

# Exposure to Community Violence, Parental Involvement, and Aggression Among Immigrant Adolescents

Taralee Hamner · Robert D. Latzman ·  
Wing Yi Chan

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**Abstract** Although exposure to community violence and parental involvement have been previously found to independently predict aggressive behaviors, the interaction effect is less clear. Additionally, unique associations between exposure to community violence and reactive and proactive aggression, two widely-studied forms of aggression, in the context of parental involvement has yet to be examined. One population that may be of particular interest for such an investigation is immigrant adolescents, a population at increased risk of experiencing community violence and developing aggression. The current study therefore examined the joint and interactive contribution of community violence and parental involvement in the explanation of reactive and proactive forms of aggression among 81 immigrant adolescents ( $M_{age} = 15.44$ ). As expected, exposure to community violence was positively associated with both reactive and proactive aggression. Parental involvement, however, was not associated with either form of aggression. Further, the association between exposure to community violence and proactive aggression was found to vary by level of parental involvement. Contrary to expectations, when levels of parental involvement were high, there was a positive association between exposure to community violence and proactive aggression and no association when levels of parental involvement were low. Results have important implications for understanding unique developmental pathways and distinct correlates of reactive and proactive aggression among immigrant adolescents.

**Keywords** Reactive and proactive aggression · Exposure to community violence · Parental involvement · Immigrants · Adolescents

## Introduction

Aggression is a major issue during adolescence that is often challenging for both the adolescent and their families (Arnett 1992; Guerra et al. 1994). Indeed, it is estimated that between 50 and 75 % of adolescent clinical referrals are classified as behavioral problems, including aggression (Dishion and Patterson 2006). Additionally, the Centers for Disease Control and Prevention's Youth Risk Behavior Surveillance Systems reports that 19.9 % of students between grades 9 and 12 had carried a weapon (e.g., a gun, knife, or club) within the 30 days before the survey and 24.7 % had been in a physical fight one or more times during the 12 months prior to the survey (Centers for Disease Control and Prevention 2013). As such, the need to better elucidate the various factors that may contribute to aggressive behaviors is clear.

An ecological framework provides a well-established, theoretically rich conceptual framework within which to examine both risk and protective factors across levels of the ecology. Specifically, this conceptualization explains both normative and more problematic developmental pathways through a dynamic interaction among various ecological domains more or less proximal to the individual (Bronfenbrenner 1979). Exposure to community violence is an important community-level factor that is among the strongest contributors to aggression (Fowler et al. 2009). Immigrant adolescents are particularly vulnerable as they are often exposed to high level of community violence (Finzi-Dottan et al. 2011). Within the family, one of the

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T. Hamner · R. D. Latzman (✉) · W. Y. Chan  
Department of Psychology, Georgia State University,  
PO Box 5010, Atlanta, GA 30302-5010, USA  
e-mail: rlatzman@gsu.edu

most critical protective factors is parenting broadly, with the active engagement of parents in their children's day-to-day lives (i.e., parental involvement) being of particular importance (Davidson and Cardemil 2009; Loeber and Stouthamer-Loeber 1986). Although immigrant adolescents are at increased risk for exposure to community violence, widely studied factors like parenting practices are understudied within this population (Stevens et al. 2007).

### Aggression

Aggression has been found to be a multifaceted construct consisting of a range of related yet distinct subtypes. There are many forms of aggression such as relational or social aggression (see Burt et al. 2012; Tackett et al. 2009) and non-aggressive rule-breaking behavior (see Burt et al. 2011; Burt and Hopwood 2010), however, one of the more common distinctions in the literature classifies aggressive behaviors into reactive and proactive aggression (Dodge 1991; Hubbard et al. 2010; Raine et al. 2006). Reactive aggression emerges from the frustration-aggression hypothesis, which suggests that aggression develops out of aggravation from a present stimulus (Miller et al. 1958). Specifically, reactive aggression is a combative, emotional response to a provocation. Reactive aggression is generally more strongly related to social maladjustment, such as low peer acceptance, rejection, and victimization, than is proactive aggression. Additionally, reactive aggression can have a greater negative impact on future social and personal adjustment beyond adolescence, including internalizing and externalizing behaviors (Card and Little 2006). Proactive aggression emerges from the social learning theory, which suggests this form of aggression serves the purpose of obtaining a preplanned, desired goal or object (Bandura 1978). Proactive aggression is often characterized by neutral affect, predatory-like attacks, and is motivated by external rewards (Card and Little 2006; Dodge 1991). Proactive aggression predisposes one to criminality and is associated with delinquency (Raine et al. 2006). Proactive aggression in adolescence has also been found to emanate from a poor social background and parental absence (Marshall and Cooke 1999; Raine et al. 2006). Taken together, it is clear from a large body of previous research that adolescence is a critically important time for healthy development where unaddressed aggression can contribute to serious maladjustment for the adolescent, and often leads to behavioral problems in adulthood.

