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Binge Drinking and Perceived Neighborhood Characteristics among Mexican Americans Residing on the U.S.-Mexico Border

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Abstract

Background—This paper examines the association between perceived neighborhood violence, perceived neighborhood collective efficacy, and binge drinking among Mexican Americans residing on the U.S.-Mexico border.

Methods—Data were collected from a multi-stage cluster sample of adult Mexican Americans residing in the U.S.-Mexico border areas of California, Arizona, New Mexico, and Texas (N=1,307). The survey weighted response rate was 67%. Face-to-face interviews lasting approximately one hour were conducted in respondents' homes in English or Spanish. Path analysis was used to test whether collective efficacy mediated the impact of perceived neighborhood violence on binge drinking.

Results—Among 30+ year old women, perceived neighborhood collective efficacy mediated the effects of perceived neighborhood violence on binge drinking in a theoretically predicted way: Lower perceptions of violence predicted an increased perception of collective efficacy, which in turn, predicted less binge drinking. Direct effects of violence perceptions on binge were non-significant. Younger 18 to 29 year old women showed a similar (but non-significant) pattern of effects. Perceived collective efficacy also mediated the effects of perceived violence on binge drinking among men, but in opposite ways for older and younger men. Older men showed the same mediating effect as older women, but the effect reversed among younger men due to a strong, positive relation between collective efficacy and binge drinking. There were also age differences in the direct effect of violence perceptions on binge drinking: Perceptions of violence predicted more binge drinking among young men, but less among older men.

Conclusions—These results highlight the complexity of people's responses to neighborhood characteristics in regard to their drinking. Young men in particular seem to react very differently to perceptions of collective efficacy than other groups. However, among both men and women, collective efficacy may come to play an increasingly important *protective* role in health outcomes with age.

Keywords

Mexican Americans; U.S.-Mexico border; binge drinking; collective efficacy; neighborhood perceptions

Introduction

The rationale for undertaking the study described herein is based on the premise that while individuals' drinking is partly explained by individual-level characteristics and specific drinking contexts, broader contextual factors are also relevant. Specifically, there is evidence that health and behavioral outcomes are influenced by both the structural characteristics of one's neighborhood as well as by how one's neighborhood is *perceived*, rather than solely by characteristics of individuals (Truong & Ma, 2006; Sampson et al., 1997).

Perceived neighborhood disorder, particularly perceived lack of safety at both individual and neighborhood levels, is associated with several negative behavioral and health outcomes, including poor physical and mental health, poor self-rated health, and substance use (Ziersch et al., 2005; Chandola, 2001; Wallace, 2012). Perceptions of neighborhood order, however, can counterbalance the negative effects of neighborhood disorder on health outcomes (Sampson et al., 1997; Sampson, 2003). Much of this research has focused on the concept of perceived neighborhood collective efficacy and its effect on violence (Sampson et al., 1997; Morenoff et al., 2001; Browning, 2002). Collective efficacy is rooted in Shaw and McKay's (1942) research on social disorganization and juvenile delinquency whereby neighborhood ecological conditions (i.e., low economic status, ethnic heterogeneity) contribute to community disorganization and a breakdown of social order that leads to delinquency (Walker, 2009). Key elements of this model are the community's ability to control group-level dynamics and that such control is better exerted by cohesive communities (Sampson and Groves, 1989). These themes of cohesion and control are also evident in Sampson and colleagues' (1997) theory of collective efficacy. Collective efficacy reflects shared beliefs about the ability of neighborhood residents to act in socially cohesive ways and expectations that informal social controls will be implemented to maintain public order (Sampson et al., 1997). Collective efficacy has been shown to mediate the effects of neighborhood concentrated disadvantage and residential instability on interpersonal violence (Sampson et al., 1997; Browning, 2003).

