Age and Health Care Beliefs: Self-Efficacy as a Mediator of Low Desire for Control

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The relation between individuals' age, desire for control, information, and perceived self-efficacy was examined using a cross-sectional comparison of 116 noninstitutionalized adults, ages 20 to 99. We found that individuals over 60 years of age desired less health-related control than did younger adults, and preferred that health professionals make decisions for them. Differences in desire for health-related information were in the same direction but were not significant. Older adults also desired less control in general day-to-day living. Perceived self-efficacy was also lower for individuals over 60 years of age. Results suggested that perceived self-efficacy mediated the age differences in health-related desire for control. Mediation of general desire for control, however, was not strong. Cohort and developmental explanations are provided for these findings. It is suggested that those individuals most at risk for chronic illnesses and hospitalization are also those who are most likely to fail to take an active role in their health care.

Health is a major concern for the elderly, who—in comparison to younger adults—have an increased likelihood of hospitalization and longer hospital stays, and are more apt to suffer from a chronic disease (cf. Kovar, 1980). Despite these facts, age differences in reference to the health care system are either neglected or incompletely documented. Such information, however, remains a relevant precursor to designing effective interventions within this system for the elderly.

Control has been posited as an important construct relevant to health outcomes. Among the aged, increased control has yielded positive results including better health and a decrease in mortality (Langer & Rodin, 1976; Rodin & Langer, 1977). Yet limits to the value of this control may be important to consider, especially in relation to chronic illness (Wortman & Dunkel-Schetter, 1979). It may be that individuals respond differently to control. These individual differences—specifically, the relation between age and control—are the focus of our work.

Defining control as the ability to regulate or influence one's behavior or environment in a given situation, we are particularly interested in control over health care processes (Smith, Wallston, Wallston, Forsberg, & King, 1984). This focus on control over process must be distinguished from control over outcomes. We posit that the differential effectiveness of situational control interventions is related to persons' desire for control (which is influenced by one's perception of self-efficacy), although there is little research on this relational perspective (Smith et al., 1984; Wallston et al., in press).

Aging may influence desire for control, generally, and control over health care processes, specifically. Rodin (1982) has identified the importance of studying control developmentally. Noting the relation between perceived control and maturational and environmental changes that commonly occur in individuals as they age, she suggests that control and efficacy expectations may change as an individual ages. This would seem to be particularly likely within the realm of health care, due to the elderly adult's increased dependence on the health care system and also due to the changes that have occurred within this system. These changes include, but are not limited to, patient-health-provider communication (Ley, 1982), as well as other aspects of patient preparation and education (Johnson, Rice, Fuller, & Endress, 1978).

Three studies suggest lower desire for control over health care among the elderly when compared to younger adults. Haug (1979) found persons 60 years of age and over to be more likely to accept physicians' decisions and less likely to challenge their authority. Similarly, older cancer patients were found to prefer a nonparticipatory patient role, asking fewer medical questions (Cassileth, Zupkis, Sutton-Smith, & March, 1980). Smith, Woodward, Wallston, and Rye (1985) reported that individuals over 60 years of age have lower desire for control over health care than do younger adults.

Each of these studies was cross-sectional; thus, a cohort or environmental effect rather than the aging process itself may have been responsible for the findings. In fact, calls for increased control over health care and emphases on patients' rights have been fairly recent (Langer, 1983). Elderly persons grew up in an era where the omnipotence of doctors was less likely to be challenged. Thus, older adults today may have more difficulty...
than do younger adults when it comes to questioning or asserting themselves within the health care system, due to their past experiences in this realm.

In addition, developmental and social changes associated with aging may be important contributors to the lower desire for control over health care seen in the elderly. Differences in performance on cognitive tasks (e.g., slower reaction times; Cella, 1985) and social pressure demanding role change usually in a more passive direction (e.g., retirement) may cause these older adults to withdraw from active, control-seeking situations (Schultz, 1982). Lower desire for control may be seen as a symptom of withdrawal. Saltihouse (1982) concluded that older adults compared to young adults differ in a number of ways that contribute to difficulties in decision making and problem solving, although the mechanisms underlying the differences are unclear. Such difficulties coupled with impaired comprehension processes (Saltihouse, 1982) could lead to lower desire for control, when control is operationally defined as the desire for information and choice.

