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# Adolescent Gang Involvement: The Role of Individual, Family, Peer, and School Factors in a Multilevel Perspective

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Youth gang involvement is a serious public health challenge as adolescents involved in gangs are more likely than others to engage in violence and aggression. To better understand gang involvement, we examined the role of protective (empathy and parental support) and risk (peer deviance and lack of safety at school) factors, as well as their interactions, in predicting adolescent gang affiliation. The study involved a sample of 26,232 students (53.4% females; mean age = 14.62, *SD* = 1.69) participating in the California Healthy Kids Survey (CHKS), a survey investigating a wide range of youth health and risk behaviors administered in all California schools every 2 years. Using hierarchical linear modeling (HLM), findings indicated that high levels of empathy and parental support were associated with a lower likelihood of affiliating with a gang. Associating with deviant peers and perceiving the school as unsafe were positively correlated with gang membership. At the school level, lack of safety and type of school (special education, vocational, or alternative school vs. comprehensive schools) were associated with greater probability of gang membership. Empathy mitigated the association between deviant peers and gang membership. *Aggr. Behav.* 9999:XX–XX, 2014. © 2014 Wiley Periodicals, Inc.

**Keywords:** juvenile gangs; peer deviance; school safety; empathy; parent support

Youth gangs are a widespread phenomenon that is receiving increasing attention. The number of cities reporting the presence of gangs has grown exponentially in the U.S. since 1990 (Klein & Maxson, 2006), with prevalence rates for youth gang membership varying from 2% to 37% (Klein & Maxson, 2006; Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003). Although there are variations in gang activity across countries and contexts, the criminal behavior of youth gangs has a detrimental impact on local communities everywhere (Klein, Weerman, & Thornberry, 2006). What is most alarming about gang involvement is the connection between gang identification and aggressive, violent, and criminal acts; youth gang members are more likely than other youth to have been exposed to and perpetuate violence (Li et al., 2002). Youth gangs may offer the prospect of social, psychological, and physical protection for youth who have experienced trauma, an unhealthy home environment, and a lack of belonging at school (Sharkey, Shekhtmeyster, Chavez-Lopez, Norris, & Sass, 2010). Youth gangs perpetuate cycles of violence; gang membership is associated with higher rates of delinquency, commitment to antisocial peers, and

tolerance of deviance (Jenson & Howard, 1998). It is therefore critical to develop individual, family, peer, and school interventions to engage youth experiencing and perpetuating aggression and violence in prosocial rather than gang activities.

Whereas it is fundamental for researchers examining gang behavior to have a clear definition of a gang, its operationalization continues to be debated among scholars. The difficulty in creating a shared definition of a gang partly derives from the varying characteristics of different groups: in most cases gangs are composed of young people (12–18; Rizzo, 2003), but often vary in terms of having homogeneous versus heterogeneous ethnic composition, size, territoriality, and criminal

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activities [see the taxonomy of gang types by Klein and Maxson (2006)]. Despite these differences, a definition of a gang that is receiving a strong consensus among scholars has been provided by the Eurogang network and states that a street gang can be defined as “any durable, street-oriented youth group whose identity includes involvement in illegal activities” (Weerman et al., 2009, p. 20). Thus, the Eurogang conceptualization of a gang includes criminal activity as an essential component of being labeled a gang.

Consistent with this definition, past research has found that gang activities contribute disproportionately to overall crime rates, especially in relation to violent offenses (Chu, Daffern, Thomas, & Lim, 2012; Howell, 2012). Joining a gang involves physical beatings, unwavering loyalty, and corporal punishment for diversion from authoritarian command (Rees, 1996). Gang culture promotes immediate retaliation for perceived disrespect or personal wrongs (Egley, Logan, & McDaniel, 2012). Once a member, gang membership has a disruptive impact on adolescents’ lives, with gang members experiencing higher levels of violence (Peterson, Taylor, & Esbensen, 2004; Rees, 1996), a stronger likelihood of using alcohol and drugs (Swahn, Bossarte, West, & Topalli, 2010), and greater risk of contracting sexually transmitted diseases (Salazar et al., 2007). In addition, youth belonging to gangs are at a higher risk of internalizing problems, such as emotional distress and suicidal behavior (Madan, Mrug, & Windle, 2011). Overall, youth belonging to gangs are exposed to a wider range of risk factors, particularly aggression and violence, even when compared with youth showing deviant behavior who are not involved with a gang.

Considering the detrimental effects that gang activities can have both on the community and gang members themselves, research is increasingly focused on understanding factors predicting gang affiliation. However, research has mostly focused on risk factors (in contrast to protective factors), has not studied in-depth psychological and social processes involved with gang membership, and has produced rather inconsistent findings (O’Brien, Daffern, Meng Chu, & Thomas, 2013). In addition, no studies to date have analyzed how risk and protective factors in multiple settings interact in influencing gang affiliation. Finally, despite the central role of school in adolescents’ lives, the association between school characteristics and gang membership has not yet been well studied (Sharkey et al., 2010). The current study examined the role of psychological and social resources at the individual and family levels in protecting youth from gang affiliation. Moreover, the study analyzed risk factors associated with gang membership in order to evaluate whether psychological and social resources interact with risk factors in other

settings (peers and school) in their association with gang membership.