There is also growing evidence that stronger perceived collective efficacy within neighborhoods is associated with better child and adolescent behavioral and health outcomes (Sternthal et al., 2010; Kim, 2010; Browning et al., 2004; Cagney & Browning, 2004), and better self-reported overall health (Browning & Cagney, 2002). Less is known, however, about how perceived neighborhood factors shape substance use behavior and furthermore, results vary widely across studies. This is due in part, to the different populations studied (adolescents, young, middle-age, and older adults) and because of the use of differing measures of the perceived neighborhood. For example, three studies found that increased perceptions of neighborhood disorganization were associated with increased substance use

among adolescents (Lambert et al., 2004; Wilson et al., 2005; Winstanley et al., 2008), although in one of these studies this varied by gender (Lambert et al., 2004). In another study, lower social cohesion was associated with greater perceived problems with youth substance use, which was positively associated with neighborhood youth drug and alcohol arrests (Duncan et al., 2002). In a study of 45 to 85 year old U.S. adults, Echeverría and colleagues (2008) found that decreased perceptions of neighborhood problems (e.g., noise, traffic, litter, etc.) were associated with decreased binge drinking; however, they found no association between perceived neighborhood social cohesion and drinking. In contrast, in a general population study of 50 California cities, Gruenewald and colleagues (2014) found that greater collective efficacy and less neighborhood disorganization were associated with a higher volume of alcohol consumption.

The purpose of this paper is to examine the association between perceived neighborhood violence, perceived neighborhood collective efficacy, and binge drinking among Mexican Americans residing on the U.S.-Mexico border. We focus on binge drinking on the border because it is a prevalent behavior among young Mexican American men and women residing there (Caetano et al., 2012). Previous analyses of these data show that among 18 to 29 year old border residents, 48% of men and 26% of women reported binge drinking in the previous 12 months compared to 36% and 14% of their male and female non-border counterparts. There were also significant differences in binge drinking across age groups on the border. While nearly half (48%) of 18 to 29 year old border men reported binge drinking, the proportion decreased to 39%, 28%, and 15% for 30 to 39, 40 to 49 and 50+ year olds, respectively. A similar pattern was observed among border women. The proportion of young border women who binged was three times higher than that of 30 to 39 and 40 to 49 year olds and more than eight times higher than that of 50+ year olds (Caetano et al., 2012). Binge drinking is also important to assess because it is associated with several negative health and behavioral outcomes (Centers for Disease Control and Prevention, 2014).

We focus on drinking on the U.S.-Mexico border because there are additional factors that influence this behavior there. Youth and young adults may be particularly influenced by the excessive tobacco and alcohol advertising on the border (Power, 1998; Fleming et al., 2004). The border's close proximity to a country with distinct drinking norms may also impact patterns of drinking (Caetano, 1987). There is considerable population contact across the border. In 2010, for example, there were approximately 40 million pedestrian and 64 million personal vehicle crossings at the border's 25 main entry ports (U.S. Department of Transportation, 2014). Crossing into Mexico (where alcohol is less expensive and the legal, but loosely enforced drinking age is 18; Lange et al 2002) specifically for drinking is frequent, particularly among young adults (Caetano et al., 2013a; Lange et al., 2002).

The border area is also affected by intense illegal drug trafficking. In 1990, the Office of National Drug Control Policy (ONDCP) designated border locations in the four border states (California, Arizona, New Mexico, and Texas), as High Intensity Drug Trafficking Areas (HIDTA) (Office of National Drug Control Policy, 2011). Because of this drug traffic, the border is also characterized by high rate of violence, most of which has affected the

Mexican side of the border (Finklea, 2013), but which may create the potential for considerable instability and insecurity for those living in the region.

Given that collective efficacy generally shows negative associations with perceptions of violence and health problems, we hypothesize that the positive effects of perceived neighborhood violence on binge drinking will be explained in part by collective efficacy and the form of this partial mediation pattern will mirror these past findings described in the literature. Specifically, perceptions of increased violence should predict decreases in perceptions of collective efficacy, which in turn should predict a higher likelihood of binge drinking. One could argue that living in seemingly violent neighborhoods is stressful and that binge drinking serves as a means of stress reduction. On the other hand, we hypothesize that living in a seemingly violent neighborhood leads to increased binge drinking via a breakdown in collective efficacy. In other words, when residents view their neighborhoods as unsafe, there is a breakdown of shared mutual trust (social cohesion) and less willingness to intervene (or expectations that others will intervene) when problems arise (informal social control).

2. Materials and Methods

The border survey (N=1,307) interviewed Mexican Americans in urban areas in border counties of California (Imperial County: N=365), Arizona (Cochise, Santa Cruz, and Yuma Counties: N=173), New Mexico (Dona Ana County: N=65), and Texas (Cameron, El Paso, Hidalgo and Webb Counties: N=704) between March 2009 and July 2010. Respondents were selected using a multistage cluster sampling methodology with a weighted survey response rate of 67%. Respondents signed written informed consents and the Committee for the Protection of Human Subjects of the University of Texas Health Science Center at Houston approved the study.

