self-efficacy compared to participants who reported lower levels of school connectedness. It was expected that participants who reported higher ECV witnessing and who reported higher levels of acculturation would display increased levels of self-efficacy compared to participants who reported lower levels of acculturation. It was expected that participants who reported higher ECV witnessing and who lived in neighborhoods with lower levels of observed (video-based) physical/social disorder and higher levels of subjective (questionnaire) neighborhood services/collective

efficacy, respectively, would display increased levels of self-efficacy compared to participants who lived in neighborhoods with higher levels of physical/social disorder and lower levels of neighborhood services/collective efficacy.

The predictor and moderator variables were centered in all models to allow for greater ease of interpretation and to control for multicollinearity. To test Hypothesis Three, the centered ECV witnessing variable was multiplied by each respective moderator variable to create appropriate interaction terms. Again the covariates entered into each model were gender, SES, acculturation, and Time 2 self-efficacy subscales scores (except acculturation was removed as a covariate when used as a moderator).

Results of the moderation analyses for Hypothesis 3 are presented in Tables 11-17 (see Appendix A). Contrary to expectations, positive family quality did not moderate the relation between ECV witnessing and the scores for future efficacy, neighborhood efficacy, or school efficacy. However, there were several main effects. Similar main effects were found for gender predicting future efficacy; SES predicting neighborhood efficacy; and acculturation predicting neighborhood efficacy. In addition, there were significant main effects for positive family quality in the prediction of home efficacy, β = .159, p <.01; neighborhood efficacy, β = .144, p=.008; and future efficacy, β = .101, p = .026. Specifically, those youth who reported higher levels of positive family quality also reported higher levels of home efficacy, neighborhood efficacy, and future efficacy from T2 to T3. In addition, a significant interaction of ECV witnessing and positive family quality was found for home efficacy, β = .098, p = .020 (See Appendix B: Figure 3). Simple slopes tests indicated that for participants with lower levels of positive family

quality, higher levels of ECV witnessing were significantly associated with lower levels of home efficacy from T2 to T3, β = -.117, p = .018 (See Appendix B: Figure 4). For participants with higher levels of positive family quality, there was no significant relationship between ECV witnessing and home efficacy, β = .043, p = .489. (See See Appendix B: Figure 4).

Contrary to expectations, school connectedness did not moderate the relation between ECV witnessing and the scores for future efficacy, neighborhood efficacy, home efficacy or school efficacy. Similar main effects were found for school connectedness predicting future efficacy and school efficacy as well as acculturation predicting neighborhood efficacy.

Contrary to expectations, acculturation did not moderate the relation between ECV witnessing and the scores for future efficacy, neighborhood efficacy, home efficacy or school efficacy. Once again, similar main effects were found for gender predicting future efficacy; SES predicting neighborhood efficacy; and acculturation predicting neighborhood efficacy.

To test the remaining multilevel models of Hypothesis 3, hierarchical linear modeling (HLM) was conducted using HLM 7. Eight hierarchical linear models were conducted to examine the relation of ECV witnessing on the self-efficacy subscales, based on the moderators of video data and neighborhood-level questionnaire data, respectively. Each participant was identified as living in a certain neighborhood cluster (NC) as identified by the study coordinators (please see “Methods” above) and the video data and neighborhood-level questionnaire data were also identified from which NC the

data were collected. For the hierarchical linear models, each of the four self-efficacy subscales were the outcome variable, respectively (Future efficacy; Neighborhood efficacy; Home efficacy; and School efficacy for each moderator, which resulted in eight models). ECV witnessing was entered as a Level 1 predictor. Gender, SES, Acculturation, and T2 score of each self-efficacy subscale were entered as Level 1 covariates. Video data and neighborhood-level questionnaire data were entered as Level 2 predictors in their own respective models. Cross-level interactions were created using ECV witnessing and: video data and neighborhood-level questionnaire data, respectively. Thus, final models had individual-level self-report data (Level 1) nested within neighborhood clusters that related to neighborhood-level data (Level 2), predicting self-efficacy, which required an analytic strategy that incorporates hierarchical data. When calculating the fixed effects and variance components of each of the eight models, chi-square statistics that were reported were based on only 44 of 54 NCs that had sufficient data for computation.

Contrary to expectations, neither the video data of physical and social disorder nor the questionnaire data of neighborhood-level activities/services and collective efficacy moderated the relation between ECV witnessing and any of the self-efficacy scores. However, similar main effects were found for gender predicting future efficacy; SES predicting neighborhood efficacy; and acculturation predicting neighborhood efficacy, respectively with each neighborhood-level moderator model. In addition, the variance of the predicted relationship between individuals' witnessing and the T3 school efficacy (level 1) across the NCs was significant for the video data model and the

neighborhood-level questionnaire data (level 2), p=.001 and p= .006, respectively. However, the variance accounted for was only 0.7% and 0.6%, respectively.

Additional Testing of Gender Effects

One significant interaction was found from the moderation analyses: the context of positive family quality as a moderator for ECV witnessing predicting home efficacy. However, given the gender differences in response to ECV, gender was examined as a moderator in the interaction between ECV and positive family quality on home efficacy. Hypothesis 4 stated that the effects of the positive contexts (in this case, positive family quality) will be stronger for boys compared to girls, buffering the relationship of exposure to community violence and predicting higher levels of self-efficacy (in this case, home efficacy), such that the model will fit better for males compared to the females.

Results of the moderation analyses for Hypothesis 4 are presented in Tables 18-20. As predicted, the interaction was significant for males, $\beta = .137$, $p = .03$, but not significant for females, $\beta = .092$, $p = .074$. However, it is recommended that the interaction term be examined for invariance across genders. The chi-square difference test revealed a nonsignificant difference, $\Delta \chi^2 (2, N = 557) = .6503$, $p = .419$. This suggests that while there was a significant interaction for the males, it is not significantly different from the model for the females.

CHAPTER FOUR

DISCUSSION

Studying positive development in Latino youth and the potential ecological assets that can promote this outcome are important for present-day researchers. The current study investigated exposure to community violence predicting self-efficacy based on the contexts of positive family quality, school connectedness, and favorable neighborhood conditions among a community sample of Latino youth. The outcome of self-efficacy and family and school contexts may have been more based in the microsystem and mesosystem but some elements of the exosystem were able to incorporated through the neighborhood data.

For Hypothesis 1, it was an aim to study the structure of self-efficacy beliefs in a sample of Latino youth. The findings from the CFA supported the multidimensional structure of a self-efficacy measure. Contrary to expectations and Hypothesis 2, exposure to community violence-witnessing was not significantly related to the self-efficacy subscales although the data had an adequate fit to the model. However, consistent with Hypothesis 2, school connectedness was significantly associated with school efficacy and future efficacy, but not home efficacy or neighborhood efficacy. Contrary to expectations and Hypothesis 3, school connectedness did not moderate the relation between exposure to community violence-witnessing and the self-efficacy subscales. Contrary to

expectations and Hypothesis 3, the objective measure of neighborhood (the video data) and the subjective measure of neighborhood (the questionnaire data) did not moderate the relation between exposure to community violence-witnessing and the self-efficacy subscales. Consistent with Hypothesis 3, positive family quality moderated the association between exposure to community violence-witnessing and self-efficacy, but only for the home efficacy subscale. While the exposure to community violence-witnessing and positive family quality interaction was significant for males as predicted in Hypothesis 4, it was not significantly different from the nonsignificant interaction for the females. Using SEM and latent factors would have provided the advantage of parsing out variance that may otherwise be unexplained. While I was able to conduct the CFA, I was unable to use this methodology for the type of analyses I had planned due to statistical restrictions.

Confirmatory Factor Analysis

The current study supports the multidimensional structure of self-efficacy for Latino youth in the dataset as it was found across all youth in the work by Ozdemir (2009). This multidimensional nature also supports the domain-specific self-efficacy theory postulated by Bandura (1997, 2006). The CFA models suggested the self-efficacy beliefs corresponded to distinct but interrelated domains of school, future, home, and neighborhood. In the current study, the factor structure was found to be stable across two

samples, which emphasizes the multidimensional nature how Latino youth perceive their capabilities.

However, between Time 2 and Time 3, the model did not remain stable for the neighborhood efficacy subscale. This could be a result of the significant difference between the completers and missing data. However, the frequency of missing data was not different between neighborhood efficacy and the other 3 subscales. In addition, the neighborhood efficacy subscale includes relevant items such as "can figure out ways to do things safely in neighborhood with their friends," "cannot avoid gangs in the neighborhood," and "cannot avoid being scared on way to school." However, the neighborhood efficacy subscale exhibited low internal reliability at Time 2 and Time 3, which is similar to previous research using this dataset ($\alpha = .56$ at Wave 2 and $\alpha = .62$ at Wave 3; Sharkey, 2006). This low internal reliability could have also affected the non-invariance between Time 2 and Time 3 because perhaps it would implicate that the items did not capture the experience of the youth in the same way.