### **Interactional Theory and Gang Membership**

To date, gang research has been primarily based on criminological and sociological perspectives (Wood & Alleyne, 2010); thus, there is a need to better understand the psychological processes involved in gang affiliation. According to Interactional Theory (Thornberry & Krohn, 2001), gang membership derives from a reciprocal association between the individual and his or her peer groups and other social structures (i.e., family and school contexts). More specifically, the theory posits that experiencing weakened social bonds (e.g., perceiving low levels of parental support) and reinforcement to delinquency (e.g., by affiliating with deviant peers or attending an unsafe school) in different social settings increases the likelihood of affiliating with a gang.

Interactional Theory integrates Control Theory and Social Learning Theory. Control Theory posits that deviant behavior occurs when people lack strong bonds to society including socializing contexts such as the family or the social skills required to establish supportive ties, such as empathy (Hirschi, 1969). According to Social Learning Theory, criminal behavior is acquired through observational learning (Akers, 1973; Bandura, 1986), positive reinforcement, and the development of a system of beliefs justifying deviant behavior, which can be transmitted by deviant peers or witnessing violence in the school setting. Unlike other theoretical perspectives that are unidirectional in nature (e.g., Strain Theory; Merton, 1938), Interactional Theory provides a developmental explanation of gang affiliation where control and learning factors in different social settings influence one another across an individual’s lifespan. For example, cohesive ties with the family may moderate the detrimental impact of deviant peers on gang membership. In other words, the aim of the theory is to explain the reciprocal associations between factors influencing gang membership during the life course, thus providing a framework to explore individual, peer, family, and school influences and how they interact in their association with gang membership.

### **Individual, Family, Peer, and School Predictors of Gang Membership**

Researchers have identified a number of risk and protective factors for gang membership in five major domains: individual, family, peer, school, and community contexts (Esbensen, Peterson, Taylor, & Freng, 2009). Within these domains, scholars have consistently highlighted a number of characteristics associated with gang membership.

At the individual level, the role of attitudes and behavior represents one of the most robust findings: having a prior history of delinquency, as well as holding nonconventional attitudes, has been associated with a higher risk of being a gang member (Esbensen & Huizinga, 1993; Gottfredson & Gottfredson, 2001; Hill, Howell, Hawkins, & Battin-Pearson, 1999; Klein & Maxson, 2006; Thornberry et al., 2003). Past research also highlights the influence of moral attitudes on gang membership, showing that a low perception of guilt for potential deviance, a higher tolerance for deviance (Esbensen, Huizinga, & Weiher, 1993), and the use of neutralization and moral disengagement strategies to justify antisocial behavior increase the risk of being affiliated with a gang (Alleyne & Wood, 2010; Esbensen et al., 2009; Winfree, Backstrom, & Mays, 1994). The evidence regarding the role of other psychological factors in predicting gang membership is still mixed; for example, some recent studies have found that psychological characteristics such as low self-esteem and low empathy increase the likelihood that youth will join gangs (e.g., Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005 for self-esteem; Olate, Salas-Wright, & Vaughn, 2012 for empathy), but other studies have not (e.g., Esbensen et al., 2009; Lemus & Johnson, 2008 for self-esteem). Moreover, negative life events (Klein & Maxson, 2006), being male, and being an ethnic minority (Farmer & Hairston, 2013) have been found to increase the likelihood of affiliating with a gang.

Within the family domain, research has produced inconsistent results. There is some evidence supporting the association between poor parental management (e.g., poor supervision, inconsistent discipline; Howell, 2003; Klein & Maxson, 2006) and having family members belonging to a gang (Chu, Daffern, Thomas, Ang, & Long, 2014) and gang membership. Some studies pointed out the role of low family socioeconomic status, family structure (e.g., single-parent households; Esbensen et al., 1993; Hill et al., 1999), and parenting practices (e.g., inconsistent/harsh discipline; De La Rue & Espelage, 2014) in increasing the likelihood of joining a gang, whereas others did not find an association between these family characteristics and gang affiliation (Chu et al., 2012).

The role of peers in predicting gang membership has been well established: association with and affective ties to deviant peers is strongly and consistently related to youth gang involvement (Esbensen et al., 1993; Gottfredson & Gottfredson, 2001; Klein & Maxson, 2006). Involvement with antisocial peers tends to limit the opportunities for interaction with prosocial peers, thus hindering the development of networks promoting desistance from gangs while reinforcing antisocial beliefs and attitudes (Esbensen

et al., 1993; Klein & Maxson, 2006; Pyrooz, Sweeten, & Piquero, 2012).

