
A Structural Analysis of Variations in African American and Non-Hispanic White Children's Health Care Utilization*

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Abstract. A multi-group SEM was used to investigate the processes underlying health care use between black and white children. Data on a sample of 28,064 black and white children, ages 4-to-11 from the 2003 National Survey of Children's Health (NSCH), a computer-assisted telephone survey were used. Results showed that: the processes underlying health care use were similar for blacks and whites; however, there were some differences in factor loadings between blacks and whites. Furthermore, there were differences between blacks and whites in the effects of (a) family economic resources on health problems, (b) health problems and access to care on parental distress, (b) access to care and health problems on prevention- and curative-based use. No interaction effects were found for blacks and whites in the associations between (a) parental distress and satisfaction with physician interaction and health care usage, and (b) satisfaction with physician interactions and health care utilization.

Key words: access to care; family economic resources; health care utilization; health problems; race/ethnicity.

1 INTRODUCTION

There are significant racial/ethnic disparities in African American and non-Hispanic white children's health care utilization; African Americans are less likely than whites to utilize health care (Crocker et al., 2009; Flores, Olson & Tomany-Korman, 2005; Flores & Tomany-Korman, 2008; Flores et al., 2010; Piper, Glover, Elder, Baek & Wilkinson, 2010).

Several reasons drive the interest in racial/ethnic disparities in children's health and health care utilization. First, although attention is committed to health and health care disparities, little of such attention is focused on children (Flores & Tomany-Korman, 2008). Second, the evidence for ethnic/racial disparities is inconclusive; some studies report that racial disparities in access to care and utilization remain after adjusting for health insurance and SES (Currie 1995; Zuvekas & Weinick, 1999). Other studies suggest that for all access to care indicators there were no marked differences between black children and their white peers after adjusting for income, insurance status, and usual source of care (Newacheck, Hughes & Stoddard, 1996)..

Furthermore, the processes through which economic resources, access to care, health problems, parental distress, and satisfaction with physician interrelate to influence health care

* Acknowledgement: Data used was from Child and Adolescent Health Measurement Initiative (CAHMI) (2003). DRC Indicator Dataset: 2003 National Survey of Children's Health. Data Resource Center for Child and Adolescent Health, www.nschdata.org.

use are poorly explicated. Finally, given data and statistical constraints, a majority of the prior investigations did not differentiate between preventive and curative utilization of health care.

The study employed a multi-group structural equation model (SEM) with a sample of black and white children. Three questions were investigated: are the latent factors and causal associations structurally equivalent (pattern invariance)? Do the indicators of the factors load similarly (factorial equivalence)? Does race/ethnicity moderate the relations among predictors and outcome (structural invariance)?

2 METHODOLOGY

A sample of 28,064 black and white children, ages 4-to-11 from the 2003 US National Survey of Children's Health (NSCH) telephone survey were used. The National Survey of Children's Health, 2003 (NSCH), a cross-sectional telephone survey conducted by the National Center for Health Statistics (NCHS) was used (CAHMI, 2003). The NSCH was designed to produce national and state estimates for a variety of physical, emotional, and behavioral health indicators and measures of children's experiences with the health care system (Blumberg et al., 2005).

2.1 Constructs

Family structure. Family structure was coded into four family types: two-parent biological or adoptive family (1), two-parent stepfamily (2), single-mother no-father present (3), and other family type (4).

Child gender and age. Boys were coded (1) and girls (2). The mean age of the African American sample was 8.13 years, and that of the non-Hispanic white children was 8.07 years.

Family economic resources. Three items were used as indicators of this construct: parental education, income-poverty ratio, and receipt of household cash assistance.

Satisfaction with physician interaction. Two items were loaded on this latent this construct: how often child's personal doctor or nurse (a) spends enough time with him/her, and (b) explain things in a way that you and child can understand.

Parental distress. Three items were used as observed indicators of this construct. Questions were: how well the parent was coping with the demands of parenthood, parents' general health status and mental and emotional health.

Access to care. Two items were used as observed indicators of this latent factor: whether the child had (a) any health insurance coverage, and (b) a personal doctor or nurse.

Health problems. Four questions were used as observed indicators of this construct: whether the child has (a) limitations in ability to do things, (b) asthma, (c) hay fever or respiratory allergy, or (d) food or digestive allergy.

Health care utilization. Three items were used as observed indicators of prevention-based utilization: in the past 12 months the child has (a) had preventive care visits, (b) seen doctor/health professional, and frequency of preventive medical care visits. Three items were used as observed indicators of curative-based utilization: in past 12 months (a) child needed care right away, (b) you called a doctor/health professional, and (c) frequency of visits to a doctor/health professional for health problems.

3 RESULTS

3.1 Pattern equivalence

The hypothesized associations among the latent constructs in the model and the observed variables used to indicate the latent constructs are plausible. Additionally, it supports the

notion that the processes underlying health care utilization operate similarly for blacks and whites..