It would be important to consider the timing of when the data were collected. This would help look more at the chronosystem of the ecological context. For the self-efficacy questionnaire, the Time 2 data were collected between 1997-2000 and the Time 3 data between 2000-2002. The extant literature considers that community violence increased in the 1980s and reached some of the highest levels in the early 1990s (Cole, 1999; Buka et al., 2001). When examining the the neighborhood efficacy items singularly, the ones that did not remain stable were: #7: Cannot avoid gangs in neighborhood; #2R: Can do things safely with friends in neighborhood; #11: cannot avoid being scared on the way to

school, and the ones that were invariant were: #15R: feel safe when alone in neighborhood because know how to take care of themselves, and #21: have trouble avoiding fights in neighborhood even if they try. Perhaps the youth were still experiencing effects of the peak of community violence during Time 2 so they had difficulty navigating gangs, feeling safe, and feeling scared going to school. But around Time 3 these effects may have diminished somewhat but perhaps the more vague, not necessarily gang-related "fights" are to be expected during these teenage years and perhaps being alone remained safer because you are not with a group of people and are less likely to appear affiliated with a particular gang.

On the other hand, perhaps these items were experienced or understood differently by the youth as they got older because they potentially experienced greater gang and safety threats in their neighborhoods. The minority youth in disadvantaged, urban neighborhoods also begin to doubt and lose trust in police enforcement and the justice system when they are racially profiled, treated with harassment, or left without help (Carr, Napolitano, and Keating, 2007; Sunshine and Tyler, 2003; Warner, 2003). Whether the youth are being monitored by neighborhood adults for safety or by older peers and adults for safety within a gang-type setting, this relationship with an older person is associated with the youth reporting higher levels of neighborhood efficacy (Sharkey, 2006) or more feelings of being able to maneuver the neighborhood more successfully and with less fear (Dill & Ozer, 2015). Also as children age they are more likely to witness assault and violence and experience direct victimization (Finkelhor et al, 2005), and a review of the literature has found significantly stronger effects on

internalizing and externalizing symptoms for adolescent samples compared to child samples (Fowler et al., 2009).

Other recent studies have attempted to examine the effects of more specific domains that may affect the self-efficacy of youth of immigrant families, such as Mexican-American youth. For example, many Mexican-American youth engage in "language-brokering" for their families, where they translate and interpret different forms of communication: in-person, written text, and legal/professional documents (Tse, 1996). One study found that Mexican-American emerging adults who do not identify language-brokering as a burden also reported higher levels of self-efficacy and self-esteem (Weisskirch, 2013). These cultural factors would add more ways to study interaction between systems like the macrosystem of culture and microsystem of the individual and family. With additional unique factors such as language brokering and acculturative stress for these Latino youth, it will be helpful in future studies to investigate more than just future, home, neighborhood, and school domains of self-efficacy.

Main Effects of Exposure to Community Violence-Witnessing and School Connectedness

While the loadings between the self-efficacy subscales and exposure to community violence-witnessing were negative as expected, there were no significant relationships. In previous research, it was found that higher levels of exposure to community violence were indirectly related to lower levels of self-efficacy to control aggressive behavior (McMahon et al., 2009). While this was a longitudinal study, it examined the difference between the beginning of one school year and the end of the next

school year. However, the difference for the current study ranges between 5-6 years. This greater time interval could attenuate the effect of exposure to community violence at T1 to self-efficacy at T3, especially when self-efficacy T2 is included as a covariate. Furthermore, these youth were either 9 or 12 at the beginning of the study, and if approximately 5 or 6 years passed by the third wave of data, these youth would be 15 or 18. Thus, the chronosystem is involved again. This represents a significant passage of time for adolescent development across all domains: cognitive, physical, and social-emotional (Santrock, 2014). In addition, the T1 measure for exposure to community violence only measured witnessing of community violence rather than direct victimization. Witnessing community violence could be viewed as less severe than victimization. A meta-analysis on community violence literature found that victimization more strongly predicted symptomatology compared to witnessing or hearing about community violence (Fowler et al., 2009). Thus, only having witnessing in the current study might mean the effects would not be as strong across time as direct victimization.

Of all the self-efficacy subscales, school connectedness was positively related to school efficacy and future efficacy. It is unsurprising that school connectedness and school efficacy are related. The school efficacy subscale includes items such as "Cannot do well in school even if try," "can usually finish assignments and homework if they try," "no matter how hard they try, cannot do the work expected in school" and school connectedness includes items such as "Homework is a waste of time" (reverse coded) and "you usually finish your homework." Thus, there is considerably overlap in the information captured by these two measures. The future efficacy subscale includes items

such as “feel like have control over what can happen in the future,” “Can be successful person if work at it,” and “feel like they will go far in this world if they try.” Being engaged in one’s school and doing well academically would help develop a sense of success and competency for youth, which would likely suggest to them that they could succeed in the future. While this is not directly related to academic or school topics, the school connectedness measure also included items related to support from teachers (i.e., “you get along with your teachers,” “teachers have control of classrooms”) and belonging at school (“You like school a lot,” involvement in different groups, like orchestra or student government). The previous literature has shown that the support of at least one adult can relate to positive outcomes for youth (Garbarino, 2008) and having teacher support can relate to improved educational achievement and future aspirations for youth in general (Eccles et al., 1993; Sritchfield & Picou, 1982) and also for Latino youth in particular (Sanchez et al., 2005). Achieving scholastically has been associated with higher future orientation in minority youth as well (Adelabu, 2007). However, this may relate to a multitude of other variables, such as English-language proficiency, generational status, or acculturation.

Obtaining direct information about culture from the youth would have been preferred in this study. If a Latino youth can speak English in school and not only can succeed academically but not be discriminated against socially, his/her future efficacy and orientation would likely be greater. If a Latino youth is 2nd or 3rd generation, perhaps the family is more acculturated and more established, which could relate to better school achievement and higher future efficacy because that youth knows his/her family has

"succeeded" in living in the US. However, there is also research that suggests an immigrant paradox across many behaviors, not least of all academic achievement. A meta-analysis found that second-generation students performed the best academically and it subsequently diminished (Duong et al., 2015). In addition, other studies have also found that low family SES or underresourced school was related to lower academic achievement for Latino youth (Ingoldsby et al., 2004; Suárez-Orozco et al., 2010). Once again, context, such as neighborhood, is one of many elements that need to be considered beyond individual-level characteristics.

Nevertheless, in both exposure to community violence-witnessing and school connectedness models, some of the path coefficients were very low. These weak relationships could perhaps reflect the lack of precision and error from the lower reliabilities of some of these measures. This error or variability among the items comprising the exposure to community violence-witnessing score and school connectedness score might have been parsed out better had latent variables been possible compared to using them as observed indicators.

Moderating Contexts of Positive Family Quality, School Connectedness, Acculturation, and Neighborhood

The positive ecological contexts of positive family quality, school connectedness, acculturation and neighborhood were predicted to influence the association between exposure to community violence-witnessing and self-efficacy subscales. Specifically, higher levels of these positive ecological contexts were expected to provide protective, buffering effects for those youth reporting higher levels of exposure to community

violence-witnessing would still be able to report higher levels of the self-efficacy subscales. Contrary to expectations, no significant interactions were found between exposure to community violence-witnessing and school connectedness, acculturation, and either type of neighborhood variable (objective or subjective), respectively, on any of the self-efficacy subscales.

However, various main effects were revealed. Higher SES predicted greater neighborhood efficacy for these youth from T2 to T3. Thus, living in more affluent neighborhoods meant that the youth felt they could better navigate their neighborhoods. However, since the items on this subscale mostly focus on safety and violence, perhaps the youth from these higher SES areas view themselves as having more efficacy because they have not faced as many issues with neighborhood dangers. For example, in a study based on the same larger PHDCN dataset, those youth living in higher SES neighborhoods also reported higher levels of neighborhood efficacy (Sharkey, 2006).

Acculturation had a negative relationship to neighborhood efficacy. Those youth whose caregivers reported higher acculturation had less neighborhood efficacy from T2 to T3. Many of these Latino families were immigrant families, and, while not exclusively so, typically Latino immigrant families will live in majority Latino neighborhoods (MacDonald & Sampson, 2012). If children having families who are more acculturated to the Anglo-culture but are living in primarily Latino immigrant communities that still focus on the ethnic culture, the youth may not identify themselves as skilled to handle their neighborhood.

While acculturation conventionally appears adaptive, this study demonstrates what some of the past literature has also demonstrated: that acculturation to Anglo-culture can have negative outcomes. As immigrant youth spend more in the US, the initial relief and benefits seen from leaving their home country fade and the daily challenges from economic inequality, individualism, and discrimination become more evident (Portes & Rumbaut, 1990). In addition, Mexican-origin youth who increasingly acculturate to dominant US society are at greater risk for depression and anxiety symptoms (Gonzales et al., 2006; Potochnick and Perreira 2010; Umaña-Taylor & Alfaro, 2009). Overall, those who acculturate to the mainstream society may lose the benefits from the values of their home culture.

