Brief Original Report

Predictive validity of the attitudes toward medical help-seeking scale

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ABSTRACT

Objective. This study examines the predictive validity of the action/intention subscale of the attitudes toward seeking medical help scale in a college sample.

Participants. Participants were 51 female undergraduates recruited from psychology classes. Data were collected at two time points between January and April, 2011.

Methods. Students completed the attitudes subscale and a measure of medical contacts twice, over a two month interval.

Results. Internal consistency and test–retest reliability of the measure were supported. Correlations between time one attitudes and medical contacts/intentions at time two provide evidence for predictive validity of the measure.

Conclusion. This relatively brief, psychometrically sound measure of attitudes toward medical help seeking can be used to identify individuals who may be reluctant to seek health care and to assess the effectiveness of health education programs.

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Introduction

Prevention and early detection of illness are important to minimize morbidity, disability and associated costs. Although higher rates of illness are found in older individuals (Federal Interagency Forum on Aging-Related Statistics, 2012), it is important to recognize that young people are also at risk for health problems. In particular, young Americans are susceptible to obesity (Ogden et al., 2014) and diabetes (Bloomgarden, 2004), high blood pressure (Nguyen et al., 2011), and certain types of cancer (Bleyer et al., 2006). College students in particular are susceptible to infectious diseases such as meningitis (CDC, 2014) and sexually transmitted infections (Forhan et al., 2009). However, despite these risks, rates of medical visits, including check-ups (Nordin et al., 2010) and other preventive services (e.g., HPV vaccine) (U.S. Department of Health and Human Services, 2011) are below the recommended guidelines.

Although research is needed to understand the attitudinal and psychological barriers to seeking timely medical care, until recently there was no well-tested scale for assessing attitudes associated with medical help-seeking. The existing scales were ad hoc or special-purpose measures with few items, for use in interviews and surveys, having poor reliability and no established validity (for example see Fiscella et al., 1998; Borders et al., 2004).

In a previous paper the authors emphasized the need, in public health research, for a more comprehensive measure of attitudes toward seeking necessary professional medical help and devised a 35-item Likert-type scale (Fischer et al., 2013). A factor analytically derived 12-item action/intention subscale is the focal measure of the present study.

In a pilot study of college students, the action/intention scale had strong test–retest reliability ($r = .91$) and was predictive of students' medical contacts and appointments both at immediate ($r = .52$) and later ($r = .45$) time points (Fischer et al., 2013). In a subsequent community survey the measure discriminated sharply between people who had experienced serious medical problems and those who had not, as well as between those with and without adequate medical insurance coverage (Fischer et al., 2013).

The goal of the present study was to replicate the findings on the associations between attitudes and behaviors (medical contacts) of the earlier study which employed a small sample ($N = 34$).

Method

Undergraduates from a women's college ($N = 51$) were recruited from psychology classes. Participants completed both the attitude and behavior questionnaires at two time-points, approximately two months apart. There were 46 students who completed both sets of questionnaires, which were matched using student IDs and birth dates to preserve anonymity. The study's focal measures were the aforementioned

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action/intention attitude scale (appended), and a medical contacts inventory of five items covering how recently the person had seen a health professional, the number of physician visits in past year, expectations for having a check-up or annual physical, scheduling of next appointment, and whether annual medical check-ups were routinely scheduled. At each testing session the order of the attitude and behavioral scales was randomly selected: one-half of the students received the attitude items first, one-half the behavioral items first. In all questionnaires, the demographic information form was positioned last.

Results

The initial sample consisted of 51 female students. Their age range was 18–21 years; most (92%) were age 20 or 21, and 92% were of single marital status. They came from educated households with 90% of their parents having attained college degrees.

The 12 item attitudes toward seeking medical help action/intention subscale was internally consistent, alpha $r = .82$.

Two versions of the five-item behavioral (medical contacts) scale were computed: a Likert-type summated score which yielded a normal distribution with alpha $r = .61$; and a binary score in which each item response was dichotomized (e.g., medical contact vs. no contact) and summed, alpha $r = .59$. The latter (dichotomized) method was used in the earlier survey of 34 students.

The mean differences in both attitudes and behaviors between time points were essentially zero; that is, the average scores of the attitude and behavioral measures were basically unchanged (paired t-test values < 1), from the first to the second assessment point.

Test–retest reliabilities

Over the approximate two month period between assessments, the test–retest correlation for action/intention–attitude scores was $r = .85$. Test–retest correlations for the behavioral (medical contacts) scores were: $r = .70$ for summated scores and $r = .59$ for dichotomized scores.

Attitude–behavior correlations

At test point 1, action/intention attitude scores correlated .31 ($p = .039$) with summated behavioral scores, and .32 ($p = .031$) with the dichotomized behavioral scores. At test point 2 the equivalent attitude–behavior correlations were .36 ($p = .012$) and .44 ($p = .002$).

Action/intention attitudes measured at test point 1 were correlated with medical contacts assessed at point 2, $r = .29$ ($p = .050$) (for summated behavior scores), and $r = .31$ ($p = .035$) for dichotomized scores.

