

The brief sense of community scale: Testing dimensionality and measurement invariance by gender among Hispanic/Latinx youth

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Abstract

Psychological sense of community is defined as feelings of belongingness and a shared belief that community members will meet one another's needs. Psychological sense of community has four dimensions: membership, influence, needs fulfillment, and emotional connection. In this study, multi-group confirmatory factor analysis was used to examine the first and second-order factor structure of the brief sense of community scale (BSCS) between male and female Hispanic/Latinx adolescents from an urban community ($N = 947$). To help validate the BSCS model, the second-order factor model was tested with regression to predict the measures of intrapersonal psychological empowerment and ethnic identity, as constructs conceptually related to psychological sense of community. Findings support that: (1) psychological sense of community can be measured through the BSCS and as a four-factor model among Hispanic/Latinx youth, supporting McMillan and Chavis's (1986) original theoretical discussions; (2) while no differences between genders were present at the model-level, there was path-specific variation; and (3) intrapersonal psychological empowerment and ethnic identity were associated with psychological sense of community.

KEYWORDS

brief sense of community scale, confirmatory factor analysis, gender, Hispanic/Latinx adolescents, psychological sense of community

1 | INTRODUCTION

Hispanic/Latinx people are the fastest growing ethnic group in the United States. Research is needed that examines measures tied to the numerous important developmental and ecological processes among Hispanic/Latinx adolescents. Studies examining the Brief Sense of Community Scale (BSCS) as a measurement tool for understanding psychological sense of community or neighborhood belongingness would be useful in expanding the conceptualization and validity of this scale. As a protective factor among adolescents, psychological sense of community can serve as a buffer in reducing risk behaviors and improving mental health outcomes. Yet, little research has focused on examining psychological sense of community among Hispanic/Latinx adolescents, and less have focused on testing the psychometric properties of the BSCS to establish measurement invariance across various groups including male and female Hispanic/Latinx adolescents. Measurement invariance testing examines the degree to which an instrument and its items measure a construct uniformly across respondents from various group (e.g., based on racial-ethnic identity, gender group; Kline, 2015; Schmitt & Kuljanin, 2008); therefore, until measurement invariance is established, conclusions drawn about group differences may be unsubstantiated or inappropriate. It is important to note that previous scholarship in psychological sense of community is not invalidated because invariance has not been established between and within groups.

Psychological sense of community is theorized to capture those social processes that lead to more cohesive, supportive (Cantillon et al., 2003), and collectively engaged communities (Bermea et al., 2018; Brodsky, 2017; Forenza & Lardier, 2017a; Lardier et al., 2019; McMillan, 2011; Peterson et al., 2017). Concepts of psychological sense of community are based in feelings of collective efficacy and neighboring (i.e., sharing neighbors and mutual assistance) (Perkins & Long.). Broader definitions of psychological sense of community position this idea within feelings of belongingness and a shared belief that community members will meet one another's needs through these relationships (McMillan & Chavis, 1986). McMillan and Chavis (1986) further indicated that psychological sense of community is divided into four specific dimensions: membership (belongingness to the community); (2) influence (feeling of making a difference in the community as a member); (3) needs fulfillment (perception that members in the community will meet one another's needs); and (4) emotional connection (shared emotional connection or experience).

Psychological sense of community has been associated with various outcomes including community civic engagement (Lardier, 2018; Lardier et al., 2020; Reid et al., 2017), social well-being (Albanesi et al., 2007), citizen participation in prevention programming (Peterson & Reid, 2003), health and wellness (BeLue et al., 2006), ethnic group identity and belongingness (Kenyon & Carter, 2011), and empowerment including both intrapersonal psychological empowerment (i.e., perceived leadership and self-efficacy in sociopolitical change activities) and cognitive psychological empowerment (i.e., critical awareness of social injustices and inequalities) (Lardier, 2018; Lardier, Opara, Garcia-Reid, Reid, 2020; Lardier et al., 2018; Opara et al., 2019). Beyond this study, psychological sense of community has also been qualitatively associated with foster care alumni's (Forenza & Lardier, 2017b) and mentally ill adult's sense of belongingness to their supportive housing community (Forenza & Lardier, 2017a). Recently, Lardier et al. (2019) also showed through the voices of young people of color the way in which a negative psychological sense of community contributed to youth's perceived sense of community isolation and loneliness, as well as their inability to change their community or even have interest in engaging in community-level change. Despite such work, further investigation is needed into the measurement of psychological sense of community, particularly among diverse groups of adults and youth, such as Hispanic/Latinx adolescents. This study would allow us to fully understand the utility of psychological sense of community as a construct and the measures to examine this idea.

2 | BRIEF SENSE OF COMMUNITY SCALE AND ADOLESCENTS OF COLOR

Several measures have examined psychological sense of community over the past two-decades (e.g., neighborhood youth inventory; Chipuer et al., 1999). The sense of community index (SCI) has been widely used to measure this construct. Various studies have assessed the original 12-item, four-factor (i.e., membership, needs fulfillment, influence, and emotional connection), multidimensional structure of the SCI in the United States (e.g., Chipuer et al., 1999; Long & Perkins, 2003; Obst & White, 2004; Peterson et al., 2006) and among international populations such as adults in Italy (e.g., Prezza et al., 2009; Tartaglia, 2006). However, many of these investigations have failed to support the intended four-factor structure (including some of those cited here, e.g., Long & Perkins, 2003).

Developed as an alternative to the SCI, Peterson et al. (2008) specifically validated a brief eight-item measure for psychological sense of community, supporting the second-order, four-factor structure of the BSCS. They also showed that the overall BSCS was correlated with community participation and intrapersonal psychological empowerment—that is, examined through the sociopolitical control scale for youth (SPCS-Y)—as well as mental health and depression (Peterson et al., 2008). More contemporary research have validated the BSCS factor structure cross-culturally and among international populations of adults (e.g., Wombacher et al., 2010) and young adults in college (Townley et al., 2011) Only one study has tested the BSCS among adolescents (e.g., Lardier et al., 2018). No study published has examined the BSCS among Hispanic/Latinx adolescents.

Additional research needs to assess the performance of the BSCS factor structure among adolescents and young adults of color (Lardie et al., 2018). Lardier et al. (2018) conducted the first study to examine the factor structure of the BSCS among adolescents. In this study, among a sample of Hispanic/Latinx (75%) and African American/Black (24.3%) adolescents, they identified support for the four-factor, multidimensional, second-order factor structure of the BSCS among youth of color. While an important contribution the extant research, these authors did not assess for invariance between racial-ethnic groups, nor between gender groups (which was used as a control variable), treating youth of color as a monolithic identity, and not drawing conclusions about the performance of the measure between racial-ethnic and gender groups. This is despite some evidence indicating that among Hispanic/Latinx communities, psychological sense of community may be an important developmental mechanism and related to ethnic identity development (Garcia-Reid et al., 2013; Kenyon & Carter, 2011; Lardier, 2018; Lardie et al., 2020; Rivas-Drake, 2012), greater mental health and wellness (Forenza & Lardier, 2017a; Townley et al., 2011), psychological empowerment (Chan et al., 2014; Lardier et al., 2020; Rivas-Drake et al., 2014), and reductions in substance use and experiences related to community violence (Lardier et al., 2017).