The questionnaire was pre-tested in English, translated into Spanish, and back-translated to English. Bilingual interviewers conducted hour-long Computer Assisted Personal Interviews in respondents' homes. Approximately 55% of the interviews were conducted in Spanish.

2.1 Measures

2.1.1—Binge drinking was defined as drinking four or more (women) and five or more (men) drinks per occasion within a two hour period in the previous year. To assess this, respondents were asked the following question: "During the last 12 months, how many times have you had four/five or more drinks of any alcoholic beverages on one single occasion: that is within 2 hours?" Eleven response categories ranged from every day to never in the past 12 months. This variable was coded dichotomously and respondents were categorized as: 1) current drinkers who did not binge in the previous year/ex-drinkers/abstainers; and 2) current drinkers who binged one or more time in the previous year.

2.1.2 Perceived Neighborhood Characteristics—Perceived Neighborhood Violence was assessed by asking respondents how often (often/sometimes/rarely/never) the following events occurred in their neighborhood in the past six months: a fight with a weapon; a violent argument between neighbors; a gang fight; a sexual assault/rape; and a robbery/

mugging (Sampson et al., 1997). This additive scale ranged from 1 to 4, with higher scores representing higher perceptions of neighborhood violence. The mean score for this measure was 1.23 ($\pm .03$) for women and 1.27 for men ($\pm .03$). This measure had an acceptable level of intra-group reliability (Cronbach's $\alpha = .75$ and $.77$ for men and women, respectively).

Perceived Neighborhood Collective Efficacy was assessed with the two interrelated concepts of informal social control and social cohesion, defined respectively as the willingness of neighborhood residents to intervene for the common good and the mutual trust among neighbors (Sampson et al., 1997). Collective efficacy scores were summed and averaged across 10 items; 5 for perceptions of social control and 5 for social cohesion. Respondents rated the social control items from very likely to very unlikely (i.e., 5-levels), including whether neighbors would intervene if children skipped school, spray-painted graffiti, or were disrespectful toward adults, if fights broke out in front of their house, and if the fire station was closed for budget cuts. Social cohesion items were also rated across 5 levels (i.e., strongly agree to strongly disagree) and included: "people around here are willing to help their neighbors," "this is a close-knit neighborhood," "people in this neighborhood can be trusted," "people in this neighborhood generally do not get along with each other" and "people in this neighborhood do not share the same values." The last two items listed were reverse scored. This scale ranged from 1 to 5 with higher scores representing stronger perceptions of neighborhood collective efficacy. The mean score for this measure in our sample was 3.75 ($\pm .04$) and 3.72 ($\pm .06$) for women and men, respectively. It had an acceptable level of intra-group reliability (Cronbach's $\alpha = 0.82$ and 0.83 for men and women in our sample, respectively).

2.1.3 Sociodemographics—Several sociodemographic variables were included in the analysis because of their documented association with drinking and drinking-related outcomes (Caetano et al., 2012; Caetano et al., 2013b; Vaeth et al., 2012). Male and female *gender*. Age: 18–29 and 30+ years. *Birthplace*: Foreign versus U.S. *Marital status*: 1) married/cohabitating, 2) separated/divorced/widowed, and 3) never married/never lived with someone. *Education*: 1) less than high school, 2) high school diploma/general equivalency diploma (GED), 3) some college/technical/vocational school, or beyond. *Employment status*: Men, 1) full/part-time employment, 2) unemployed/temporary illness/in school, 3) retired/disabled/never worked/other 4) homemaker (women only). *Religion*: 1) Protestant, 2) Catholic, 3) other, and 4) no preference. *Income*: Total household income (< \$4,000 to > \$100,000).

2.2. Statistical Analysis

To account for the multistage cluster sample design, Stata 13 (StataCorp., 2013) and Mplus 7.1 (Muthén & Muthén, 2013) were used for data analyses. Weighted data were analyzed to correct for unequal probabilities of selection into the sample. A post-stratification weight also corrected for nonresponse and adjusted the sample to known population demographic distributions. Path analysis was used to test whether collective efficacy mediated the impact of perceived neighborhood violence on our binge drinking outcome measure (see Figure 1). Standard errors of indirect effects were computed using resampling methods (MacKinnon et al., 2007). Because previous findings from the border data have indicated that gender and

age may moderate other effects on alcohol outcomes, a multi-group approach was used with gender and age as grouping variables. All path models adjusted for the effect of background covariates (birthplace, income, religion, education, marital status, and employment) on both collective efficacy and the drinking outcome (for simplicity, these effects are not depicted in diagrams). Note that our use of SEM methodology is simply a means to estimate the extent to which collective efficacy mediates effects of perceived neighborhood violence on binge drinking. Our objective is not to formulate or test a broader model of these background covariates, but we do want to control for their possible confounding influence on the two endogenous model outcomes.

