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Regional Differences and Race Effects in Mental Health Symptoms Among Juvenile Offenders

Nathan Cook, Gina M. Vincent, & Thomas Grisso

Abstract

Regional differences in the reporting of mental health symptoms among juvenile justice (JJ) involved youth were examined using data from the 70,423 youths in the MAYSI-2 national norm study (Vincent et al., 2008). The percentage of youth scoring above Caution on MAYSI-2 scales was examined by race/ethnicity (white vs. minorities) and sex. Regional differences were assessed using Cochran's Mantel-Haenszel (CMH) analyses. White youth were more likely to score above caution on all clinical scales except Depressed-Anxious. An interesting gender and race/ethnicity effect emerged such that White male youth in the Northeast and Midwest were more likely than Minority youth to score above caution; whereas White female youth in the West were more likely than Minority youth to score above caution.

Method

Sample:

Archival youth cases from the MAYSI-2 National Norm Study (N = 70, 423) fell into categories as follows:

Regions: Northeast (NE; n = 15,515), Midwest (MW; n = 8,927), South (n = 34,015), and West (n = 11,966).

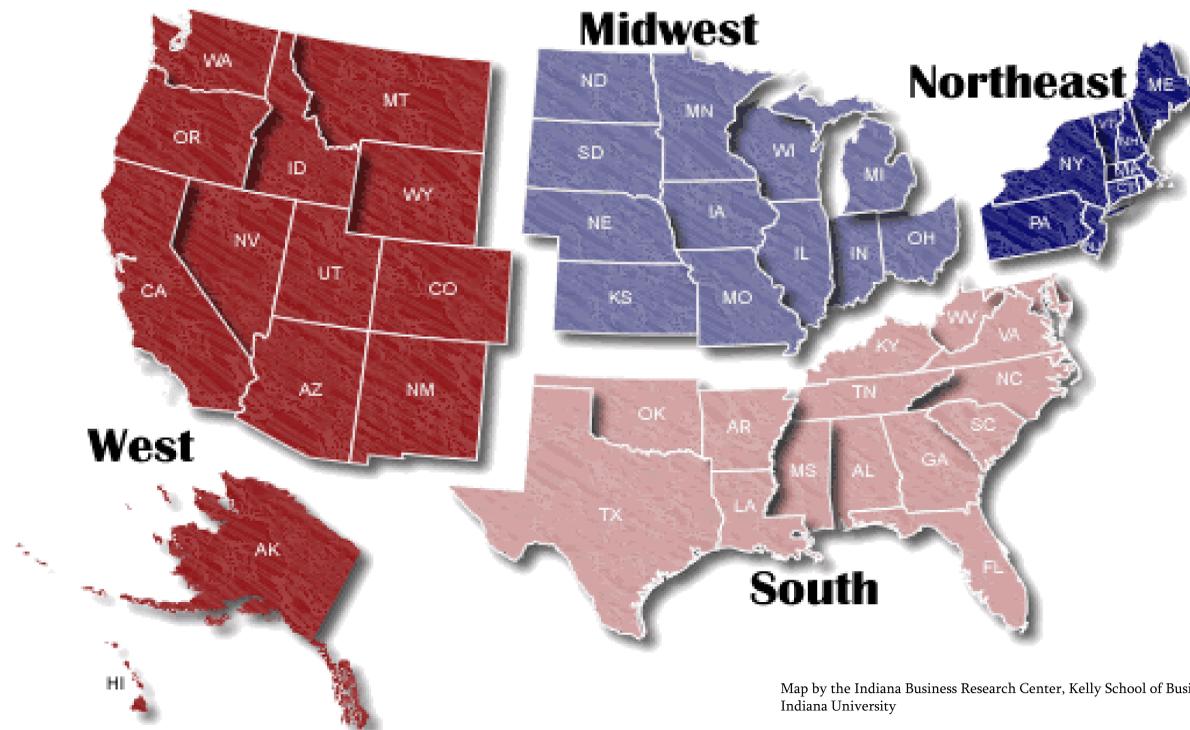
Race/Ethnic: White – n = 27,267; Minority (including Black & Hispanic) – n = 39,954

Gender: Females – n = 15,767; Males – n = 54,607

Data Analyses:

Regional differences in the percentage of youth scoring above Caution on the MAYSI-2 scales were investigated using CMH analyses that included gender and race/ethnicity. These analyses examined the homogeneity of odds ratios (ORs) across regions. Obtaining a significance level <.05 indicates that ORs are not equal across regions and hence there are regional differences. Using a conversion method for dichotomous effect sizes (Chinn, 2000) ORs were evaluated based on Cohen's (1992) criteria: Small ORs = 1.2 to 1.71, Moderate = 1.72 to 2.4, and Large = greater than 2.4.

Data were analyzed in four stages. First, we reported percentages of youth scoring above caution by region. Second, we tested the overall race/ethnicity effects by calculating the odds of White youth scoring above caution on each scale, relative to Minority youth (ORs). Third, we examined regional differences in race/ethnic effects and reported these effects by region (Region X Race). Fourth, because gender effects in MH symptoms are strong and the regions may be disproportionately affected, we reported race/ethnicity effects by region for each gender separately to control for gender effects (Race X Region X gender).