Bandura's (1982) discussion of perceived self-efficacy provides a framework for considering the issue of withdrawal. Self-efficacy perception entails "judgments of how well one can execute courses of action required to deal with prospective situations" (p. 122). Activities that exceed perceived coping capabilities are avoided. It may be that older adults perceive themselves as having less self-efficacy than do younger adults and therefore desire less control over their lives. Indeed, Rodin (1982) suggested that old age may be a "period of efficacy reappraisal and perhaps misappraisal!" (p. 4). Thus, perceived differences in self-efficacy may mediate age differences in desire for control.

If lower desire for control over health care can be attributed to a cohort effect limited to the health care situation, one would not expect age differences in general desire for control. Although Smith et al. (1985) found no age differences in desire for control related to day-to-day living, they attributed this unexpected finding to the high socioeconomic status (SES) of their sample, inasmuch as sense of control is related to SES (e.g., Lefcourt, 1982).

This study is, in part, a replication of Smith et al.'s (1985) study. The relation between age and desire for control is examined using a more representative sample (wider range SES) to test the generality of Smith et al.'s (1985) findings. Of equal focus, however, is our examination of self-efficacy as a mediator of desire for control, an issue that was not investigated by Smith et al. (1985).

Method

Participants

Participants were 116 adults from 20 to 99 years of age. Forty-eight were recruited from a senior citizen's center in a large southeastern city (population approximately 500,000). Sixty-eight were recruited from an administrative branch of business responsible for operations and maintenance in a university located in the same city. The oldest group (adults over the age of 60) were less well educated, χ²(10, N = 116) = 35.86, p = .01, and included more women, χ²(2, N = 116) = 15.20, p = .002, than did the other age groups (20-39 years, 40-59 years). A high school degree was modal for the latter, whereas older adults were more likely to have attended but not graduated from high school. More than one half of both of the younger groups had a high school degree. The education of the older sample was more variable, with more college graduates than in the other two groups (24.5% vs. 10.7% and 3%), but also more persons who had not graduated from high school (38.8% vs. 10.7% and 15.2%).

Although this study attempted to utilize a more representative sample, women composed one third of the 20-39-year-olds, and less than 20% of the 40-59-year-olds, and almost 60% of the over-60 sample. This underrepresentation of women in the younger age groups might be explained by the recruitment site, which employed more men than women, or simply by sex differences in employment rates. The majority of older adults were recruited from a senior citizens center and were of retirement age, therefore eliminating the issue of employment differences between the sexes. Additionally, women are overrepresented among the aged.

Procedure

Potential participants from both sites were recruited in group settings (e.g., lunch hour, during or following meetings), when they were introduced to the purposes and procedures involved in the study. Their decision to participate, it was explained, required them to complete a questionnaire survey concerning their desires, expectancies, beliefs, and experiences in general day-to-day situations and in health care situations. This survey included a series of self-report measures, as well as demographic and general background information. Self-report measures were presented in varying order within questionnaire packets. Surveys were left at the end of the recruitment sessions for participants to complete at home or on site. The need to complete the questionnaires honestly and without the assistance of others was emphasized during the recruitment sessions. Participants were instructed to return their surveys to a collection envelope on the work site, which was relatively unattended.

Control Measures

Desire for Control of Health Care scale. Smith et al.'s (1984) Desire for Control of Health Care (DCON) scale was used as a measure of desire for control of health care. The DCON scale was developed as a situation-specific measure of desire for control of health care and purported to measure how much control of health care an individual desires in a specified health care setting. Smith et al. (1984) reported adequate internal consistency ranging from .74 to .81. They also suggested that the overlapping of the DCON scale and the Krantz Information scale (KI; Krantz, Baum, & Wideman, 1980; r = .47, .51, and .62, in three studies) provides some evidence of concurrent validity, inasmuch as both are measures of desire for medical involvement. The DCON scale consists of seven items and was answered using a 6-point Likert format ranging from strongly disagree (1) to strongly agree (6). For the purpose of this study, the DCON scale was not used as a situation-specific measure. That is, subjects were asked to respond to items with reference to what they desired overall as "patients in a medical situation" rather than in specific illness situations (e.g., while receiving chemotherapy). Responses to the DCON items were summed to yield a score with a possible range of 7-42. Adequate internal consistency (α = .76) was found for this measure.