School-related factors associated with gang affiliation have not been well studied; there is only relatively weak and mixed evidence for school characteristics predicting gang membership (Klein & Maxson, 2006; Sharkey et al., 2010). Factors associated with gang membership that have received more support in the literature are academic failure, lack of commitment to school, and dropping out (Alleyne & Wood, 2010; Esbensen & Deschenes, 1998; Hawkins et al., 2000; Hill et al., 1999; Howell, 2009). Perceptions of school as unsafe and disorderly have also been linked to gang membership, with some studies indicating that many youth decide to join gangs to fulfill the need for safety and protection (Dukes, Martinez, & Stein, 1997; Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Klein, 1995). However, the feeling of safety or lack of it is usually operationalized at the individual level, without considering that lack of safety may also represent a characteristic of the school community as a whole.

Overall, the existing research has identified some consistent risk factors associated with gang membership, including the detrimental role of deviant/antisocial attitudes, deviant role models (most notably deviant peers), and structural disadvantage (e.g., low family SES). However, less is known about the protective role that psychological and social resources may have on decreasing the likelihood of joining a gang.

Psychological resources such as empathy and strong bonds within the family domain may be particularly influential in protecting youth from joining a gang; many youth declare that being part of a gang provides them opportunities for companionship and support and makes them feel that they can rely on other people when they have a need (Stretesky & Pogrebin, 2007). If a strong motivation to be a gang member derives from a need of belonging and protection (Joe & Chesney-Lind, 1995; Molidor, 1996; Stretesky & Pogrebin, 2007), good social skills (e.g., empathy) and strong bonds within the family could deter youth from the decision to join a gang. By fulfilling the same needs in a conventional way, psychological and social resources at the individual and family levels might decrease youth tendency to search for non-conventional ways of fulfilling the needs for belonging, support, and protection (Sharkey et al., 2010). Moreover, to our knowledge, no studies have examined how psychological and social resources interact with risk factors for gang membership (e.g., peer deviance and lack of safety at school) in their association with youth gang involvement. Considering these multiple effects is fundamental because even if having deviant peers and feeling unsafe at school or attending a school that students, on average, perceive as unsafe, may increase the

opportunities for joining a gang, only a small minority of adolescents having these opportunities become gang members. Thus, it is plausible that factors mitigating the effect of risk factors for joining a gang are at play (Dupéré, Lacourse, Willms, Vitaro, & Tremblay, 2007).

### Aims and Hypotheses

The main aim of the current study was to examine risk and protective factors informed by Interactional Theory and related empirical research to predict the likelihood of being a gang member. At the individual level we included the protective role of social competence (i.e., empathy) and parental support as well as the role of the risk factors of peer deviance and feeling unsafe in the school environment. At the school level we included the risk factor of lack of safety at school.

First, we focused on protective factors for gang membership to overcome the unitary focus on risk factors in past studies. We examined parental support because the evidence on its association with gang membership is rather mixed (Chu et al., 2012; Esbensen et al., 1993; Farmer & Hairston, 2013; Hill et al., 1999) and empathy because only a few studies have examined it as a protective factor for gang membership and it may easily become a target for intervention in school (Olate et al., 2012). Thus, based on the assumptions of Interactional Theory (Thornberry & Krohn, 2001), which emphasize the role of weakened social bonds in predicting gang membership along with reinforcement of delinquency, we predicted that higher levels of perceived parental support (Howell & Egley, 2005; Klein & Maxson, 2006) and higher levels of empathy will be associated with a lower likelihood of being part of a gang (Alleyne & Wood, 2010; Lemus & Johnson, 2008).

Next, risk factors were included to test the assumptions of Interactional Theory on the reciprocal associations among correlates of gang membership. Peer deviance was included in the model because of its well-established role in predicting gang membership (Esbensen et al., 1993; Gottfredson & Gottfredson, 2001; Klein & Maxson, 2006), making it critical to control for its association with gang membership. Lack of safety at an individual and school level were selected because few studies have focused on the school environment in relation with gang affiliation; in particular, while there is some evidence of an association between lack of safety and gang membership (Dukes et al., 1997; Gottfredson et al., 2005; Klein, 1995), no studies have examined this characteristic at the school level. We predicted that students with deviant friends and individuals who perceive their schools as an unsafe environment have a higher likelihood of being part of a gang. We also expect that in schools where, on average, students report high

levels of feeling unsafe (school level lack of safety), they will have a higher likelihood of being part of a gang.

The second aim of the present study is to understand whether psychological and social resources can decrease the strength of the positive associations between peer deviance, feelings of lack of safety, and gang affiliation. Based on the main assumptions of Interactional Theory positing that there are reciprocal associations among the various characteristics and contexts of an individual (Thornberry & Krohn, 2001), we expect that the association between risk factors (i.e., peer's deviance and individual feelings of lack of safety) and gang membership will be weaker for youth reporting higher levels of empathy; in other words, we expect that empathy moderates the association between examined risk factors and gang affiliation. Similarly, we predict that peer deviance and feeling unsafe will be less strongly associated with gang membership when youth also report high levels of perceived support from parents. Finally, we hypothesize a cross-level interaction between social and psychological resources (i.e., empathy and parental support) and lack of safety at a school level, with empathy and parental support having a stronger negative association with gang affiliation in highly unsafe schools.