3. Results

3.1. Sociodemographics

The mean age of respondents was 41.3 years (± 1.0) (data not shown). Women represented 53% of the sample. The percentage of married or cohabitating respondents was 58% and the percentage of respondents with less than a high school education was 49%. The mean annual income was 28.5K (± 2.0) and 45% of the respondents were employed part- or full-time. Most respondents were Catholic (71%) and finally, 55% of respondents were born outside of the U.S.

3.2. Perceived Neighborhood Characteristics and Binge Drinking

Multi-group path models for binge drinking—Figure 1 depicts key pathways of interest, and Figure 2 depicts parameter estimates obtained by fitting this model in a multiple-group analysis with gender and age as grouping variables. A path decomposition of these estimates into indirect, direct, and total effects is provided in Table 1.

Among 18 to 29 year old women, collective efficacy did not mediate the effects of perceived neighborhood violence on binge drinking and there was also no statistically significant direct association between perceived violence and binge drinking. Among 30+ year old women, perceptions of neighborhood violence had a positive effect on binge drinking via collective efficacy, as indicated by the significant, positive indirect effect for this group in Table 1. This positive mediating effect arose from negative component pathways: When perceptions of violence were high, collective efficacy tended to be low, which in turn was linked to binge drinking. As with younger women, the direct effect of perceived violence on binge drinking was not significant.

Among 18 to 29 year old men, collective efficacy mediated the effects of perceived neighborhood violence on binge drinking. However, unlike the results for women (discussed above) the overall indirect effect was negative due to oppositely signed component pathways. The discrepancy was attributable to a positive effect of collective efficacy on binge drinking. In addition, perceived violence directly predicted increased binge drinking. As with the findings for younger men, among older 30+ year old men, collective efficacy also mediated the effects of perceived neighborhood violence on binge drinking. However, the overall indirect effect was positive due to negative component pathways. In addition, there was a significant direct effect of perceived violence on binge drinking, but the pattern

was reversed in comparison with younger men in that perceived violence predicted decreased binge drinking.

4. Discussion

We begin this discussion with a general overview of our present results with respect to the hypothesized mediating role that perceived collective efficacy was expected to play in the association between perceived neighborhood violence and binge drinking. We follow that with a discussion of possible interpretations of the observed effects.

The present results were generally consistent with our hypothesis that perceptions of neighborhood collective efficacy would mediate the effect of perceived violence on binge drinking. For example, in three of four gender-age subgroups, the indirect (mediation) effect of collective efficacy was positive due to negative component pathways. However, this mediation effect did not reach significance among younger women. Also relevant to this hypothesis, although not directly predicted, was the finding that among women, controlling for collective efficacy eliminated any direct positive association between perceived neighborhood violence and binge drinking. That is, for both younger and older women, there was no direct effect of perceived violence on binge drinking.

There were two unexpected findings in the models for men. First, collective efficacy was a significant mediator among both younger and older men, but contrary to the hypothesized form of mediation, the indirect effect was negative among younger men. This anomalous finding was attributable to a specific effect reversal: collective efficacy was a strong *positive* predictor of binge drinking among younger men, in contrast to the *negative* relation seen among older men and both younger and older women. Second, perceptions of violence were directly associated with binge drinking among both younger and older men, but unexpectedly, this direct association was *negative* among older men.

What might explain these findings? In general, differences by age and gender in the associations under focus are not surprising. There are substantial differences in the amounts and patterns of drinking by men and women, and between younger and older people. In general, women drink less than men and older people drink less than those who are young (Substance Abuse and Mental Health Services Administration, 2013; Schoenborn et al., 2013). This is true in regards to the average number of drinks consumed per occasion and in the proportion and frequency of binge drinking. Differences regarding how men and women and different age groups react to perceived neighborhood violence and perceived neighborhood cohesion and social control (i.e., collective efficacy) are not surprising either. For instance, older adults and women may be more sensitive to perceptions of increased violence in their neighborhood and thus concerns over potential victimization (Roman & Chalfin, 2008).

