Frances McClelland Institute
Children, Youth, and Families

Racial-Ethnic Differences in Social Networks and Perceived Support: Measurement Considerations, and Implications for Disparities Research

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Abstract

Social relationships and the quality of these relationships are associated with health and well-being. However, emerging evidence suggests that racial-ethnic and cultural differences in social support may be important moderators of these effects.

Aims: The aims of this study were twofold: 1) we tested whether Hispanics, non-Hispanic Whites, and non-Hispanic Blacks responded similarly to classic measures of social networks and support, and 2) we examined whether there were significant between-group differences on these measures.

Results: We established invariance of both the factor covariance and mean structures of the latent variables of social support suggesting that Hispanics could be compared with NHWs and NHBs on these measures. Subsequently, we found that overall, there were no differences between Hispanics and non-Hispanic groups with a few exceptions. Non-Hispanic Whites present a support advantage on a majority of measures when compared to non-Hispanic Blacks.

Conclusions: Results are limited to the specific measures employed here and other measures emphasizing a particular source of support (e.g., family, or church supports) may yield different findings. This study represents an important first step to understanding how size and quality of social networks and social support vary across ethnicity with implications for studying racial/ethnic health disparities.

Background & Method

Background
- Social influences on health may be measured in many ways, however, can be understood through two broad categories: structural support, and functional support (Barrera, 2000; Cohen & Wills, 1985; House, Kahn, McLeod, & Williams, 1985; Kim, & McKenry, 1998; Lieberman, 1986; Uchino, 2006; Wills, 1985).
- Structural support refers to the frequency of encounters with others, size, and structure of social networks, while functional support encompasses specific functions served by others including both perceived and received support.
- While social relationships are good for health, racial-ethnic and cultural differences in valuing social relationships are increasingly hypothesized as important moderators of these effects. With both structural and functional support having comparable, if not more of an effect on mortality risk as well-established risk factors such as smoking (Holt-Lunstad, Smith, & Layton, 2010), it is important to understand whether these social factors may be a form of resilience in racial-ethnic minorities.

Method
- We first utilized invariance testing to ascertain whether common measures of social support (the SNI, ISEL, and the SPS) are answered similarly across three racial/ethnic groups: Hispanics, NHWs, and NHBs. We then compared racial/ethnic differences in social network size and perceived support.

Hypotheses
- Given the current literature, we predicted that Hispanic/Latinos will report larger social networks and greater perceived support when compared to both non-Hispanic groups.

Sample
- A sample of 3,283 undergraduates participated in the study. Non-Hispanic Whites, Blacks, and Hispanics constituted 86.3% of the sample (N = 2793).
- Participants were recruited from Departments of Psychology at four universities selected for their racial/ethnic representation.

Measures of Structural Support
- The Social Network Index (SNI; Cohen, Doyle, Skoner, Rabin, & Gwaltney, 1997).
  - Omnibus Cronbach's α = .88.

Measures of Functional Support
- Interpersonal support was measured using the Interpersonal Support Evaluation List-12 (ISEL; Cohen, & Hoberman, 1983; Merz, et.al., 2014).
  - Omnibus Cronbach's α = 0.87; α subscale range = 0.64 - 0.76.
- Social Provisions Scale (SPS; Russell, Cutrona, Rose, & Yurko, 1984).
  - Omnibus Cronbach's α = 0.94; subscale α range = 0.70 – 0.83.

Statistical Analyses & Results

Statistical Analyses
- To examine the factorial structure of each scale we used a confirmatory factor analysis (CFA) with each scored subscale as parcel-item indicators of their respective latent construct: social network, social provisions, and interpersonal support.
- To determine overall model fit, we assessed the following: the significance of the chi-square statistic, the Comparative Fit Index (CFI) greater than .95 (.90), and the root mean square error approximation (RMSEA) less than .05 (.08) indicating good (or acceptable) model fit (Little, 2013).
- To assess whether Hispanics, NHWs, and NHBs responded similarly to the measures of social support and quality, a confirmatory factor analytic model was used to test for the invariance of factor covariance and mean structures in a three latent construct model: social network, social provisions, and interpersonal support.
- Gender, income, and religious affiliation were included as control variables.
- Following tests of invariance, mean comparisons were calculated using fifteen multi-level models with each social variable subscale and omnibus totals as outcome variables.
- Multi-level models were utilized to control for the random effect of geographic region/community.
- Each model included the following control variables: gender, income, and religious affiliation. Alpha levels were adjusted using the Bonferroni correction of .05/15 = .0033 (Dunn, 1961).

