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Development of a Quantitative Measure of Community Readiness for Change

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Abstract:

Introduction: Recruiting community involvement in public health interventions is often met with varying degrees of success. Attitudes, resources, and leadership all impact a community's ability to effect change. Being able to assess community readiness for change is vital to the successful adoption of any health or wellness initiative. Past efforts in measuring community readiness have been largely limited. This study reports on the development and validation of a survey measuring community readiness to change for health and wellness in the college campus community.

Objective: To develop an instrument capable of measuring the attitudes and ability of a college campus community towards adopting changes in the realm of health and wellness.

Methodology: The Readiness for Community Wellness Survey was adapted from the Minnesota Institute of Public Health's Community Readiness Survey and Children's Healthy Living Program's Readiness to Collaborate Survey. The Delphi Technique was used to adapt measured domains to fit the needs of a college campus community, specifically for health and wellness interventions. Individual survey items underwent review by an expert panel to ensure fit and purpose within framework of community readiness.

Results: Initial survey development and expert validation of survey items have been completed.

Conclusions: Other attempts to measure community readiness for change have been explored, but no quantitative research methods for assessing a community's readiness for health and wellness change have been developed. This survey may demonstrate such potential in measuring college campus community readiness, with regards to health and wellness interventions

Keywords: readiness for change, community readiness, measure development, readiness survey, Delphi technique

Development of a Quantitative Measure of Community Readiness for Change

Introduction: Health and wellness initiatives rely on community involvement to elicit lasting changes in behavior, policies, and the environment. Like individuals, no two communities are alike. Communities vary widely in their respective attitudes, resources, and leadership towards a given issue, which in turn impacts their readiness to affect change. Prior assessment of community readiness for change holds promise in maximizing impact of health and wellness projects. By accurately assessing a given community's stage of readiness, it is possible to tailor interventions to match that community's specific needs. To date, past efforts in measuring community readiness in health and wellness have been largely limited. Additionally, no studies have evaluated the measurement of a college community's readiness for change. This study reports on the development, validation, and evaluation of a survey measuring community readiness to change for health and wellness in the college campus community.

Beginning with Prochaska and DiClemente in 1977, much of behavior change theory has centered on the Transtheoretical Model. By assessing an individual's readiness to change, intentional change can be better encouraged by applying specific counseling strategies matching their particular stage of change (1). Like individuals, communities too display varied stages of change, and accurate assessment offers the opportunity for appropriate interventions to be used. Communities are more complex in nature than the individual, thus posing unique challenges for researchers measuring readiness.(2)

To address these differences, the Community Readiness model was developed. The model offers a spectrum of 9 stages of readiness into which a community may fall on a given issue. Developed by the Tri-Ethnic center of Colorado State University, the model calls for semi-structured interviews of key respondents in the assignment of a readiness stage. These interviews are qualitatively analyzed and scored, yielding a specific readiness stage for the community.(2)

The Community Readiness Model has since been used in a variety of settings and applications. Out of 40 studies that had utilized the Community Readiness model, alcohol and drug related issues, tobacco control, and childhood obesity were the most common issues investigated.(3) In an intervention involving youth physical activity in schools, community readiness was able to explain changes in physical activity following intervention. (4) Other studies note that the Community Readiness Model has shown success as both a formative evaluation tool and measure of attitude and behavior change. (5-7)

Despite its wide usage and virtues, the Community Readiness Model has real limitations. First, key informants may not be able to accurately estimate the knowledge of the community as a whole. Additionally, such informants may minimize or overestimate issues to fit their own agendas. (8) Other researcher's note the importance of meeting theoretical saturation, which the small sample of key informants does not likely meet. (9) Larger sample sizes are not a real solution to this quandary, as cost and time of such interviews prohibits usage. Issues also surround the quantitative scoring of a qualitative model and the lack of development rooted in sound psychometric principles. External validity was also never assessed. (8-9) These basic contraindications still exist despite more rigorous efforts to better address and standardize the subjective nature of scoring. (11) It is worth noting that in a review conducted by Konstadinov et al., 40% of studies opted to make changes to the methodology of the Community Readiness Model. (3)

A survey-based measure of community readiness offers many advantages. Easy to administer and analyze, surveys offer a cost-effective alternative. (8) Surveys also reduce burden for respondents, and simplify data analysis and interpretation. (10) Survey-based data collection has also been demonstrated to offer more accurate reporting than more intimate modes of data collection, such as telephone interview. (12) Beebe et al. successfully demonstrated these advantages in their investigation into survey-based

measurement of community readiness to change for alcohol, tobacco, and other drug prevention. (12) Additionally, when used to develop normative values, these survey results lend themselves to straightforward interpretation and evaluation by interested researchers and the communities themselves. (13)

Given the current body of research, it is clear that the ability to assess community readiness for change is vital to the successful adoption of any health or wellness initiative. Qualitative and psychometrically designed survey methods of assessment offer unique advantage when evaluation of community readiness is needed. However, surveys currently available are not applicable to community readiness and attitudes towards issues other than alcohol, tobacco, and drug prevention, as this has been the main research focus of studies to date. When considering the role that community attitudes play on all segments of citizen health, there appears to be great opportunity for development of surveys that adequately measure readiness with regards to other domains of health. This paper reports on the first stages of the development of a survey measuring community readiness to change for health and wellness in the college campus community.