This study also supports the extensive literature on how positive family quality and support predicts better outcomes, such as greater neighborhood efficacy and school efficacy in this case. Minority youth exposed to community violence but who resided with supportive families were able to navigate their neighborhoods with less violent acts compared to similarly exposed youth from less supportive families (Gorman-Smith, Henry & Tolan, 2004). Latino students frequently state that their families are their primary support for following their educational goals (Ginorio & Grignon, 2000; Ginorio & Huston, 2001), and that higher parental support predicted higher school meaningfulness reported by Latino middle- and high-school students (Brewster & Bowen, 2004). The Latino youth from the current study also seemed to benefit from parental support and positive communication across different domains.

In addition, positive family quality did moderate the relation between exposure to community violence-witnessing and home efficacy. Some items from the positive family quality composite include items such as “Family members hardly ever lose their tempers” (reverse coded); “If there's a disagreement in our family, we try hard to smooth things over and keep the peace” (reverse coded); “People in my family help me find solutions to my problems.” The home efficacy scale includes items such as “Can get help from parents if child wants it” and “Can talk with parents when they want about things that make them feel bad.” Thus, there is a clear overlap between the two variables and the relevant skills captured in either. Previous research has shown that having good parental support, such as maternal closeness or parent attachment, in the context of community violence exposure can be a protective against symptomatology, such as anxiety or externalizing symptoms (Hammack et al., 2004; Salzinger et al., 2011).

Youth who reported higher levels of exposure to community violence-witnessing experienced lower levels of home efficacy if they had lower levels of positive family quality. However, this relation was not significant for participants with higher levels of positive family quality. Thus, for youth with a family context where problems are typically resolved maladaptively and children perceive less parental support, it provides a vulnerable-reactive factor pattern (Luthar, Cicchetti, & Becker, 2000). With the increased stress of more exposure to community violence-witnessing, it exacerbated the negative quality of the home and the youth had diminished beliefs about how successfully they could engage with their parents. However, this finding demonstrates this potential for a strong enough relationship between Time 1 data (positive family quality) and Time 3 data

(home efficacy T3). Literature on the longstanding effects of the parent-child relationship from childhood, where elements like secure attachment and social development even from being a toddler can influence later relationships and adjustment in adolescence and adulthood (Jafari-Bimmel et al., 2006; Sroufe et al., 2005).

Gender Considerations

Any difference between genders for exposure to community violence-witnessing and positive family quality was not extensive enough since the interaction remained invariant. However, gender consistently appeared as a main effect on the outcomes. Being female predicted greater future efficacy at Time 3 compared to Time 2. This underscores some of the mixed findings in the extant literature. Some previous research suggests that Latinas typical ascribe to traditional gender roles in Latino families (Arbona, 1990), especially with the common values of *familismo*, the duty they would have to their families such as being the wife/mother and doing housework (Chacón, 1982); not being allowed to move away, especially as a daughter (Guerra, 1996); and even if she moved away, being homesick causing an interruption to one's college education (Ginorio et al., 2002). It is also important to note that while decreases in self-esteem for girls is typical in adolescence, these decreases are greater for Latinas than for other groups (AAUW, 1991).

On the other hand, when studying the children of immigrants, girls have more recently been found to have better academic outcomes than their male counterparts (Portes & Rumbaut, 2001; Suárez-Orozco & Qin-Hilliard, 2004). For example, female children of Mexican immigrants not only do better academically than boys but often also

convey higher future expectations and career aspirations (Qin-Hilliard, 2003; Smith, 2002; Tafoya-Estrada, 2004). In addition, some qualitative research has shown that, around the same time as the current study's data were collected, girls in a sample of Latino youth rated educationally-related "hoped-for" selves more highly compared to occupational and food-related selves (Yowell, 2000). Thus, doing well academically may moderate or mediate the relationship between gender and having future efficacy, a vision of one's self being able to succeed in the future. These changes also could reflect the slowly changing traditional views of Latino immigrant families, perhaps especially with increased acculturation.

Limitations

There are a number of limitations to address concerning this study. The majority of the data were collected from self-report measures. By using self-report questionnaires, one concern may be shared method variance, which could generate inflated associations between variables. The dataset itself also presented a number of challenges. One such challenge is that the same measures were not necessarily used at each time point and new measures were added later. This made it more difficult to try to predict certain variables and control for other variables. The missingness within the data and the way items were coded also presented limitations. For example, on certain measures, if a respondent answered "no" to one question, the following questions were left blank/missing. In addition, there was a low frequency of physical or social disorder in the video data and of exposure to violence. This likely reduced variance in the data, which could have influenced the lack of outcomes.

Similarly, the low reliabilities on a number of the measures are a limitation and could be another reason there were not very many significant findings. Many of the measures were not true separate scales but rather specified items from other relevant validated scales. In this study, the initial aim of using SEM and the creation of latent variables would have allowed for additional CFAs on those constructs to determine their best fit to the data and for minimizing error in the subsequent modeling. This could be a future consideration to help mitigate some of these challenges. The different sources of data could also potentially attenuate the effects. For example, the acculturation items were completed by primary caregivers and the neighborhood-level questionnaires were completed by adult residents, both around Time 1, and these data are being used to predict the self-efficacy scores completed by the youth at Time 3. Furthermore, the items were only from the demographic questionnaire, not a separate acculturation scale. They were more unidimensional, constrained to looking at the level of acculturation to "Anglo"/Western culture, rather than also considering enculturation (the level of attachment to one's ethnic culture) or other factors (Alegria, 2009). The difference in years between waves of data is a limitation and could have attenuated the effects between the variables. Additionally, the historical age of the dataset could be viewed as a limitation.

The limited generalizability of these results is a concern as well. This study only examined Latino youth from primarily urban communities. These youth likely experience multiple stressors concurrently at differing levels. For example, a youth from the study could be having conflicts with peers and/or family members, could be facing

discrimination, and would experience these problems in the context of poverty-related stress, community violence, and institutional discrimination. In addition, the youth from this study could have the unique issues of immigrant families such as speaking a different language and acculturative stress. While youth from more affluent communities experience stressors such as interpersonal conflict and discrimination, the effects of these stressors are not exacerbated by the context of urban poverty. Thus, the results of the current study can only be generalized to other Latino youth from urban, underresourced communities.

Strengths

While this study has certain limitations, there are also several strengths. The focus on Latino youth is compelling. The Hispanic population in the United States now represents the largest minority group in the country (US Census Bureau, 2013). Thus, it is imperative to investigate the consequences of stressors, like exposure to community violence, and the development of personal characteristics, like self-efficacy, in this burgeoning segment of the population. It is typically understood that community violence rose in the 1980s and peaked in the early 1990s (Cole, 1999; Buka et al., 2001). The first time wave for the dataset was collected in Chicago between 1994-1995, which corresponds to this peak of violence. Community violence remains a huge concern, especially in Chicago. Thus far, Chicago has had the highest homicide rate for the first quarter of 2016 that suggests over 500 homicides by the end of the year, which has not occurred since 2008 (Gormer, 2016).

While much of the data were collected using self-report measures from the youth, this study also included the advantages of multiple informants by having self-reports from the caregivers as well as including coded video data. It also capitalizes on a longitudinal design in examining how self-efficacy may develop in Latino youth. Another strength of this study is that it examined the positive outcome of self-efficacy. Instead of only focusing on negative outcomes as a result of exposure to community violence, the current study investigated self-efficacy as an outcome related to positive youth development. In addition, this study was able to expand on previous work by Ozdemir (2009) in using CFA to show that the "Things I Can Do If I Try" questionnaire effectively captures self-efficacy for Latino youth as well. In addition, this study incorporates both objective and subjective measure of neighborhood with the video data and neighborhood-level questionnaires as per recommendations by Nicotera (2007) and Roosa et al (2003).

Conclusions and Future Directions

With the U.S. Latino population comprising more than half of the country's population growth based on census data from the decade between 2000 and 2010 (Passel, Cohn and Lopez, 2011), it is crucial to bring empirical attention to Latino youth. The current study expands the literature on violence exposure and positive youth development, such as self-efficacy, involving Latino youth since this has not been studied as much even though they often experience high levels of chronic stress, such as violence, poverty, and discrimination (Aisenberg & Herrenkohl, 2008; Reingle et al., 2013). The current study could be enhanced by future research in several ways. While

gender did not have an unambiguous effect in the present project, studying any current changes or updates to ethnic gender beliefs or more targeted effects will be helpful. This project reiterates the importance of a positive family environment to influence positive outcomes over time. This becomes particularly salient for Latino youth and immigrant families with a value system based on *familismo* and duty. Thus, exploring the different Latino communities and the nuances across this heterogeneous population will enrich the available knowledge. For example, studying enculturation and attachment to one's culture instead of just a focus on closeness/distance from acculturation to a majority culture will benefit the literature. Likewise, this positive family quality is a strength or asset for Latino families that could provide an ecological context that would promote positive youth development. Using or creating interventions to capitalize on family and these values would be important to support favorable outcomes. These interventions or programs could be disseminated through school-, community-, or faith-based groups.