Desire for Information in Health care situations. The subscale measuring desire for information about health care, taken from the Krantz Health Opinion Survey (KHOS; Krantz et al., 1980), was used as a measure of individual preference for health-related information. The KI scale has been found to have an acceptable level of internal consistency (.76) and test–retest reliability (.59; Krantz et al., 1980). It is also relatively independent of other scales (unidimensional health locus of con-
trol, repression-sensitization, social desirability, and hypochondriasis; 
Krantz et al., 1980) and is a valid discriminator of groups who differ on 
control-taking with respect to their health care (Smith et al., 1984). 
Thus, empirically, KI appears to measure desire for control. Theoretically, 
information provides a form of cognitive control (Averill, 1973).

For the purposes of this research, the KI items were responded to using 
a 6-point Likert format (with responses to each item ranging from 
strongly disagree (1) to strongly agree (6)), following Smith et al.’s (1984) 
format, rather than the dichotomous response option suggested by the 
developers of the scale. Responses to the KI items were summed to yield 
a KI score having a possible range of 7–42. Adequate internal consist-
cy for the measure in this study was also found ($\alpha = .76$).

General Desire for Control scale. The General Desire for Control 
scale (GDC; Burger & Cooper, 1979) was used as a unidimensional mea-
sure of control motivation in general settings or situations. The scale 
consists of 20 items answered using a 7-point Likert format (responses 
from The statement doesn’t apply to me at all to The statement 
always applies to me). Adequate levels of internal consistency ($\alpha = .80$) 
and stability ($r = .75$) have been demonstrated (Burger & Cooper, 1979).
The GDC is relatively independent of other measures (e.g., locus of con-
tral, $r = .19$; and social desirability, $r = .11$), and validity has been 
shown in several studies (e.g., Burger, 1984, 1985; Burger, Oakman, & 
Bullard, 1983). For example, desire for control predicts gambling be-
avior, level of aspiration, performance expectancy, effort and persis-
tance at a difficult task, and learned helplessness. “Persons high in desire 
for control are said to prefer making their own decisions, taking action 
to avoid a potential loss of control, and assuming leadership roles in 
group settings” (Burger, 1985, p. 1520). For the purposes of this study, 
two GDC items referring to driving and automobiles were excluded be-
cause of their potential bias toward higher SES and possibly younger 
adult subjects (where responses would be influenced by car ownership 
and not necessarily desire for control). The remaining 18 GDC items 
were responded to using a 6-point Likert format (with responses to each 
item ranging from strongly disagree (1) to strongly agree (6)). Responses 
to the 18 GDC items were summed to yield a GDC score having a possi-
ble range of 18–108. An acceptable level of internal consistency was 
found for this study ($\alpha = .78$).

Self-Efficacy Measures

All self-efficacy items were introduced as situations that might be ex-
perienced (in general day-to-day living or as patients in health care set-
tings). Given a situation (or item), subjects were asked to indicate 
whether the situation was true for them. Those respondents who indi-
cated that the situation was true for them (that they wanted to partici-
pate in specific control-taking activities) were asked to rate the confi-
dence they would have in their ability to handle the situation. Those 
respondents who indicated that the situation was not true for them (that 
they did not want to participate in specific control-taking activities) 
were asked to rate the confidence they would have in their ability to 
handle the situation if they had to do so. Responses were made on a 10-
point scale similar to that of Bandura (personal communication, June 
29, 1982), with quite uncertain (0) and certain (100). Because all self-
efficacy measures were designed for the purposes of this study, pilot 
data were obtained prior to actual data collection. This involved adminis-
tration of the scales to 10 individuals (of wide range in SES) in order 
to determine ease of administration and general comprehension of the 
items.

