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ARTICLE

Protecting youth from gang membership: Individual and school-level emotional competence

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Abstract

The current study examined the association between adolescent emotional competence, operationalized and measured at both the individual and the school levels, and gang membership. The study involved a sample of 12,040 students (51.4% females; mean = 16.9 years) participating in the biennial state department of education coordinated California Healthy Kids Survey, which assesses a range of adolescent health-related behaviors. Hierarchical linear modeling indicated that higher levels of individual emotional competence were associated with a lower likelihood of identifying as a gang member. Moreover, a stronger negative association between emotional competence and identifying as a gang member was found when emotional competence was operationalized at the school level. Implications include the role of schools in promoting emotional regulation, empathy, and behavioral regulation of their entire student body as part of an overall strategy to reduce individual student's attraction to gangs.

1.1 | Protecting youth from gang membership: Individual- and school-level emotional competence

Joining a gang at an early age can have detrimental effects long after gang membership ends because it initiates a negative developmental trajectory that affects functioning into adulthood (Gilman, Hill, & Hawkins, 2014). According to gang scholars, "a street gang is represented by any durable, street-oriented youth group whose identity includes involvement in illegal activities" (Weerman et al., 2009, p. 20). Gang involvement is associated with many negative outcomes for youth including school dropout, teen pregnancy, and unstable employment (Krohn, Ward, Thornberry, Lizotte, & Chu, 2011). A number of studies reported that gang members, compared with nongang youth, more often experience serious violent victimization (e.g., Melde, Taylor, & Ebsensen, 2009; Taylor et al., 2007).

Despite the potential life-altering effects of gang membership, youth involvement in gangs continues to rise in the United States and since 1990 has grown substantially, with prevalence rates ranging from 2% to 37% across communities (Klein & Maxson, 2006; Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003). Gang membership is not limited to the United States; it is a global problem reaching most populated areas of the world (O'Brien, Daffern, Meng Chu, &

Thomas, 2013). The rise in youth gang membership with its deleterious consequences for youth and their communities have prioritized early gang prevention and intervention for scholars, practitioners, and policy makers all of whom recognize the importance of research to identify factors that protect youth from gang affiliation.

Although gang membership and its detrimental consequences represent one of the most urgent social issues in the United States, relatively little is known about the individual factors and the environmental factors that protect youth from joining a gang (Olate, Salas-Wright, Vaughn, & Yu, 2015). Moreover, studies investigating the role of the school environment are scant (Sharkey, Shekhtmeyster, Chavez-Lopez, Norris, & Sass, 2011), and when school characteristics are examined, they are generally operationalized at the individual level (e.g., Alleyne & Wood, 2010; Howell, 2009). To address these gaps in the research literature, the current study examined the role of emotional competence (defined as emotional regulation, empathy, and behavioral regulation; Greenberg et al., 2004; Zins, Bloodworth, Weissberg, & Walberg, 2007), at both the individual and the school levels, as a factor that protects against adolescents being initiated into a gang.

1.2 | Individual-level assets protecting against gang membership: Emotional competence

Resilience research (Masten, 2014) proposes that the interaction between adolescents' personal assets and environmental resources fosters connections to school and motivation to learn, which in turn increases the odds of positive social, academic, and health outcomes (Hanson & Kim, 2007). Theoretically, external assets (e.g., teacher support) help meet youths' basic developmental needs, which then promote the enhancement of internal assets (e.g., empathy). These internal assets in turn contribute to healthy outcomes among youth (Furlong, Ritchey, & O'Brennan, 2009). Specifically, individual assets and external resources discourage risky behavior such as substance use and encourage behaviors that promote positive outcomes such as academic success (Hanson & Kim, 2007).

A number of important individual-level characteristics have been identified as assets for a wide range of deviant and problem behaviors, generally including constructs such as social skills, empathy, resilient temperament, belief in the moral order, future orientation, impulse or self-control, and sociability (Flores, Cicchetti, & Rogosch 2005; Vanderbilt-Adriance & Shaw 2008). Katz and Fox (2010) found a negative association between well-developed social skills and the belief in moral order and gang membership. Their findings showed that a higher number of individual assets corresponded to a lower likelihood of joining a gang; that is, as the number of positive personal social-emotional assets increased the odds of gang membership decreased. Among the various personal assets that could protect against gang membership is the construct of "emotional competence" (Furlong, You, Renshaw, Smith, & O'Malley, 2014), which might be particularly influential for preventing gang membership.

In this study, we focus on the *emotional competence* domain included in the covitality model. The emotional competence domain encompasses the interpersonal (e.g., the ability to say "no" to peers, measured in the *emotional regulation* component), affective (e.g., the ability to understand other people's thoughts and feelings, as measured in the *empathy* component), and behavioral manifestations of emotional skills (e.g., the ability to delay gratification, as measured in the *behavioral regulation* component of the covitality model; Furlong et al., 2014).

The covitality model was developed to acknowledge and better understand the role of multiple positive psychological factors in human development, which can be considered to be personal resilience assets. Research has found that covitality is positively associated with positive quality of life indicators (e.g., life satisfaction) and negatively associated with negative outcomes (e.g., substance use; Furlong et al., 2014). It has not yet been applied to understanding which factors are associated with gang membership and is a promising direction for understanding which positive psychological dispositions or assets might be fostered to help protect youth from joining gangs.