Furthermore, it is reasonable to also conclude that psychological sense of community will be experienced differentially between gender groups (Peterson & Hughey, 2004; Peterson et al., 2005; Speer et al., 2013). As Speer et al. (2013) noted psychological sense of community is not a uniform experience, and that women may experience variation in psychological sense of community due to both historical disenfranchisement when compared to men, and more likely to feel empowered due to a collective network of complex relationships. Moreover, diverging gender experiences may be acute among Hispanic/Latinx adolescents due to women in these communities not only experiencing multiple marginalized identities in relation to the broader United States society, but also within group (Hurtado-de-Mendoza et al., 2014; Quinones Mayo & Resnick, 1996; Villalba et al., 2018). Whether considering Critical Latinx Theory, or discussions specific to Hispanic/Latinx communities that differentiate between the community-lived experiences of male versus female Hispanic/Latinx youth (Candelario, 2007; Hurtado-de-Mendoza et al., 2014; Mirandé, 2018; Muñoz, 2018; Nadal et al., 2014), community belongingness may not be similar between gender groups, leading to differences in the utility of the BSCS.

Limitations in the current scholarship examining the BSCS among diverse groups of youth and adults in various context, not only in terms of race-ethnicity, but also in relation to gender identity, positions psychological sense of community as a standardized concept across sociocultural group contexts (Mannarini et al., 2014). However, psychological sense of community varies from culture to culture and context to context (Forenza & Lardier, 2017a). Furthermore, not assessing for invariance in the factor structure limits the utility and consequently, validity of the measure across groups (Kline, 2015; Schmitt & Kuljanin, 2008). Therefore, in the absence of invariance it may be inappropriate to draw conclusions on group differences. Research is needed to examine the BSCS as a measure of psychological sense of community among Hispanic/Latinx adolescents and assess potential variations in the factor-structure of this scale.

3 | PURPOSE

This study extends the research on the measurement and utility of the BSCS among Hispanic/Latinx adolescents. The BSCS, while recently validated among a sample of youth of color (see Lardier et al., 2018), has not been tested among Hispanic/Latinx youth, specifically, and to these authors knowledge, invariance has never been examined between gender groups. To address these limitations, we first examined the factor structure of the BSCS among a robust sample of Hispanic/Latinx youth using confirmatory factor analysis (CFA). Second, we assessed for potential variations in the factor-structure of this scale using multigroup CFAs between male and female Hispanic/Latinx youth. Last, to help validate the BSCS model, the second-order factor model was tested with regression to predict the measures of intrapersonal psychological empowerment and ethnic identity, as constructs conceptually related to psychological sense of community (see Figure 1).

4 | METHODS

4.1 | Community context

This study was conducted within a densely populated, urban community in the Northeastern United States. The community's population is diverse with 57.7% of the population identifying as Hispanic/Latinx, 34.7% identifying as African American/Black, followed by 31.7% identifying as White non-Hispanic. Approximately, 43.3% residents living in this city were foreign born and approximately 29.1% live below the poverty line, with a median household income of \$33,000 yearly. Among students, nearly half (48%) in this district ranked below proficiency in language arts, with even lower proficiency in mathematics (68%). Based on recent school level data acquired from the state, only 9.8% of youth graduating from high schools within this community received a college degree, far below national averages (60%).

4.2 | Participants and procedures

Data were collected as part of a larger comprehensive need assessment. A convenience sample of students ($N = 1639$) were recruited from a large urban high school in the northeastern U.S (60% response rate; total number of students approximately 2500). A delimited sample ($N = 947$) of Hispanic/Latinx adolescents were examined for the current study. A nearly equal proportion of students identified as male (39.9%) and female (60%), with 28.3% between 13 and 15 years of age and 71.7% between 16 and 18 years of age. Students were near-evenly distributed between 9th (25.6%), 10th (23.9%), 11th (26.3%), and 12th (24.2%) grades. Over 70% were on the free or reduced lunch program, a proxy for low socioeconomic status.

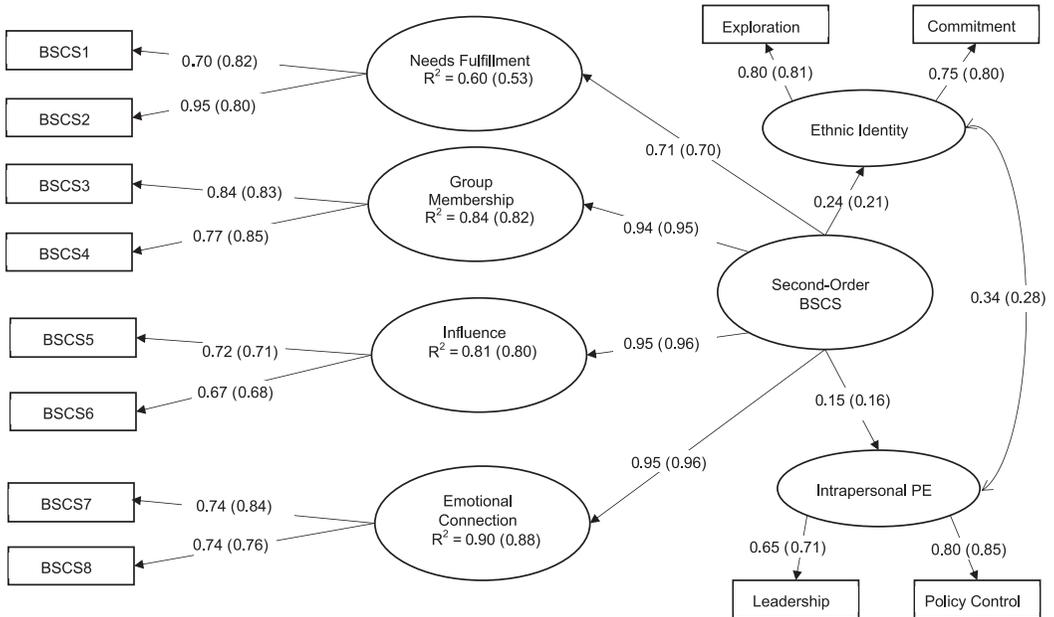


FIGURE 1 Multigroup second-order CFA of the brief sense of community scale (BSCS) and regression on intrapersonal psychological empowerment and ethnic identity among Hispanic/Latinx adolescents between gender groups. Model fit: $\chi^2 = 123.44$ (82), $p = 0.12$; CFI = 0.99; GFI = 0.99; AGFI = 0.97; RMSEA = 0.02 [95% CI = 0.01, 0.03], AIC = 319.44 [360]). Data for male Hispanic participants are presented in parentheses. AGFI, adjusted goodness-of-fit index; CFA, confirmatory factor analysis; CFI, comparative fit index; CI, confidence interval; GFI, goodness-of-fit index; PE, psychological empowerment; RMSEA, root-mean-square error of approximation

4.3 | Measurement

4.3.1 | Psychological sense of community

Adolescent participants completed the eight-item BSCS, which is based on the McMillan and Chavis's (1986) Psychological sense of community theory. The BSCS was designed to assess four dimensions of sense of community: needs fulfillment, membership, influence, and emotional connection. Sample items include the following: "I feel like a member of this neighborhood" and "I have a say about what goes on in my neighborhood." Cronbach's alpha was 0.89 (See Table 1 for means and standard deviations). Responses were captured using a five-point Likert scale (strongly disagree = 1 to strongly agree = 5). Researchers have previously demonstrated support for the four-dimension factor structure of the BSCS among youth (Lardier et al., 2018) and adult samples (Peterson et al., 2008), with Cronbach's Alphas ranging from 0.85 to 0.92.