## METHOD

### Participants

Participants were 26,232 students (53.4% females, mean age = 14.62,  $SD = 1.69$ ) who took part in the California Healthy Kids Survey (CHKS) during the 2010–2012 assessment of all California students in grades 7, 9, and 11. The current study focused on a reduced sample (the total dataset included 619,562 students) because the resilience and youth development module, which includes some of the predictors examined in the present study, was an optional module selected by some but not all school districts and because of missing data for some participants on one or more of the variables of interest. The sample excluded from the analysis and the included sub-sample were compared in terms of gender and age distribution. The included sample differed significantly from the final sample in terms of gender distribution ( $\chi^2(1) = 99.945$ ,  $P < .001$ ), with a higher percentage of males (49.8% vs. 46.6%) in the excluded sample. Furthermore, there was a difference in age distribution, with a higher mean age in the included sub-sample compared to the excluded sample, 14.62 ( $SD = 1.69$ ) and 14.42 ( $SD = 1.79$ ), respectively. We included these demographics as control variables to account for these differences in our analyses.

## Measures

The CHKS, developed by WestEd's Health and Human Development Program in collaboration with Duerr Evaluation Resources for the California Department of Education, includes a set of assessment modules evaluating youth risks and resources. All the surveys are available on the California Healthy Kids Website (<http://chks.wested.org/administer>). The empathy and parental support scales used in this study were originally developed and validated for the Resilience and Youth Development Module (RYDM); psychometric information on the measures can be found in a technical report detailing the most recent validation study (Hanson & Kim, 2007).

**Gang membership.** Gang membership was measured with a single item asking students "Do you consider yourself a member of a gang?" (students indicated "yes" or "no"). Although there is some debate regarding the measurement of gang membership, researchers have tested the self-nomination technique and determined that is a valid measure of gang involvement (Esbensen, Winfree, He, & Taylor, 2001).

**Empathy.** A three-item scale was used to measure empathy, which included the following items: "I feel bad when someone gets their feelings hurt," "I try to understand what other people go through," and "I try to understand how other people feel and think." Participants responded on a four-point scale (1 = not at all true to 4 = very much true). Item scores were averaged to obtain a single measure of empathy ( $\alpha = .85$  validation study,  $.88$  current study).

**Parental support.** Perceived support from parents was assessed through the "family support scale," a six-item scale measuring supportive relationships with adults in the home environment. Sample items are: "At home there is a parent or some other adult who: listens to me when I have something to say; talks with me about my problems." Students' responded on a four-point scale (1 = not at all true to 4 = very much true) and were averaged to obtain a single measure ( $\alpha = .89$  validation study,  $.90$  current study).

**Peer deviance.** A single item was used to measure peer deviance, asking students to report how true the following sentence was (1 = not at all true to 4 = very much true): "My friends get into a lot of trouble."

**Perceived lack of school safety.** The feeling of lack of safety at school was measured with a single item asking students: "During the past 30 days, on how many days did you not go to school because you felt unsafe at school or on your way to or from school?" with responses rated on a four-point scale (from "0 days" to "4 or more days"). Lack of school safety was conceptualized and measured both at the individual and at the school level by employing participants' subjective perceptions and

aggregating individual responses to obtain the same measure at the school level.

**Control variables.** At the individual level, students' gender, age, and self-reported academic achievement were included as predictors. Academic achievement was measured with the item "During the past 12 months, how would you describe the grades you mostly received in school?" with the following possible response options: Mostly As; As and Bs; Mostly Bs; Bs and Cs; Mostly Cs; Cs and Ds; Mostly Ds; and Mostly Fs. Moreover, type of school ("comprehensive" vs. "special education, vocational, or alternative school") and school level SES (measured by the % of students receiving free or reduced price lunch) were obtained from the National Center for Education Statistics (NCES; <http://nces.ed.gov/>) and included as predictors in the analyses.

## Analytic Approach

Since data of the present study are inherently clustered, with adolescents having been sampled within schools, we used the multilevel regression technique of hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002). Multilevel models are statistical models of parameters that vary at more than one level and can be considered generalizations of linear models. Multilevel models are particularly appropriate for research designs where data are organized at more than one level (i.e., individuals who are nested within contextual/aggregate units). Hierarchical linear models allow the partitioning of variance and covariance components among levels (e.g., decomposing the covariation of student-level variables into within- and between-school component) and the modeling of this variance by including predictors at multiple levels. For example, in studying predictors of gang membership, HLM allows for the estimation of the associations of students' individual perception of being unsafe and the influence of school-level lack of safety (obtained by aggregating students' responses in a school).