Prior theoretical and empirical scholarship indicates that emotional competence might be needed to resist the allure of gangs. Individuals with low levels of self-control tend to engage in immediately gratifying activities and avoid acts whose long-term costs outweigh the more temporal advantages (Gottfredson & Hirschi, 1990). Thus, self-control manifested in the ability to delay instant gratification that could be achieved through drug sales or other lucrative criminal activities (Anderson & Dyson, 1996) might be a key protective factor against gang membership. This is illustrated by

previous studies findings that students with higher levels of self-control were less likely to be involved in gang-related violent behaviors (Olate, Salas-Wright, & Vaughn, 2012; Valdez, Kaplan, & Codina, 2000).

Empathy might be an additional key deterrent for affiliating with a gang in combination with self-control given that almost all gang-related activity involves damaging other people or violating societal norms and acting primarily in a self-serving manner. Higher levels of empathy allow youth to be aware of and sensitive to other people's desires and interests and underlie their understanding of how others will be affected by their actions.

Alternatively, individuals with low levels of empathy are free to behave without the constraints deriving from the understanding of the emotional consequences of their actions on other people (e.g., Feshbach, 1975). The negative emotions experienced by others, evoked as a consequence of one's own antisocial actions, are thus not considered as a cost of the transgression and do not work as an inhibitory factor for future antisocial acts (Brewer & Kerslake, 2015; Chiou, Chen, & Liao, 2014). In line with this, existing studies show that gang members, compared with nongang members, report lower levels of empathy (Lenzi et al., 2015; Olate et al., 2015; Valdez et al., 2000). Conversely, higher levels of individual empathy also act as an important protective factor against gang-related violent behaviors (Olate et al., 2015).

Finally, being able to regulate emotional reactions and accepting responsibility for personal behavior (emotional regulation) might make it difficult for youth to perform the violent and criminal actions that street gangs usually require of their members, such as an unwavering group loyalty even when the actions required might seriously damage the youth or others (Rees, 1996). Overall, high levels of self-control, emotional regulation, and empathy also allow youth to sympathize with others and form healthy, supportive relationships (Dishion, 2014; Voisin, King, Diclemente, & Carry, 2014). Youth who are able to form meaningful relationships with family members, peers, classmates, and teachers have a lower likelihood of turning to deviant peers for social support and a sense of belonging, thus reducing the perceived instrumental value of gang membership.

1.3 | School-level emotional competence and gang membership

Besides individual differences in emotional competence, schools can be characterized by different levels of this particular skill when considered across the entire student body. Hence, although school climate definitions can vary across studies, the social and emotional learning (SEL) component is typically included as a dimension of school climate (see, for example: Konishi, Miyazaki, Hymel, & Waterhouse, 2017). Social and emotional skills are considered "master competences" underlying multiple areas of well-being; Studies have linked SEL to multiple positive developmental outcomes, including better academic achievement, social relationships, and subjective well-being (Domitovich, Durlak, Staley, & Weissberg, 2017; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).

Between-school variation in emotional competence might be shaped by several factors, such as the socioeconomic background of the school or neighborhood or the degree to which the school promotes the acquisition of emotional skills in its students. For example, schools vary in their efforts to implement emotional skills trainings and to promote students' participation to structured activities (Durlak et al., 2011; Durlak, Domitrovich, Weissberg, & Gullotta, 2015; Greenberg et al., 2003) that foster supportive learning environments in which students feel valued and connected. Some scholars characterize schools as being "emotionally competent" (e.g., O'Hanlon, 2000) to emphasize that manner in which teachers and pupils jointly contribute to the wider emotional environment of the school.

According to O'Hanlon (2000), different emotional climates will translate to different learning opportunities for students and will have an impact on several behaviors that are associated with emotional competence, for example, gang membership. This is consistent with previous studies showing that a positive emotional climate in school is associated with fewer behavior problems (Wang & Dishion, 2012), including less bullying (Bandyopadhyay, Cornell, & Konold, 2009). Considering the theoretical link between emotional competence and gang membership and based on previous research evidence, it is possible that a school that can be characterized as emotionally competent has the potential to reduce gang membership among its student body.

The concept of socially competent schools is in agreement with Thornberry and Krohn's interactional theory (2001) assumptions. This theory was developed by integrating social control theory (antisocial behavior occurs when

individuals lack strong bonds to society; Hirschi, 1969) and social cognitive theory (deviant behavior is fostered through observational learning, positive reinforcement, and a system of beliefs justifying this behavior; Bandura, 1986). The interactional theory posits that the risk of becoming a gang member is influenced by not only individual characteristics but also the multiple social networks in which the youth is embedded (i.e., family, peers, school, neighborhood). According to interactional theory, experiencing poor social relationships (e.g., perceiving low levels of teacher support) and being exposed and reinforced to engage in delinquent behavior (e.g., by living in a neighborhood with high crime rates) in different social contexts increase the likelihood that a youth will gravitate toward gang affiliation.

