

DIFFERENCES IN SATISFACTION WITH HEALTH CARE SERVICES  
AS A FUNCTION OF RECIPIENT: SELF OR OTHERS

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This study (1) was designed to determine whether or not results obtained with measures of attitudes toward characteristics of one's own health care services are different from results obtained with measures of attitudes toward care received by people in general. Both strategies for estimating population satisfaction levels are in use. Measures of satisfaction or attitudes towards doctors and health care services have required respondents to rate their own care experiences (2-9), experiences of people in general (10-15), and have required respondents to make both kinds of ratings within the same questionnaire (9,16,17). An example of a questionnaire item having a general referent is "It takes most people a long time to get to the place where they receive medical care." The same item can also be constructed with an individual referent, for example, "It takes me a long time to get to the place where I receive medical care."

Satisfaction and attitudinal measures which require the respondent to make health care ratings for people in general (general referent) assume that such ratings are a valid reflection of the respondent's own perceptions or that people are knowledgeable of the attitudes of others. Measures which are scored by combining items having a general referent with items having an individual referent assume that items differing in referent are essentially alternate forms of each other. That is, it is assumed that responses to scale items would be the same regardless of whether the item had a general or individual referent. If items differing in referent are not alternate forms of each other, results and related conclusions may be systematically biased. No published studies of the effects of differences in questionnaire item referent could be found.

The authors developed a strategy for investigating a number of possible effects of differences in item referent in two populations under conditions similar to many health surveys. Specifically, the following issues were addressed: 1) Whether or not measures of attitudes toward one's own health care and care received by people in general differ in terms of (a) factor content, (b) central tendency, or (c) reliability; 2) The similarity of attitudinal profiles based on measures having general versus individual referents; and 3) The validity of both kinds of measures in relation to important health outcomes. This research was an early step in the development and validation of new standardized scales to measure consumer satisfaction with health care.

#### Method

**Respondents.** Two populations were studied. The first sample (area wide sample, N = 432) was drawn from those adults living in Springfield, Illinois and the surrounding area. Included were 93 males and 339 females of which 91 percent were white. Ages ranged from 17 to 84 years and the

median age was 41 years. The median number of school years completed was 13 and the median family income was approximately \$11,900. The second sample (family practice sample) consisted of 520 adults who have used the Family Practice Center in Springfield, Illinois operated by Southern Illinois University School of Medicine. Included were 185 males and 335 females. Ages ranged from 17 to 84 years and the median age was 31 years. The median number of school years completed was 14 and the median family income was approximately \$13,700.

**Interview Schedule.** Measures of attitudes regarding health care were obtained using Likert-type items imbedded in a larger questionnaire. For those in the areawide sample, the questionnaire was self-administered in the respondent's home with a trained interviewer present. Mail-out and mailed return of the questionnaire was used for those in the family practice sample.

Ten scale items, four referring to attitudes toward the respondents' own health care experiences (individual referent) and six referring to attitudes toward the experiences of people in general (general referent), were selected from the authors' health care opinions questionnaire. Ten health care concepts (services characteristics) in two general areas (access to care and doctor conduct) were represented. For each of the ten concepts, two forms of the questionnaire item were written so as to differ only with regard to item referent (general versus individual). In other words, the item pairs were matched in terms of health care characteristic measured, number of words, questionnaire placement, and whether a favorable or unfavorable opinion was reflected. A list of the ten pairs of scale items is available from the authors.

**Analysis Plan.** For both samples, the central tendency of attitudinal scores computed from items differing in referent was compared by testing the significance of item mean differences (two-tailed test for correlated groups,  $p < .05$  for the probability of Type I error). Product-moment correlations among items of each type were computed for both samples and the resulting matrices were factor analyzed in order to determine the similarity in factor content of measures differing with regard to referent. Factors were extracted and rotated using the Alpha Method (18) and the programs available in the *Statistical Package for the Social Sciences* (19). The comparability of attitudinal profiles (ten attitudinal constructs) based on items having a general referent versus items having an individual referent was studied in both samples by computing product-moment correlations between profiles for each respondent for whom complete data were available (N = 432 for the area-wide sample and N = 520 for the family practice sample). Test-retest reliabilities for items in each of the ten pairs were obtained for a subgroup (N = 93) of the areawide sample by computing product-moment

correlations between ratings obtained approximately six weeks apart. Test-retest reliability was not studied in the family practice sample.