Table 1. Demographic Information by Racial-Ethnic Group

	NHW	NHB	Hispanic	Total
Age Mean(SD)	21.42(4.58)	21.31(4.47)	20.29(3.32)	20.9(4.1)
Gender N(%)				
Male	304(27.4%)	110(29.1%)	355(27.5%)	769(27.7%)
Female	806(72.6%)	268(70.9%)	937(72.5%)	2011(72.3%)
Marital Status N(%)				
Single	934(83.5%)	351(93.1%)	1173(90.4%)	2458(88%)
Married	95(8.5%)	11(2.9%)	61(4.7%)	167(6%)
Living with partner	73(6.5%)	11(2.9%)	51(3.9%)	135(4.8%)
Divorced	15(1.3%)	4(1.1%)	10(<1%)	29(1%)
Widowed	1(<1%)	0(-)	2(<1%)	3(<1%)
Household Income* N(%)				
<$10,000	173(15.5%)	62(16.5%)	187(14.6%)	422(15.2%)
$10,000 - $20,000	124(11.1%)	60(16%)	246(19.2%)	430(15.5%)
$20,001 - $30,000	91(8.2%)	36(9.6%)	202(15.7%)	329(11.9%)
$30,001 - $40,000	80(7.2%)	54(14.4%)	115(9%)	249(9%)
$40,001 - $50,000	53(4.8%)	42(11.2%)	98(7.6%)	193(7%)
$50,001 - $75,000	139(12.5%)	42(11.2%)	158(12.3%)	339(12.2%)
$75,001 - $100,000	118(10.6%)	28(7.5%)	118(9.2%)	264(9.5%)
>$100,000	335(30.1%)	51(13.6%)	160(12.5%)	546(19.7%)
Religious Affiliation N(%)				
Affiliated	443(40.2%)	242(66.1%)	587(46.4%)	1272(46.6%)
Unaffiliated	658(59.8%)	124(11.3%)	677(53.6%)	1459(53.4%)

Note. SD = standard deviation; NHW = Non-Hispanic White; NHB = Non-Hispanic Black; *household income is annual; not all participants answered every demographic question

Results Continued

Table 2. Measurement Models and Multi-group Factorial Invariance Comparisons Between Hispanics, NHWs, and NHBs

	χ^2	df	p	RMSEA	90% CI	SRMR	NNFI	CFI	Constraint tenable
Measurement Model									
	1045.3	51	>.001	0.084	[0.079 0.088]	0.05	0.944	0.957	-
Multi-group Factorial Invariance Comparisons: Hispanics vs. NHWs & NHBs									
Configural	1118.73	102	>.001	0.085	[0.081 0.090]	0.05	0.942	0.955	-
Weak	1135.74	111	>.001	0.081	[0.077 0.086]	0.05	0.947	0.955	yes
Strong	1171.42	120	>.001	0.079	[0.075 0.083]	0.05	0.949	0.954	yes
Multi-group Factorial Invariance Comparisons: Hispanics vs. NHWs									
Configural	960.38	102	>.001	0.083	[0.079 0.088]	0.04	0.944	0.956	-
Weak	995.11	111	>.001	0.081	[0.077 0.086]	0.05	0.947	0.955	yes
Strong	1052.49	120	>.001	0.08	[0.076 0.085]	0.05	0.948	0.953	yes
Multi-group Factorial Invariance Comparisons: Hispanics vs. NHBs									
Configural	647.86	102	>.001	0.08	[0.074 0.086]	0.05	0.946	0.958	-
Weak	698.11	111	>.001	0.079	[0.074 0.085]	0.056	0.947	0.955	yes
Strong	746.32	120	>.001	0.079	[0.074 0.084]	0.058	0.948	0.952	yes

Note. Constraint tenable using the change in comparative fit index < .01, and model fit indices (Little, 1997).

Structural Support
Social Network Index (SNI)
- Number of people in one's network: NHBs reported significantly less people in their networks than NHWs: b= -1.69*, $t(2690)$ = -2.89, p = .004.
- Embedded Networks: NHWs reported more embedded networks when compared to both Hispanics, b = 0.18, $t(2690)$ = 3.3, p = .001, and NHBs, b = -0.20, $t(2690)$ = -2.85, p = .004.

Functional Support
Social Provisions Scale (SPS)
- SPS Attachment: Compared to Hispanics and NHBs, NHWs reported more attachment support b = 0.32, $t(2633)$ = 2.93, p = .003; b = -0.80, $t(2633)$ = -4.88, p < .001 (respectively). Hispanics reported more attachment support than NHBs, b = -0.47, $t(2633)$ = -2.98, p = .003.
- SPS Social Integration: NHWs reported being more socially integrated than NHBs, b = -0.52, $t(2624)$ = -3.25, p = .001.
- SPS Reliable Alliance: NHWs reported more reliable alliances than NHBs: b = -0.74, $t(2631)$ = -4.62, p < .001.
- SPS Guidance: Compared to Hispanics and NHBs, NHWs reported perceiving more support guidance, b = 0.45, $t(2629)$ = 4.28, p < .001; b = -0.90, $t(2629)$ = -5.75, p < .001 (respectively). Hispanics reported perceiving more support guidance than NHBs, b = -0.45, $t(2629)$ = -2.94, p = .003.
- SPS Opportunity for Nurturance: NHWs reported perceiving more opportunities for nurturance than NHBs, b = -0.55, $t(2633)$ = -3.45, p = .001.

Interpersonal Support Evaluation List (ISEL)
- Appraisal Support: NHWs reported more appraisal support than NHBs, b = -0.50, $t(2670)$ = -2.91, p = .003.
- Tangible Support: NHWs reported more tangible support than NHBs b = -0.67, $t(2668)$ = -4.25, p < .001.

Conclusions
- We found that generally NHWs and Hispanics have similar levels of social support with a few exceptions. NHWs generally present a support advantage when compared to NHBs with the exception of a few measures.
- Notably, the exceptions including less embedded networks may be explained by cultural factors. Because of the value placed on family, Hispanics may have less activity in domains such as school and work, and more in family. Similarly, NHBs may value more church-related supports.