The school is a critical context for adolescent development and serves as a setting where youth can experience a warm and cohesive climate, establish supportive relationships with classmates and adults, and learn important social competencies (Catalano, Berglund, Ryan, Lonczek, & Hawkins, 2004). When high levels of emotional and behavioral skills characterize the general school climate, adolescents will have more opportunities to perceive and experience social support and subsequently find help from classmates (e.g., Battistich, Solomon, Watson, & Schaps, 1997). Consistently, psychoeducational programs aimed at promoting supportive interactions between and among students and teachers focus on fostering social and emotional skills, such as self-awareness, social awareness, and emotion regulation (Greenberg et al., 2003).

At the same time, school environments where students have empathic, emotional regulation, and self-control abilities increase the opportunity for students to observe peers' positive social interactions, which could promote the development of social competencies through modeling and the development of a prosocial system of beliefs. Adolescents in such school environments would be more likely to witness and be the recipient of helping behaviors and positive interactions, which in turn would increase protective factors against acts of transgression promoted through gang membership (Hirschi, 1969; Lerner, Phelps, Forman, & Bowers, 2009).

As shown by the evaluation of an SEL programs (e.g., Rivers et al., 2013), classrooms where emotion-related knowledge and skills are promoted as an integrated part of the educational mission have a positive climate with positive interactions and social connections. A positive school social and emotional climate in turn is associated with fewer risk behaviors; for example, lower levels of bullying behaviors have been reported in schools with higher levels of group support (Turner, Reynolds, Lee, Subasic, & Bromhead, 2014) and a higher sense of community (Wang et al., 2014). Studies on school-level features emphasize that students, besides their own levels of emotional competence and personal characteristics, benefit from attending a socially competent school because of the broader relational dynamics associated with high levels of emotional competence within the school.

Several methods have been developed to capture school characteristics that foster children's social and emotional development, for example, measuring school features that promote caring and supportive interactions between students (Catalano et al., 2004; Rivers, Brackett, Reyes, Elbertson, & Salovey, 2013). Besides objective characteristics of the school that can be directly measured (e.g., the frequency of social and emotional trainings), several aspects of the school social and emotional climate can be obtained by aggregating individual students' perceptions (Bear et al., 2018; Konishi et al., 2017; Raudenbush & Bryk, 2002). This approach captures the same variable at both the individual and the school levels, thus reducing the risk of ecological fallacies (Robinson, 1950). That is, when focusing on a single level, the risk is to infer something about the associations found at the individual level based on the findings obtained at the contextual level or vice versa. When both the subjective evaluation and the collective evaluation of a particular feature have meaningful relations to the phenomenon under study, limiting the analysis to one level can lead to misleading conclusions.

It is also important to note that variables aggregated from an individual to a contextual level (in the present study's case, to the school level) can have a different meaning when compared with the original one because of the social dynamics operating at the higher level (Snijders & Bosker, 2012). These differences can be taken into account only when within- and between-group associations are considered at the same time (Raudenbush & Bryk, 2002; Snijders & Bosker, 2012). For this reason, findings from studies investigating school features (measured through individual perceptions alone) protecting students against gang membership or gang-related violence (e.g., Gage, Prykanowski, & Larson, 2014) might be biased by ecological fallacy.

As explain earlier, because both the individual and the school levels of emotional competence are theoretically associated with gang membership, and to avoid ecological fallacies, we analyze both levels by aggregating individual emotional competence scores reported by students. This method captures the level of emotional competence of the whole school context (beyond individual levels of emotional competence), which might be associated with the social dynamics influencing risk behaviors such as gang membership.

Studies investigating the role of the school environment in influencing gang membership are scant (Hagedorn, 2017; Sharkey et al., 2011), and when school characteristics are examined, they are generally operationalized at the individual level (e.g., Alleyne & Wood, 2010; Gage et al., 2014; Howell, 2009; O'Brien, Daffern, Meng Chu, & Thomas, 2013). There is a need to further examine how the characteristics of the students attending a particular school may shape the overall climate and social interactions at the school level, thus influencing the likelihood of affiliating with a gang. To our knowledge, few, if any, studies have examined if emotional competencies conceptualized at the school level are associated with adolescents' risk of joining a gang.

1.4 | Aims and hypotheses

As we have discussed, research has mostly focused on individual-level peer, family, school, community, and personal factors related to gang membership (O'Brien et al., 2013) and studies that focus specifically on school-level correlates of gang membership are rare (Hagedorn, 2017; Sharkey et al., 2011). In this study, our aim is to advance scholarship about educational approaches to gang prevention by identifying positive, alterable social and emotional skills that can be addressed in schools to prevent gang membership. Specifically, this study investigated the role of emotional competence (defined as emotional regulation, empathy, and behavioral regulation; Greenberg et al., 2004; Zins et al., 2007), at both the individual and the school levels, as a protective factor against gang membership in adolescence.