Self-efficacy with respect to desire for control in health. This 5-item 
health care self-efficacy scale (HSE) was designed to parallel those five 
items of Smith et al.’s (1984) DCON scales that directly implied prefer-
ence for control over health care (e.g., “When you need medical care, 
you want to be able to influence the kind of care you get”). In order to 
assess self-efficacy, respondents were asked to indicate, on a 10-point 
scale, their level of self-confidence with respect to each situation or state-
ment (e.g., “How confident are you that your influence would help you 
to get the best care?”). The sum of the items were calculated to yield a 
score with a range of 5–50. Internal consistency was found to be ade-
quate ($\alpha = .90$).

Self-efficacy with respect to desire for health-related information. This 
health care self-efficacy scale, self-efficacy with respect to desire for 
health-related information (KI-SE), consisted of three items and was 
designed to parallel those three items of the Krantz et al.’s (1980) KI 
subscale that directly implied preference for information in health care 
(e.g., “Before any medical procedures are done to you, you want to 
know what they will do to you”). In order to assess self-efficacy, respon-
dents were asked to indicate, on a 10-point scale, their level of self-
confidence with respect to each situation or statement (e.g., “How confident 
are you that you would be able to understand this information?”). The 
sum of the items were calculated to yield scores with a possible range 
of 3–30. An adequate level of internal consistency was found ($\alpha = .79$).

General self-efficacy. The daily living self-efficacy scale (GSE) was 
used as a generalized measure of self-efficacy. The 13 items were based 
on those 13 items of the version of Burger and Cooper’s (1979) desirabil-
ity of control scale used in this study, that directly implied preference 
for control (e.g., “In general you avoid situations where someone tells 
you what to do”). In order to assess self-efficacy, respondents were asked 
to indicate, on a 10-point scale, their level of self-confidence with re-
spect to each situation or statement (e.g., “How confident are you in 
your ability to know what to do on your own?”). The sum of the items 
were calculated to yield scores with a possible range of 13–130. The 
scale was found to have adequate internal consistency ($\alpha = .78$).

Results

 Analyses of variance (ANOVAs) were run with Sex × Age 
Group (20–39, 40–59, and 60 and over; cf. Cassileth et al., 1980; 
Smith et al., 1984) as the independent variables and desire 
for control and self-efficacy measures as the dependent variables. 
No main effect for sex, or significant interactions with sex, were 
found. Therefore, further analyses were done using only the age 
group variable.

Because the groups differed in education, one-way analyses of 
covariance (ANCOVAs) by age groups were run, with educa-
tion as the covariate for all dependent measures. Education was 
not a significant covariate for any of the self-efficacy or desire-
for-control dependent measures.

A significant main effect for age group was found for all of the 
self-efficacy measures (HSE, KI-SE, GSE), as well as for general 
desire for control (GDC). Means for DCON and KI were in the 
hypothesized direction, but were not significant. See Table 1 for 
means and $F$ values.

Because it was hypothesized that individuals over 60 years of 
age would differ from younger adults on the dependent vari-
ables, planned comparisons were run to compare the means 
of Group 1 (20–39 years old) and Group 2 (40–59 years old) with 
the mean of Group 3 (60+ years old). See Table 1 for means 
and $t$ values. All of the effects were significant except for KI, in 
which the means were in the hypothesized direction ($p = .056$).

To test the extent to which age differences in desire for control 
are mediated by self-efficacy expectations, ANCOVAs were run

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The breakdown at age 60 and older was used to parallel previous 
research. There were not sufficient subjects to further break down the 
sample into 20-year groupings.
Table 1
Mean Desire and Self-Efficacy Expectation by Age