Due to the dichotomous nature of the dependent variable of gang affiliation (yes/no), the models were analyzed with hierarchical generalized linear model (HGLM) using a Bernoulli sampling model with the following logit link function:

$$\eta_{ij} = \log \left[ \frac{\Phi_{ij}}{1 - \Phi_{ij}} \right],$$

where  $\eta_{ij}$  is the log of the odds of being a gang member and  $\Phi_{ij}$  is the probability of being a gang member.

Analyses began with the estimation of the unconditional model where  $\gamma_{00}$  represented the average log-odds

of getting involved in a gang in one of the schools included in the sample. Then, the analysis involved simultaneously fitting two regression models for the dependent variable: a within-class model and a between-class model.

The within-class (level 1) model estimates the association between gang membership and (1) empathy, (2) parental support, (3) peer deviance, and (4) feeling unsafe for student  $i$  in school  $j$ , controlling for gender, age, and academic achievement. Feeling unsafe was centered around the school mean, so that the estimate of the school-mean measure is unadjusted for between school variation in this variable; this allows us to examine the between-school influence of the aggregate scores of lack of school safety at level 2 (Raudenbush & Bryk, 2002). The individual-level model includes four predictors and three control variables:

$$\begin{aligned} \eta_{ij} = & \beta_{0j} + \beta_{1j}(\text{age}) + \beta_{2j}(\text{gender}) + \beta_{3j}(\text{achievement}) \\ & + \beta_{4j}(\text{empathy}) + \beta_{5j}(\text{parental support}) \\ & + \beta_{6j}(\text{peer deviance}) \\ & + \beta_{7j}(\text{feeling unsafe at school}) + r_{ij} \end{aligned}$$

where  $\eta_{ij}$  is the log of the odds of being a gang member,  $\beta_{0j}$  is the intercept (i.e., the mean outcome for unit  $j$ ),  $\beta_{1-7j}$  are the parameters of the slopes for individual predictors and  $r_{ij}$  is the level-1 error term.

At level 2, we initially treated the intercept as random and the remaining coefficient as fixed, that is:

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

where  $\gamma_{00}$  represents the grand-mean outcome in the population and  $u_{0j}$  random effect associated with unit  $j$ .

The next step in the analysis was to consider the possible school effects on school gang rates as a function

of feeling unsafe at school, controlling for school structural features (i.e., type of school and % of students receiving reduced or free lunch, a proxy of SES). We analyzed possible effects on the adjusted school log-odds of gang membership,  $\gamma_{0j}$ ; lack of safety at school was grand mean centered.

The school-level model includes one predictor and two control variables:

$$\begin{aligned} \beta_{0j} = & \gamma_{00} + \gamma_{01}(\text{school type}) + \gamma_{02}(\text{school SES}) \\ & + \gamma_{03}(\text{lack of safety at school}) + u_{0j} \end{aligned}$$

where  $\gamma_{00}$  represents the grand-mean outcome in the population,  $\gamma_{01-3}$  are the predictors at the school level (grand mean centered), and  $u_{0j}$  is the unique increment to intercept for school  $j$ .

In a second version of the model, the interactions between risk (i.e., peer deviance and feeling unsafe) and protective factors (i.e., empathy and parental support) were added as predictors in the individual level model. Since there was no variation in the slopes of the individual predictors across schools, cross-level interactions were not examined.

## RESULTS

### Preliminary Analyses

Descriptive statistics for the variables on each level are shown in Table I. There was a wide variation in adolescents' reports of risk and protective factors, with standard deviations ranging from .49 in feeling unsafe at school to .91 in peer deviance.

A preliminary step in HLM involves fitting an unconditional model and examining the variation among schools in gang membership. The population-average estimate  $\gamma_{00}$  represented the average logs odd of gang

**TABLE I. Descriptive Statistics for Gang Membership, Protective and Risk Factors, and Control Variables**

	<i>N</i>	<i>M</i>	<i>SD</i>	Min	Max
Individual level					
Gang membership	26,232	.08	.26	0	1
Age	26,232	14.63	1.69	10	18
Gender (female)	26,232	.53	.50	0	1
Academic achievement	26,232	6.14	1.75	1	8
Perspective taking	26,232	3.35	.79	1.00	4.00
Parental support	26,232	3.42	.74	1.00	4.00
Peer deviance	26,232	1.78	.91	1.00	4.00
Feeling unsafe at school	26,232	1.12	.49	1.00	4.00
Aggregate level					
Lack of safety at school	248	1.48	.65	1.00	4.00
School type (regular)	248	.81	.39	0	1
School SES (% free and reduced lunch at school)	248	49.33	25.67	.49	99.50

membership in a school ( $\gamma_{00} = -2.45$ ): this means that for a school with a random effect  $u_{00} = 0$ , the expected odd of being a gang member is .08. Given the estimate of  $\tau_{00} = .133$ , we expected 95% of the schools to have a log odds between  $-3.16$  and  $-1.73$ , corresponding to a probability of gang membership between .04 and .15. Moreover, the reliability for the unconditional model was .667.