### Exposure to Community Violence

Adolescents who experience community violence have been shown to have higher rates of behavioral problems, including aggression (Mrug and Windle 2010; Youngstrom

et al. 2003). Exposure to community violence has been established as an independent risk factor to the development of aggressive behaviors, especially when experienced during adolescence (Mrug and Windle 2010; Youngstrom et al. 2003). Exposure to community violence includes both witnessing and/or directly experiencing burglary, weapons, assault, gunshots, teen gangs, and drugs within one's community and home (Richters and Martinez 1992; for alternative definitions, see Joshi and Kaschak 1998). For populations disproportionately overrepresented in low-income neighborhoods, such as communities in which immigrant families often live, exposure to community violence is a prevalent stressor (Mrug and Windle 2010). Importantly, meta-analytic findings suggest similar rates of negative impact for adolescents who have witnessed violence as those who have been directly victimized (Fowler et al. 2009). This is especially concerning as rates of witnessing violence far exceed the rates of victimization for adolescents.

Notably, the development of aggression related to this exposure is not always the same. Indeed, research is beginning to identify various pathways by which community violence contributes to distinct forms of aggression. For example, Schwartz and Proctor (2000) found that direct victimization was positively associated with emotion regulation difficulties, which is characteristic of reactive aggression. Witnessing community violence, however, was found to be positively related to positive expectations about the use of aggression to achieve desirable outcomes, a social cognitive bias associated with proactive aggression (Dodge 1991). Specifically, the presence of violence in one's neighborhood can result in a normalization of violence, in which the witness believes violence is acceptable, even desired. This, in turn, leads to the development of a social cognitive bias in which those witnessing violence are likely to endorse violence as an acceptable and normative practice (Schwartz and Proctor 2000).

### Parental Involvement

Although many adolescents are exposed to community violence, not all go on to develop aggressive behaviors. As such, research has also begun to elucidate the way in which various protective factors may attenuate this relationship. Potentially most notably, parenting has long been demonstrated as an important protective factor for various behavioral problems (e.g., Hawkins et al. 1998). This literature is encouraging, as positive parent-child relationships have been associated with reduced aggression, even among at-risk children (Masten 1994). Parental involvement is a very specific component of parent-child relationships that has been demonstrated as particularly

important during adolescence (Loeber and Stouthamer-Loeber 1986; Smith and Krohn 1995).

Parent involvement is crucial during adolescence and, when high, has been found to promote healthy, normative adjustment into adulthood (Davidson and Cardemil 2009; Wenk et al. 1994). Definitions of parental involvement can include involvement in emotional, social, home, and school contexts. A large literature has found parental involvement to be negatively associated with aggression, as it has long been demonstrated that high parental involvement is effective in preventing aggression and other problematic behaviors (Loeber and Stouthamer-Loeber 1986; Wenk et al. 1994). Conversely, similar to the effects of exposure to community violence, low levels of parental involvement in both home and school settings has predicted aggression and other externalizing behaviors (Davidson and Cardemil 2009; Finzi-Dottan et al. 2011; Loeber and Stouthamer-Loeber 1986). Parallel findings have been reported among diverse groups at risk for developing aggression. For example, a strong and positive parent–child relationship has been demonstrated to have a negative association among African-American and Mexican-American adolescents (Arbona and Power 2003; Dryfoos 1998). Similarly, O'Donnell et al. (2002) found that among a large sample of at-risk inner-city middle- and high-school students, positive parental support (defined as communication, concern, and supervision) was associated with fewer conduct problems.