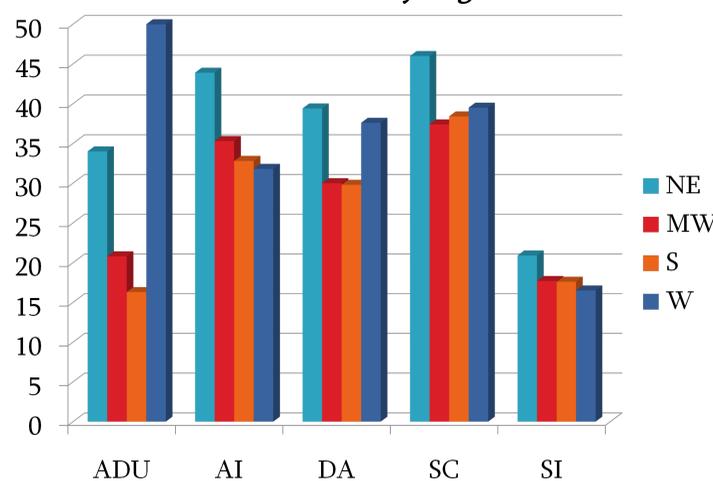
Map by the Indiana Business Research Center, Kelly School of Business, Indiana University

Results

Regional differences in the percentage of youth scoring above caution were found on each clinical scale (see Figure 1). Higher percentages of youth scored above caution in the NE region on all scales except ADU. On the ADU scale half of youths in the West scored above caution. Generally, the percentages of youth scoring above caution were lowest in the MW and S, with the exception of the AI and SI scales; on the AI and SI scales the West region had the lowest percentage of youth scoring above caution.

Figure 1.

% Above Caution by Region



Results continued

Overall, there was a small race/ethnicity effect on every MAYSI-2 scale but DA with Whites more likely to score above Caution (see Table 1). These race effects significantly differed by region on every scale (see Table 2). Most notable was the difference on the ADU scale. Odd Ratios indicated no race effects in the West (OR = 1.05) but large race effects in the NE region where White JJ youth were more than twice as likely (OR = 2.62) to score above Caution than minorities. Also of note, on the SI scale there was a Moderate race effect in the NE and MW regions, but small or no effects in the South and West.

Table 1.

Race Effects Overall (White ref group)	
SCALE	Odds Ratio (OR)
Alcohol-Drug Use	1.58
Angry-Irritable	1.23
Depressed-Anxious	.94
Somatic Complaints	1.49
Suicide Ideation	1.51

Table 2.

Race Effects (ORs) by Region (White reference group)				
SCALE	NORTHEAST	MIDWEST	SOUTH	WEST
ADU*	2.69	2.14	1.50	1.02
AI*	1.35	1.19	1.28	.88
DA*	1.01	.94	1.00	.71
SC*	1.56	1.71	1.45	1.39
SI*	1.80	1.81	1.45	1.13

NOTE. *Test of Homogeneity of Odds Ratios is significant, $p < .05$

Results continued

Further examination of race/ethnicity effects after controlling for gender paints a somewhat different picture. For males, race effects differed significant across regions on all scales. (see Table 3). For females, there were regional differences for race effects on all but the DA and SI scales (see Table 4). For males, the race effects were strongest in the NE and MW regions, except on the DA scale where there was a small effect in the West. For females, the largest regional differences were on the ADU and SC scales. Although there were differences in the magnitude of race effects by region and gender, Whites were consistently more likely to score above Caution than minority youth – except on the DA scale.

Table 3.

Males Only: Race Effects (ORs) by Region				
SCALE	NORTHEAST	MIDWEST	SOUTH	WEST
ADU*	2.66	2.04	1.46	.99
AI*	1.40	1.24	1.27	.83
DA*	.98	.95	.98	.65
SC*	1.49	1.68	1.45	1.31
SI*	1.85	2.05	1.51	1.09

NOTE. *Test of Homogeneity of Odds Ratios is significant, $p < .05$

Table 4.

Females Only: Race effects (ORs) by Region				
SCALE	NORTHEAST	MIDWEST	SOUTH	WEST
ADU*	2.76	2.55	1.66	1.54
AI*	.97	1.05	1.23	1.38
DA	.86	.89	.97	1.17
SC*	1.57	1.84	1.38	2.07
SI	1.38	1.49	1.29	1.35

NOTE. *Test of Homogeneity of Odds Ratios is significant, $p < .05$

Discussion

Results indicate that Whites in the JJ system are generally more likely to report MH problems than minorities regardless of the region or gender. (Note: this is not the case when one analyzes data by site/facility level). This race effect was especially pronounced for the ADU scale. Indeed, Whites in NE were nearly three times as likely to score above caution on ADU (Males OR = 2.66; Females OR = 2.76) than minorities, while in the West racial/ethnic groups had little difference in alcohol and drug problems. This could occur if White youth must exhibit significantly higher levels of alcohol and drug problems than minorities before they are involved in the JJ system. Future research could examine whether this difference exists in the general population. Lastly, the only time minority youth had higher odds of scoring in the clinical range than White youth was on Depressed-Anxious symptoms in the West.