4.3.2 | Intrapersonal component of psychological empowerment

Adolescent participants completed the 17-item SPCS-Y, which was developed to examine the intrapersonal component of psychological empowerment (Peterson et al., 2011). In a previous study the SPCS-Y as a two factor measure that examined leadership competency (sample items: "I am a leader in groups" and "I can usually organize people to get things done"; Cronbach's alpha = 0.81) and policy control (sample items: "I have attended a public meeting to push for a policy change" and "I have participated in a protest march or rally"; Cronbach's alpha = 0.85; Peterson et al., 2011). For the current study, the eight-item measure of leadership competence (Cronbach's

TABLE 1 Correlation matrix between male and female Hispanic/Latinx adolescent participants (*N* = 957)

	1	2	3	4	5	6	7	8	9	10	11
1. Psychological SOC (BSCS)	1	0.97**	0.98**	0.97**	0.65**	0.12*	0.12*	0.17**	0.22**	0.20**	0.20**
2. Emotional connection	0.87**	1	0.58**	0.60**	0.50**	0.12**	0.11*	0.16**	0.22**	0.20**	0.20**
3. Influence	0.88*	0.57**	1	0.57**	0.59**	0.12**	0.10*	0.17**	0.22**	0.21**	0.20**
4. Membership	0.90**	0.57**	0.47**	1	0.57**	0.13**	0.16*	0.17**	0.23**	0.21**	0.21**
5. Needs fulfillment	0.83*	0.55**	0.56**	0.59**	1	0.10*	0.14*	0.12**	0.21**	0.20**	0.19**
6. Intrapersonal PE (SPCS-Y)	0.17**	0.15**	0.14**	0.14**	0.12*	1	0.87**	0.90**	0.43**	0.38**	0.40**
7. Leadership competency	0.12*	0.10*	0.11*	0.10*	0.12*	0.91**	1	0.58**	0.31**	0.27**	0.29**
8. Self-efficacy	0.19**	0.17**	0.16**	0.16**	0.11*	0.91**	0.67**	1	0.43**	0.36**	0.41**
9. Ethnic identity (MEIM-R)	0.24**	0.25**	0.23**	0.26**	0.18**	0.43**	0.41**	0.40**	1	0.92**	0.88**
10. Ethnic identity exploration	0.20**	0.22**	0.19**	0.22**	0.17**	0.43**	0.38**	0.42**	0.92**	1	0.67**
11. Ethnic identity commitment	0.21**	0.22**	0.20**	0.23**	0.15*	0.35**	0.34**	0.31**	0.88**	0.68**	1
Mean	2.97 (3.87)	3.16 (3.75)	2.86 (3.19)	3.21 (3.77)	2.81 (3.29)	3.64 (3.50)	3.27 (3.17)	4.03 (3.83)	16.50 (15.98)	8.01 (7.86)	8.47 (8.07)
Standard deviation	1.19 (1.21)	1.32 (1.33)	1.27 (1.34)	1.37 (1.34)	1.26 (1.27)	0.61 (0.68)	0.62 (0.70)	0.78 (0.80)	3.88 (3.98)	2.19 (2.20)	2.04 (2.07)
Cronbach's α	0.89	0.82	0.83	0.81	0.85	0.85	0.84	0.82	0.85	0.81	0.80

Note: Data for male Hispanic/Latinx participants are presented in lower quadrant and in parentheses.

Abbreviations: BSCS, brief sense of community scale; MEIM-R, multigroup ethnic identity measure-revised; PE, psychological empowerment; SOC, sense of community; SPCS-Y, sociopolitical control scale for youth.

p* < 0.05; *p* < 0.01.

alpha = 0.84) and nine-item measure of policy control (Cronbach's alpha = 0.82) were used (Cronbach's alpha = 0.85). Adolescent participants responses were captured using a five-point Likert scale (strongly disagree = 1 to strongly agree = 5). For the purposes of structural equation modeling (SEM), the factor-model of intrapersonal psychological empowerment was fit and included in final CFA model (Model 3) with the BSCS. The measurement model for the two-factor (i.e., leadership and policy control) SPCS-Y latent variable fits the data very well ($\chi^2 = 4.06$ [1], $p = 0.10$; comparative fit index [CFI] = 0.99; root-mean-square error of approximation [RMSEA] = 0.05 [95% confidence interval {CI} = 0.02, 0.08]). See Figure 1 for factor loadings within second-order CFA model.

4.3.3 | Ethnic identity

Adolescent participants responded to the six-item multigroup ethnic identity measure-revised (MEIM-R) scale (Phinney & Ong, 2007). Previous studies have identified support for the validity of both the MEIM (e.g., Burrow-Sanchez, 2014; Ponterotto et al., 2003) and MEIM-R among Hispanic/Latinx youth (e.g., Schwartz, Unger, Des Rosiers et al., 2014; Schwartz, Unger, Lorenzo-Blanco et al., 2014). Sample items include for the MEIM-R Ethnic Identity Exploration dimension: "I have spent time trying to figure out more about my ethnic group," "Participating in cultural practices of group." Sample items include for the MEIM-R Ethnic Identity Commitment dimension: "A strong sense of belonging to group" and "A strong attachment towards group." Responses were recorded using a four-point Likert scale ranging from strongly disagree (1) to strongly agree (4). For the current study, the three-item Exploration dimension (Cronbach's alpha = 0.81) and Commitment dimension (Cronbach's alpha = 0.80) were combined (Cronbach's alpha = 0.85). For the purposes of SEM, the factor-model of ethnic identity was fit and included in final CFA model (Model 3) with the BSCS. The measurement model for the two-factor model on this latent variable fits the data very well ($\chi^2 = 12.46$ (9), $p = 0.18$; CFI = 0.99; RMSEA = 0.02 [95% CI = 0.02, 0.04]). See Figure 1 for factor loadings within second-order CFA model.

5 | DATA ANALYSIS PLAN

Before main analyses, missing data were examined. Little's missing completely at random (MCAR) test was used to assess the level and type of missingness (Li, 2013; Little & Rubin, 2014). Little's MCAR Test revealed that data were most likely MCAR (χ^2 (6) = 7.75, $p = 0.28$). Sensitivity analyses were conducted with unequal variances, displaying that (χ^2 (6) = 38.95, $p = 0.06$) while still insignificant, the p value was only slightly larger than 0.05, indicating that although there is evidence for MCAR, the power of test could be questionable (Li, 2013). Therefore, due to potential issues in power related to Little's MCAR test, the covariate-dependent missingness (CDM) assumption test, was also conducted to further assess missingness that may be covariate dependent (Li, 2013). Covariates including gender, grade, and free-or-reduced lunch were included in analyses. CDM test results indicated (χ^2 (42) = 29.09, $p = .88$) that adding gender, grade, and free-or-reduced lunch as covariates pass the CDM test, or that the missing-data mechanism can be viewed as CDM given the presence of auxiliary covariates. Therefore, it is reasonable to conclude that data were MCAR (Li, 2013; Little & Rubin, 2014). The most amount of missing data were 10% and present on the leadership and self-efficacy components of intrapersonal psychological empowerment.