The validity of scores based on questionnaire items having general versus individual referent was studied by using both kinds of measures as multiple predictors in multiple regression analyses. A range of outcomes were treated as dependent variables, including self-reports of the following: a) number of doctor visits during the prior year, b) whether or not a physical was received during the prior year, c) whether or not a dental check-up was received during the prior year, d) whether or not a change in doctors occurred during the prior year because of dissatisfaction with care received, and e) a general rating of satisfaction with care received.

### Results

Product-moment correlations between general and individual referent items in each pair were high for both samples. These coefficients ranged from .512 to .724 for the areawide sample and from .316 to .721 for the family practice sample. Median coefficients were .566 and .647 for the areawide and family practice samples, respectively.

The matrix of correlations among general and individual referent items was factor analyzed independently for each sample. Using the criterion of eigenvalues greater than unity, six factors were rotated to orthogonal simple structure for the areawide sample and five factors were rotated for the family practice sample. Tabular presentations of the rotated solutions are available from the authors. As would be expected, given the high correlations between measures in each pair, items differing only with regard to referent were observed to have comparable factor content. Item pairs having to do with doctor conduct (reassurance, respect, thoroughness, explanations, and follow-up care) have highest loadings on the same factor (Factor I in both samples). These results are consistent with an earlier study (16). The pattern of loadings across factors for other pairs of items is also comparable in both samples. The individual and general referent items in four of the remaining five item pairs each form one factor. The factor structure for the two samples differs only with regard to the placement of the two items pertaining to access to care. The two access items appear along with items pertaining to doctor conduct in the family practice sample and form a sixth factor in the areawide sample. In both samples, it is clear that questionnaire items differing only with regard to item referent have highest loadings on the same factor and a comparable pattern of loadings on all factors.

Measures of ten concepts constructed so as to have a general referent had reliabilities ranging from .39 to .78 and a median reliability of .54. Measures of the same concepts constructed so as to have an individual referent had reliabilities ranging from .39 to .70 and a median of .64. Differences between reliabilities of measures of the same concepts differing in referent are not significant and no clear trends in the reliability data are apparent.

Items in each pair were compared in terms of means and standard deviations, computed indepen-

dently for each sample. The scoring of item pairs reflecting unfavorable attitudes was reversed so that a score of five represents the most favorable attitude. A tabular presentation of the resulting t-value (t-test for correlated groups), chance probability associated with each mean difference, means and standard deviations are available from the authors. Measures of attitude toward characteristics of one's own care tend to yield higher mean scores than measures of attitude toward the same characteristics of care received by people in general. For eight of the ten concepts studied, these differences were significant ( $p < .05$ ) in one or more samples. Eight of the mean differences in the family practice sample and six in the areawide sample were associated with chance probabilities of less than one in one thousand.

Mean ratings and the rank order of means for the ten concepts based on measures of general and individual attitudes were computed independently for each sample. Examination of these data indicates that an attitudinal profile based on ratings of characteristics of individuals' health care services is very similar in shape to a profile based on ratings of characteristics of services received by people in general. However, one of the profiles clearly tends to be elevated in both samples. The profile based on ratings of care received by others tends to be lower (more unfavorable attitudes toward care) than the profile based on respondents' ratings of their own care.

A profile of attitudes toward one's own care and a profile of attitudes toward care received by people in general based on the ten services characteristics was computed for each respondent. These profiles were compared for each respondent. Approximately 96 percent of the coefficients were positive in both samples. Correlations between profiles were significant ( $r > .60$ ,  $p < .05$ ) for 66 percent of the areawide sample and 67 percent of the family practice sample. The median inter-profile correlation coefficient was .70 for the family practice sample and slightly higher for the areawide sample. Thus, a high degree of relative correspondence was observed between attitudinal profiles based on ratings of respondent's own health care experiences and ratings of care received by people in general.

