

Sense of Community Index, reliability of measurements and their differences among race

Chris Aga
University of Minnesota, Morris
600 East 4th St.
Morris, Minnesota 56267
agaxx010@morris.umn.edu

ABSTRACT

Abstract.

Keywords

1. INTRODUCTION

Intro.

2. BACKGROUND

Sense of Community as defined by McMillan in [6] as “a spirit of belonging together, a feeling that there is an authority structure that can be trusted, an awareness that trade, and mutual benefit come from being together, and a spirit that comes from shared experiences that are preserved as art”.

“sense of community is setting specific.” [9] no universally accepted def

Thus SOC is what is known as a latent construct, or as Garger explains in [1], variables that cannot be directly observed “such as extraversion, intelligence, and self-image”.

sense of community index [5] Four dimensions -> membership/influence/reinforcementOfNeeds/sharedEmotionalConnection

Differential Item Functioning to determine accuracy of SOC differences

“DIF among racial groups” had not been previously studied

DIF applied to -> age/gender/maritalStatus/race, this paper will cover Coffman and BeLue’s findings on race.

Used Item Response Theory (IRT) to “asses dimensionality”

Null hypothesis H_1 , ‘all item parameters are equal across groups’. If rejected, DIF exists for said SOC (<- is this interpreted right?)

[2] “parameters of the item characteristic curve” “items rather than test scores” Ability is a “latent trait” Item -> question on a test

“how well an item can differentiate between examinees having abilities below the item location and those having

abilities above the item location. This property essentially reflects the steepness of the item characteristic curve in its middle section. The steeper the curve, the better the item can discriminate. The flatter the curve, the less the item is able to discriminate since the probability of correct response at low ability levels is nearly the same as it is at high ability levels”

Difficulty is “value at which probability of endorsing an item is 0.5” [5]. Difficulty in this experiment is described as the SOC value observed for a question to have a 50% chance of being agreed with. Figure represents the values of ‘difficulty’ for each question between blacks and whites and the overall outcome. Discrimination for each questions was analyzed among all blacks, all whites, and of the overall population. For people who scored as having similar SOC, the y value for each question depicts how often the answer was different among those people. Figure depicts these for each question asked.

To determine the DIF of a question for determining SOC among groups, an “information” value needs to be computed. Baker in [2] uses Equation 1 to produce information I . σ represents the amount of standard deviation, this value is squared to get variance, then the reciprocal is computed to obtain I .

$$I = \frac{1}{\sigma^2} \quad (1)$$

Standard deviation in [5] is described by how much the SOC value varies from a probability of 0 to 1. Therefore, questions with low standard deviations will, based on Equation 1, depict how useful a question is at determining someone’s SOC.

If information differences at the same value of SOC are statistically significant then DIF is computed to determine if a $question_x$ is a good indicator at determining SOC differences between race or if $question_x$ is not important for the actual determination of SOC [5]. Significant differences in a particular question, “I feel at home in my neighborhood” were found at areas of similar SOC between blacks and whites in the experiment, thus DIF was calculated on the results to determine how accurate of a determiner this question was for each group. Chi-square

3. MEASURES FOR SENSE OF COMMUNITY AND HOW THEY DIFFER AMONG RACE

3.1 Measurement items for SOC and determining when they’re equivalent

4. DIFFERENCES IN IMPORTANCE OF COMMUNITY BETWEEN RACE

5. COMMUNITY'S EFFECT ON MENTAL HEALTH

5.1 Early development

5.2 Effect on preceived cognitive learning

5.3 Overall effect on mental health

6. CONCLUSION

Conclusion.

7. REFERENCES

- [1] <http://johngarger.com/articles/methodology/latent-constructs-in-social-science-research>.
- [2] F. B. Baker. *The basics of item response theory*. ERIC, 2001.
- [3] R. D. Bock, R. Gibbons, and E. Muraki. Full-information item factor analysis. *Applied Psychological Measurement*, 12(3):261–280, 1988.
- [4] B. M. Byrne. *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*. Psychology Press, 1998.
- [5] D. L. Coffman and R. BeLue. Disparities in sense of community: True race differences or differential item functioning? *Journal of community psychology*, 37(5):547–558, 2009.
- [6] D. W. McMillan. Sense of community. *Journal of community psychology*, 24(4):315–325, 1996.
- [7] D. M. Mouzon. Can family relationships explain the race paradox in mental health? *Journal of Marriage and Family*, 75(2):470–485, 2013.
- [8] B. H. Rankin and J. M. Quane. Social contexts and urban adolescent outcomes: The interrelated effects of neighborhoods, families, and peers on african-american youth. *Soc. Probs.*, 49:79, 2002.
- [9] A. P. Rovai. Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. *The Internet and Higher Education*, 5(4):319–332, 2002.
- [10] T. J. Yosso*. Whose culture has capital? a critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8(1):69–91, 2005.