Methods: Using question sets and domains from Minnesota Institute of Public Health's Community Readiness Survey and Children's Healthy Living Program's Readiness to Collaborate Survey, a new survey framework was drafted. The Delphi Technique was used to adapt measured domains to fit the needs of a college campus community, specifically for health and wellness interventions. Delphi Technique participants were recruited from known associates and colleagues of the Investigators who voluntarily participated in the research project. After recruitment of study participants, those identified as health and wellness experts were contacted via email with a web link to an online questionnaire hosted by QuestionPro Survey Software. Participants were asked to complete the questionnaire, identifying and rating individual domains for importance in the realm of community readiness for change in health and wellness. A five-point Likert-type rating

scale was utilized to rate item importance, with opportunity allowed for justification of rating. Additionally, opportunity was made available for comments regarding the "fit" of the given domains for measuring community readiness in the setting of a college campus with regards to health and wellness. Following initial response period, data collected was be used to generate mean scores for each item assessed. Open-ended questions were analyzed qualitatively by categorizing according to common themes. Scores, comments, and justifications were used to hone the domains to meet the goals of the survey.

A 28-item survey developed using input from the expert panel was then administered to a second expert group and college students who voluntarily offered to participate. Responses from these participants were used to generate a "Community Readiness Score" for their respective university. This administration constituted cognitive interviews used to determine face validity of the survey tool. Participants in this stage of the survey development were asked by an interviewer to answer each survey item. Participants were then asked about the reasoning behind their given response, as well as if the question posed by the survey item was clearly understood. Using feedback from the cognitive interview stage, items that were not understood by the participants were analyzed and revised or excluded, before being presented to the participants in a follow-up interview.

Results: The Delphi Technique and subsequent cognitive interviews yielded the following 16 item survey and survey domains:

<u>Campus Community Readiness Survey</u>

People have different attitudes about promoting health and wellness programs on campus. How much do you agree or disagree with each of these statements?

1. My campus needs to be more active in promoting health and wellness programs.
    - Strongly agree
    - Agree
    - Neither agree nor disagree

- Disagree
- Strongly disagree

2. It is possible to improve student health through wellness programs.
    - Strongly agree
    - Agree
    - Neither agree nor disagree
    - Disagree
    - Strongly disagree

3. Wellness programs are a good investment because they improve student health.
    - Strongly agree
    - Agree
    - Neither agree nor disagree
    - Disagree
    - Strongly disagree

4. The campus community has a responsibility to set up health and wellness programs to help people form healthy habits and lifestyles.
    - Strongly agree
    - Agree
    - Neither agree nor disagree
    - Disagree
    - Strongly disagree

5. All unhealthy food advertising (billboards, magazines, student newspapers, buses, etc.) should be banned.
    - Strongly agree
    - Agree

- Neither agree nor disagree
- Disagree
- Strongly disagree

6. Public service announcements delivered by social media (Facebook, Twitter, Instagram) are a good way to change attitudes about diet and exercise.
    - Strongly agree
    - Agree
    - Neither agree nor disagree
    - Disagree
    - Strongly disagree

7. It seems like my campus community is not interested in changing no matter what the issue is.
    - Strongly agree
    - Agree
    - Neither agree nor disagree
    - Disagree
    - Strongly disagree

8. There is no sense of commitment to health and wellness in my campus community.
    - Strongly agree
    - Agree
    - Neither agree nor disagree
    - Disagree
    - Strongly disagree

To help pay for health and wellness programs, how willing would you be to...