Based on previous studies (Lenzi et al., 2015; Olate et al., 2012; Valdez et al., 2000) and self-control theory's main assumption (Gottfredson & Hirchi, 1990), we predicted that, at the individual level, emotional competence would be associated with a lower likelihood of identifying as a gang member. In addition, based on the assumptions of the interactional theory (Thornberry & Krohn, 2001), we expected that in schools where students report higher levels of emotional competence, the likelihood of identifying as a gang member would be lower.

2 | METHOD

2.1 | Participants

The participants were students attending California high schools that took part in one of the 11 Safe and Supportive Schools (S3) projects funded by the U.S. Department of Education during the years 2011–2015. This initiative addressed disruptive behaviors in school, such as bullying, harassment, and violence, while promoting safe, caring, engaging, and healthy school environments that foster learning and well-being. The high schools were selected to participate because of low school climate characteristics compared with other California high schools.

In the third year of the project, 17 of 58 schools volunteered to complete the Social Emotional Health Survey (SEHS) in addition to measures used for the S3 project evaluation. The schools were in districts geographically distributed in main urban areas across California: Sacramento (1), San Francisco (1), Los Angeles, (1), Riverside-San Bernardino (2), and San Diego (2), with one school located in a rural district. Seven of these 17 schools were comprehensive high schools and had student enrollments of 1,500 or more, three had enrollments of 1,000–1,499, and seven had enrollments less than 1,000. All 22,703 students attending these schools were invited to participate, with 12,040 (53.0%) providing usable SEHS responses for the present study.

The 12,040 students in the sample were balanced across gender (51.4% females) and grades (27.8% 9th, 24.9% 10th, 24.7% 11th, and 22.6% 12th), and the students' ages ranged between 14 and 18 years (mean [M] = 16.9, standard deviation [SD] = 1.2). In relation to sociocultural background, participants self-identified as follows: Latino/a (57.5%), White

(21.2%), Blended (two or more groups; 31.6%), Black (9.0%), Asian (7.4%), Native Hawaiian/Pacific Islander (2.0%), Alaskan/Native American (2.2%), and no response (26.5%). Overall, the sample is representative of California's high school demographics, although it slightly overrepresented the Latino/a students (50.7% of the statewide student population) and underrepresented White students (26.8%; California Department of Education, 2013). The percentage of English Learners within schools ranged from 7% to 68% (median [Md] = 23%), and 38% to 92% (Md = 51%) of the students came from economically disadvantaged families (parents without a high school diploma and/or student receiving free or reduced-price lunch).

Missing data for some participants on one or more of the variables of interest yielded a reduced sample of 11,753 students. We compared the sample excluded from analysis to the included subsample in terms of gender and age distribution. The included sample differed from the final sample in terms of gender distribution, $\chi^2(1) = 14.31, p < .001$, with a higher percentage of males (59.6% vs. 48.3%) in the excluded sample. Conversely, there was no difference in terms of age distribution in the two samples. These demographics were included as control variables to account for these differences in our analyses.

2.2 | Measures

The California Healthy Kids Survey (CHKS) comprises a set of assessment modules evaluating youth risks and assets. All surveys are available on the California Healthy Kids Website (<https://chks.wested.org/administer>).

2.2.1 | Gang membership

Identifying as a gang member was measured with the following item: "Do you consider yourself a member of a gang?" (students indicated *yes* or *no*). The self-nomination technique has shown to be a valid measure of gang involvement (Esbensen, Winfree, He, & Taylor, 2001).

2.2.2 | Emotional competence

Emotional competence was measured employing one of the four domains of the Social and Emotional Health Survey-Secondary (SEHS-S; Furlong et al., 2014; You et al., 2014; You, Furlong, Felix, & O'Malley, 2015), an adaptation and extension of the Resilience Youth Development Module (RYDM; Furlong et al., 2009) included in this administration of the CHKS. The SEHS-S measures 12 psychological and social assets (each one composed by three items, for a total of 36 items), which are grouped on four first-order core social and emotional health domains: belief in self, belief in others, emotional competence, and engaged living (Renshaw et al., 2014).

Students' emotional competence was measured through the "emotional competence" SEHS domain, which included the following three subscales: emotional regulation, empathy, and behavioral regulation. Sample items were: "I can deal with being told no" for emotional regulation, "I try to understand how other people feel and think" for empathy, and "I can wait for what I want" for behavioral self-control. Participants responded using a 4-point scale ranging from 1 (*not at all true*) to 4 (*very much true*). The subscale showed a good internal reliability ($\alpha = .90$).

2.2.3 | Control variables

At the individual level, students' gender, age, and self-reported academic achievement were included as control variables. 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*. At the school level, school level SES (measured by the percentage of students receiving free or reduced-price lunch) and percentage of minority students in the schools were obtained from the National Center for Education Statistics (<https://nces.ed.gov/>) and included as predictors in the analyses.

2.3 | Procedures

The CHKS and the SEHS-S were administered to students at participating schools during regular school hours in spring of 2013. The procedures to obtain informed consent and to administer the surveys adhered to standard CHKS protocol (see chks.wested.org/administer/instructions). Eleven of the schools administered the SEHS using an online, anonymous survey portal developed by WestEd and six used paper surveys with an accompanying Scantron response sheet. Schools that completed the online (64.7%) and paper (60.3%) formats had comparable student participation rates. All responses were processed by WestEd and imputed into an SPSS file. When the CHKS is processed, each participant's responses are evaluated against seven checks for response consistency and extreme responding (see Furlong et al., 2009). Data were made available to the researchers after completing a data sharing agreement required by the California Department of Education, providing confidentiality and data security assurances.