Very few studies, however, have explicitly examined the effect of parental involvement on reactive and proactive aggression during adolescence. This is surprising as parental involvement may have differential associations with reactive and proactive aggression. Specifically, because reactive aggression is characterized as an impulsive response to a provocation, parental involvement likely plays little role in preventing this reactive arousal when it occurs (Dodge 1991). Proactive aggression can result from negative parenting practices, such as inconsistent discipline or lack of monitoring (Dodge 1991). As such, parental involvement has the opportunity to play an important role in either preventing or influencing the use of proactive aggression. Indeed, it is believed that proactive aggression emerges from parent's failure to restrain the instrumental use of aggression or it may indirectly emerge as a learned behavior by witnessing parent's success in using aggression to achieve desired goals (Dodge 1991). In addition to more fully understanding the direct effects of parental involvement on both reactive and proactive aggression, it is critical to also consider the ways in which parental involvement may interact with contextual risk factors, such as exposure to community violence, in the explanation of various forms of aggression.

## Exposure to Community Violence and Parental Involvement

Taken together, the existing literature clearly demonstrates that exposure to community violence is a risk factor for developing aggression and parental involvement is associated with lower levels of aggression (Davidson and Cardemil 2009; Loeber and Stouthamer-Loeber 1986; Mrug and Windle 2010). However, few studies have examined the interactive contribution of exposure to community violence and parental involvement in the explanation of aggression. Further, findings of those studies that have begun to investigate this interaction have been equivocal. For example, adolescents from families endorsing positive parenting practices who were exposed to community violence exhibited less aggressive and problematic behaviors than those from families where more negative parenting practices were utilized (Gorman-Smith et al. 2004). In contrast, studies have failed to find this interaction (Pearce et al. 2003; Youngstrom et al. 2003).

The extant literature is largely equivocal with regard to the role of parental involvement in the association between exposure to community violence and aggressive behavior. One potential explanation for these inconsistent findings may be the multidimensional nature of aggression, which may result in differing associations with parenting and exposure to community violence. As such, investigating the joint and interactive contributions of exposure to community violence and parental involvement in the explanation of reactive and proactive aggression may help to address some of the limitations of previous studies. Additionally, consideration of distinct populations at increased risk for exposure to community violence may further our ability to reliably detect this interaction. Specifically, immigrant adolescents often experience a combination of exposure to community violence in addition to strained familial relationships that result in poor outcomes for adolescents (Dinh et al. 2002).

## Immigrant Adolescents

Immigrant adolescents are at increased risk of developing aggressive behaviors due to the presence of multiple pre- and post-migration stressors in their lives. Pre-migration stressors include separation from relatives, loss of social support, and some immigrants report experiencing physical violence prior to migration (Birman and Chan 2008). In addition, immigrants often experience a high level of community violence upon their arrival in the receiving country and strained familial relationships. These experiences, in turn, likely serve as risk factors exacerbating their likelihood of developing aggression (Finzi-Dottan et al.

2011; Mrug and Windle 2010). Unfortunately, very little research has focused on aggression in relation to parenting practices among immigrant adolescents (Stevens et al. 2005). Research does suggest that immigrant adolescents often face strained parent–child relationships after resettlement due to gaps in acculturation (Davidson and Cardemil 2009; Dinh et al. 2002). Acculturation gaps may lead to decreased positive interactions between parents and adolescence, including the beneficial outcomes associated with parental involvement. For example, Dinh et al. (2002) found that a major consequence of acculturation gaps between Latino immigrant children and their parents is poor parental involvement. This low parental involvement, in turn, lead to gang involvement and substance abuse, behaviors related to aggression. Davidson and Cardemil (2009) found that among Latino adolescents, high parental involvement was associated with lower delinquency and other aggressive behaviors. In addition to previous empirical findings of increased risk among immigrants, it is also important for research to examine protective factors, including parental involvement, within this population.