Numerous techniques are available to handle MCAR data (Little & Rubin, 2014). For this study, missing data were addressed using maximum-likelihood (ML) estimations (Lüdtke et al., 2020) in AMOS SEM software v. 27 (Arbuckle, 2013). ML methods are an unbiased approach that is useful for more robust samples (>500) with less than 30% of missing data (Lüdtke et al., 2020; McNeish, 2017). This technique also has limited effect on statistical power and associated error rates (McNeish, 2017).

Following missing data estimations, CFA was conducted in AMOS SEM software using ML procedures to assess the BSCS as a second-order, four-factor structure: membership, influence, needs fulfillment, and emotional connection between Hispanic/Latinx adolescent male and female adolescents. Reflective models (scale) were fit. This suggests that variation in the BSCS leads to variation in the four-factor structure, which leads to variation in the BSCS measures. Three models were examined:

Model 1: Examined the four-factor model of the BSCS. Multigroup analyses assessed variation in responses between gender groups.

Model 2: Examined the second-order four-factor model of the BSCS. Multigroup analyses assessed variation in responses between gender groups.

Model 3: Examined the second-order BSCS factor model with regression to predict the measures of intrapersonal psychological empowerment and ethnic identity, as constructs conceptually related to psychological sense of community (see Figure 1).

Fit indices were used to assess model fit. Model fit is considered good if the χ^2 value is nonsignificant, CFI, and GFI are ≥ 0.95 (adequate if ≥ 0.90), the RMSEA is ≤ 0.06 (adequate if ≤ 0.08) (West et al., 2012). The Akaike information criterion (AIC) and Bayesian information criterion to compare model fit between models (West et al., 2012). For AIC, the solution closest to the saturated AIC value is considered as providing a better fit to the data (West et al., 2012).

To assess invariance between Hispanic/Latinx male and female adolescents, an unconstrained-constrained approach was used. First, an unconstrained CFA model (allowing parameters to vary freely) was analyzed, followed by an a fully constrained model (parameters constrained to be equivalent across groups) (Hoyle, 2012). χ^2 difference (χ^2_{diff}) testing was used to compare the unconstrained and constrained models and assess invariance at the model-level (Gaskin, 2012). Next, path specific moderation was conducted. Significance was determined if the χ^2 result fell within the CI range produced by the χ^2 difference test.

Estimating power for CFA is complex because various aspects (e.g., study design, missing data level, scaling, estimator type, model complexity) need to be considered and may vary widely (Brown, 2015). Existing literature provides conflicting information on the required sample size for CFA, varying from 20 observations (participants) to each estimated parameter (Kline, 2015) to as low as 10 observations (participants) to each estimated parameter (Schreiber et al., 2006). Nonetheless, both prior studies, and recent Monte Carlo simulation requirements suggest the present sample size ($N = 947$) is adequately powered for SEM CFA models (Kyriazos, 2018; Wolf et al., 2013). Based on these assumptions, CFAs were completed and are presented below.

6 | RESULTS

6.1 | Descriptive statistics and correlations

Table 1 presents bivariate correlation matrix, means, and standard deviations for all measured variables between male and female Hispanic/Latinx adolescent participants. Mean-level between group difference tests (e.g., independent t tests) were calculated to determine whether there were significant differences between male and female Hispanic/Latinx adolescent participants. Mean level differences were present between gender groups and intrapersonal psychological empowerment ($t[814] = 3.16, p = 0.002$) and psychological sense of community ($t[733] = 1.24, p = 0.02$). No mean level differences were noted in ethnic identity. One-way analysis of variance was used to determine whether there were differences in any of the measured variables based on grade in school. Mean level differences were noted in adolescent participants' intrapersonal psychological empowerment ($F[815] = 4.02, p = 0.001$) and psychological sense of community ($F[815] = 2.02, p = 0.001$). No mean level differences were noted in adolescents' reports of ethnic identity. No differences were noted in adolescents' responses of accessing free or reduced lunch (indicator of low socioeconomic status).

Table 1 shows correlations among latent variables and the covariates for both male and female adolescent participants. All study measures and sub-dimensions for each measure were correlated. As expected, the overall psychological sense of community construct was correlated with both intrapersonal psychological empowerment and ethnic identity. Similarly, intrapersonal psychological empowerment and ethnic identity were correlated.

6.2 | Confirmatory factor analysis

CFA results are presented in Table 2. For the overall BSCS as a four-factor model (model 1), the unconstrained model ($\chi^2 = 44.42$ [20], $p = 0.001$; CFI = 0.97; GFI = 0.95; AGFI = 0.94; RMSEA = 0.05 [95% CI = 0.02, 0.09], AIC = 148.23 [144]) demonstrated good overall fit to the sample data, despite a significant chi-square. The constrained model demonstrated equally reasonable fit to the sample data ($\chi^2 = 51.66$ [24], $p = 0.001$; CFI = 0.98; GFI = 0.98; AGFI = 0.96; RMSEA = 0.05 [95% CI = 0.02, 0.08], AIC = 147.66 [144]). χ^2 diff test results indicated invariance at the model-level ($\Delta\chi^2 = 7.32$ (4), $p = 0.12$).

The second order BSCS (Model 2) model with standardized regression weights are presented in Table 2. The unconstrained model ($\chi^2 = 25.94$ [20], $p = 0.16$; CFI = 0.97; GFI = 0.99; AGFI = 0.98; RMSEA = 0.01 [95% CI = 0.001, 0.04], AIC = 129.94 [144]) had good model-to-data fit. The constrained model also demonstrated reasonable fit to the sample data ($\chi^2 = 32.91$ [27], $p = 0.20$; CFI = 0.98; GFI = 0.98; AGFI = 0.97; RMSEA = 0.02 [95% CI = 0.00, 0.03], AIC = 114.53 [144]). χ^2 diff test results indicated invariance at the model-level ($\Delta\chi^2 = 4.40$ [4], $p = 0.35$). The unconstrained model was retained for further analyses.

A significant proportion of the variance were accounted for in needs fulfillment, influence, membership, and emotional connection; albeit less variance was explained by needs fulfillment for both Hispanic/Latinx male and female youth. Path level analyses were conducted to assess for variability on specific questions. Path level analyses indicated statistically significant differences on several questions between male and female participants: (1) "BSCS 1: I can get what I need from this neighborhood" ($\Delta\chi^2 = 3.49$ [1], $p = 0.05$); (2) "BSCS 2: This neighborhood helps me fulfill my needs" ($\Delta\chi^2 = 4.54$ [4], $p = 0.01$); (3) "BSCS 4: I belong in this neighborhood" ($\Delta\chi^2 = 3.57$ [1], $p = 0.01$); and (4) "BSCS 7: I feel connected to this neighborhood" had a significantly different factor loading between male and female participants ($\Delta\chi^2 = 5.64$ (1), $p = 0.01$). For female Hispanic/Latinx adolescents, this model explained 60% of variance in needs fulfillment, 83% of the variance in membership, 82% of the variance in influence, and 88% of the variance in emotional connection. For male Hispanic/Latinx adolescents, this model explained 53% of variance in needs fulfillment, 80% of the variance in membership, 82% of the variance in influence, and 86% of the variance in emotional connection.