3.2 Factorial and structural invariance

There were differences in factor loadings and structural path weights between blacks and whites.

The effects (Figure 1) of economic resources on access to care were marginally stronger among blacks than among whites. Economic resources were associated with a significant decline in health problems and parental distress among whites than among blacks.

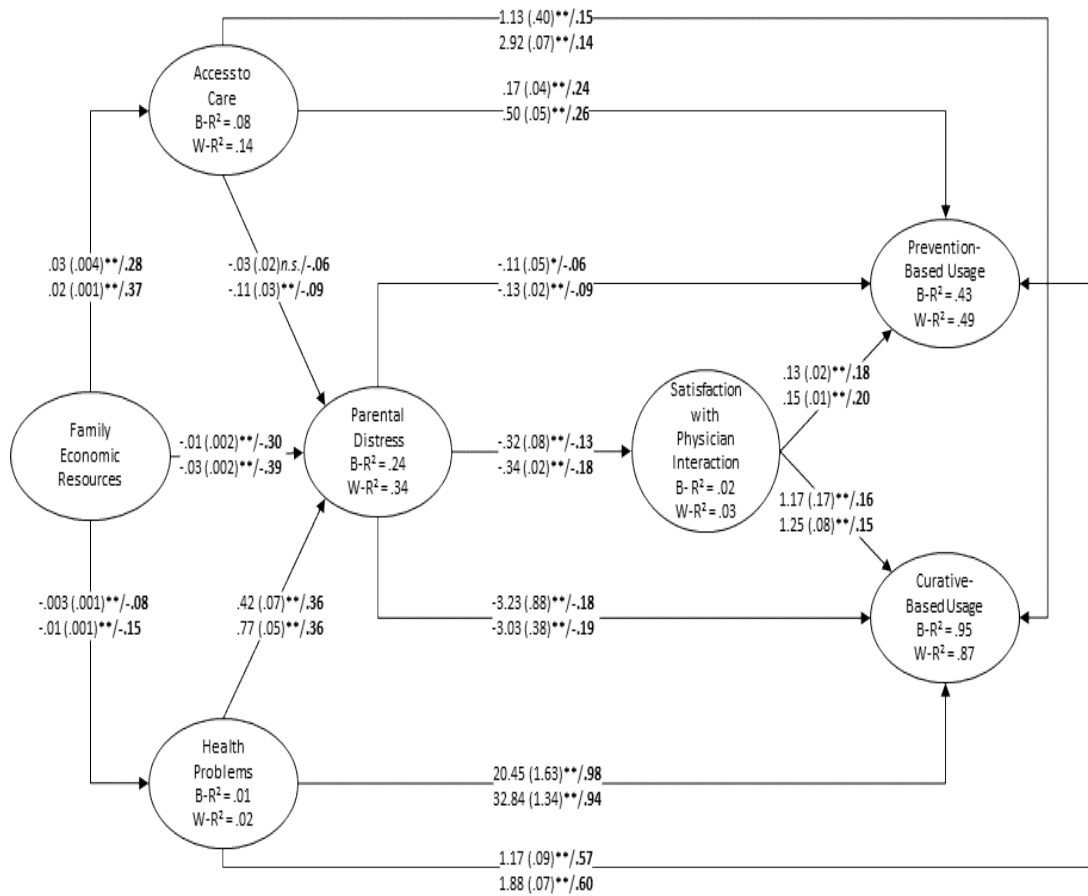


Figure 1. Associations among constructs showing unstandardized (SE), and standardized coefficients (bold type face) for African Americans and non-Hispanic Whites, respectively. $\chi^2_{(290 df)} = 4227.43$; CFI = .95; RMSEA = .02; PCLOSE = 1.00; * = $p < .05$; ** = $p < .01$

Access to care was associated with a decline in parental distress among whites compared with blacks, and with an increase in prevention-based, and curative-based utilization among whites than among blacks. Health problems were related to an increase in parental distress, prevention-based utilization, and curative-based utilization among whites than among blacks.

No racial/ethnic differences were found in the effects of parental distress on satisfaction with physician interaction and both prevention-and curative-oriented utilization. Specifically, parental distress was associated with a reduction in satisfaction with physician interaction, prevention-based utilization, and curative-based utilization. As well, satisfaction with

physician interaction was correlated with an increase in prevention and curative-based utilization for both blacks and whites.

4 CONCLUSIONS

First, the processes linking family economic resources, health problems, access to care, parental distress, and satisfaction with physician interaction to health care utilization are similar for both blacks and whites. Second, there is some evidence to support the differential health and health care experiences of black and white children. Third, race/ethnicity moderated the effects of (a) family economic resources on health problems and parental distress, (b) health problems and access to care on parental distress, and (c) health problems and access to care on both prevention- and curative-based utilization. Fourth, race/ethnicity did not moderate the effects of parental distress and satisfaction with physician interaction on both prevention- and curative-based utilization.

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