## Current Study

The current study examined the unique and incremental contributions of exposure to community violence and parental involvement in relation to various forms of aggression within a sample of immigrant adolescents. In addition, the degree to which parental involvement may serve as a moderator in the association between community violence and aggression was examined. It was first hypothesized that exposure to community violence will be positively associated with both types of aggression, with a stronger association between exposure to community violence and proactive aggression (Schwartz and Proctor 2000) as our assessment of exposure to community violence is primarily focused on the witnessing of violence (Richters and Martinez 1992). Further, given that parental involvement has reliably been found to be negatively associated with aggressive behaviors in adolescents (Loeber and Stouthamer-Loeber 1986; Davidson and Cardemil 2009), and because existing theory has framed proactive aggression as a result of a lack of parenting and/or parental modeling, we hypothesized that parental involvement will be negatively associated with proactive aggression (Bandura 1978; Dodge 1991; Miller et al. 1958). We expected no association with reactive aggression. Drawing from social learning theory and the frustration-aggression hypothesis, we expected parental involvement to significantly moderate the association between exposure to community violence and proactive aggression and to be unrelated to reactive aggression. More specifically, we

hypothesized that when parental involvement is low, there would be a significant and positive association between exposure to community violence and proactive aggression. When parental involvement is high, we hypothesized that there will be no relationship between exposure to community violence and proactive aggression.

## Method

### Participants

Participants included 81 immigrant adolescents, aged 12–20 years ( $M_{age} = 15.44$ ,  $SD = 1.91$ ), who participated in a larger study on immigrant adolescent development. The sample was diverse in terms of gender (54 % female). Forty-six (57 %) of the participants were born outside of the United States (US) and thirty-two (39 %) were born in the US (3 participants, 5 %, omitted the question). The sample included adolescents from diverse ethnic backgrounds representing over 25 ethnic groups; the largest ethnic groups represented were Nepali (14 %), Latino (9 %), and Vietnamese (6 %). Participants lived in the metropolitan area of a large urban city in the Southeast at the time of data collection.

### Procedure

The University Institutional Review Board approved all study procedures. Participants were recruited in partnership with a local community-based organization. Staff members from the program initiated recruitment by sending consent forms to parents of middle and high school students in the program. In consultation with the community-based organization, we learned that adolescent participants were proficient in English; however, most of their parents were only fluent in their native language. Thus, the parents had the option to receive consent forms in either English or their native language (i.e., Vietnamese, Nepali, Spanish, and Chinese). Parents of adolescents under age 18 gave written consent for their child/children to participate, and these children then provided their own assent in English. Participants aged 18 and older gave written consent, also in English, prior to participation. All study measures were administered in English using a paper and pencil format during a regularly scheduled afterschool program period, lasting approximately 2 h.

### Measures

#### *Exposure to Community Violence*

Things I've Seen and Heard (TISH; Richters and Martinez 1992) is a 20-item questionnaire designed to assess

community violence. Participants rated how often they had witnessed violence on a 5-point Likert-type rating scale ranging from “1 = zero times” to “5 = many times.” Specific examples of this scale included items such as “I’ve heard gunshots in my neighborhood” and “I’ve seen someone being beaten up.” The TISH has been shown to demonstrate good external and internal consistency (Richters and Martinez 1993). The sums of the items were calculated to create the community violence variable. In the current sample, this scale demonstrated excellent internal consistency with Cronbach’s coefficient  $\alpha = .91$ .

### Parental Involvement

The Alabama Parenting Questionnaire (APQ; Frick; 1991) Parental Involvement subscale is an 8-item scale designed to assess parental involvement in adolescents’ everyday lives. Adolescents rated both of their parents or caregivers in combination. For example, “Your parents or caregivers talk to you about your friends” and “Your parents or caregivers help with some of your special activities.” Involvement was rated on a 5-point Likert-type rating scale ranging from “1 = Never” to “5 = Always.” The APQ has been shown to demonstrate good external and internal validity (Zlomke et al. 2013). The sums of the items were calculated to create the parental involvement variable. In the current sample, the Cronbach’s coefficient  $\alpha = .80$ .

### Aggression

The Reactive–Proactive Aggression Questionnaire (RPQ; Raine et al. 2006) is a 23-item measure that consists of two scales designed to assess reactive and proactive aggression. Adolescents rated how often they have engaged in various behaviors associated with reactive (11 items; e.g., “Got angry or mad or hit others when teased”) and proactive (12 items; “Hurt others to impress people”) aggression on a 3-point Likert-type rating scale ranging from “1 = Never” to “3 = Often”. The RPQ has been shown to demonstrate adequate reliability with internal consistencies ranging from .84 for reactive aggression to .86 for proactive aggression (Raine et al. 2006). The sums of the items were calculated to create the reactive and proactive aggression variables. In the current sample, internal consistencies were .84 for reactive aggression and .87 for proactive aggression.