Final analyses examined the second-order BSCS factor model with regression to predict the measures of intrapersonal psychological empowerment and ethnic identity (Model 3), as constructs conceptually related to psychological sense of community among male and female Hispanic/Latinx youth (see Figure 1). Results of model fit presented in Figure 1, display good model-to-data fit: $\chi^2 = 123.44$ [82], $p = 0.12$; CFI = 0.99; GFI = 0.99; AGFI = 0.97; RMSEA = 0.02 [95% CI = 0.01, 0.03], AIC = 319.44 [360]). The BSCS significantly predicted intrapersonal psychological empowerment and ethnic identity for both male and female Hispanic/Latinx adolescents. For female Hispanic/Latinx adolescents, this model explained 60% of variance in needs fulfillment, 84% of the variance in membership, 81% of the variance in influence, and 90% of the variance in emotional connection. For male Hispanic/Latinx adolescents, this model explained 53% of variance in needs fulfillment, 82% of the variance in membership, 80% of the variance in influence, and 88% of the variance in emotional connection.

TABLE 2 Standardized item loadings for confirmatory factor analysis of the brief sense of community scale (BSCS) among Hispanic/Latinx adolescents between gender groups

Item	Model 1 four factor model			Model 2 second-order four factor model				
	NF	MB	IN	EC	NF	MB	IN	EC
BSCS 1: I can get what I need from this neighborhood.	0.70	(0.80)			0.70	(0.82)		
BSCS 2: This neighborhood helps me fulfill my needs.	0.95	(0.83)			0.95	(0.80)		
BSCS 3: I feel like a member of this neighborhood.		0.84	(0.85)			0.84	(0.83)	
BSCS 4: I belong in this neighborhood.		0.75	(0.85)			0.77	(0.85)	
BSCS 5: I have a say about what goes on in my neighborhood.			0.72	(0.73)			0.72	(0.71)
BSCS 6: People in this neighborhood are good at influencing each other.			0.65	(0.68)			0.67	(0.68)
BSCS 7: I feel connected to this neighborhood.				0.75	(0.84)			0.74 (0.84)
BSCS 8: I have a good bond with others in this neighborhood.				0.75	(0.76)			0.74 (0.76)

Note: Data for male Hispanic/Latinx participants are presented in parentheses. Bold values signify statistically significant group level differences. Abbreviations: EC, emotional connection; IN, influence; MB, membership; NF, needs fulfillment.

7 | DISCUSSION

In the current study, the eight-item, second-order four-factor structure of the BSCS was examined among a sample of Hispanic/Latinx urban adolescents. Invariance was tested using multigroup analyses between male and female Hispanic/Latinx adolescent participants. This study contributes to the field of community psychology and to the extant research on psychological sense of community in three ways. First, it provides further support for the validity of the BSCS among youth, specifically Hispanic/Latinx adolescents, as previous to this study only one other investigation existed that examined the BSCS among an adolescent sample (Lardier et al., 2018). Our analyses illustrated that the four-factor, second-order structure provided adequate model fit (model 2), supporting that the BSCS used to measure psychological sense of community is a higher order variable comprised of four sub-dimensions (e.g., needs fulfillment, influence, membership, and emotional connection). These findings are important because it provides additional evidence on the utility of the BSCS as a comprehensive measure of the theorized dimensions of psychological sense of community (originally conceptualized by McMillan & Chavis, 1986) among Hispanic/Latinx adolescents. It also helps move the field toward a more comprehensive understanding of the construct. Providing structural validity for the BSCS as a comprehensive measure of psychological sense of community among Hispanic/Latinx adolescents will allow researchers to elucidate the developmental and ecological mechanisms through which psychological sense of community or community belongingness manifest.

Second, our analyses further highlight that while there were no differences at the model-level, there were some path-specific differences indicating that some questions may be more salient for either Hispanic/Latinx male or female adolescents, which aligns with scholarship not only in the empowerment literature (e.g., Peterson & Hughey, 2004; Peterson et al., 2005), but scholarship examining the ways in which Hispanic/Latinx male and females make meaning of their social world and community (e.g., Miville et al., 2017; Quinones Mayo & Resnick, 1996; Ruiz et al., 2017; Villalba et al., 2018). For instance, Hispanic/Latinx males seemed to have statistically significant higher factor loadings on several questions, relative to their female counterparts: "I can get what I need from this neighborhood," "I belong in this neighborhood," and "I feel connected to this neighborhood." This can be due to Hispanic/Latinx adolescent boys' sense of belonging as the patriarch within their families and consequently, within their communities. This role has been termed as *machismo* and refers to the concept of masculinity in which Hispanic/Latinx men are expected to take a leadership role (Galanti, 2003; Miville et al., 2017). For boys and men, masculinity, a socially constructed idea, which unconsciously, can influence how they behave, how they connect with others in their immediate settings, and how they are perceived. Neighborhoods can be one space that frequently reinforces the ideas of how boys, especially boys of color, should explore and model their masculinity daily (Galanti, 2003), thus leading them to feel more connected and grounded given their neighborhoods may reinforce masculine, patriarchal stereotypes and norms.

Third, this study provides additional evidence on the association psychological sense of community measured through the BSCS has with both intrapersonal psychological empowerment (i.e., measured through the SPCS-Y) and ethnic identity (i.e., measured through the MEIM-R). These empirical findings support the theoretical association psychological sense of community has been purported to have with both intrapersonal psychological empowerment (e.g., Hughey et al., 2008; Mannarini et al., 2014; McMillan & Chavis, 1986; McMillan, 1996; Peterson et al., 2008; Talo et al., 2014; Zimmerman, 2000) and ethnic identity (e.g., Lardier, 2018; Rivas-Drake et al., 2014; Townley et al., 2011; Umana-Taylor et al., 2013). Christens (2012) discussed that psychological sense of community may play a robust role in the development of empowerment, but more importantly in the larger nomological psychological empowerment network—specifically as the relational dimension of psychological empowerment, which is defined as "interpersonal transactions and processes that undergird the effective exercise of transformative power in the sociopolitical domain" (p.121). Moreover, the association among these variables begins to illustrate the important role these may have among both male and female Hispanic/Latinx adolescents. Previous studies have alluded that stronger sense of community belongingness has not only been connected with ethnic group identity and connection, but perceived ability to be a leader in the sociopolitical context

(Christens et al., 2013; Lardier et al., 2020; Terry et al., 2019). Further, there is also an ancillary implication as experiences related to community belongingness, ethnic identity, and empowerment tend to also be related to reductions in alienation and minority stress experiences (Christens et al., 2011; Hughey et al., 2008; Lardier et al., 2019; Paloma et al., 2018).

7.1 | Implications for research and theory

There are several implications to our findings in this study. First, psychological sense of community can be conceptualized and measured through four distinct dimensions among Hispanic/Latinx youth using the BSCS, extending and reinforcing prior research (e.g., Lardier et al., 2018; Peterson et al., 2017; Peterson et al., 2008). Second, while there was no difference, at the model level, between gender groups, some variation was present on specific questions. Together, these findings contribute to research on psychological sense of community. It is crucial to ensure that measures are validated among diverse groups. Future studies are advised to continue to investigate the BSCS among Hispanic/Latinx youth and make specific considerations to within group differences—that is, Hispanic/Latinx identity is complex, and this group is not monolithic. It is also important to assess for invariance among Hispanic/Latinx adolescents and other racial-ethnic minority groups (e.g., Black adolescents, Black within-group differences) to account for cultural differences and heterogeneity in how psychological sense of community is measured within different cultural contexts. Additional research is also needed regarding other intersecting socio-demographic characteristics such as LGBTQ+ identity status; no study to date has examined the factor structure of the BSCS among sexual-minority populations.