2.4 | Analytic approach

Because data of the present study are inherently clustered (with adolescents having been sampled within schools), and we wanted to examine school-level characteristics, 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. This technique is 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 components) and the modeling of this variance by testing predictors at multiple levels. For example, in studying predictors of identifying as a gang member, HLM allows estimation of the associations between identifying as a gang member and students' individual and school-level emotional competence (obtained by aggregating students' responses in each school).

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

$$\eta_{ij} = \log [\Phi_{ij}/(1 - \Phi_{ij})],$$

where η_{ij} is the log of the odds of identifying as a gang member and Φ_{ij} is the probability of identifying as a gang member.

Analyses began with the estimation of the unconditional model where γ_{00} represented the average log odds of identifying as a gang member 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 estimated the association between identifying as a gang member and students' emotional competence for student i in school j , controlling for gender, age, and academic achievement. Emotional competence 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 allowed us to examine the between-school influence of the aggregate scores of emotional competence at level 2 (Raudenbush & Bryk, 2002). The individual-level model includes one predictor and three control variables:

$$\eta_{ij} = \beta_{0j} + \beta_{1j}(\text{age}) + \beta_{2j}(\text{gender}) + \beta_{3j}(\text{achievement}) + \beta_{4j}(\text{emotional competence}) + r_{ij}$$

where η_{ij} is the log of the odds of identifying as a gang member, β_{0j} is the intercept (that is, the mean outcome for unit j), β_{1-4j} 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 γ_{00} represents the grand-mean outcome in the population and u_{0j} the random effect associated with unit j .

TABLE 1 Descriptive statistics for gang membership, emotional competence, and control variable

	N	M	SD	Min	Max
<i>Individual level</i>					
Gang membership	11842	0.06	0.24	0	1
Gender (female)	12040	0.51	0.50	0	1
Age	12040	15.95	1.22	14	18
Academic achievement	11917	5.56	1.80	1	8
Emotional competence	12040	3.08	0.72	1.00	4.43
<i>Aggregate level</i>					
School-level emotional competence	17	3.07	0.08	2.92	3.24
School-level academic achievement	17	5.52	0.34	4.67	6.09
Minority %	17	76.15	23.68	32.27	98.59
School social economic circumstances (% free/reduced price school lunch)	17	69.17	22.73	16.57	99.77

Note. M = mean; SD = standard deviation.

The next step in the analysis was to test the school effects on school rates of students identifying as a gang member as a function of school-level emotional competence, controlling for school structural features (i.e., percentage of students receiving reduced or free lunch, a proxy of socioeconomic status [SES], and percentage of minority students in the school). We analyzed possible effects on the adjusted school log-odds of identifying as a gang member, γ_{0j} ; school-level emotional competence was grand mean centered.

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

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{school SES}) + \gamma_{02} (\text{minority}) + \gamma_{03} (\text{emotional competence}) + u_{0j},$$

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

3 | RESULTS

3.1 | Preliminary analyses

Descriptive statistics for the variables included in the study (at the individual level and the school level) are shown in Table 1. There was a wide variation in adolescents' reports of emotional competence, as shown by the standard deviation of the scores on this measure (0.72).

A preliminary step in HLM involves fitting an unconditional model and examining the variation among schools in students' identifying as a gang member. The population-average estimate γ_{00} represented the average logs odd of identifying as a gang member in a school ($\gamma_{00} = -2.65$): this means that for a school with a random effect $u_{00} = 0$, the expected odd of identifying as a gang member is .07. Given the estimate of $\tau_{00} = .080$, we expected 95% of the schools to have a log odds between -3.12 and -2.09, corresponding to a probability of identifying as a gang member between 0.05 and 0.14. Moreover, the reliability for the unconditional model was .735.

3.2 | Within- and between-school analyses

The within- and between-school HLM models with identifying as a gang member as the dependent variable are shown in Table 2. The models show the independent associations between emotional competence (at the individual level and the school level) and identifying as a gang member, controlling for background variables (gender, age, and academic

TABLE 2 Multilevel logit regression estimates for “gang membership”

	OR [CI]
Intercept γ_{00}	0.104 [0.035, 0.313]**
<i>Individual level</i>	
Gender [female]	0.530 [0.453, 0.619]***
Age	0.985 [0.927, 1.040]
Academic achievement ^a	0.875 [0.841, 0.911]***
Emotional competence ^a	0.647 [0.587, 0.714]***
<i>Aggregate level</i>	
Minority % ^b	1.000 [0.990, 1.010]
School SES [% reduced or free lunch] ^b	0.995 [0.984, 1.006]
School-level academic achievement ^b	1.251 [0.686, 2.279]
School-level emotional competence ^b	0.051 [0.006, 0.446]*

Note. [N = 11,753]

OR = odds ratio; CI = confidence interval.