### Within- and Between-School Analyses

The within- and between-school HLM models (with and without interactions at the individual level) with gang membership as the dependent variable are shown in Table II. The first model (Model A) shows the independent associations of protective factors (i.e., empathy and parental support) and risk factors (i.e., peer deviance and feelings of lack of safety) while controlling for background variables (gender, age, and academic achievement, type of school, % of students receiving reduced or free lunch). Our findings show that most individual-level factors are significantly associated with gang membership (except for age). Students who reported associating with deviant peers and feeling unsafe at school were more likely to be members of a gang (OR = 1.71 and 1.67, respectively). Above and beyond the association of these risk factors, our findings show a negative association between reporting high levels of empathy and parental support and gang

membership (OR = .79, .75, respectively). Moreover, females and students reporting higher academic achievement have a lower likelihood of being involved in a gang (OR = .61 and .92, respectively). At the school level, lack of safety was positively associated with gang membership (OR = 2.90), with an increased likelihood of being a gang member in schools where, on average, students reported feeling more unsafe. In addition, the likelihood of being a gang member was lower in comprehensive schools (OR = .72) than in special education, vocational, or alternative schools. However, the percent of students receiving reduced price or free lunch was not associated with gang membership.

In the second model (Model B), interaction terms between risk and protective factors were included in the within-school model. A significant negative interaction was found between empathy and peer deviance (OR = .95). Thus, higher levels of empathy appear to mitigate the strength of the association between peer deviance and gang membership. The other interactions included in the model were not significantly associated with gang affiliation.

### DISCUSSION

The main goal of the current study was to examine how risk and protective factors in multiple contexts of youths' lives are associated with gang membership. Results of HLM analyses indicated that, at the individual level, high

**TABLE II. Multilevel Logit Regression Estimates for "Gang Membership"**

	OR (CI)	
	Model A	Model B
Intercept $\gamma_{00}$	.151 (.107-.213)***	.151 (.107-.214)***
Individual level		
Age	1.036 (.993-1.080)	1.036 (.994-1.081)
Gender (female)	.615 (.553-.685)***	.611 (.584-.681)***
Academic achievement <sup>a</sup>	.916 (.889-.944)***	.917 (.889-.945)***
Empathy <sup>a</sup>	.790 (.744-.840)***	.831 (.776-.890)***
Parental support <sup>a</sup>	.748 (.700-.800)***	.741 (.688-.798)***
Peer deviance <sup>a</sup>	1.711 (1.624-1.803)***	1.696 (1.607-1.790)***
Feeling unsafe at school <sup>a</sup>	1.669 (1.562-1.784)***	1.640 (1.498-1.795)***
Peer $\times$ empathy		.954 (.913-.998)*
Peer $\times$ parental support		1.006 (.959-1.055)
Feeling unsafe $\times$ empathy		.966 (.927-1.007)
Feeling unsafe $\times$ parental support		1.009 (.974-1.045)
Aggregate level		
School type (regular)	.725 (.557-.942)*	.727 (.559-.945)*
School SES (% reduced or free lunch)	1.000 (.997-1.004)	1.000 (.997-1.004)
Lack of safety at school <sup>b</sup>	2.896 (2.033-4.127)***	2.874 (2.019-4.090)***

Note. ( $N = 26,232$ ).

\* $P < .05$ .

\*\*\* $P < .001$ .

<sup>a</sup>School mean-centered.

<sup>b</sup>Grand mean-centered.



levels of empathy, academic achievement and being a female were associated with decreased likelihood of endorsing gang membership. Similarly, students perceiving high levels of parental support were less likely to claim gang membership. On the other hand, associating with deviant peers and perceiving the school as unsafe were positively correlated with gang membership. At the aggregate level, lack of safety and type of school were associated with increased probability of gang membership. There was also a significant interaction effect between empathy and peer deviance, with empathy mitigating the detrimental effect of associating with deviant peers on gang membership.

Our findings provide support for Interactional Theory (Thornberry & Krohn, 2001) and the idea that factors across an individual's various contexts influence one another. Characteristics at each level—individual (i.e., empathy), family (i.e., parental support), peer (i.e., peer deviance), and school (i.e., individual feeling of, and school level, lack of safety)—were associated with gang membership. In addition, two factors (empathy and deviant peers) moderated each other, with higher levels of empathy mitigating the detrimental effect of associating with deviant peers on gang involvement. Taking a multi-contextual perspective, therefore, provides a much more comprehensive understanding of the relevant factors in youth gang membership than focusing on any one setting in isolation.

Previous research has provided strong support for the assertion that youth who associate with deviant peers are more likely to join gangs (Esbensen et al., 1993; Gottfredson & Gottfredson, 2001; Klein & Maxson, 2006). This finding was corroborated in the current study. Deviant peers are more likely to model and reinforce the same types of antisocial behavior as gangs; that is, substance abuse, delinquency, and violence (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006; Fergusson, Swain-Campbell, & Horwood, 2002; Tolan, Gorman-Smith, & Henry, 2003; Walker-Barnes & Mason, 2004). In fact, some studies use gang membership as one way of operationalizing deviant peers (Tolan et al., 2003). Given the similar outcomes associated with deviant peer association and gang membership, it is not surprising that these two variables are highly correlated. Moreover, involvement with these peers is also likely to prevent interactions with prosocial peers, thereby limiting influences that might encourage these students to avoid joining gangs or to desist in their involvement with gangs.