Last, findings in this study not only support the four-factor model of McMillan and Chavis's (1986) original psychological sense of community structure, measured here through the BSCS, but the association this construct has with both intrapersonal psychological empowerment and ethnic identity. Theoretically, psychological sense of community has been positioned as the relational construct of psychological empowerment (Christens, 2012). Therefore, it is within reason to suggest that future studies further examine this empirical association and even consider assessing the role of psychological sense of community, measured through the BSCS, within the larger nomological factor structure. Such scholarly work would further research in this area, and position future theoretical writings to take on the development of both empowerment and psychological sense of community theories.

7.2 | Limitations

This study has made an incremental contribution to the extant literature by providing further evidence on the factor structure of the BSCS among a sample of Hispanic/Latinx adolescents. This investigation also showed that while invariance was present between male and female Hispanic/Latinx adolescents, there were some path-level differences. Despite these important contributions, these findings should be considered with several limitations.

First, while the sample size in this study was robust, the BSCS factor structure was examined among Hispanic/Latinx adolescents in the northeastern United States. Hispanic/Latinx people in the United States are not a monolithic group. For instance, Gallegos (2017) noted that although demographically labeled "Hispanic" or "Latinx" there are likely within group variations specific to these identities, given the historical context of the United States, particularly, for example in regions such as the southwest, where it is more likely for adolescents to identify as "Hispanic," "Chicano/a," or "Spanish." In consideration of these complex identities, it is critical that future studies examine the BSCS and psychological sense of community in contexts that are despairingly underexplored and deserve deeper attention. Future studies on the BSCS and psychological sense of community may also consider casting a wider net and attempt to draw multiple samples of Hispanic/Latinx youth from various regions of the United States and assess for invariance based on these geographic and sociocultural contexts.

Second, in line with the above limitations. The current iteration of the BSCS was collected in English. Knowing that Hispanic/Latinx groups are unlikely to be monolingual, scholars are encouraged to translate the BSCS into other languages, such as Spanish. This may help expand or adapt the utility of the BSCS for groups who speak languages other than English.

Third, the BSCS as a measure of psychological sense of community may not capture all the nuances of a specific group of young people, particularly those that identify as racial-ethnic minorities. Future research should continue to examine variations between groups (e.g., racial-ethnic identities, sexual orientation-identities, socio-economic status), given the context specific nature of psychological sense of community (McMillan & Chavis, 1986). Such scholarly work would support the use of the BSCS among various contexts and groups of people.

Last, a greater understanding of the relational processes within psychological sense of community needs to be considered, particularly in the development and adaptation of the BSCS. Moreover, psychological sense of community has been purported as the relational component of psychological empowerment (Christens, 2012). Therefore, it is reasonable to encourage that researchers consider ways to examine the relational processes of psychological sense of community utilizing the BSCS, and in connection with psychological empowerment.

8 | CONCLUSION

Through this study, we completed analyses that support the factor structure of the BSCS among a sample of Hispanic/Latinx adolescents and specifically examined for invariance based on gender identity (e.g., male and female). This incremental advancement in the measurement and validation of the BSCS among a sample of Hispanic/Latinx adolescents contributes not only to the extant literature but as noted, pushes our theoretical understanding of psychological sense of community among a marginalized group of adolescents. Our hope is that the use of the BSCS among various groups of youth will enable a deeper understanding of psychological sense of community and allow future research to support and clarify if and how psychological sense of community operates across various contexts. The BSCS may also be a useful tool for practitioners working with youth in community-based programs and other settings to provide support in developing a closer connection to their community, particularly on the pathway toward empowerment and social change.

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REFERENCES

- Albanesi, C., Cicognani, E., & Zani, B. (2007). Sense of community, civic engagement and social well-being in Italian adolescents. *Journal of Community & Applied Social Psychology*, 17(5), 387–406.
- Arbuckle, J. L. (2013). *Amos 22 user's guide*. SPSS.

- BeLue, R., Taylor-Richardson, K. D., Lin, J.-M., McClellan, L., & Hargreaves, M. K. (2006). Racial disparities in sense of community and health status: Implications in community-based participatory interventions targeting chronic disease in African Americans. *The Journal of Ambulatory Care Management*, 29(2), 112–124.
- Bermea, A. M., Lardier, D. T., Jr., Forenza, B., Garcia-Reid, P., & Reid, R. J. (2018). Communitarianism and youth empowerment: Motivation for participation in a community-based substance abuse prevention coalition. *Journal of Community Psychology*.
- Brodsky, A. E. (2017). Bridging the dialectic: Diversity, psychological sense of community, and inclusion. *American Journal of Community Psychology*, 59, 269–271.
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. Guilford publications.
- Burrow-Sanchez, J. J. (2014). Measuring ethnic identity in Latino adolescents with substance use disorders. *Substance Use & Misuse*, 49(8), 982–986. <https://doi.org/10.3109/10826084.2013.794839>
- Candelario, G. E. (2007). *Black behind the ears: Dominican racial identity from museums to beauty shops*. Duke University Press.
- Cantillon, D., Davidson, W. S., & Schweitzer, J. H. (2003). Measuring community social organization: Sense of community as a mediator in social disorganization theory. *Journal of criminal justice*, 31(4), 321–339. [https://doi.org/10.1016/s0047-2352\(03\)00026-6](https://doi.org/10.1016/s0047-2352(03)00026-6)
- Chan, W. Y., Ou, S. R., & Reynolds, A. J. (2014). Adolescent civic engagement and adult outcomes: An examination among urban racial minorities. *Journal of Youth and Adolescence*, 43(11), 1829–1843. <https://doi.org/10.1007/s10964-014-0136-5>
- Chipuer, H. M., Pretty, G. H., Delorey, E., Miller, M., Powers, T., Rumstein, O., Barnes, A., Cordasic, N., & Laurent, K. (1999). The neighbourhood youth inventory: Development and validation. *Journal of Community & Applied Social Psychology*, 9, 355–368.
- Christens, B. D. (2012). Toward relational empowerment. *American Journal of Community Psychology*, 50(1–2), 114–128. <https://doi.org/10.1007/s10464-011-9483-5>
- Christens, B. D., Collura, J. J., & Tahir, F. (2013). Critical hopefulness: A person-centered analysis of the intersection of cognitive and emotional empowerment. *American Journal of Community Psychology*, 52(1–2), 170–184. <https://doi.org/10.1007/s10464-013-9586-2>
- Christens, B. D., Speer, P. W., & Peterson, N. A. (2011). Social class as moderator of the relationship between (dis)empowering processes and psychological empowerment. *Journal of Community Psychology*, 39(2), 170–182. <https://doi.org/10.1002/jcop.20425>
- Forenza, B., & Lardier, D. T., Jr. (2017a). Sense of community through supportive housing among formerly homeless individuals with serious mental illness. *Journal of Social Distress and the Homeless*, 26(1), 33–41. <https://doi.org/10.1080/10530789.2017.1294973>
- Forenza, B., & Lardier, D. T., Jr. (2017b). Sense of community through supportive housing among foster care alumni. *Child and Youth Care Forum*, 95(2), 91–116.
- Galanti, G.-A. (2003). The Hispanic family and male-female relationships: An overview. *Journal of Transcultural Nursing*, 14(3), 180–185.
- Gallegos, B. (2017). Postcolonial indigenous performances: Coyote musings on genízaros, hybridity, education, and slavery. In: *Postcolonial Indigenous Performances* (pp. 1–20). Springer.
- Garcia-Reid, P., Hamme Peterson, C., Reid, R. J., & Peterson, N. A. (2013). The protective effects of sense of community, multigroup ethnic identity, and self-esteem against internalizing problems among Dominican youth: Implications for social workers. *Social Work in Mental Health*, 11(3), 199–222. <https://doi.org/10.1080/15332985.2013.774923>
- Gaskin, J. (2012). *Chi Square difference testing*. Gaskination's StatWiki. Retrieved from <http://statwiki.kolobkreations.com>
- Hoyle, R. H. (Ed.). (2012). *Handbook of structural equation modeling*. Guilford Press.
- Hughey, J., Peterson, N. A., Lowe, J. B., & Opreescu, F. (2008). Empowerment and sense of community: Clarifying their relationship in community organizations. *Health Education & Behavior*, 35(5), 651–663. <https://doi.org/10.1177/1090198106294896>
- Hurtado-de-Mendoza, A., Gonzales, F. A., Serrano, A., & Kaltman, S. (2014). Social isolation and perceived barriers to establishing social networks among Latina immigrants. *American Journal of Community Psychology*, 53(1–2), 73–82.
- Kenyon, D. B., & Carter, J. S. (2011). Ethnic identity, sense of community, and psychological well-being among northern plains American Indian Youth. *Journal of Community Psychology*, 39(1), 1–9.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.
- Kyriazos, T. A. (2018). Applied psychometrics: Sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology*, 9(08), 2207–2230.
- Lardier, D. T. (2018). An examination of ethnic identity as a mediator of the effects of community participation and neighborhood sense of community on psychological empowerment among urban youth of color. *Journal of Community Psychology*, 46, 551–566. <https://doi.org/10.1002/jcop.21958>

