



ORAL HEALTH STATUS OF AFRICAN AMERICANS LIVING IN APPALACHIA: THE ROLE OF DENTAL CARE-RELATED FEAR, FEAR OF PAIN, AND HEALTH LOCUS OF CONTROL

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BACKGROUND

- Given the well-established and strong associations between oral and systemic health, and the capacity to intervene at cognitive and behavioral levels in order to promote oral health status change, it is important to study the relations between psychological variables and oral health status
- Fearful patients are more likely than non-fearful patients to experience poor oral health
- External versus internal locus of control is associated with poorer oral health status
- Though there is a healthy body of research investigating the associations between dental care-related fear, health locus of control, and oral health status, much of this research has overlooked minority groups, specifically African Americans
- The current project aimed to assess levels of dental care-related fear, and associated impact on oral health status, in an Appalachian African American sample**

METHODS

- Participants:** African American members of families taking part in the protocol for the Center for Oral Health Research in Appalachia study on determinants of oral diseases in families (N = 86)
 - 18 - 81 years (M = 36.5 years, SD = 10.8)
- Measures:**
 - Health Locus of Control Scale* - a unidimensional measure of individuals' cognitions concerning the degree to which they believe their health is controlled by internal or external factors
 - Dental Fear Survey (DFS)* - 20-item self-report measure of anxious reactions to dental situations, widely utilized in behavioral dentistry research
 - Fear of Pain Questionnaire 9 (FPQ-9)* - 9-item self-report measure of pain-related fear; Severe, Minor, and Medical Pain subscales
 - Decayed, Missing, and Filled Surfaces Index (DMFS)* - "Gold standard" measure of caries experience in dental epidemiology; scores range from 0-128; scored via a comprehensive oral exam by trained and calibrated dental practitioner
- Procedure:**
 - Data were subjected to hierarchical linear regression in order to determine which variables predicted oral health status

RESULTS

- In a comparison of means, there was no significant difference between black participants and their age and sex matched white counterparts (see Table 1)

Table 1. Mean DMFS Health Locus of Control Scale Score, FPQ-9 Score, and DFS Score for White and Black Subsamples

M Variable	N (Whites / Blacks)	Mean (Whites / Blacks)	Standard Deviation (Whites / Blacks)
DMFS Score	87 / 81	24.4 / 23.5	21.6 / 23.2
Health Locus of Control Scale Score	95 / 86	33.3 / 33.8	6.6 / 6.1
FPQ-9 Score	95 / 86	23.9 / 25.2	8.5 / 8.8
DFS Score	95 / 86	39.0 / 38.3	19.1 / 19.8

- DFS score was found to be predictive of DMFS Score, considering $p < .10$ as the criteria for significance (see Table 2)

Table 2. Prediction of Oral Health Status

Predictor Variable	Unstandardized regression coefficient (B)	Standard Error	Standardized Regression Coefficient (β)	Significance Value (p)
Sex	-.709	5.110	-.014	.890
Age	.837	.277	.333	.003
Health Locus of Control Scale Score	.544	.402	.137	.180
DFS Score	.280	.144	.237	.056
FPQ-9 Score	-.035	.305	-.013	.910

DISCUSSION

- Consistent with previous research, controlling for age and sex, dental care-related fear was a significant predictor of oral health status**
 - Greater levels of dental care-related fear were associated with poorer oral health status
 - Thus, the sample did not differ from previously studied ethnic/racial groups
- Fear of pain and an external locus of control were not significantly associated with oral health status
- Age, as expected, is predictive of DMFT because DMFT is a non-reversible indicator of oral health (and oral health history; i.e. accumulation)
- These results help to generalize previously reported findings and provide evidence suggesting that any applicable psychosocial interventions based on those findings might also be applicable to this specific demographic group

CONCLUSION

- As has been reported in a number of previous studies, dental care-related fear is predictive of oral health status for African Americans living in Appalachia
- In addressing poor oral health in African Americans living in Appalachia, it may be beneficial to target dental care-related fear.

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