<table>
<thead>
<tr>
<th>Age grouping (in years)</th>
<th>Dependent variable</th>
<th>20-39 (n = 29)</th>
<th>40-59 (n = 32)</th>
<th>60+ (n = 48)</th>
<th>F</th>
<th>p</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire for control</td>
<td>DCON</td>
<td>34.28</td>
<td>34.31</td>
<td>30.37</td>
<td>2.40</td>
<td>.10</td>
<td>2.19</td>
<td>.03</td>
</tr>
<tr>
<td></td>
<td>KI</td>
<td>25.48</td>
<td>23.94</td>
<td>21.10</td>
<td>2.02</td>
<td>.14</td>
<td>1.93</td>
<td>.056</td>
</tr>
<tr>
<td></td>
<td>GDC</td>
<td>81.59</td>
<td>83.19</td>
<td>67.65</td>
<td>8.53</td>
<td>.0001</td>
<td>3.88</td>
<td>.001</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>HSE</td>
<td>36.72</td>
<td>37.82</td>
<td>31.63</td>
<td>3.61</td>
<td>.03</td>
<td>2.59</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>KI-SE</td>
<td>21.93</td>
<td>21.81</td>
<td>16.96</td>
<td>5.66</td>
<td>.005</td>
<td>3.37</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>GSE</td>
<td>101.69</td>
<td>107.69</td>
<td>89.59</td>
<td>5.29</td>
<td>.006</td>
<td>2.97</td>
<td>.004</td>
</tr>
</tbody>
</table>

Note. F scores were derived from one-way analyses of variance. The t scores are based on results from planned analyses on the same data. Post hoc analyses were performed on those measures with a significant main effect for age. Within a row, means with a subscript in common do not differ significantly at the .05 level, using the Newman-Keuls procedure. For F and t, df = 2, 109 and 1, 109, respectively. DCON = Desire for Control of Health Care scale; KI = Kranz Information scale; GDC = General Desire for Control scale; HSE = health care self-efficacy scale; KI-SE = self-efficacy with respect to desire for health-related information; GSE = General Self-Efficacy scale.

Discussion

Findings suggest that individuals over 60 years of age desire less health-related control than do younger adults. Although the results of this study do not allow the same confidence in this conclusion for desire for health-related information, a trend suggestive of this was found. These findings were consistent with those reported by Smith et al. (1985), as well as by Cassileth et al. (1980) and Haug (1979).

In contrast to Smith et al.'s (1985) findings, results suggest that desire for control in general day-to-day living is also lower for individuals over 60 years of age than for younger adults. This might be attributed to the nature of the samples used in each study. The present study intentionally sampled a more heterogeneous SES group than did the Smith et al. (1984) study, which examined a relatively high SES sample. It has been suggested that a relation exists between SES and sense of control (e.g., Lefcourt, 1982). The present finding then is consistent with Lefcourt's hypothesis. In the case of Smith et al. (1985), it may be that high-SES elderly continue to desire control in general day-to-day living because of their economic stability and the opportunities it affords them. However, it may be that the increasing prevalence of disease in the elderly (Goldstein & Reicbel, 1978) and their subsequent dependence on the medical system, irrespective of SES, is responsible for less variability in desire for control of health care among older adults.

Perceived self-efficacy related to health and general day-to-day living, like desire for control, was found to be lower for individuals over 60 years of age. That is, elderly adults reported being less confident than were younger adults in their ability to handle health care decisions and information as well as general day-to-day living situations.

Table 2
Analyses of Variance and Covariance for Two Age Groups

<table>
<thead>
<tr>
<th>Measure</th>
<th>F for age</th>
<th>p</th>
<th>Covariate F</th>
<th>p</th>
<th>Age F with covariate</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCON</td>
<td>4.84</td>
<td>.03</td>
<td>72.98</td>
<td>.0001</td>
<td>0.52</td>
<td>ns</td>
</tr>
<tr>
<td>KI</td>
<td>3.68</td>
<td>.06</td>
<td>30.02</td>
<td>.0001</td>
<td>0.21</td>
<td>ns</td>
</tr>
<tr>
<td>GDC</td>
<td>17.08</td>
<td>.0001</td>
<td>37.22</td>
<td>.0001</td>
<td>8.63</td>
<td>.004</td>
</tr>
</tbody>
</table>

Note. df = 1, 108 for analyses of variance and 1, 107 for analyses of covariance. DCON = Desire for Control of Health Care scale; KI = Kranz Information scale; GDC = General Desire for Control scale.
AGE AND HEALTH CARE BELIEFS