Perceiving the school to be unsafe, both at the individual and at the school level, was also significantly associated with gang membership. Previous research has also linked individual perceiving the school to be unsafe to gang membership (Dukes et al., 1997; Gottfredson

et al., 2005; Klein, 1995); however, by operationalizing lack of safety at both the individual and the school levels, this study provides evidence that feeling unsafe goes beyond an individual's perceptions and the potential protective role that some youth attribute to gangs. Consistent with what has been found in past studies (Stretesky & Pogrebin, 2007), when students personally perceive that their school is not a safe environment, they may decide to join a gang to receive protection. In schools where the perception of being unsafe is widespread, the likelihood of joining a gang is even higher than estimated by individual perceptions alone. Our findings show that when attending a school characterized by low levels of safety (average perception at the school level) students are almost three times more likely to affiliate with a gang than when attending schools not characterized by low levels of safety. Lack of school-level safety may be the result of other school-level features; for instance, school safety measures, such as metal detectors and the number or locked doors, have been found to decrease the feelings of safety among students by suggesting that there are dangers to face in the schools (Perumean-Chaney & Sutton, 2013). Thus, structural school characteristics may be partly responsible for a shared feeling of being unsafe. At the same time, students interact with their peers and may influence each other in terms of perceived lack of safety, thus transmitting such feelings to other students, even those that may not personally feel vulnerable. In both cases, school level features may encourage students to look for protection in order to face the school dangers; as our findings suggest, this contribution acts above and beyond individual perceptions and is more strongly associated with gang affiliation than isolated perceptions of being unsafe.

Importantly, our findings reveal that even after controlling for risk factors and characteristics of the individual and the proximal contexts (empathy, peer deviance, and parental support), school matters: both at the individual and at the school level. In general, school influences on gang membership have been widely understudied (Sharkey et al., 2010). Yet, as the findings from this study demonstrate, school factors may impact student outcomes, including, potentially, gang membership. In addition to lack of school safety, our results indicate that type of school (i.e., comprehensive, vocational, special education, or alternative) is also associated with gang membership. These findings highlight the need for future research that focuses on the effects of school-level factors on youth gang membership and the potential for school interventions to address this problem.

Much of the current research on youth gang membership focuses on what factors increase the probability of youth joining gangs; however, it is just as important to

consider the individual and contextual variables that reduce the likelihood of youth gang membership. This study sought to advance the current literature by going beyond risk factors and investigating the association between protective factors at the individual and family levels and gang membership. At the individual level, empathy was negatively related to gang membership, with students with higher levels of empathy being less likely to report being a member of a gang. Past research has linked deficits in empathy to aggression (Dellaire & Zeman, 2013), violence (Olate et al., 2012), offending (Joliffe & Farrington, 2004, 2007; Posick, Rocque, & Rafter, 2014), and gang membership (Valdez, Kaplan, & Codina, 2000). Empathy aids individuals in developing and maintaining social bonds by allowing them to understand others' thoughts and intentions and to signal solidarity (Anderson & Keitner, 2002). Thus, youth who are high on empathy may be better able to build social bonds in other domains outside of gangs, thereby decreasing the need of gang membership as an avenue for companionship and support. However, the way in which empathy impacts gang involvement needs to be directly studied in future research.

The importance of empathy as a protective factor against gang membership was further demonstrated as it mitigated the association between peer deviance and gang membership. That is, for youth having higher levels of empathy, peer deviance had a weaker association with gang membership. Thus, for students who are at-risk for gang membership due to contextual variables, individual psychological resources (empathy in this case) seem to act as a buffer and decrease the likelihood of joining a gang. These results help explain why only a minority of adolescents become gang members despite the fact that deviant peers may increase the opportunities for joining a gang (Dupéré et al., 2007). These findings also support the Interactional Theory assumptions (Thornberry & Krohn, 2001) of reciprocal relations between correlates of gang membership. However, empathy did not seem to buffer the negative effects of lack of school safety and parental support did not interact with the risk factors examined. More research is needed to understand how protective and risk factors interact to influence the decision to join a gang.

Finally, parental support, a family level characteristic, also served a protective function: students who reported high parental support were less likely to endorse gang membership. In the same way that empathy allows individuals to develop strong social bonds, parental support provides another opportunity to experience belonging and protection. As such, strong bonds within a family may deter adolescents from joining gangs. Given that many youth assert that a desire for companionship and support is a primary motivation for

gang membership (Stretesky & Pogrebin, 2007), it follows that youth who are already meeting these needs elsewhere would be less inclined to join gangs.

