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RESEARCH ARTICLE

National Academy of Medicine Social and Behavioral Measures: Associations With Self-Reported Health

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Introduction: Social and behavioral factors play important roles in physical and mental health; however, they are not routinely assessed in the healthcare system. A brief panel of measures of social and behavioral determinants of health (SBDs) were recommended in a National Academy of Medicine report for use in electronic health records. Initial testing of the panel established feasibility of use and robustness of the measures. This study evaluates their convergent and divergent validity in relation to self-reported physical and mental health and social desirability bias.

Methods: Adults, aged ≥18 years, were recruited through Qualtrics online panel survey platform in 2015 (data analyzed in 2015–2016). Participants completed the (1) panel of SBD measures; (2) 12-Item Short Form Health Survey to assess associations with global physical and mental health; and (3) Marlowe–Crowne Social Desirability Scale short form to assess whether social desirability influenced associations between SBD measures and self-reported health.

Results: The sample included 513 participants (mean age, 47.9 [SD=14.2] years; 65.5% female). Several SBD domain measures were associated with physical and mental health. Adjusting for age, poorer physical and mental health were observed among participants reporting higher levels of financial resource strain, stress, depression, physical inactivity, current tobacco use, and a positive score for intimate partner violence. These associations remained significant after adjustment for social desirability bias.

Conclusions: SBD domains were associated with global measures of physical and mental health and were not impacted by social desirability bias. The panel of SBD measures should now be tested in clinical settings.

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INTRODUCTION

Healthcare delivery systems traditionally have focused on the biomedical treatment of disease and paid relatively little attention to social and behavioral factors that influence disease processes.[1] Given that social, environmental, and health-related behaviors account for at least half of premature deaths,[2–4] health systems and providers financially responsible for maintaining the health of populations, as a result of fixed payment reimbursement, are now devoting more attention to addressing these more root causes of health. Translating this growing interest into clinical practice will require new tools that improve the integration of social and behavioral care and medical care delivery. These tools will need to include standardized, evidence-based

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Table 1. Participant Responses by National Academy of Medicine Panel Measure

Characteristics	*n*/N (%)
Race	
White	408/512 (79.7)
Black	48/512 (9.4)
Other	44/512 (8.6)
Two or more races	12/512 (2.3)
Ethnicity	
No, not Hispanic, Latino, or Spanish origin	479/513 (93.4)
Yes, Hispanic, Latino, or Spanish origin	34/513 (6.6)
Highest level of school	
1–16 years (elementary/ high school/college)	430/513 (83.8)
≥17 years (graduate/professional school)	83/513 (16.2)
Highest degree earned	
Less than high school, high school diploma, GED	194/512 (37.9)
Vocational certificate or associate's degree	126/512 (24.6)
Bachelor's degree	130/512 (25.3)
Master's degree	50/512 (9.8)
Doctorate or professional degree	12/512 (2.3)
Financial resource strain	
Not hard at all	209/513 (40.7)
Somewhat hard or very hard	304/513 (59.3)
Stress	
Not at all	77/513 (15.0)
A little bit	179/513 (34.9)
Somewhat	121/513 (23.6)
Quite a bit or very much	136/513 (26.5)
Depression (PHQ-2 score)	
Negative screen (<3)	411/512 (80.3)
Positive screen (≥3)	101/512 (19.7)
Physical activity (EVS classification)	
Inactive	118/513 (23.0)
Insufficiently active	227/513 (44.2)
Sufficiently active	168/513 (32.7)
Tobacco use	
Never smoker	266/512 (52.0)
Former smoker	98/512 (19.1)
Current everyday smoker or current someday smoker	148/512 (28.9)
Alcohol use (AUDIT score)	
Negative screen	353/510 (69.2)
Positive screen	157/510 (30.8)
Social connection or isolation	
Not isolated	37/512 (7.2)
Somewhat isolated	97/512 (18.9)
Very isolated	137/512 (26.8)
Most isolated	241/512 (47.1)
Intimate partner violence (HARK score)	
Negative screen (<1)	434/510 (85.1)
Positive screen (≥1)	76/510 (14.9)

AUDIT, Alcohol Use Disorders Identification Test; EVS, Exercise Vital Sign; GED, General Educational Development test; HARK, Humiliation, Afraid, Rape, Kick; PHQ, Patient Health Questionnaire; SF, Short Form.

assessments of social and behavioral determinants of health (SBDs).

In 2013, the National Academy of Medicine (NAM), formerly known as the Institute of Medicine, convened an expert panel to identify a set of validated self-report measures to capture the most important SBDs of morbidity and mortality.[5] The questions, which could be integrated with a healthcare system's electronic health record, were selected by consensus from committee members representing healthcare services, informatics, and social and behavioral sciences. The final set of items was selected based on six criteria, including clinical significance and strength of the empirical evidence linking a given measure to health. The items spanned 12 domains, including race and ethnicity, education, financial resource strain, stress, depression, physical activity, tobacco use, alcohol use, social connection or isolation, intimate partner violence, geocodable residential address, and Census tract median income.

The NAM committee's report provided an important foundation for social and behavioral needs screening to support better clinical care and enable new discoveries. Each measure included in the recommended panel had previously been validated and shown to relate to health. However, the overall panel of measures needs further validation. The authors report here on the second stage of these tests. The first phase established that individuals could understand and complete the question panel in fewer than 5 minutes and with few omissions. Responses were stable over a period of 3 weeks and were not affected by question order.[6] The goal of this second phase of research is to replicate key analyses in a new, independent sample and to examine convergent and divergent validity, including tests of whether responses relate to self-reported measures of physical and mental health and whether these associations are confounded by social desirability bias.