- Lardier, D. T., Jr., Barrios, V. R., Forenza, B., Herr, K. G., Bergeson, C., Suazo, C. M., & Reid, R. J. (2019). Contextualizing negative sense of community and disconnection among urban youth of color: "Community... We ain't got that". *Journal of Community Psychology*.
- Lardier, D. T., Jr., MacDonnell, M., Barrios, V. R., Garcia-Reid, P., & Reid, R. J. (2017). The moderating impact of neighborhood sense of community on predictors of substance use among Hispanic urban youth. *Journal of Ethnicity in Substance Abuse*, 15(4), 1-26. <https://doi.org/10.1080/15332640.2016.1273810>
- Lardier, D. T., Opara, I., Garcia-Reid, P., & Reid, R. J. (2020). The cognitive empowerment scale: Multigroup confirmatory factor analysis among youth of color. *Child and Adolescent Social Work Journal*, 37, 179-193. <https://doi.org/10.1007/s10560-019-00647-2>
- Lardier, D. T., Jr., Reid, R. J., & Garcia-Reid, P. (2018). Validation of the brief sense of community scale among youth of color from an underserved urban community. *Journal of Community Psychology*, 46, 1062-1074.
- Li, C. (2013). Little's test of missing completely at random. *The Stata Journal*, 13(4), 795-809.
- Little, R. J., & Rubin, D. B. (2014). *Statistical analysis with missing data*. John Wiley & Sons.
- Long, D. A., & Perkins, D. D. (2003). Confirmatory factor analysis of the sense of community index and development of a brief SCI. *Journal of Community Psychology*, 31(3), 279-296. <https://doi.org/10.1002/jcop.10046>
- Lüdtke, O., Robitzsch, A., & West, S. G. (2020). Analysis of interactions and nonlinear effects with missing data: A factored regression modeling approach using maximum likelihood estimation. *Multivariate Behavioral Research*, 55(3), 361-381.
- Mammana-Lupo, V., Todd, N. R., & Houston, J. D. (2014). The role of sense of community and conflict in predicting congregational belonging. *Journal of Community Psychology*, 42(1), 99-118. <https://doi.org/10.1002/jcop.21596>
- Mannarini, T., Rochira, A., & Talo, C. (2014). Negative psychological sense of community: Development of a measure and theoretical implications. *Journal of Community Psychology*, 42(6), 673-688. <https://doi.org/10.1002/jcop.21645>
- McMillan, D. W. (1996). Sense of community. *American Journal of Community Psychology*, 24, 315-325.
- McMillan, D. W. (2011). Sense of community, a theory not a value: A response to Nowell and Boyd. *Journal of Community Psychology*, 39(5), 507-519.
- McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14, 6-23. <https://doi.org/10.1002/1520-6629>
- McNeish, D. (2017). Missing data methods for arbitrary missingness with small samples. *Journal of Applied Statistics*, 44(1), 24-39.
- Mirandé, A. (2018). *Hombres y machos: Masculinity and Latino culture*. Routledge.
- Miville, M. L., Mendez, N., & Louie, M. (2017). Latina/o gender roles: A content analysis of empirical research from 1982 to 2013. *Journal of Latina/o Psychology*, 5(3), 173-194.
- Muñoz, S. M. (2018). Unpacking legality through La Facultad and cultural citizenship: Critical and legal consciousness formation for politicized Latinx undocumented youth activists. *Equity & Excellence in Education*, 51(1), 78-91.
- Nadal, K. L., Mazzula, S. L., Rivera, D. P., & Fujii-Doe, W. (2014). Microaggressions and Latina/o Americans: An analysis of nativity, gender, and ethnicity. *Journal of Latina/o Psychology*, 2(2), 67-78.
- Obst, P. L., & White, K. M. (2004). Revisiting the sense of community index: A confirmatory factor analysis. *Journal of Community Psychology*, 32(6), 691-705.
- Opara, I., Rivera Rodas, E. I., Lardier, D. T., Garcia-Reid, P., & Reid, R. J. (2019). Validation of the abbreviated socio-political control scale for youth (SPCS-Y) among urban girls of color. *Child and Adolescent Social Work Journal*, 37, 83-95. <https://doi.org/10.1007/s10560-019-00624-9>
- Paloma, V., Lenzi, M., Furlanis, N., Vieno, A., & García-Ramírez, M. (2018). Sociopolitical control for immigrants: The role of receiving local contexts. *American Journal of Community Psychology*, 62(1-2), 41-50.
- Peterson, N. A., & Hughey, J. (2004). Social cohesion and intrapersonal empowerment: Gender as moderator. *Health Education Research*, 19(5), 533-542.
- Peterson, N. A., Lowe, J. B., Aquilino, M. L., & Schneider, J. E. (2005). Linking social cohesion and gender to intrapersonal and interactional empowerment: Support and new implications for theory. *Journal of Community Psychology*, 33(2), 233-244. <https://doi.org/10.1002/jcop.20047>
- Peterson, N. A., Peterson, C. H., Agre, L., Christens, B. D., & Morton, C. M. (2011). Measuring youth empowerment: Validation of a sociopolitical control scale for youth in an urban community context. *Journal of Community Psychology*, 39(5), 592-605. <https://doi.org/10.1002/jcop.20456>
- Peterson, N. A., & Reid, R. J. (2003). Paths to psychological empowerment in an urban community: Sense of community and citizen participation in substance abuse prevention activities. *Journal of Community Psychology*, 31(1), 25-38. <https://doi.org/10.1002/jcop.10034>
- Peterson, N. A., Speer, P. W., & Hughey, J. (2006). Measuring sense of community: A methodological interpretation of the factor structure debate. *Journal of Community Psychology*, 34(4), 453-469.