However, being an immigrant family also corresponds to other multiple stressors, such as families being split and caregivers remaining behind in the home country while youth emigrate to the new country. In addition, there are the stressors of undocumented status and the potential fear of deportation; immigrating to low-SES neighborhoods; language barriers; and discrimination. While this project would like to highlight developmental assets and positive youth development, it is also important to consider different stressors, such as in the framework of adverse childhood experiences (ACEs) (Felitti et al., 1998; Foege, 1998). But now instead of retrospective approaches to ACEs, more attempts at prospective approaches should be conducted. Thus, one should attempt

to capture both cumulative developmental assets as well as cumulative stressors in the contexts of Latino youth and immigrant families to better understand what accounts for psychosocial outcomes.

Such overall research can help tailor school policies for families to help encourage school achievement for Latino youth who face high drop-out rates; to find ways on accessing neighborhood services/programs; to helping these youth find the optimal balance of more individual-based self-efficacy and family-based responsibility.

APPENDIX A

ALL TABLES

Table 1. Study Variables by Wave and Reporter

Variables from Longitudinal Cohort Studies (LCS)		
COHORTS 9 & 12		
CONSTRUCTS	**MEASURE**	**REPORTER**
WAVE 1		
Exposure to community violence	Witnessing subscales from "Exposure to Violence"	Child
Positive family quality	Family conflict subscale from "Family Environment Scale" and Family support subscale from "Provision of Social Relations"	Caregiver; Child (respectively)
Acculturation	Demographic questionnaire	Caregiver
WAVE 2		
School connectedness	School interview	Child
Self-efficacy	4 subscales from "Things I Can Do If I Try"	Child
WAVE 3		
Self-efficacy	4 subscales from "Things I Can Do If I Try"	Child
Variables from Community Survey (CS)		
Subjective neighborhood quality	Questionnaire items on perceived neighborhood activities/services and collective neighborhood efficacy	Adult resident
Variables from Systematic Social Observation (SSO)		
Objective neighborhood quality	Checklist for physical & social disorder	Coded video

Table 2a. Correlations

	1	2	3	4	5	6	7	8
1.age	--							
2.gender	.013	--						
3.SES	-.058	-.059	--					
4.AccultT1[a]	-.063	.049	.532**	--				
5.VidPreT1[b]	-.029	.056	-.235**	-.116**	--			
6.QrePreT1[c]	.010	-.057	.041	.061	-.244**	--		
7.WitnT1[d]	.167**	-.104**	.013	.088*	.051	-.013	--	
8.PosFamT1[e]	-.049	.027	.090*	.013	-.029	.057	.021	--
9.ScConT2[f]	-.030	.116**	-.057	-.069	.022	-.047	-.093*	.077
10.NEffT2[g]	.146**	.023	.207**	.180**	-.149**	.030	-.027	.038
11.FEffT2[h]	.009	.050	.085*	.069	-.004	-.096*	-.110**	.089*
12.HEffT2[i]	-.143**	.016	.051	.068	-.034	-.019	-.108*	.066
13.SEffT2[j]	-.028	.064	.141**	.059	-.079	-.071	-.044	.105*
14.NEffT3[k]	.029	.003	.201**	.000	-.127**	.038	-.036	.146**
15.FEffT3[l]	-.005	.098*	.073	.031	-.048	-.043	-.011	.090
16.HEffT3[m]	-.114*	-.042	-.005	-.028	.072	.004	-.073	.137**
17.SEffT3[n]	-.064	.012	.061	-.014	-.032	-.051	-.059	.113*

Table 2b. Correlations continued

	9	10	11	12	13	14	15	16	17
1.age									
2.gender									
3.SES									
4.AccultT1[a]									
5.VidPreT1[b]									
6.QrePreT1[c]									
7.WitnT1[d]									
8.PosFamT1[e]									
9.ScConT2[f]	--								
10.NEffT2[g]	.075	--							
11.FEffT2[h]	.157**	.359**	--						
12.HEffT2[i]	.221**	.336**	.416**	--					
13.SEffT2[j]	.251**	.401**	.515**	.494**	--				
14.NEffT3[k]	.072	.365**	.197**	.215**	.217**	--			
15.FEffT3[l]	.132**	.202**	.284**	.240**	.249**	.444**	--		
16.HEffT3[m]	.069	.052	.130**	.337**	164**	.353**	.436**	--	
17.SEffT3[n]	.156**	.147**	.233**	.248**	.267**	.452**	.646**	.527**	--

** Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level
[a] AccultT1 – acculturation measure recorded at T1; [b]VidPreT1 – neighborhood video data recorded before T1; [c]QrePreT1- subjective questionnaire recorded before T1; [d]WitnT1 – exposure to violence-witnessing at Time 1; [e]PosFam – positive family quality at Time 1; [f]ScConT2 – school connectedness at Time 2; [g]NEffT2 – neighborhood efficacy subscale at Time 2; [h]FEffT2 – future efficacy subscale at Time 2; [i]HEffT2 – home efficacy subscale at Time 2; [j]SEffT2 – school efficacy subscale at Time 2; [k]NEffT3–neighborhood efficacy subscale at Time 3; [l]FEffT3 – future efficacy subscale at Time 3; [m]HEffT3 – home efficacy subscale at Time 3; [n]SEffT3 – school efficacy subscale at Time 3

Table 3. Means, standard deviations, and reliabilities for study constructs

Measure	Mean	Standard Deviation	Cronbach's alpha	# of items
Age	10.60	1.54	-	-
Gender	--	--	-	-
SES	-.699	1.19	-	-
Acculturation T1	7.09	3.63	.85	5
Video data	1.12	.292	-	-
Neighborhood qrre data	1.13	.376	-	-
Witnessing T1	1.84	1.47	.55	8
Positive Family Quality T1	17.68	2.84	.61	10
School Connectedness T2	22.42	3.47	.58	14
Nbhd Efficacy T2	3.03	.551	.43	5
Future Efficacy T2	3.45	.475	.52	5
Home Efficacy T2	3.27	.573	.68	6
School Efficacy T2	3.40	.501	.67	7
Nbhd Efficacy T3	3.11	.587	.57	5
Future Efficacy T3	3.52	.463	.67	5
Home Efficacy T3	3.19	.624	.79	6
School Efficacy T3	3.39	.503	.75	7

Table 4. Measurement model on a split half of Time 2 self-efficacy data

Model	X^2	df	RMSEA	CFI	TLI	WRMR
One factor self-efficacy model	405.59	230	.052	.905	.896	1.086
4 uncorrelated factors model	1478.77	230	.138	.327	.260	2.772
4 correlated factors model	337.23	224	.042	.939	.931	.959
Hierarchical model of 4 correlated factors contributing to a second-order self-efficacy latent factor	337.42	226	.042	.940	.933	.962

(The Four Factors are: **Home Efficacy; School Efficacy; Neighborhood Efficacy; and Future Efficacy**)

Table 5. Chi-Square difference testing on different CFA measurement models

Model tested	ΔX^2	Δ df	*p*
1 factor vs. 4 correlated factors	63.25	6	<.0001
4 correlated factors vs. 4 uncorrelated factors	394.89	6	<.0001
4 correlated factors vs. 2nd order	1.084	2	.5815

Table 6. Standardized factor loadings for CFA

Subscales	Test Sample (N=221)	Validation Sample (N=230)
Neighborhood T2		
TA7: Cannot avoid gangs in neighborhood	.747	.649
TA2R: Can do things safely with friends in neighborhood	.326	.376
TA11: cannot avoid being scared on the way to school	.417	.558
TA15R: feel safe when alone in neighborhood because know how to take care of themselves	.228	.345
TA21: have trouble avoiding fights in neighborhood even if they try	.475	.490
Future Efficacy T2		
TA8A: there is no reason to try because will not be able to make lives better	.622	.552
TA5R: feel like have control over what can happen in the future	.371	.334
TA12R: Can be successful person if work at it	.706	.728
TA20R: feel like they will go far in this world if they try	.669	.576
TA23: no matter what they do, they will not be able to make themselves happy in the future	.558	.626
Home Efficacy T2		
TA22R: can make things better at home with parents if they try	.802	.699
TA3: no matter what they do, cannot get parents to listen to them	.476	.544
TA8R: Can get parents to do things they like to do	.599	.619
TA13R: Can get help from parents if they want it	.734	.708
TA16R: Can talk with parents when they want about things that make them feel bad	.617	.693
TA19R: Can be themselves with parents when they want to	.462	.451