9. Pay more for healthy food options.
    - Not at all
    - A little
    - Somewhat
    - Quite
    - Very

10. Pay more for access to physical activity (gym membership, exercise classes, etc.).
    - Not at all
    - A little
    - Somewhat
    - Quite
    - Very

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11. Select the university at which you are a student or employee:
    - Alabama
    - Florida
    - Maine
    - Kansas
    - New York
    - South Dakota
    - Tennessee
    - West Virginia
    - Choose not to answer

12. What is your year in school? (This refers to the time you have spent attending school, not credit hours accumulated)
    - Freshman
    - Sophomore
    - Junior
    - Senior
    - Graduate
    - Staff
    - Faculty
    - Choose not to answer

13. What is your gender identity?
    - Female
    - Male
    - Trans female / Trans woman
    - Trans male / Trans man
    - Genderqueer / Gender non-conforming
    - Different identity (please state)
    - Choose not to answer

14. Are you Hispanic or Latino?
    - Yes
    - No
    - Choose not to answer

15. Which one or more of the following would you say is your race? (select all that apply)
    - American Indian or Alaska Native
    - Asian
    - Black or African American
    - Hispanic or Latino
    - Native Hawaiian or Other Pacific Islander
    - White
    - Other (please specify)
    - Choose not to answer

16. Are you currently or have you previously been a: (select all that apply)
    - Supplemental Instructor / Tutor
    - Campus Organization / Club Officer
    - Student Researcher
    - Student Government Member / Official
    - Residential Advisor
    - Athletic Team Captain
    - Greek Life Officer
    - Orientation Leader
    - Admissions / University Ambassador
    - Community Service Chair
    - University Faculty
    - University Staff
    - None of the above

Discussion and Conclusions: Other attempts to measure community readiness for change have been explored, but no quantitative research methods for assessing a college campus's readiness for health and wellness change have been developed. By utilizing

expert analysis and feedback via the Delphi Technique, the domains of Perception of Community Commitment and Support for Intervention from the Minnesota Readiness for Change Survey were regarded as valid question sets for assessment. Results were limited by poor response during the second round of analysis. More expert review could have potentially narrowed the question set further.

This survey may demonstrate such potential in measuring college campus community readiness, with regards to health and wellness interventions. Further validation efforts should be utilized in order to verify the psychometric validity of the Campus Community Readiness Survey. Following validation, methods such as Q-sort could generate normative values for comparison across communities. Further investigation into community readiness is needed to better leverage resources towards substantive health and wellness outcome change. Surveys such as the Campus Community Readiness Survey described here may offer the opportunity for quantitative measures of community readiness for change.

Citations

1. Prochaska, J. O., & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research & Practice, 19*(3), 276-288.
2. Oetting ER, Donnermeyer JF, Plested BA, Edwards RW, Kelly K, Beauvais F. Assessing community readiness for prevention. Int J Addict. 1995;30(6):659-83.
3. Kostadinov I, Daniel M, Stanley L, Gancia A, Cargo M. A systematic review of community readiness tool applications: implications for reporting. Int J Environ Res Public Health. 2015;12(4):3453-68.
4. Ehlers DK, Huberty JL, Beseler CL. Is school community readiness related to physical activity before and after the Ready for Recess intervention?. Health Educ Res. 2013;28(2):192-204.
5. Peercy M, Gray J, Thurman PJ, Plested B. Community readiness: an effective model for tribal engagement in prevention of cardiovascular disease. Fam Community Health. 2010;33(3):238-47.
6. Kesten JM, Cameron N, Griffiths PL. Assessing community readiness for overweight and obesity prevention in pre-adolescent girls: a case study. BMC Public Health. 2013;13:1205.
7. Brand T, Gansefort D, Rothgang H, Röseler S, Meyer J, Zeeb H. Promoting community readiness for physical activity among older adults in Germany--protocol of the ready to change intervention trial. BMC Public Health. 2016;16:99.
8. Beebe TJ, Harrison PA, Sharma A, Hedger S. The Community Readiness Survey. Development and initial validation. Eval Rev. 2001;25(1):55-71.
9. Kesten JM, Griffiths PL, Cameron N. A critical discussion of the Community Readiness Model using a case study of childhood obesity prevention in England. Health Soc Care Community. 2015;23(3):262-71.
10. Kostadinov I, Daniel M, Stanley L, Cargo M. Assessing community readiness online: a concurrent validation study. *BMC Public Health*. 2015;15:598. doi:10.1186/s12889-015-1953-5.
11. Schroepfer T, Sanchez G, Kyung Jin L, Matloub J, Waltz A, Kavanaugh M. Community Readiness Assessment: The Scoring Process Revisited. *Journal Of Community Practice* [serial online]. July 2009;17(3):269-290. Available from: SocINDEX with Full Text, Ipswich, MA. Accessed September 29, 2017.
12. Beebe TJ, Mcrae JA, Harrison PA, Davern ME, Quinlan KB. Mail surveys resulted in more reports of substance use than telephone surveys. J Clin Epidemiol. 2005;58(4):421-4.
13. Sharma A, Botzet A, Sechrist R, Arthur N, Winters K. Community Readiness Survey: Norm Development Using a Q-Sort Process. *Journal Of Child & Adolescent Substance Abuse* [serial online]. September 2006;16(1):25-38. Available from: SocINDEX with Full Text, Ipswich, MA. Accessed September 29, 2017.