- Peterson, N. A., Speer, P. W., Hughey, J., Armstead, T. L., Schneider, J. E., & Sheffer, M. A. (2008). Community organizations and sense of community: Further development in theory and measurement. *Journal of Community Psychology, 36*(6), 798–813. <https://doi.org/10.1002/jcop.20260>
- Peterson, N. A., Speer, P. W., & McMillan, D. W. (2008). Validation of a brief sense of community scale: Confirmation of the principal theory of sense of community. *Journal of Community Psychology, 36*(1), 61–73. <https://doi.org/10.1002/jcop.20217>
- Peterson, N. A., Speer, P. W., Peterson, C. H., Powell, K. G., Treitler, P., & Wang, Y. (2017). Importance of auxiliary theories in research on university-community partnerships: The example of psychological sense of community. *Collaborations: A Journal of Community-Based Research and Practice, 1*(1), 5.
- Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology, 54*(3), 271–281.
- Ponterotto, J. G., Gretchen, D., Utsey, S. O., Stracuzzi, T., & Sava, R. (2003). The multigroup ethnic identity measure (MEIM): Psychometric review and further validity testing. *Educational and Psychological Measurement, 63*, 502–515. <https://doi.org/10.1177/0013164403063003010>
- Prezza, M., Giuseppina Pacilli, M., Barbaranelli, C., & Zampatti, E. (2009). The MTSOCS: A multidimensional sense of community scale for local communities. *The Journal of Community of Psychology, 37*(3), 305–326. <https://doi.org/10.1002/jcop.20297>
- Quinones Mayo, Y., & Resnick, R. P. (1996). The impact of machismo on Hispanic women. *Affilia, 11*(3), 257–277.
- Reid, R. J., Forenza, B., Lardier, D. T., Jr., & Garcia-Reid, P. (2017). Exploring the predictors of citizen participation in substance abuse prevention activities. *Journal of Alcoholism & Drug Dependence, 5*(2), 1–10. <https://doi.org/10.4172/2329-6488.1000260>
- Rivas-Drake, D. (2012). Ethnic identity and adjustment: The mediating role of sense of community. *Cultural Diversity and Ethnic Minority Psychology, 18*(2), 210–215. <https://doi.org/10.1037/a0027011>
- Rivas-Drake, D., Seaton, E. K., Markstrom, C., Quintana, S., Syed, M., Lee, R. M., Umaña-Taylor, A. J., French, S., Yip, T., & Racial Identity in the 21st Century Study Group. (2014). Ethnic and racial identity in adolescence: Implications for psychosocial, academic, and health outcomes. *Child Development, 85*(1), 40–57. <https://doi.org/10.1111/cdev.12200>
- Ruiz, A. L., Bartkowski, J. P., Ellison, C. G., Acevedo, G. A., & Xu, X. (2017). Religion and Gender Ideologies among Working-Age US Latinas/os. *Religions, 8*(7), 121.
- Schmitt, N., & Kuljanin, G. (2008). Measurement invariance: Review of practice and implications. *Human Resource Management Review, 18*(4), 210–222.
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research, 99*(6), 323–338.
- Schwartz, S. J., Unger, J. B., Des Rosiers, S. E., Lorenzo-Blanco, E. I., Zamboanga, B. L., Huang, S., Baezconde-Garbanati, L., Villamar, J. A., Soto, D. W., Pattarroyo, M., & Szapocznik, J. (2014). Domains of acculturation and their effects on substance use and sexual behavior in recent Hispanic immigrant adolescents. *Prevention Science, 15*(3), 385–396.
- Schwartz, S. J., Unger, J. B., Lorenzo-Blanco, E. I., Des Rosiers, S. E., Villamar, J. A., Soto, D. W., Pattarroyo, M., Baezconde-Garbanati, L., & Szapocznik, J. (2014). Perceived context of reception among recent Hispanic immigrants: Conceptualization, instrument development, and preliminary validation. *Cultural Diversity and Ethnic Minority Psychology, 20*(1), 1–15.
- Speer, P. W., Peterson, N. A., Armstead, T. L., & Allen, C. T. (2013). The influence of participation, gender, and organizational sense of community on psychological empowerment: The moderating effects of income. *American Journal of Community Psychology, 51*(1–2), 103–113. <https://doi.org/10.1007/s10464-012-9547-1>
- Talo, C., Mannarini, T., & Rochira, A. (2014). Sense of community and community participation: A meta-analytic review. *Social Indicators Research, 117*, 1–28. <https://doi.org/10.1007/s11205-013-0347-2>
- Tartaglia, S. (2006). A preliminary study for a new model of sense of community. *Journal of Community Psychology, 34*(1), 25–36. <https://doi.org/10.1002/jcop.20081>
- Terry, R., Townley, G., Brusilovskiy, E., & Salzer, M. S. (2019). The influence of sense of community on the relationship between community participation and mental health for individuals with serious mental illnesses. *Journal of Community Psychology, 47*(1), 163–175.
- Townley, G., & Kloos, B. (2011). Examining the psychological sense of community for individuals with serious mental illness residing in supported housing environments. *Community Mental Health Journal, 47*(4), 436–446.
- Townley, G., Kloos, B., Green, E. P., & Franco, M. M. (2011). Reconcilable differences? Human diversity, cultural relativity, and sense of community. *American Journal of Community Psychology, 47*(1–2), 69–85. <https://doi.org/10.1007/s10464-010-9379-9>

- Umana-Taylor, A. J., Zeiders, K. H., & Updegraff, K. A. (2013). Family ethnic socialization and ethnic identity: A family-driven, youth-driven, or reciprocal process? *Journal of Family Psychology*, 27(1), 137–146. <https://doi.org/10.1037/a0031105>
- Villalba, K., Ramirez-Ortiz, D., Dévieux, J. G., Attonito, J., & Rojas, P. (2018). Gender-role attitudes among immigrant Latinas: Empowering women. *World Medical & Health Policy*, 10(4), 401–414.
- West, S. G., Taylor, A. B., & Wei, W. (2012). Model fit and model selection in structural equation modeling. In R. H. Hoyle (Ed.), *Handbook of structural equation modeling* (pp. 209–231). Guilford Press.
- Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement*, 73(6), 913–934.
- Wombacher, J., Tagg, S. K., Bürgi, T., & MacBryde, J. (2010). Measuring sense of community in the military: Cross-cultural evidence for the validity of the brief sense of community scale and its underlying theory. *Journal of Community Psychology*, 38(6), 671–687. <https://doi.org/10.1002/jcop.20388>
- Zimmerman, M. A. (2000). Empowerment theory: Psychological, organizational, and community levels of analysis. In J. Rappaport & E. Seidman (Eds.), *Handbook of community psychology* (pp. 44–59). Plenum Publishers.

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