School Efficacy T2		
TA10: Cannot do well in school even if try	.790	.629
TA1R: Can understand math if work at it	.431	.445
TA4: Cannot figure out answers in school even when they try	.600	.639
TA6: no matter how hard they try, cannot do the work expected in school	.591	.667
TA9R: can understand what they read if work at it	.501	.559
TA14R: can usually finish assignments and homework if they try	.548	.656
TA17R: can make things better in school if they try	.663	.694

Table 7. Invariance testing of CFA measurement models between randomized groups at Time 2

							Model contrasted with previous model:		
Model	X^2	df	RMSEA	CFI	TLI	WRMR	ΔX^2	Δ df	*p*
1.Baseline model	726.75	490	.046	.924	.922	1.410	--	--	--
2.Neighborhood efficacy factor held invariant	719.26	494	.045	.928	.926	1.421	3.681	4	.451
3.Future efficacy factor also held invariant	709.69	498	.043	.932	.931	1.425	1.976	4	.740
4.Home efficacy factor also held invariant	701.391	503	.042	.937	.936	1.429	2.027	5	.845
5.School efficacy factor also held invariant	701.04	509	.041	.939	.939	1.452	8.036	6	.235

Table 8. Invariance testing of CFA measurement models between Time 2 and Time 3

							Model contrasted with previous model:		
Model	X^2	df	RMSEA	CFI	TLI	WRMR	ΔX^2	Δ df	*p*
1.Baseline model	1312.36	961	.026	.957	.954	1.060	--	--	--
2.Future efficacy factor held invariant	1315.72	965	.025	.957	.954	1.072	7.431	4	.115
3.Home efficacy factor also held invariant	1314.09	970	.025	.958	.955	1.078	5.321	5	.378
4.School efficacy factor also held invariant	1299.33	976	.024	.961	.958	1.079	1.043	6	.984
5.Neighborhood efficacy attempted to be held invariant	1313.01	980	.025	.959	.957	1.100	11.742	4	.019

Table 9. ECV Witnessing predicting self-efficacy subscales

Model	X^2	df	Scaling factor	RMSEA	CFI	TLI	SRMR
Test of model fit	31.092	12	1.0901	.061	.965	.888	.049

Future Efficacy T3	***β***	**SE**	***p***
Gender	.101	.048	.036
SES	.039	.049	.424
AccultT1	.007	.054	.896
Future Efficacy T2	.197	.042	<.001
Witnessing T1	.019	.048	.700

Neighborhood Efficacy T3	***β***	**SE**	***p***
Gender	.000	.047	.996

SES	.149	.050	.003
AccultT1	-.070	.049	.151
Neighbd EfficacyT2	.330	.045	<.001
Witnessing T1	-.058	.047	.219

Home Efficacy T3	***β***	**SE**	***p***
Gender	-.058	.047	.223
SES	-.046	.055	.408
AccultT1	.000	.054	.996
Home Efficacy T2	.272	.049	<.001
Witnessing T1	-.055	.046	.241

School Efficacy T3	***β***	**SE**	***p***
Gender	-.018	.049	.717
SES	.038	.054	.484
AccultT1	-.025	.052	.630
School Efficacy T2	.196	.044	<.001
Witnessing T1	-.080	.047	.091

Table 10. School Connectedness predicting self-efficacy subscales

Model	X^2	df	Scaling factor	RMSEA	CFI	TLI	SRMR
Test of model fit	27.211	12	1.0954	.055	.972	.910	.043

Future Efficacy T3	***β***	**SE**	***p***
Gender	.085	.048	.074
SES	.065	.053	.218
AccultT1	-.018	.057	.755
Future Efficacy T2	.174	.042	<.001
SchConnectedness T2	.110	.050	.027

Neighborhood Efficacy T3	***β***	**SE**	***p***
Gender	.004	.047	.929
SES	.213	.053	<.001
AccultT1	-.165	.055	.003
Neighbd EfficacyT2	.328	.044	<.001
SchConnectedness T2	.058	.043	.179

Home Efficacy T3	***β***	**SE**	***p***
Gender	-.055	.048	.254
SES	-.023	.054	.673
AccultT1	-.031	.053	.561
Home Efficacy T2	.277	.049	<.001
SchConnectedness T2	.026	.050	.605

School Efficacy T3	***β***	**SE**	***p***
Gender	-.020	.048	.671
SES	.065	.053	.218
AccultT1	-.047	.055	.388
School Efficacy T2	.183	.046	<.001
SchConnectedness T2	.134	.046	.004

Table 11. Positive family quality moderating the relation between Witnessing & Self-efficacy subscales

Model	X^2	df	RMSEA	CFI	TLI	SRMR
Test of model fit	84.721	36	.051	.916	.893	.058

Future Efficacy T3	***β***	**SE**	***p***
Gender	.107	.048	.025
SES	.058	.051	.253
AccultT1	-.022	.056	.700
Future Efficacy T2	.186	.041	<.001
Centered Witnessing T1	-.082	.048	.087
Centered Positive Family Quality T1	.112	.045	.052
Witn_PosFamQual	.068	.046	.137

Neighborhood Efficacy T3	***β***	**SE**	***p***
Gender	-.001	.047	.975
SES	.204	.052	<.001
AccultT1	-.165	.054	.002
Neighbd EfficacyT2	.324	.044	<.001
Centered Witnessing T1	-.048	.046	.294

Centered Positive Family Quality T1	.134	.055	.014
Witn_PosFamQual	.008	.055	.889

Home Efficacy T3	***β***	**SE**	***p***
Gender	-.059	.046	.204
SES	-.025	.052	.629
AccultT1	-.032	.053	.544
Home Efficacy T2	.250	.047	<.001
Centered Witnessing T1	-.053	.046	.242
Centered Positive Family Quality T1	.164	.047	<.001
Witn_PosFamQual	.093	.042	.027

School Efficacy T3	***β***	**SE**	***p***
Gender	-.013	.048	.796
SES	.053	.053	.323
AccultT1	-.055	.055	.317
School Efficacy T2	.191	.043	<.001
Centered Witnessing T1	-.082	.048	.087
Centered Positive Family Quality T1	.112	.045	.012
Witn_PosFamQual	.052	.041	.207

Table 12. ECV Witnessing x Positive Family Quality Interaction: Simple slopes: Low

Model	X^2	df	Scaling factor	RMSEA	CFI	TLI	SRMR
Test of model fit	84.720	36	1.0369	.051	.916	.893	.059

Home Efficacy T3	***β***	**SE**	***p***
Gender	-.059	.046	.204
SES	-.025	.052	.629
AccultT1	-.032	.053	.544
Home Efficacy T2	.250	.047	<.001
Centered Witnessing T1	-.127	.051	.012
Low Centered Positive Family Quality T1	.164	.047	<.001
Witn_LowPosFamQual	.112	.050	.024

Table 13. ECV Witnessing x Positive Family Quality Interaction: Simple slopes: High

Model	X^2	df	Scaling factor	RMSEA	CFI	TLI	SRMR
Test of model fit	84.721	36	1.0369	.051	.916	.893	.058

Home Efficacy T3	***β***	**SE**	***p***
Gender	-.059	.046	.204
SES	-.025	.052	.629
AccultT1	-.032	.053	.544
Home EfficacyT2	.250	.047	<.001
Centered Witnessing T1	.021	.061	.735
High centered Positive Family Quality T1	.164	.047	<.001
Witn_HighPosFamQual	.126	.057	.026

Table 14. School connectedness moderating the relation between ECV Witnessing & Self-efficacy subscales

Model	X^2	df	Scaling factor	RMSEA	CFI	TLI	SRMR
Test of model fit	110.875	36	1.0818	.063	.864	.827	.066

Future Efficacy T3	***β***	**SE**	***p***
Gender	.090	.048	.059
SES	.064	.052	.219
AccultT1	-.031	.058	.597
Future Efficacy T2	.178	.041	<.001
Centered Witnessing T1	.032	.048	.499
Centered School Connectedness T2	.109	.052	.035
Witn_SchConn	.049	.052	.347

Neighborhood Efficacy T3	***β***	**SE**	***p***
Gender	.004	.048	.942
SES	.208	.053	<.001
AccultT1	-.156	.056	.005
Neighbd Efficacy T2	.326	.044	<.001
Centered Witnessing T1	-.055	.047	.244
Centered School Connectedness T2	.046	.044	.291
Witn_SchConn	-.059	.047	.202

Home Efficacy T3	***β***	**SE**	***p***
Gender	-.054	.048	.264
SES	-.022	.053	.672
AccultT1	-.033	.054	.547
Home Efficacy T2	.267	.049	<.001
Centered Witnessing T1	-.059	.047	.215
Centered School Connectedness T2	.005	.052	.921
Witn_SchConn	-.020	.051	.688

School Efficacy T3	***β***	**SE**	***p***
Gender	-.024	.048	.618
SES	.059	.054	.273
AccultT1	-.057	.055	.302
School Efficacy T2	.178	.045	<.001
Centered Witnessing T1	-.071	.047	.132
Centered School Connectedness T2	.120	.049	.015
Witn_SchConn	.019	.049	.695