### Analyses

First, bivariate zero-order correlations for all study variables were examined in order to understand their linear relationship. Next, to examine both the unique and joint contribution of exposure to community violence and parental involvement in the prediction of each form of

aggression, we performed two identical but separate hierarchical linear regression analyses for reactive and proactive aggression, respectively. All variables were standardized (z-scores) before conducting the regression analyses. Because of our relatively wide age range (ages 12–20) and gender split (54 % female), and because age and gender are known to be associated with aggression (Eagly and Steffen 1986; Liu et al. 2013), we included these variables together as covariates in Step 1. Exposure to community violence was then entered into the second step. To examine the incremental contribution of parental involvement, we next entered parental involvement into a third separate step. Finally, to test whether the association between exposure to community violence and aggression varied by the level of parental involvement, we included an interaction term of exposure to community violence by parental involvement in the fourth step. A post hoc power analysis estimated that the current sample ( $N = 81$ ) has 87 % power to detect a small sized effect with an alpha level of .05 and 5 predictors (Faul et al. 2009).

To probe the effect of any significant interactions, we utilized a simple slope analysis described by Aiken and West (1991). A simple slopes analysis was conducted to examine the nature of the interaction between exposure to community violence and aggression at a high level (1 standard deviation above mean) and a low level (1 standard deviation below mean) of parental involvement.

### Results

As shown in Table 1, consistent with previous findings, reactive and proactive aggression were strongly associated with each other. Further, as expected, exposure to community violence was moderately associated with both reactive and proactive aggression; however, this was at more similar magnitudes than we had expected. Contrary to hypotheses, however, parental involvement was not associated with either reactive or proactive aggression. Exposure to community violence was not significantly associated with parental involvement.

As shown in Table 2, the covariates of age and gender did not contribute to the explanation of reactive aggression in Step 1. Exposure to community violence, entered in Step 2, contributed a significant 10 % of the variance in reactive aggression beyond age and gender covariates. Specifically, exposure to community violence was significant and positively associated with reactive aggression ( $\beta = .31$ ,  $t = 2.96$ ,  $p < .01$ ). The addition of parental involvement in Step 3 did not incrementally contribute to the explanation of reactive aggression ( $\beta = -.11$ ,  $t = -.99$ ,  $p > .10$ ). Lastly, the parental involvement by exposure to community violence interaction did not emerge as a significant



**Table 1** Associations among reactive aggression, proactive aggression, community violence, and parental involvement

	Reactive aggression	Proactive aggression	Community violence	Parental involvement
Reactive aggression	<b>.84</b>			
Proactive aggression	.62*	<b>.87</b>		
Community violence	.32*	.36*	<b>.91</b>	
Parental involvement	-.06	.11	-.13	<b>.80</b>
Mean	6.83	3.40	19.96	27.93
Standard deviation	4.50	4.12	8.04	8.96
Range	0–19	0–18	12–48	10–40

$N = 81$ . Scale reliabilities (Coefficient Alpha) are shown in boldfaced italics on the diagonal

\*  $p < .01$

**Table 2** Predicting reactive and proactive aggression from community violence and parental involvement

Reactive aggression	Step 1 ( $R^2 = .06$ )		Step 2 ( $\Delta R^2 = .10$ )**		Step 3 ( $\Delta R^2 = .01$ )		Step 4 ( $\Delta R^2 = .02$ )	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
<i>Demographics</i>								
Age	.249	2.274	.230	2.192	.257	2.372	.249	2.303
Gender	.029	.267	.042	.398	.054	.512	.039	.366
<i>Main effects</i>								
Community violence			.311	2.964*	.293	2.755*	.330	3.022*
Parental involvement					-.109	-.987	-.119	-1.082
<i>Interaction</i>								
Community violence $\times$ parental involvement							.147	1.351

Note:  $N = 81$ . F test of change from Step 1 to Step 2:  $F = 8.79$ ,  $df = 77$ ,  $p < .001$