Older women and men, and (although non-significant) younger women showed a mediation pattern consistent with our general hypothesis and previous theory regarding the role of collective efficacy in health outcomes. In these groups, as perceptions of violence increased, perceptions of collective efficacy decreased, and (due to a negative relation) increased binge drinking followed. These findings underscore the importance of perceived neighborhood

collective efficacy to the health of older residents in communities. Regardless of actual rates of violence, perceptions of neighborhood security may foster social integration and the emergence of informal community support networks, facilitating residents' ability to confront and address alcohol-related and other health problems. Conversely, perceptions of low security may erode these social structures, leading to higher levels of stress and binge drinking in response. Collective efficacy was particularly important among women in that any association between perceived violence and binge drinking was largely accounted for by the level of collective efficacy they perceived in their neighborhood. This contrasted with what was seen among men of both age groups, where violence directly predicted binge drinking.

Regarding the non-significant mediation effect among younger women, the consistency of the basic pattern of effects – with respect to both older women and older men, past theory, and the smaller sample size of the younger female age group – suggests this may be an issue of attenuated power to detect the effect among this subgroup of women. Alternatively, collective efficacy may not be relevant to binge drinking among young women. Another possibility is that drinking among younger women may be more sensitive to aspects of the local border environment other than collective efficacy, such as proximity to Mexico (where the legal drinking age is 18) and the density and characteristics of bars in the region. Drinking in Mexico and drinking in bars (on either the Mexico or the U.S. side of the border) have each been shown to play important roles in the higher rates of drinking and alcohol-related harm that younger border residents show in comparison to non-border areas of the U.S. (Caetano et al., 2013a; Mills et al., 2014).

The paradoxical finding that young men's perceptions of violence predicted *decreased* binge drinking via perceived collective efficacy was due to a strong positive correlation between collective efficacy and binge drinking, the second of two components of the overall indirect pathway. Consequently, we now focus our attention on what might explain a discrepancy in that effect from other groups. One possibility is that when younger men perceive the neighborhoods as not well organized, they may feel compelled to protect themselves and curb binge drinking behavior. It is a different reaction from that seen among older men and women, where perceptions of low efficacy were associated with increased binge drinking. It is possible that this increased binge drinking serves as a way to cope with the stress and anxiety of living in neighborhoods that are perceived to be lacking in social cohesion and control (Hill and Angel, 2005).

Another possibility is that the impact of perceived collective efficacy on behavior may be different for young men, particularly with respect to drinking behavior. For example, items representing social cohesion (e.g., whether this is a close-knit neighborhood, whether neighbors can be trusted, etc.) generally concern how close the respondent feels to their neighbors. People generally feel closer and more comfortable to those with similar characteristics (such as age), and consequently, higher collective efficacy scores may also signify the extent to which they live in proximity of other (young) male friends. Young Mexican American men on the border are already at particular risk for heavy drinking (Caetano et al., 2012), and if they drink more in one another's presence, whatever protective

impact collective efficacy has on their drinking behavior might be counteracted by influences of peer proximity on drinking.

Finally, for both younger and older men, perceptions of neighborhood violence predicted binge drinking independently of collective efficacy, but whereas this direct effect was positive among young men, it was unexpectedly negative for older men. These differences may be a reflection of norms of masculinity that are associated with male drinking patterns (Mahalik et al., 2003). Such norms may be associated with both safe and risky drinking behavior, particularly in light of perceptions of violence in one's neighborhood. For example, one such norm is that men should maintain self- (and emotional) control (Mahalik et al., 2003). A norm such as this might therefore be associated with less risky drinking (Iwamoto et al., 2011). In other words, decreased binge drinking would better equip men to deal with any risks that perceived violence in their neighborhoods may pose. This is in contrast to other norms of masculinity: power, stamina, and risk taking, which could be associated with increased binge drinking (Iwamoto et al., 2011; Young et al., 2005).

These results clearly highlight the complexity of people's responses to neighborhood characteristics in regard to their drinking. It cannot be assumed that men and women or the young and the old will react in the same way to their surrounding environment, especially to perceptions of neighborhood violence as well as to factors such as neighborhood disorganization.