Table 15. Acculturation moderating the relation between ECV Witnessing & Self-efficacy subscales

Model	X^2	df	Scaling factor	RMSEA	CFI	TLI	SRMR
Test of model fit	84.646	32	1.0373	.056	.905	.875	.059

Future Efficacy T3	***β***	**SE**	***p***
Gender	.111	.048	.020
SES	.064	.051	.213
Future Efficacy T2	.187	.041	<.001
Centered Witnessing T1	.020	.047	.670
Centered Acculturation	-.021	.057	.714
Witn_ Acculturation	.032	.047	.489

Neighborhood Efficacy T3	***β***	**SE**	***p***
Gender	.010	.047	.838
SES	.208	.052	<.001
Neighbd Efficacy T2	.325	.044	<.001
Centered Witnessing T1	-.047	.047	.319
Centered Acculturation T1	-.167	.055	.002
Witn_ Acculturation	-.004	.047	.929

Home Efficacy T3	***β***	**SE**	***p***
Gender	-.050	.047	.295
SES	-.018	.053	.736
Home Efficacy T2	.256	.047	<.001
Centered Witnessing T1	-.054	.048	.256
Centered Acculturation T1	-.033	.052	.533
Witn_ Acculturation	.033	.053	.537

School Efficacy T3	***β***	**SE**	***p***
Gender	-.006	.049	.906
SES	.059	.053	.267
School Efficacy T2	.192	.043	<.001
Centered Witnessing T1	-.078	.047	.096
Centered Acculturation T1	-.052	.055	.346
Witn_Acculturation	.048	.051	.347

Table 16a. Video data moderating the relation between ECV Witnessing & Future efficacy

Final estimation of fixed effects:

Fixed Effect	Coefficient	*t*-ratio	*p*-value
For INTRCPT1, β_0			
INTRCPT2, γ_{00}	3.376315	21.339	<0.001
VID_MEAN, γ_{01}	0.106797	0.846	0.401

For GENDER slope, β_1			
INTRCPT2, γ_{10}	0.111209	2.524	0.012
For SES slope, β_2			
INTRCPT2, γ_{20}	0.022858	1.011	0.313
For ACC slope, β_3			
INTRCPT2, γ_{30}	-0.001346	-0.188	0.851
For WITNESS slope, β_4			
INTRCPT2, γ_{40}	0.112006	1.515	0.136
VID_MEAN, γ_{41}	-0.103520	-1.625	0.110

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	0.03244	0.00105	42	29.93755	>0.500
WITNESS slope, u_4	0.04630	0.00214	42	46.14980	0.304
level-1, *r*	0.44398	0.19712			

Table 16b. Video data moderating the relation between ECV Witnessing & Neighborhood efficacy

Final estimation of fixed effects:

Fixed Effect	Coefficient	*t*-ratio	*p*-value
For INTRCPT1, β_0			
INTRCPT2, γ_{00}	3.392078	17.329	<0.001
VID_MEAN, γ_{01}	-0.026206	-0.168	0.868
For GENDER slope, β_1			
INTRCPT2, γ_{10}	0.037512	0.691	0.490
For SES slope, β_2			
INTRCPT2, γ_{20}	0.108245	3.879	<0.001
For ACC slope, β_3			
INTRCPT2, γ_{30}	-0.020777	-2.356	0.019
For WITNESS slope, β_4			
INTRCPT2, γ_{40}	0.078244	0.803	0.426
VID_MEAN, γ_{41}	-0.094722	-1.128	0.264

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	0.05608	0.00314	42	36.39940	>0.500
WITNESS slope, u_4	0.07977	0.00636	42	57.11718	0.060
level-1, *r*	0.54376	0.29568			

Table 16c. Video data moderating the relation between ECV Witnessing & School efficacy

Final estimation of fixed effects:

Fixed Effect	Coefficient	*t*-ratio	*p*-value
For INTRCPT1, β_0			
INTRCPT2, γ_{00}	3.577807	20.087	<0.001
VID_MEAN, γ_{01}	-0.053400	-0.372	0.711
For GENDER slope, β_1			
INTRCPT2, γ_{10}	0.021515	0.449	0.653
For SES slope, β_2			
INTRCPT2, γ_{20}	0.024849	1.010	0.313
For ACC slope, β_3			
INTRCPT2, γ_{30}	-0.008170	-1.051	0.294
For WITNESS slope, β_4			
INTRCPT2, γ_{40}	0.005012	0.057	0.955
VID_MEAN, γ_{41}	-0.035097	-0.458	0.649

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	0.09191	0.00845	42	48.20283	0.236
WITNESS slope, u_4	0.08113	0.00658	42	75.84980	0.001
level-1, *r*	0.47948	0.22990			

Table 16d. Video data moderating the relation between ECV Witnessing & Home efficacy

Final estimation of fixed effects:

Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	3.383218	0.224457	15.073	52	<0.001
VID_MEAN, γ_{01}	-0.042104	0.180229	-0.234	52	0.816
For GENDER slope, β_1					
INTRCPT2, γ_{10}	-0.061652	0.060529	-1.019	318	0.309
For SES slope, β_2					
INTRCPT2, γ_{20}	0.006917	0.031073	0.223	318	0.824
For ACC slope, β_3					

INTRCPT2, γ_{30}	-0.005422	0.009846	-0.551	318	0.582
For WITNESS slope, β_4					
INTRCPT2, γ_{40}	-0.148676	0.102502	-1.450	52	0.153
VID_MEAN, γ_{41}	0.097855	0.088547	1.105	52	0.274

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	0.10376	0.01077	42	48.00671	0.242
WITNESS slope, u_4	0.07080	0.00501	42	48.98188	0.213
level-1, *r*	0.61073	0.37300			

Table 17a. Neighborhood Questionnaire data moderating relation between ECV Witnessing & Future efficacy

Final estimation of fixed effects:

Fixed Effect	Coefficient	*t*-ratio	*p*-value
For INTRCPT1, β_0			
INTRCPT2, γ_{00}	3.713370	28.476	<0.001
QRE_MEAN, γ_{01}	-0.191156	-1.936	0.058
For GENDER slope, β_1			
INTRCPT2, γ_{10}	0.104809	2.373	0.018
For SES slope, β_2			
INTRCPT2, γ_{20}	0.027008	1.224	0.222
For ACC slope, β_3			
INTRCPT2, γ_{30}	-0.001046	-0.146	0.884
For WITNESS slope, β_4			
INTRCPT2, γ_{40}	-0.094397	-1.727	0.090
QRE_MEAN, γ_{41}	0.080009	1.727	0.090

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	0.03134	0.00098	42	28.22213	>0.500
WITNESS slope, u_4	0.04967	0.00247	42	45.72971	0.320
level-1, *r*	0.44242	0.19574			

Table 17b. Neighborhood Questionnaire data moderating relation between ECV Witnessing & Neighborhood efficacy

Final estimation of fixed effects:

Fixed Effect	Coefficient	*t*-ratio	*p*-value
For INTRCPT1, β_0			
INTRCPT2, γ_{00}	3.375091	20.761	<0.001
QRE_MEAN, γ_{01}	0.003202	0.026	0.979
For GENDER slope, β_1			
INTRCPT2, γ_{10}	0.039799	0.728	0.467
For SES slope, β_2			
INTRCPT2, γ_{20}	0.119638	4.367	<0.001
For ACC slope, β_3			
INTRCPT2, γ_{30}	-0.021992	-2.481	0.014
For WITNESS slope, β_4			
INTRCPT2, γ_{40}	-0.072106	-0.982	0.331
QRE_MEAN, γ_{41}	0.037568	0.608	0.546

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	0.05251	0.00276	42	36.06587	>0.500
WITNESS slope, u_4	0.08137	0.00662	42	57.65435	0.054
level-1, *r*	0.54469	0.29668			

Table 17c. Neighborhood Questionnaire data moderating relation between ECV Witnessing & School efficacy

Final estimation of fixed effects:

Fixed Effect	Coefficient	*t*-ratio	*p*-value
For INTRCPT1, β_0			
INTRCPT2, γ_{00}	3.715574	25.240	<0.001
QRE_MEAN, γ_{01}	-0.172428	-1.546	0.128
For GENDER slope, β_1			
INTRCPT2, γ_{10}	0.014691	0.306	0.760
For SES slope, β_2			
INTRCPT2, γ_{20}	0.031254	1.301	0.194
For ACC slope, β_3			
INTRCPT2, γ_{30}	-0.007719	-0.991	0.323
For WITNESS slope, β_4			
INTRCPT2, γ_{40}	-0.105187	-1.595	0.117
QRE_MEAN, γ_{41}	0.062252	1.126	0.265

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	0.08116	0.00659	42	46.32631	0.298
WITNESS slope, u_4	0.07638	0.00583	42	73.69317	0.002
level-1, *r*	0.47982	0.23022			