^aSchool mean-centered.

^bGrand mean centered.

* $p < .05$. *** $p < .001$.

achievement, percentage of students in the school receiving reduced or free lunch, percentage of minority students in the school). Our findings show that there was a negative association between emotional competence and the likelihood of identifying as a gang member. More specifically, students reporting higher levels of emotional competence (individual-level emotional competence) were 35% less likely to identify as a gang member (for every 1-unit increase in emotional competence). Females and students reporting higher academic achievement also had a lower likelihood of identifying as a gang member (odds ratio [OR] = 0.53 and 0.87, respectively).

The findings also indicate that the association between emotional competence and identifying as a gang member was much stronger when emotional competence was operationalized and measured at the school level. That is, in schools where, on average, students report higher levels of emotional competence, they were 20 times less likely to identify as a gang member (for every 1-unit increase in emotional competence, i.e., for each .10 increase in school level emotional competence, students were two times less likely to identify as a gang member; OR = 0.05). School level structural characteristics (the percent of students receiving reduced price or free lunch and the percent of minority students) were not associated with identifying as a gang member.

4 | DISCUSSION

The current study examined the role of emotional competence (behavioral self-control, empathy, emotional regulation), defined and measured at the individual level and the school level, in protecting adolescents against identifying as a gang member. The findings showed that higher levels of individual and school-level emotional competence were associated with a lower likelihood of identifying as a gang member. The results of the current study are consistent with the self-control theory (Gottfredson & Hirchi, 1990) and the interactional theory (Thornberry & Krohn, 2001), and underline the importance of accounting for emotional skills when examining correlates of gang membership.

4.1 | Individual-level emotional competence

At the individual level, consistent with our hypotheses and past studies (Gottfredson & Hirchi, 1990; Lenzi et al., 2014; Olate et al., 2012; Valdez et al., 2000), students reporting higher levels of emotional competence (behavioral

self-control, emotional regulation, and empathy) had a lower likelihood of identifying as a gang member. Our findings align with past studies examining the role of emotional factors in antisocial and criminal behaviors (Brewer & Kerslake, 2015; Chiou et al., 2014), which linked low levels of emotional competence, most notably in terms of empathy, with a greater risk of being involved in criminal and delinquent activities (Estelle, Farmer, & Cairns, 2007; Farmer et al., 2008; Roeser, Eccles, & Freedman-Doan, 1999). Results of the current study also are in line with what found by Katz and Fox (2010), who identified a negative association between social skills and gang membership.

According to the self-control theory, adolescents affiliate with a gang because of perceived gains, such as a decrease in fear of victimization and an increase in perception of fearlessness and control that gang membership offers (Melde, Taylor, & Esbensen, 2009). Although gang activities expose its members to a high range of risks (Gilman et al., 2014), they also allow potential members to hope for the immediate satisfaction of needs that conventional society has not afforded them, such as safety, security, protection, belonging, identity, self-esteem, glamour, popularity, and self-actualization (Sharkey et al., 2011). To resist the urge to obtain short-term gains easily and immediately, it is necessary to have behavioral and emotional self-control, including the ability to delay gratification and plan for long-term goals (Gottfredson & Hirchi, 1990).

Our findings are consistent with this theory: Behavioral self-control might provide adolescents with more opportunities to choose a conventional way to attain goals and, thus decrease their likelihood of joining a gang. Our results are also consistent with literature showing that empathy can work as a protective factor against gang membership: the negative feelings experienced as a consequence of antisocial behavior characterizing gang activities (Chu, Daffern, Thomas, & Lim, 2012; Howell, 2012) might work as an inhibitory factor for further antisocial acts (Brewer & Kerslake, 2015; Chiou et al., 2014).

By allowing individuals to better understand others' thoughts and feelings and regulate their own emotions, emotional competence aids individuals in developing and maintaining social ties (Anderson & Keitner, 2002). Thus, youth who are higher on emotional competence may be better able to establish supportive relationships in other domains outside of gangs, thereby decreasing the need for the support offered by gang membership (Lenzi et al., 2014). The potential mechanisms responsible for the negative association between emotional competence and gang membership should be tested in greater depth in future research.

4.2 | School-level emotional competence

The negative association between emotional competence and identifying as a gang member was also found when emotional competence was operationalized as a characteristic of the school community. In schools where, on average, youth reported higher levels of emotional competence, the likelihood of identifying as a gang member was lower. This association was stronger than when emotional competence was measured as a characteristic of the individual. Youth attending "emotionally competent" schools, that is, schools with higher proportion of well-developed emotional competence, were 20 times less likely to identify as a gang member. Consistent with our hypotheses, this finding can be understood in light of the interactional theory (Thornberry & Krohn, 2001), which posits that weakened social bonds and reinforcement of delinquency are risk factors for gang membership. In our study, a symmetrical assumption can be derived; that is, greater exposure to positive, supportive ties, and helping behaviors might have the effect of decreasing the likelihood of identifying as a gang member.