4.1 Strengths and Limitations

This study has several strengths as well as some limitations. Unlike most previous studies that collected data only on the Texas-Mexico border (Caetano et al., 2008; Holck et al., 1984; Wallisch, 1998; Wallisch & Spence, 2006; Spence and Wallisch, 2007), our representative sample includes Mexican Americans living on the border in the four U.S.-Mexico border states: California, Arizona, New Mexico, and Texas. Importantly, we collected data from those who self-reported their ethnicity as Mexican American/Mexican origin, thus avoiding some of the methodological inconsistencies of other studies. For example, Wallisch (1998) studied all border residents, independent of ethnicity, Holck and colleagues (1984) compared border Mexican Americans with border non-Hispanic whites, and Wallisch and Spence (2006), as well as Spence and Wallisch (2007) compared border rural colonias with border urban areas. While we see our sampling methodology as strength of our study, it is possible that Mexican American border residents differed across data collection sites. For example, residents may have had greater or lesser access to border crossings. However, according to the United States Department of Transportation (2014), the border crossings in all counties where we collected data, with the exception of Cochise County, AZ and Dona Ana County, NM, are ranked among the 10 busiest pedestrian and personal vehicle crossings ports. In other words, crossing the border into Mexico is relatively easy in relation to the proximity and fluidity of crossings ports. In fact, previous analysis of these data showed that approximately 48% of men and 26% of women crossed the border to Mexico in the previous 12 months and among current drinkers, approximately 39% of men and 32% of women crossed the border and drank alcohol in Mexico (Caetano et al., 2013b). It is also possible, that drug-trafficking violence may have differed across our

data collection sites. Although ONDCP has designated border locations in the four border states as high intensity trafficking areas (Office of National Drug Control Policy, 2011), most of the trafficking-related violence is on the Mexican side of the border (Finklea, 2013). Unfortunately we are not aware of existing data on how trafficking-related violence in Mexico has affected border crossings.

An additional strength of this study is that comprehensive data were collected during face-to-face interviews and the study utilized bilingual interviewers, thus allowing for the inclusion of non-English speaking individuals. In fact, 55% of the respondents were interviewed completely or mostly in Spanish. The study also has some limitations. Because this is a cross-sectional study, our ability to infer causal associations between perceived neighborhood crime, perceived collective efficacy and binge drinking is limited. In addition, the response rate for the sample was only 67%, which may be associated with the increased fear of drug-related violence on the border. Finally, this study did not collect data on whether the place of drinking was within one's neighborhood. The assessment of neighborhood perceptions may not impact drinking outside of one's neighborhood. For example, if an individual views his neighborhood as unsafe or unstable, he may choose to drink outside of his neighborhood.

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Figure 1.

Key pathways estimated across gender and age subgroups. M1 and M2 represent the two components of the indirect effect (see Table 1). D represents the direct effect of perceived neighborhood violence on the drinking outcome, adjusting for any differences in collective efficacy. For simplicity, not all covariate effects are shown. These included effects of birthplace, income, religion, education, marital status, and employment on both perceived collective efficacy and the drinking outcome.

Figure 2.

Key estimates from the multi-group path models for binge drinking. Dashed lines indicate nonsignificant pathways. PNV = Perceived neighborhood violence. CE = Collective efficacy.

Table 1

Path Decomposition of multiple group models predicting binge drinking

Path	Women			Men		
	18-29	30+	N=574	18-29	30+	N=391
Binge drinking						
Indirect Effect (M1 * M2)	Perc. Violence →	CE → Binge	.10 (.03) [‡]	-.16 (.07) [*]	.11 (.03) [‡]	
M1	Perc. Violence →	CE	-.47(.07) [‡]	-.35 (.04) [‡]	-.30 (.06) [‡]	
M2		CE → Binge	-.12 (.15)	-.30 (.09) [‡]	-.36 (.07) [‡]	
Direct Effect (D)	Perc. Violence	→ Binge	.15 (.23)	.24 (.12)	.40 (.18) [*]	
Total Effect (M1 * M2 + D)			.21 (.23)	.34 (.13) [‡]	.24 (.19)	-.30 (.13) [*]

Note. M1 and M2 correspond to the two components of the indirect pathway; D represents the direct effect (see Figure 1). Perc. Violence = Perceived neighborhood violence; CE = Perceived neighborhood collective efficacy. Cells contain estimate (standard error). All models controlled for effects of birthplace, income, religion, education, marital status, and employment on both perceived collective efficacy and on the drinking outcome.

[‡] p<.001

[‡] p<.01

^{*} p<.05