Discussion

The action/intention subscale showed strong psychometric characteristics in this sample, as in the earlier samples, with good internal consistency (alpha $r = .82$) and test–retest reliability ($r = .85$). The five-item behavioral contacts scale had poor internal consistency (alpha $rs = .61$ and .59, respectively), and test–retest reliabilities of .70 and .59, respectively, for the summated- and binary-scored versions.

While the attitude–behavioral correlations were statistically significant in the present study, they were smaller than those observed in the earlier sample (Fischer et al., 2013). In the earlier study the action/intention scale was correlated .45 to medical contacts assessed nearly two months later, whereas in the current sample the equivalent correlations were .29 (summated) and .31 (dichotomized). This weaker correspondence between predictor (attitude) and criterion (behavioral contacts) is likely attributable to the rather weak reliability of the behavioral measure and to the fact that the great majority of students had regular contacts with medical professionals, thereby reducing the degree of behavioral variability. Nonetheless, the present results are consistent with the earlier findings, and the action–attitude measure, thus, has cross-validated evidence of predictive validity.

Although both the earlier study and the present results support the predictive validity of the measure, limitations related to sampling should be acknowledged. First, the samples of both studies were relatively small and homogeneous with regard to gender, age and education. In addition, the two-month interval over which health visits were examined is relatively brief. Future research should examine the associations between the action–intention scale and medical contacts over a longer time frame in a larger, more diverse sample.

Conclusion

The attitude/intention scale is a psychometrically sound measure which should prove to be useful in future research. Its utility is as an easily administered scale to measure attitudes and intentions regarding professional medical care. Health researchers can use the scale to identify demographic and personality characteristics of those who are reluctant to seek necessary medical help, measure the effectiveness of health education programs, and ultimately assess whether positive attitude changes correspond to improved and appropriate uses of medical services.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

Appendix A

*A.1. The action/intention medical help-seeking sub-scale**

1. I would rather live with some physical problems than go through a lot of medical tests and check-ups (R).
2. I would want to get medical help right away if I had a health problem that was worrying me (S).
3. If I have what I think is a medical symptom (such as continuous pain or a suspicious lump), I go to the doctor right away to have it checked (S).
4. Considering all the time and expense connected with medical check-ups, and the inconclusive results they come up with, routine check-ups are hardly worth the bother (R).
5. I always have a doctor that I trust, who knows me and my medical situation thoroughly (S).
6. When I have doubts or questions about my physical health I find out what is wrong from a medical professional (S).
7. I would never go for more than a year without seeing my doctor, at least for a check-up (S).
8. If I had a physical problem that I thought could be serious I would contact a doctor or go to a hospital emergency room without hesitation (S).
9. I would willingly talk about personal problems with a doctor if I thought it could help me, or a member of my family (S).
10. If I have a serious symptom such as continuous pain, bleeding, or coughing, I call for an appointment right away (S).
11. Even when I know I probably should go to the doctor, I tend to put it off (R).
12. If I believed I had a potentially serious medical problem my first action would be to get professional attention for it (S).

Note. Straight items (S) are scored 3–2–1–0, and reversal items (R) 0–1–2–3, respectively, for the response alternatives: *agree, partly agree, partly disagree,* and *disagree.*

References

Bleyer, A., Viny, A., Barr, R., 2006. Cancer in 15–29 year-olds by primary site. Oncologist 11, 590–601.

Bloomgarden, Z.T., 2004. The evolving epidemic. Diabetes Care 27 (4), 998–1010.

Borders, T.F., Rohrer, J.E., Xu, K.T., Smith, D.R., 2004. Older persons' evaluations of health care: the effects of medical skepticism and worry about health. Health Serv. Res. 39, 35–52.

CDC, 2014. Meningococcal disease: community settings as a risk factor. (Retrieved from). http://www.cdc.gov/meningococcal/about/risk-community.html.

Federal Interagency Forum on Aging-Related Statistics, 2012. Older Americans: 2012: key indicators of well-being. http://www.agingstats.gov/agingstatsdotnet/Main_Site/ (accessed December 31, 2014).

Fiscella, K., Franks, P., Clancy, P.M., 1998. Skepticism toward medical care and health care utilization. Med. Care 36, 180–189.

Fischer, E.H., Dornelas, E.A., DiLorenzo, T.A., 2013. Attitudes toward seeking medical care: Development and standardization of a comprehensive scale. J. App. Soc. Psych. 43 (S1), E115–E123.

Forhan, S.E., Gottlieb, S.L., Sternberg, M.R., et al., 2009. Prevalence of sexually transmitted infections among female adolescents aged 14 to 19 in the United States. Pediatrics 124, 1505–1512.

Nguyen, Q.C., Tabor, J.W., Entzel, P.P., et al., 2011. Discordance in national estimates of hypertension among young adults. Epidemiology 22 (4), 532–541.

Nordin, J.D., Solberg, L.I., Parker, E.D., 2010. Adolescent primary care visit patterns. Ann. Fam. Med. 8 (6), 511–516.

Ogden, C.L., Carroll, M.D., Kit, B.K., Flegal, K.M., 2014. Prevalence of childhood and adult obesity in the United States, 2011–2012. J. Am. Med. Assoc. 311 (14), 806–814.

U. S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion, 2011. Healthy people 2020. Immunization and Infectious Diseases (Washington, DC, Retrieved from http://healthypeople.gov/2020/topicsobjectives2020/pdfs/Immunization-.pdf).