It appears that in health care, individuals' desire for control is related to their level of self-confidence in that area. However, perceived self-efficacy in general day-to-day living was not found to be sufficient to explain the age differences in general desire for control. This finding suggests that factors beyond self-efficacy play a role in understanding desire for control in general day-to-day living. A possible explanation for this may be that GDC taps a broader construct, of which a greater number of resources and preferences are available or unavailable to influence it. Thus, not only perceived self-efficacy, but other changes associated with aging, may contribute to the lower general desire for control found in the elderly. For example, GDC taps job-related control. Given that many of the elderly are retired, perceived self-efficacy may not influence their responses to job-related questions as much as experienced role changes. Therefore, responses indicating a low desire for control may be derived from such thinking as, "Why would I want a job that gives me a lot of control? I'm retired." On the other hand, decisions related to health care and health information are most often based on concrete, factual knowledge. This restricted domain may lend itself to individuals' conscious evaluations of their own capabilities and competencies.

These results suggest that there are differences in the way in which self-efficacy mediates desire for control in general and specific (in this case, health care) situations. This probably reflects the complexity and differences between variables at the two levels. Nonetheless, further investigation is necessary before one can draw definite conclusions as to whether it is specificity that accounts for these differences, or if they are unique to health care. Lachman (1986) argued that domain-specific conceptions of control are important for aging research using data on health and intelligence locus of control.

The fact that the mediation occurs for health care and not for the general scale argues against response bias as an alternative explanation of the findings. In both cases, the self-efficacy measures parallel the desire for control measures. If one believes that the elderly have more difficulty with decision making and experience decrements in some cognitive capacities (Salzhouse, 1982), the reported findings should not be surprising. In addition, the complexity of the medical system to the layperson and his or her potential for making "mistakes" when responding in this system might suggest that the elderly would deem themselves less competent than would younger adults. The potential for these mistakes to be costly (primarily in a physical sense) could lead individuals with low perceived self-efficacy to want to give up control to others whom they perceive to be more competent. Because illness is likely to be more of an issue for adults over 60 years of age (Lowenstein & Schrier, 1982; Siegel, 1980), the realization of the potential consequences of making mistakes may be far greater for the healthy elderly than for healthy younger adults. Therefore, elderly adults may desire little control in medical situations and may lack confidence in their abilities to handle these situations when they arise.

Like Smith et al.'s (1985) findings, the results of this study are limited in that only a longitudinal study could help one determine if the findings might be attributed to a developmental effect rather than to a cohort effect, because age at time of testing is completely confounded with generation of the subjects (Nunnally, 1973). In particular, rapid changes over relatively short periods of time occur in the health care system. When attempting to specify the causes of apparent changes with age, one needs to consider specific changes in health care that provide an alternative explanation of the findings. In addition, our age groupings place limitations on the interpretations one can make. More research capable of testing age differences within the 65 and over group is clearly needed. Although sex was unrelated to the cognitive measure in this study, more representative samples of sex would be in order in future work.

Nonetheless, the implications of these findings appear to be substantial in terms of current older persons using the health care system. This is particularly true given Bandura's (1982) suggestion that low perceived self-efficacy may be detrimental to effective coping. He stated that "when beset with difficulties people who entertain serious doubts about their capabilities slacken their efforts or give up altogether, whereas those who have a strong sense of efficacy exert greater effort to master the challenges (p. 123). Generalizing from this statement to the findings of the present study, it seems that those individuals more at risk in the health care system (those over 60 years of age) are also more likely to perceive themselves as less competent or capable than others and thus may be more likely to "give up" in terms of their health care (as well as in general day-to-day living situations). This is not to say that desiring less control in the health care system is always detrimental to an individual. For example, it may be advantageous for an individual to let the physician make certain health care decisions. Prior to seeking medical advice, however, low perceived self-efficacy and/or a low desire for control may result in neglect of symptoms and/or failure to take the necessary preventative or precautionary health actions (e.g., seeking medical attention). This, in and of itself, is costly neglect that at times could lead to premature death, unnecessary pain, and great financial burdens for individuals and society alike. The contributions to be made by future research in exploring the limitations of control and the impact of self-efficacy on health behavior could be instrumental in enhancing positive health among the elderly. This exploration should prove to be an exciting one for researchers in health psychology, as well as a profitable one for a society that by the year 2030 is expected to have approximately 50 million people aged 65 and over (Butler, 1980).

References


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