Proactive aggression	Step 1 ( $R^2 = .11$ )*		Step 2 ( $\Delta R^2 = .11$ )**		Step 3 ( $\Delta R^2 = .01$ )		Step 4 ( $\Delta R^2 = .10$ )**	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
<i>Demographics</i>								
Age	.329	3.083*	.308	3.060*	.282	2.705*	.263	2.684*
Gender	.038	.359	.052	.516	.040	.396	.006	.058
<i>Main effects</i>								
Community violence			.338	3.358*	.355	3.475*	.439	4.427*
Parental involvement					.104	.983	.082	.818
<i>Interaction</i>								
Community violence $\times$ parental involvement							.331	3.341*

Note:  $N = 81$ . F test of Step 1:  $F = 2.857$ ,  $df = 78$ ,  $p < .01$ . F test of change from Step 1 to Step 2:  $F = 11.28$ ,  $df = 77$ ,  $p < .001$ . F test of change from Step 3 to Step 4:  $F = 11.163$ ,  $df = 75$ ,  $p < .001$

\*\*  $p < .001$ ; \*  $p < .01$

incremental predictor of reactive aggression ( $\beta = .15$ ,  $t = 1.35$ ,  $p > .10$ ). Overall, the model was statistically significant,  $F(5, 75) = 3.51$ ,  $p < .01$ , and accounted for 19 % of the variance in reactive aggression ( $R^2 = .19$ , Adjusted  $R^2 = .14$ ).

As shown in Table 2, the covariates of age and gender contributed 11 % of the variance in the explanation of

proactive aggression. Exposure to community violence, entered into step 2, contributed an additional 11 % of the variance in proactive aggression beyond age and gender covariates. Specifically, exposure to community violence was significant and positively associated with proactive aggression ( $\beta = .34$ ,  $t = 3.36$ ,  $p < .001$ ). Similar to results for reactive aggression, the addition of parental

involvement in Step 3 did not incrementally contribute to the explanation of proactive aggression ( $\beta = .10$ ,  $t = .93$ ,  $p > .10$ ). Lastly, a significant interaction between exposure to community violence and parental involvement emerged in Step 4 ( $\beta = .33$ ,  $t = 3.34$ ,  $p < .001$ ) explaining an additional 10 % of the variance in proactive aggression. Overall, the model was statistically significant,  $F(5,75) = 7.50$ ,  $p < .01$ , and accounted for 33 % of the variance in proactive aggression ( $R^2 = .33$ , Adjusted  $R^2 = .29$ ). To probe the nature of this interaction, a simple slopes analysis was conducted. As shown in Fig. 1, results of simple slopes analysis indicated that exposure to community violence was a significant predictor of proactive aggression at high ( $\beta = .74$ ,  $t = 4.94$ ,  $p < .001$ ) but not low levels of parental involvement ( $\beta = .14$ ,  $t = 1.22$ ,  $p > .10$ ).

## Discussion

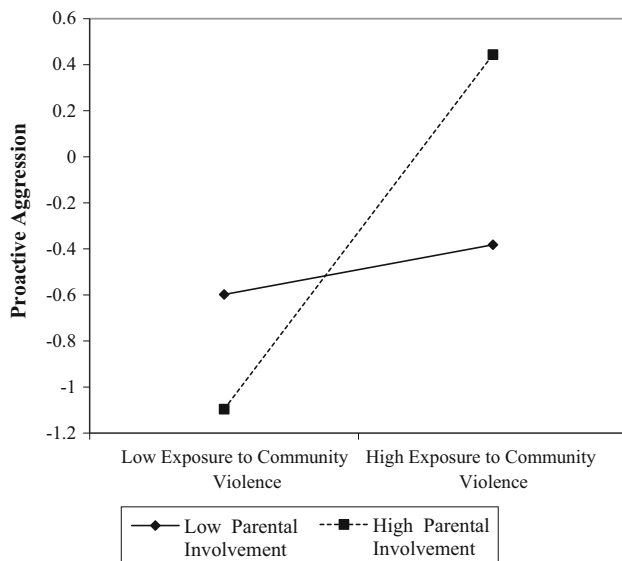
Elucidating both risk and protective factors associated with aggression during adolescence is critical as these behaviors have negative consequences well into adulthood (Laub and Sampson 1994; Schaeffer et al. 2003). Additionally, understanding the potentially differing correlates of various forms of aggression is imperative to better understanding aggression. Immigrant adolescents are often at an increased risk for the development of aggression, due to both their immediate environments as well as pre-migration

experiences. As such, the primary goal of the current study was to explore associations among exposure to community violence, parental involvement, and reactive and proactive aggression in a sample of immigrant adolescents. Additionally, the current study aimed to explore parental involvement as a potential moderator in the relationship between exposure to community violence and both reactive and proactive aggression uniquely.