Overall, our findings lend support to the Interactional Theory's assumptions (Thornberry & Krohn, 2001), by showing how high levels of social competence (i.e., empathy) and strong social ties with family are negatively associated with gang membership. In addition, consistent with Thornberry's theory (1987), reinforcement to delinquency in different social settings (peer, school) appears to encourage gang affiliation. Finally, the interaction between peer deviance and empathy gave support to the reciprocal relations between factors associated with gang membership that are postulated in the theoretical model.

### Limitations and Future Directions

Whereas the current study adds much important information to the research on youth gang involvement, there are several limitations that must be considered when interpreting our findings and should be addressed in future research on this topic. First, this study is cross-sectional, meaning that both our predictor and outcome variables were measured at the same point in time, which makes causal inferences impossible. Future longitudinal studies that examine how predictor variables in multiple environments predict later gang involvement should be conducted to address this limitation. In addition, there is known bias in only using one method of gathering data; in the current study only self-report measures were used and this increases the risk of a social desirability bias. Multi-informant research studies should be designed that collect data on youth risk and protective factors from teachers, school leaders, family members, peers and/or community members in addition to youth self-report. Third, because our sample comes from schools within one state in the United States the findings may not be generalizable to populations outside of California, as results may not reflect the experiences or prevalence of gang involvement in other U.S. states or in different countries. Fourth, the resilience and youth development module is not part of the core module of the CHKS and is an optional component selected by some but not all school districts. Although we controlled for gender and age differences between included and excluded groups, there may have been other differences (e.g., economic, political) related to a school district's decision to participate in the optional module that could not be controlled for and may have biased results. Fifth, although the reliability and validity of many CHKS scales has been established, we relied on single items to measure peer deviance and lack of school safety, which limited our ability to capture the full complexity of these constructs.

One of the biggest challenges in research to understand and prevent youth gang membership is how to measure youth gang membership. In this study, gang affiliation was measured by students' response to one item, "Do you consider yourself a member of a gang?" Although the self-nomination technique represents a valid measure of gang involvement (that also has similarities with police reliance on gang members "claiming" membership; Esbensen et al., 2001), it may not capture some aspects of gang involvement and future research should use more comprehensive measures. For example, there may be important differences between being a member of a gang and engaging in violent acts or criminal behavior because of involvement in a gang. A recent approach in the field of gang studies acknowledges a fluid hierarchy within and around street gangs, consisting of individuals belonging to the gang's periphery (Alleyne & Wood, 2010); risk and protective factors for peripheral members may differ from youth highly involved in gang activities. Studying these nuances in gang membership would allow a better understanding of the processes involved in the development of gang affiliation and potential ways to prevent it. Future research may explore how the degree of involvement, the violence/criminal activity of the gang, and/or the length of time associated with the gang is impacted by these different contextual risk and protective factors.

Lastly, we selected specific protective (i.e., empathy and parental support) and risk (i.e., peer deviance and lack of school safety) factors that have a strong theoretical and/or previous empirical relation to gang membership, but it could be argued that any number of other risk and protective factors would be important to include in our model. For example, future research may examine how additional individual (e.g., self-esteem, hope), peer (e.g., support), family (e.g., family cohesion, family gang involvement), school (e.g., school climate, teacher support), and community (e.g., neighborhood violence) factors are associated with the likelihood of belonging to a gang. Furthermore, results of the current study showed that feeling unsafe at school (as well as lack of safety at a school level) was strongly related to youth gang involvement and suggests that this may be an important risk factor to study in greater depth, particularly because this is a factor that is malleable and has the potential to be impacted through school policy and leadership. Specifically, future studies should examine what school factors and practices predict lack of safety at school and how these relations differ for different populations of students and types of schools.

### IMPLICATIONS AND CONCLUSION

Despite the limitations noted, findings of the current study have important implications for intervention and

prevention focused on eliminating youth involvement in gangs and thereby protecting them from perpetuating a cycle of violence and aggression. As suggested by our theoretical framework and supported by our results, risk and protective factors can interact in influencing gang membership; thus, interventions will most likely also need to reduce risk factors and increase protective factors in multiple areas of youths' lives. Programs such as Multisystemic Therapy (MST; Henggeler, Melton, & Smith, 1992) and wrap-around community based interventions (Mayworm & Sharkey, 2013) have been found to reduce delinquency and mental health problems in youth engaged in delinquency and may be a foundation from which to base gang reduction interventions. In addition, the current study found that empathy in youth reduces the relation between having deviant peers and joining a gang; therefore, prevention and intervention programs that address empathy, perspective taking, and social skills may be worthwhile. Finally, the role of school factors in influencing gang membership is an understudied area and this study suggests that there are things that schools may be able to address to reduce the likelihood of their students being gang members, most notably increasing the perceived safety for students at school. However, future research is needed to fully understand the complex processes involved in becoming a gang member and how to best promote protective factors and reduce risk factors through prevention and intervention efforts designed to address the myriad traumatic and violent experiences these youths have typically experienced.

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