The multiple correlation (R) between measures of attitudes toward one's own care and five outcomes as well as measures of attitudes toward care received by people in general and the same five outcomes were compared for both samples (tabular presentations available from the authors). All R's are associated with chance probabilities of less than one in one hundred and no differences between item types (general versus individual referent) are apparent in either sample. In other words, items differing in referent appear equally valid in relation to the outcomes studied. It should also be noted that the same concepts tended to be most important (in terms of variance accounted for and order of entry into the regression) when predictions were based on the two kinds of items.

### Discussion

Important differences in conclusions about the distribution of attitudes toward doctors and medical care services are likely to result as a func-

tion of the referent used in constructing questionnaire items. Items stating opinions about characteristics of the respondents' own care are likely to yield an attitudinal profile that is significantly more favorable toward services than the profile computed from ratings of care received by people in general. However, measure of attitudinal concepts differing only in terms of referent (general versus individual) appear to be comparable with regard to factor content, test-retest reliability, and validity. Thus, if attitudinal measures constructed with a general referent are used to study changes in attitudes over time or differences in attitudes across types of health services or the relationship between attitudes and other health outcomes, it would seem that the same conclusions would be drawn as would be drawn if the studies were done using items having an individual referent. However, studies designed to estimate population levels for attitudes toward characteristics of doctors or health care services in a given population would not reach the same conclusions if descriptions were based on measures having a general referent as opposed to an individual referent. Generally speaking, it appears that questionnaires designed to measure attitudes toward personally used services will yield significantly more favorable population attitude scores than questionnaires designed to measure attitudes toward the services used by people in general.

Several explanations of this phenomenon are plausible. The results are consistent with predictions derived from balance theory in social psychology (20). In order to maintain cognitive consistency, a consumer of health care services will have more favorable attitudes toward services personally used than toward services used by others. Just as we would expect persons to more favorably evaluate their own family and friends than the family and friends of others, so also would we expect persons to evaluate the characteristics of their own health care system more favorably than the system of others. Another explanation is based on the effects of one or more response sets likely to bias questionnaire data. It may be more socially desirable to rate one's own care favorably than it is to give favorable ratings to the care received by people in general. It is also possible that people feel less confident in their ratings of characteristics of care received by people in general and, therefore, perceive items with a general referent as more vague resulting in a stronger acquiescence or opposition response set. One or more of these response sets could have the effect of lowering estimates of population attitudes toward health care services as observed in the current studies. Other explanations assume that the attitudinal differences are valid. Respondents may systematically rate other sources of care more unfavorably on the basis of their own negative experiences during the process of locating a source of care that is acceptable. This hypothesis, which is consistent with findings regarding changes in doctors due to dissatisfaction with care (17), is currently being tested by the authors. Also, consumers may generalize the "horror stories" they hear about care to the care received by people in general and not to their own care.

It appears that these results are generaliza-

ble. A partial replication of the current study methodology has been conducted using an areawide sample drawn from Los Angeles County, California. Conclusions regarding the effects of difference in item referent on central tendency of attitudinal measures and the absence of any differences in validity are further supported. A complete summary of the replication study is forthcoming (21).

Regardless of the reason(s) for the differences in the central tendency of questionnaire items differing in referent, it seems important that health services researchers keep the nature of the bias in mind and attempt to deal with it accordingly. Specifically, it would seem that alternate forms of attitudinal or satisfaction scales used in health care research should hold both trait measurement and referent constant. Also, it would seem that descriptions of population levels with regard to health care attitudes or satisfaction, in which single scale items or index scores are the unit of analysis, should be interpreted with the effects of item referent in mind.

It is interesting to note that attitudinal profiles and the rank order of attitudes toward characteristics of one's own health care services are comparable to measures of the same concepts rated for people in general. It appears that respondents from the populations studied tend to generalize their sources of satisfaction and dissatisfaction onto others, while reporting that care they receive is nevertheless, better than that received by people in general.

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