Table 17d. Neighborhood Questionnaire data moderating relation between ECV Witnessing & Home efficacy

Final estimation of fixed effects:

Fixed Effect	Coefficient	*t*-ratio	*p*-value
For INTRCPT1, β_0			
INTRCPT2, γ_{00}	3.377161	18.103	<0.001
QRE_MEAN, γ_{01}	-0.046261	-0.327	0.745
For GENDER slope, β_1			
INTRCPT2, γ_{10}	-0.060728	-0.997	0.319
For SES slope, β_2			
INTRCPT2, γ_{20}	-0.000946	-0.031	0.975
For ACC slope, β_3			
INTRCPT2, γ_{30}	-0.004815	-0.487	0.626
For WITNESS slope, β_4			
INTRCPT2, γ_{40}	-0.067353	-0.869	0.389
QRE_MEAN, γ_{41}	0.026832	0.410	0.684

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	0.10404	0.01082	42	47.87504	0.246
WITNESS slope, u_4	0.07779	0.00605	42	50.24750	0.179
level-1, *r*	0.61056	0.37279			

Table 18. Baseline model for testing ECV Witnessing x Positive Family Quality interaction predicting Home Efficacy across gender

Model	X^2	df	Scaling factor	p-value	RMSEA	CFI	TLI	SRMR
Test of model fit	115.850	64	1.0355	<.001	.055	.911	.883	.068

FEMALES:

Home Efficacy T3	***β***	**SE**	***p***
SES	-.072	.072	.315
AccultT1	-.045	.069	.517
Home Efficacy T2	.287	.066	<.001
Centered Witnessing T1	-.152	.065	.020
Centered Positive Family Quality T1	.074	.058	.202
Witn_PosFamQual	.085	.052	.101

MALES:

Home Efficacy T3	***β***	**SE**	***p***
SES	.022	.075	.771
AccultT1	-.002	.080	.979
Home Efficacy T2	.184	.068	.007
Centered Witnessing T1	.046	.064	.474
Centered Positive Family Quality T1	.272	.072	<.001
Witn_PosFamQual	.131	.064	.042

Table 19. Invariance testing of ECV Witnessing x Positive family quality interaction predicting Home Efficacy between males and females

Model	X^2	df	Scaling factor	p-value	RMSEA	CFI	TLI	SRMR
Test of model fit	116.643	65	1.0293	<.001	.055	.911	.885	.068

Table 20. Chi-square difference testing for invariance of ECV x Positive Family Quality interaction

Model tested	ΔX^2	Δ df	*p*
Baseline model vs. holding interaction term invariant across genders	.6325	1	.426

APPENDIX B

ALL FIGURES

Figure 1. Final CFA measurement model with parameter estimates

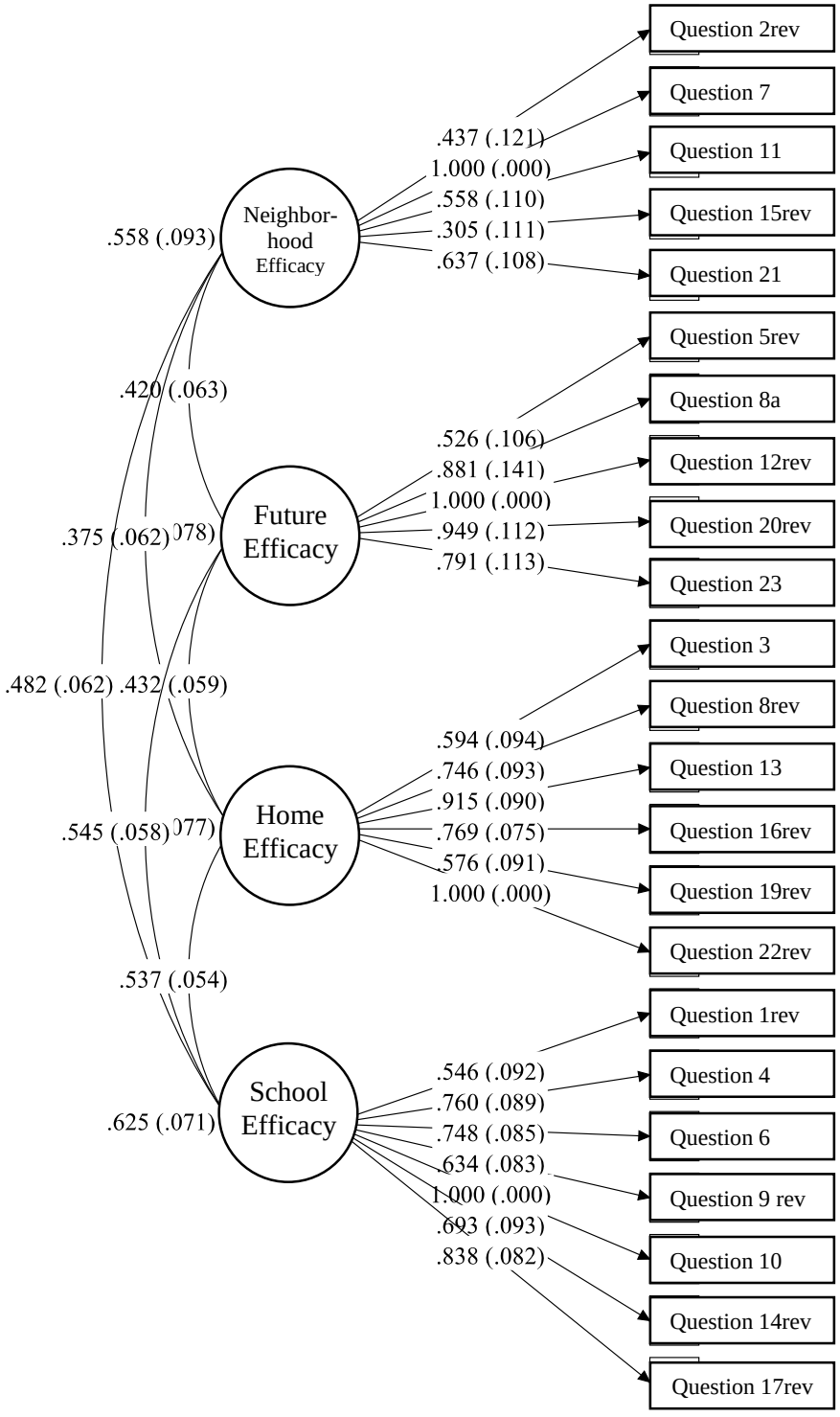


Figure 2. School connectedness predicting self-efficacy subscales (only significant loadings depicted)