Consistent with the study's hypotheses and previous findings, adolescents who reported higher levels of exposure to community violence exhibited frequent reactive and proactive aggression. These results provide additional support to the claim that witnessing violence has harmful effects when experienced during adolescence, such as the development of aggressive behaviors (Mrug and Windle 2010; Youngstrom et al. 2003). Whereas we had expected to find evidence of more specificity between exposure to community violence and reactive and proactive aggression, the magnitude of the bivariate associations were moderate and similar for both. It is possible that reactive aggression may have a more curvilinear relationship with exposure to community violence that was not examined here. It may be that exposure to community violence leads to an initial increase in reactive aggression through heightened negative arousal, but as exposure to violence persists within ones environment, it becomes more normative and typical. Children repeatedly exposed to violence habituate to this exposure and experience it as natural (Huesmann 1998), potentially resulting in reactive aggression levels slowly tapering off. Future longitudinal research is needed to explicitly examine this hypothesis.

Surprisingly, contrary to expectations, parental involvement was not uniquely associated with reactive aggression or proactive aggression after accounting for exposure to community violence and therefore did not serve as a protective factor in our study. Although not expected, there are a number of potential explanations for this finding. For example, it is possible that parental involvement may function differently among immigrant adolescents than in Western populations. Adolescents have a developmental need to achieve autonomy and a stable identity (Barber and Harmon 2002), and it is possible that the stressors unique to immigrant adolescents, such as exposure to community violence, could exasperate this autonomy seeking. This could result in immigrant adolescents exhibiting a differential sensitivity to the effects of parental involvement, which could provide an explanation for the unexpected findings in the current study.

With regard to the interaction effects of exposure to community violence and parental involvement, parental involvement did not moderate the association between exposure to community violence and reactive aggression. It will be important for future research to replicate this



**Fig. 1** Interaction between exposure to community violence and parental involvement: associations with proactive aggression. High and low values correspond to +1.0 and -1.0 SD from the mean, respectively. Proactive aggression scores are standardized,  $M = 0$ ,  $SD = 1$

finding. In the explanation of proactive aggression, however, the association between exposure to community violence and proactive aggression was found to vary by level of parental involvement. Surprisingly, however, parental involvement did not attenuate this association. Instead, when levels of parental involvement were high, there was a strong positive association between exposure to community violence and proactive aggression, indicating that at higher levels of parental involvement, increased exposure to community violence was related to increased proactive aggression. At low levels of parental involvement, exposure to community violence was not associated with proactive aggression. Taken together, these findings suggest that parental involvement may exasperate rather than attenuate the relationship between community violence and proactive aggression.

One potential explanation for this unexpected finding may be that a third, unmeasured variable, such as level of acculturation, is contributing to these associations. For example, differing levels of acculturation between parents and children have a number of implications on parent–child relationships, with strained parent–child relationships the most common and severe (Schofield et al. 2008). It is likely that adolescents who experience both large acculturation gaps with their parents and high levels of parental involvement feel that they are unjustly controlled by their parents as compared with their peers who do not experience similar acculturation gaps. This strain may cause the adolescent to feel a need for autonomy (Juang et al. 2012) and to use proactive aggression as a means to achieve this autonomy and control. As such, the level of acculturation gap may explain the unexpected role of parental involvement in the relationship between exposure to community violence and proactive aggression within immigrant adolescents. In addition for the need to replicate the interaction effect found, it will be important for future research to explicitly investigate the role that acculturation gaps may play in this association.

Given the cross sectional nature of these data, the temporal sequence of these variables are unknown. As such, it is possible that parental involvement is a result of a combination of exposure to community violence and proactive aggression among adolescents. Therefore, an additional explanation for this unexpected interaction finding may be that parents of adolescents who are exposed to community violence and exhibit proactive aggression may parent in reaction to their child's behaviors and environment. It is possible that parents of these adolescents are more diligent in monitoring their child in the form of high parental involvement, which would result in the unexpected and counterintuitive interaction effect.