In a school where, on average, students report higher levels of behavioral self-control, emotional regulation, and empathy, the social relationships they establish are likely to be characterized by mutual help, social support, and cohesion, thus altering the emotional climate of the school as a whole. Indeed, classrooms and schools with high levels of emotion-related knowledge and skills tend to show a climate characterized by cohesive relationships between students and positive social interactions (e.g., Rivers et al., 2013). Being immersed in a school community where, on average, students are more sensitive to their classmates' needs and are able to control their own emotions and behaviors in turn fosters prosocial beliefs in the school environment. Moreover, a school with a stronger prosocial system of beliefs provides youth with more chances to develop their emotional competence by observing their emotionally competent peers.

Similarly, our findings suggested that when students' self-reports reflect a school context that provides more access to social support and exposure to prosocial behaviors (in terms of higher school-level emotional competence), they also have a lower likelihood to self-identify as gang members. The transmission of prosocial values occurring in school settings characterized by high levels of emotional competence might be one of the mechanisms responsible for lower levels of gang membership (Klein & Maxson, 2006; Thornberry et al., 2003). This is in line with past studies showing that a positive social and emotional climate in the school is associated to lower levels of a number of risk behaviors, such as bullying (Turner, Reynolds, Lee, Subasic, & Bromhead, 2014; Wang et al., 2014).

As an additional consideration, higher levels of emotional competence at the school level might reduce the likelihood of school disorder and increase students' perception of school safety, thus reducing motivation to join a gang. Research has demonstrated that individual- and school-level feelings of being unsafe at school are positively linked to school gang membership (Lenzi et al., 2014; Sharkey et al., 2011).

All the protective processes mentioned in previous sections of this article might be at play and influence an individual student's likelihood of identifying as a gang member despite their personal levels of emotional competence. In other words, our findings show that even after considering a student's emotional skills, they would accrue benefit from attending a socially competent school because of the positive relational dynamics emerging out of a high level of schoolwide emotional competence (Snijders & Bosker, 2012). By simultaneously taking into account the individual level and the school level emotional competence, the current study avoided misleading ecological fallacy conclusions (Raudenbush & Bryk, 2002; Robinson, 1950; Snijders & Bosker, 2012), and shows that both the personal factors and the school factors appear to reduce the likelihood that students will identify as a gang member. Nonetheless, future research is needed in to examine the complex interplay of these factors on youth gang membership and to clarify the mechanisms responsible for these associations.

Schools appear to play an important role in youth gang membership above and beyond the influence of structural characteristics such as social economic circumstances or percent of enrolled minority students. Our study supports this argument: the association between structural features and gang membership was not significant, indicating that socioemotional features at the school level might be more relevant than structural ones in influencing gang membership. It is possible that gangs offer their members many benefits that are unmet in other social contexts (Sharkey et al., 2011); hence, the pattern of school social features shapes the likelihood of joining a gang.

Increasingly, it is more common among scholars to adopt theoretical approaches stating that adolescents join gangs to fulfill needs such as peer friendship, social support, and identity development (Sharkey et al., 2011). In other words, gangs may form for the same motivations that any group forms and functions as adaptive processes for satisfying needs that were impossible to meet through socially acceptable avenues. Overall, these results are critical for delineating how the school community might shape adolescents' development above and beyond individual risk and protective factors.

4.3 | Limitations

The current study has limitations that should be considered when interpreting its findings. The main limitations are related to the use of a single source to gather data (a self-report questionnaire), increasing the risk of social desirability and same-source bias (Diez-Roux, 2007), and the cross-sectional nature of the data, not allowing causal inferences. In addition, there were limitations because of sample and variable selection.

In this study, gang affiliation was measured with a single item asking students: "Do you consider yourself a member of a gang?" Although the self-nomination technique is considered a valid measure of gang involvement (also consistent with police reliance on gang members "claiming" membership; Esbensen, Winfree, He, & Taylorm, 2001), it may not capture some aspects of gang membership. A recent strategy in the field of gang research acknowledges a fluid hierarchy in the involvement with street gangs, consisting of individuals who belong to the gang's periphery (Alleyne & Wood, 2010). This approach allows a better understanding of the processes involved in gang affiliation and should be used in future research.

Longitudinal study was not possible because the CHKS is administered anonymously. Thus, we were unable to test causal effects. It is possible that identifying as a gang member has negative consequences on the development of

individual social and emotional skills, or on the overall social climate of the school. By applying the enhancement model of the gang–violence link to emotional competence, it is plausible that low emotional competence is both a predictor and a consequence of gang membership. There might be important initial differences in emotional competence levels between eventual gang joiners and nonjoiners prior to their involvement in a gang (selection effect), and these differences in emotional skills might be exacerbated during periods of active gang membership. This possibility is supported by Kissner and Pyrooz (2009), who found that self-control predicted current but not former gang membership. However, the reciprocal relation between emotional competence and gang membership can only be confirmed by adopting a longitudinal design.

Our sample might also be biased by the fact that gang members are generally more likely to drop out of school or skip school, be suspended, or expelled. Because the current study was conducted with students who were in school at the times of the survey, this represents an additional limitation of our sample. As recruiting youth in gangs to participate in large-scale quantitative research is a broad challenge, longitudinal studies carefully tracking participants from a young age might help overcome this limitation.