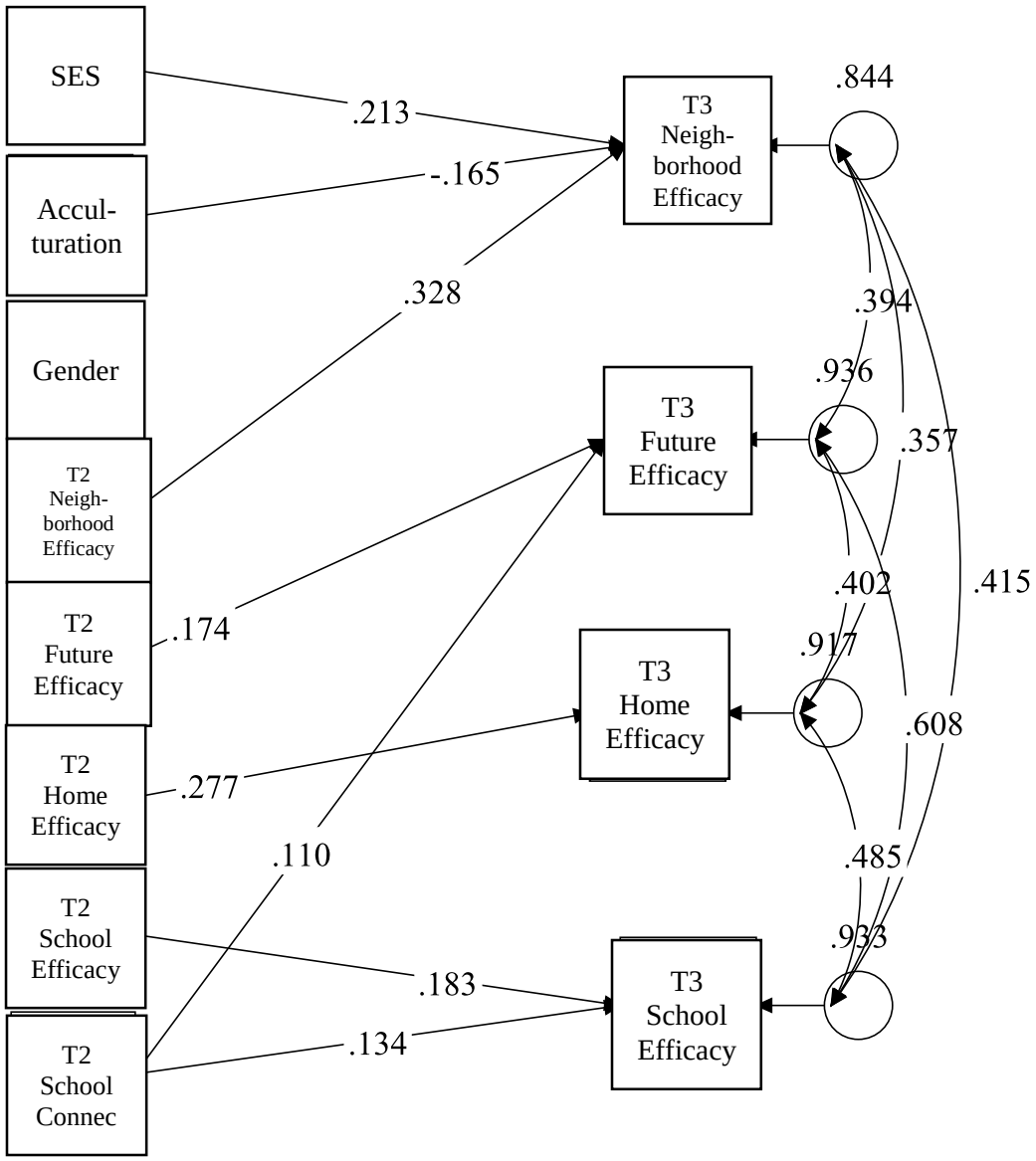


Figure 3. Positive family quality moderating the relation between Witnessing & Self-efficacy subscales (only significant loadings depicted)

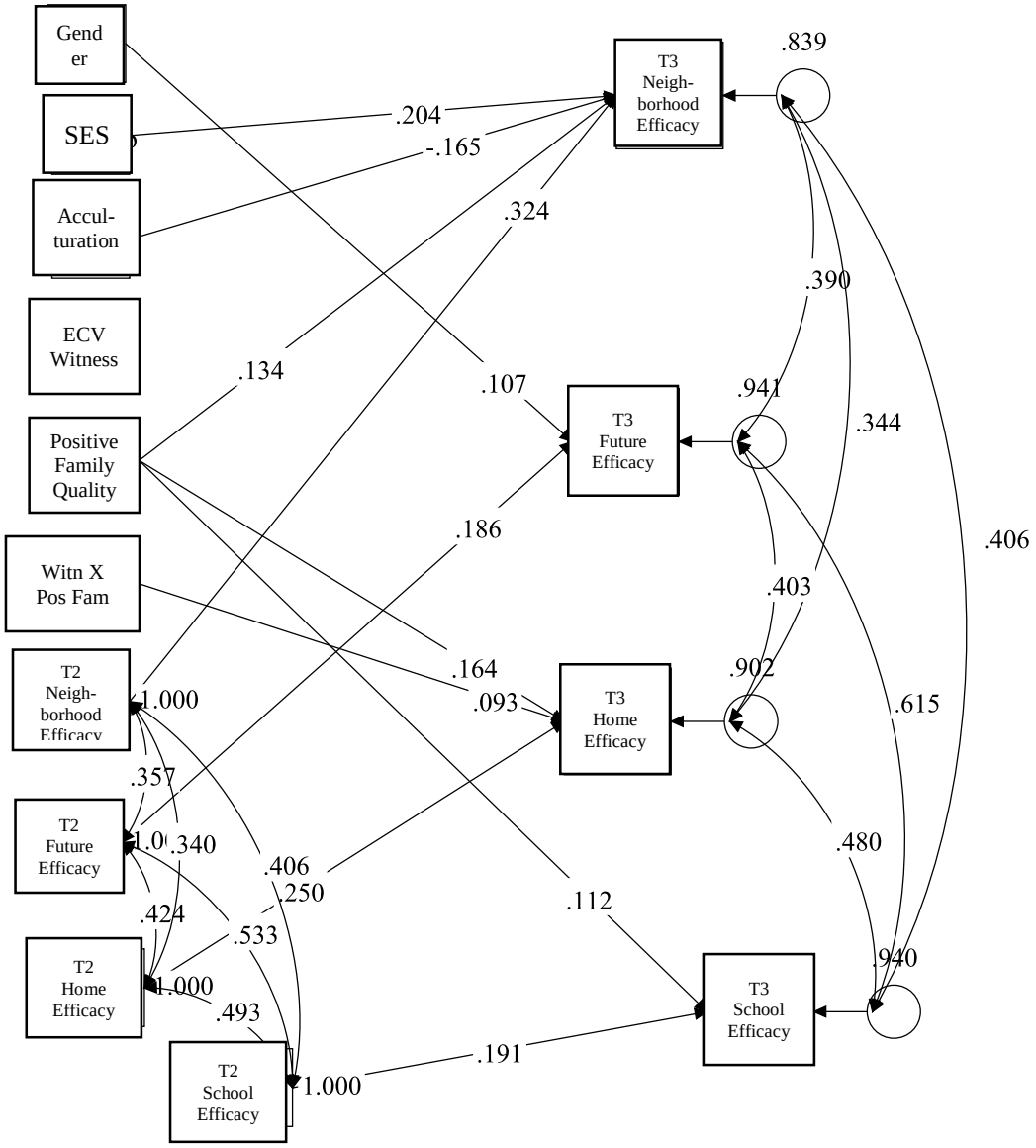
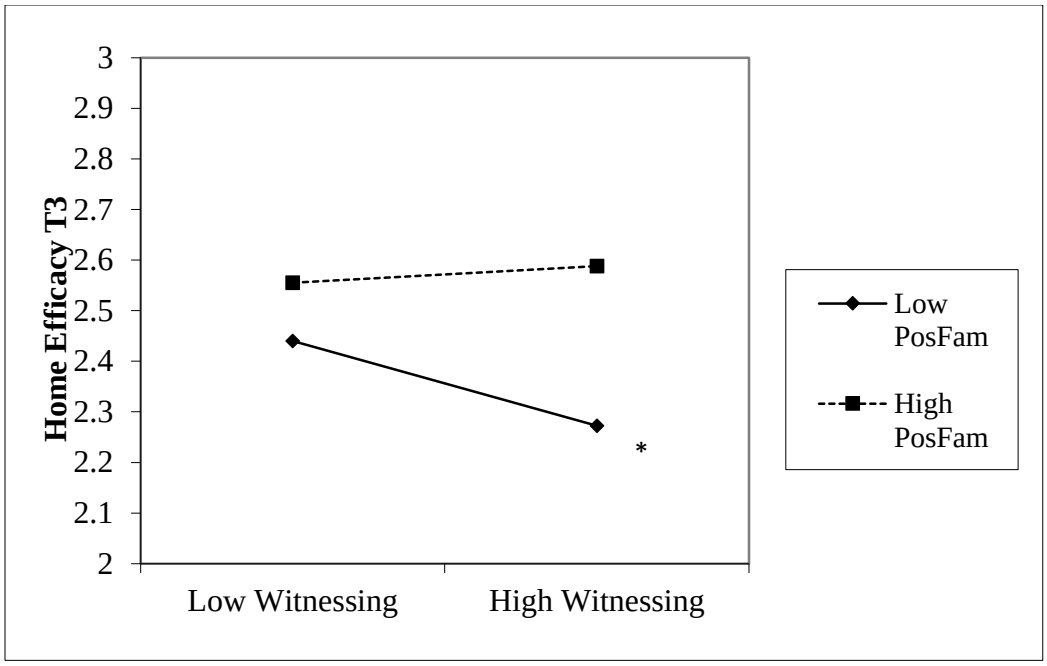


Figure 4. ECV Witnessing Predicting Home Efficacy T3 based on Positive Family Quality



*significant interaction

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VITA

In 2007, Dr. Zakaryan graduated *cum laude* from Harvard University, majoring in Literature. During his undergraduate studies at Harvard, Dr. Zakaryan wrote an Honors Thesis in the Literature Department but studied psychology in his classes and outside research projects. He worked with the Victims of Violence office, specifically on a study examining narrative therapy for women who have suffered domestic violence. This fueled his interest in working with populations exposed to trauma and violence.

After graduation, Dr. Zakaryan was a research coordinator for the University of Miami Department of Psychiatry. After gaining this valuable work and research experience, he pursued graduate school in Clinical Psychology in order to research questions examining risk factors and resilience factors in minority youth exposed to violence, especially Latino youth. At Loyola, Dr. Zakaryan has worked as a teaching and research assistant for Dr. Rebecca Silton, Dr. Noni Gaylord-Harden, and Dr. Maryse Richards. Dr. Zakaryan's internship experience at Rush University Medical Center has shifted his clinical and research interests to work within pediatric psychology. Upon completion of his doctorate and internship, Dr. Zakaryan will be pursuing a post-doctoral fellowship at Children's Hospital of Orange County, where he will continue working in pediatric psychology as well as continue working with Latino youth and families.