The interaction effect found in this study also further elucidates the importance in distinguishing between

reactive and proactive forms of aggression. The distinctions between reactive and proactive aggression have been questioned and not always seen as meaningful due to their often-high correlation (Poulin and Boivin 2000) and researchers have argued that aggression rarely has a single motivation (Bushman and Anderson 2001). Despite this, reactive aggression and proactive aggression have been shown to have distinct correlates (e.g., Latzman et al. 2011; Marshall and Cooke 1999; Raine et al. 2006). The current study furthered this foundation by establishing that parental involvement is a contributor to the development of proactive aggression, but not reactive aggression, among adolescents experiencing community violence.

Although unexpected, there are a number of potential explanations for this interaction finding. Proactive aggression in adolescence has been found to emanate from a poor social background (Raine et al. 2006); which is similar to the backgrounds of immigrant adolescents who experience community violence in the current study. Additionally, physiological theories suggest that adolescents who experience consistent exposure to community violence may become desensitized to this violence, and therefore are less likely to experience arousal after multiple exposures. As noted earlier, within the current study, this desensitization could have a curvilinear effect and would contribute to the prevention of the arousal indicative of reactive aggression, but may in turn facilitate the use of proactive aggression as a normative and acceptable practice. The addition of parental involvement may then exacerbate this relationship as a result of conflicting normative expectations and possible strained relationships between adolescent and parent.

### Limitations

This study is not without limitations. Due to the cross-sectional and correlational nature of our data, causal conclusions are not possible. It is important for future work to examine the directionality of these relationships using prospective designs to better understand this relationship as well as implement comprehensive assessment by applying longitudinal analysis. Further, all measures were paper and pencil administered self-reports. While research has established self-report as a reliable source of information, it will be important for future research to include more comprehensive measures of all variables, especially aggression. There are also certain biases that may arise from the use of paper and pencil reports among non-native English speaking immigrants as opposed to orally administered measures. Nonetheless, all participants were attending schools where classes are conducted in English. Further, the high internal reliabilities (Cronbach's alphas) lend additional confidence to the appropriateness of this approach. It is also important to note that although our



measure of exposure to community violence has been widely-used with a range of diverse populations, the other measures employed in the current study have been less widely-used with this population. Additional respondents, such as parents or teachers, may be useful in providing more comprehensive and accurate reports of adolescent aggression to account for any potential social desirability biases. In addition, future research should consider roles of extended family members and older siblings in raising immigrant adolescents (e.g., Stanton-Salazar and Spina 2003). Future research should also consider potential distinctions between types of violence exposure, as it has been suggested that the deleterious effects of violence is more evident within personal domains, such as the home and school settings (Lambert et al. 2012). In addition to this, the relationship that the adolescent has with either the victim or perpetrator could elucidate important, unique pathways to various types of aggression.

It is also important to note that this study is limited by certain participant characteristics. For example, while this study included a diverse sample of immigrant adolescents, we did not collect information regarding reasons for immigration. Immigrants migrate to a receiving country for many reasons, including but not limited to, seeking better economic opportunities and escaping from war. Further, as a result of a relatively small sample size ( $N = 81$ ), we were not able to explore potential differences between specific groups with different immigrant experiences. Additionally, the study was limited by recruitment from one geographic area. Future research would benefit from examining immigration histories unique to specific groups as well as including samples from a broad spectrum of communities.

### Implications and Conclusions

Limitations notwithstanding, results of the current study have a number of important implications and suggest that there may be unique developmental trajectories associated with reactive and proactive aggression among immigrant adolescents. Further identification of these processes would be the first step in further elucidating both common and distinct etiological factors associated with various forms of aggression. Better understanding of common and distinct correlates of reactive and proactive aggression may ultimately inform assessment practices specific to each sub-type. Because the majority of adolescent clinical referrals are due to behavioral problems including aggression (Dishion and Patterson 2006), understanding the pathways that lead to these behaviors can inform both prevention and intervention efforts. This is particularly critical with regard to the immigrant population as it is increasingly representing a larger proportion of the total adolescent population in the (United States Department of Homeland

Security, Office of Immigration Statistics 2013). Indeed it is estimated that 25 % of all US children are a first-generation or second-generation immigrant, up 51 % since 1995 (Child Trends 2014). As such, given the multiple unique stressors experienced by immigrant adolescents that are associated with adjustment and behavioral problems, additional research with this population is imperative.

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