Our sample comes from schools within one state in the United States (albeit the one with the largest population of more than 30 million and substantial student diversity); thus, these 17 high schools might not reflect the experiences of gang involvement or the characteristics of the school environment in other U.S. states or in different countries. The high schools were selected to participate in the study because of their low school climate characteristics compared with other California high schools and who were in year three of a Safe and Supportive Schools project. These factors might have limited the variability of selected schools in relation to several characteristics, including emotional competence¹. A longitudinal design would have helped to isolate the effects of emotional competence from an early age to gang membership at a later age. Results of this study reflect schools in the process of improving their school climate; additional research is needed to replicate these associations in other schools with varying school climates across geographical regions and time.

We focused on specific protective factors having a theoretical and/or previous empirical relation to gang membership, but there is a great variety of additional risk and protective factors that would be important to analyze. For example, future research may examine how additional family (e.g., family structure, parent-child closeness, family gang involvement), school (e.g., school climate, teacher support, teaching methods), and community (e.g., neighborhood violence) characteristics are associated with the likelihood of being affiliated with a gang.

Although we found a strong negative association between emotional competence, measured at both the individual and the school levels, and identifying as a gang member, future research needs to examine in greater depth the processes and mechanisms responsible for this association (e.g., by identifying mediating and moderating variables). Finally, based on our findings, the notion of “emotionally competent” environments would benefit from additional conceptualization. Although this construct has been already adopted in relation to learning (e.g., Hoff, Pohl, & Bartfield, 2004) and clinical (e.g., Wilkerson, Rybicki, Barber, & Smolenski, 2011) environments, its relevance for adolescent development in different social settings (e.g., school, neighborhood) needs to be better explored from a conceptual frame.

4.4 | Practical implications

The importance of identifying specific sets of school-level factors responsible for helping youth avoid identifying as a gang member holds promise for assisting schools to take responsibility for reducing the number of youth who fall into the school-to-prison pipeline (Sander, Sharkey, Olivarri, Tanigawa, & Mauseth, 2010). Too often schools implement punitive and exclusionary policies to correct student behavior, which disproportionately affects students with disabilities, students living in poverty, and students of racial and ethnic minority backgrounds. After being pushed out of schools, these students may find gangs to be an attractive way to meet their needs (Sharkey et al., 2011). By focusing on emotional competence as an asset, our study identified a way that schools can shift their focus away from

¹ However, between-school variation in emotional competence was statistically significant.

punitive and exclusionary methods of discipline to positive methods that foster the emotional regulation, empathy, and behavioral regulation of all students. Our study found that these elements of emotional competence are associated with fewer students identifying as a gang member perhaps because they feel more connected to the schools' prosocial systems of success.

4.5 | Future research

This is an early study that examined the association between gang membership and emotional competence at individual and school levels. A next step in future research is to test the longitudinal association between school-level emotional competence and gang membership. It is important to establish the direction of association between emotional competence and identifying as a gang member because it is possible that identifying as a gang member negatively affects emotional regulation, empathy, and behavioral recognition rather than vice versa.

The potential of individual-level emotional competence to protect students from identifying as a gang member has implications for the ongoing development and testing of existing school-based programs to help students resist gangs. For example, the Gang Resistance Education and Training (GREAT) program was developed by law enforcement and implemented in schools to respond to local gang problems (Esbensen et al., 2011). The first phase of an evaluation found that the curriculum was ineffective at inspiring behavioral change in student participants. The curriculum was revised to incorporate more interactive techniques and a strength-based approach that targeted risk factors for gang membership. The revised program, which included lessons on communication, refusal skills, conflict resolution, and anger management, demonstrated positive effects including lower rates of gang membership compared with a control group.

As new research emerges, such as the findings in the current study, programs such as GREAT could be redeveloped to incorporate key positive psychological building blocks to life success. By nurturing adolescent emotional competence, interventions targeting gangs such as GREAT or even interventions that have a broader focus such as life skills trainings (e.g., Botvin & Griffin, 2004) might have the potential to reduce the likelihood of a wide range of adjustment problems, such as gang membership, criminality, and violent behaviors (Estelle et al., 2007; Farmer et al., 2008; Olate et al., 2012; Robinson, Roberts, Strayer, & Koopman, 2007; Valdez et al., 2000).

4.6 | Conclusion

Our findings indicated that the protective role of emotional competence against self-report of gang membership was stronger when emotional skills were operationalized at the school level. Thus, intervention research could focus on testing specific methods schools can implement to foster the emotional competence of their entire student body. For example, by training teachers in techniques that foster students' collaboration and mutual help, interventions with a small number of individuals (thus employing a smaller quantity of resources) could impact hundreds of students.

In addition, implementing schoolwide positive intervention support systems (e.g., schoolwide positive behavior supports; Sugai & Horner, 2009) and modifying school discipline practices to teach adaptive replacement behaviors (e.g., conflict resolution skills and anger management skills) might contribute to positive changes in the school environment. These changes in turn could have potential protective benefits not only for students currently enrolled in the schools targeted by the interventions, but also for students who attend the same schools in the future.

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