

Gender-Specific Predictors of Self-Rated Health in the Elderly: A Prospective Study

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Abstract

As individuals approach the age of 60, concerns about health and the potential for impairment become increasingly prevalent among the elderly. Longitudinal studies conducted in both Western and Eastern contexts have shown that self-rated health (SRH) serves as a cognitive marker of longevity. Self-efficacy regarding health has been identified as a moderating factor that influences both physical and emotional well-being. This study collected SRH data over a three-year period from three cohort groups (ages 50-59, 60-69, and 70-79). A sample of 480 elderly men and women from different social categories (Scheduled Castes, Scheduled Tribes, and General/Open category) was selected, with participants from rural areas of the Chittoor, Kadapa, and Nellore districts. The sample was divided into three age groups: 50-59 (N = 160), 60-69 (N = 160), and 70-79 (N = 160). Participants were selected using a multistage random sampling method. Over the three-year study, personality traits, stress levels, physical and mental activity, health behavior motivation, and health behavior practices were found to significantly predict SRH among the 480 middle-aged and elderly individuals. The study discusses the implications for healthcare, with a focus on enhancing health outcomes in this population.

Keywords: Self-Rated Health, Elderly, Objective Health, Prospective Study and Personality.

Introduction

When assessing an aged person's health, one crucial psychological factor to consider is their self-rating of health. Several future health outcomes, including mortality (Benyami & Idler, 1999), new morbidity (Boswirth & Schaie, 1997), functional ability (Idler & Kasl, 1995), hospitalization and health care utilization, recovery from illness, and future physical ratings of health (Maddox & Doughlass, 1973), have been linked to self-perception of health (SAH) and have attracted interest.

A greater dependency on support and health-related services is related to aging. Physical, psychological, and social health issues are commonly associated with aging in a complicated and interconnected manner. Globally, 11% of people were 60 years of aged in 2007; by 2050, this percentage is expected to rise to 22%. The physical aspects of aging are the focus of most public policy discussions, whereas social elements like social support are frequently ignored. With fewer social resources and less sufficient social support, older adults experience significant losses in terms of frequency of contact and subjectively perceived support.

Additionally, physical activity (PA) is essential for sustaining mobility and health as people age. Research on the health advantages of PA is stronger for persons 65 and older than for any other age group due to the more dire implications of inactivity in this demographic. Additionally, older adults with high social support networks may find it easier to reach the necessary PA than older adults with weaker social support networks, which would preserve their physical and mental well-being (Bohm, Mielke, & da Cruz, 2015). Evaluating the correlations of elderly people's subjective self-rated health is one of the study's objectives.

There are numerous approaches to understand and assess health. Respondents are frequently asked to provide a general assessment of their personal health in health surveys and questionnaires. Self-ratings of health may include feelings of psychological well-being in addition to physical health, which is one way that they differ from medical ratings of health. There are few studies that report SRH in the general population. In contrast to SRH, certain indications offer concrete proof of an individual's health state, such as conditions that have been identified by doctors in the past and present as well as clinical parameters that are measured in a hospital. They have been referred to as "objective" or "actual" health. A number of health-related variables, including work strain, life habits, health history, and demographics, are strongly correlated with one's actual state of health (Jozefien, Heejung & Batja, 2015). In order to achieve this, an attempt has been made to investigate the contributions of psychological variables viz., Personality, stress, physical and mental activities, social supports, health behaviour practices, trait anger, state anger, and anger control to self-rated health. These variables have all been included in the study and have been put through multiple regression analysis in time1, time2, and time 3.

Objectives:

1. To examine the prediction of psychological variables viz., personality, social supports, health behavior motivation, health behavior practices and physical and mental activities to self-rated health among elderly men and women belonging different social classes, prospectively.

Method

1. Participants for the study:

A sample of 480 elder men and women who lived in communities and belonged to various social classes (schedule class, schedule tribe, and general open category - non-SC & ST groupings) were selected from the following age categories: 50–59 (N = 160), 60–69 (N = 160), and 70–79 (N = 160). The study employed a multistage random sampling technique to select participants from rural areas in the districts of Chittoor, Kadapa, and Nellore. The sample was taken from subgroups of several socioeconomic classes (scheduled classes, schedule tribe, and general open category groupings), based on age, gender, and education (with or without). The sample consisted of elder men and women from various social classes who reside in communities and can communicate and maintain their cognitive abilities. Three distinct time periods were used to evaluate the sample prospectively (repeatedly): Time-I (1st year), Time-II (2nd year), and Time-III (3rd year). When recruiting new participants for a prospective study such as this, sample attrition due to mortality in the late adult years is a common problem.

2. Measures used in the Study

An attempt has been made to choose appropriate measures in order to gather relevant data in accordance with the goals. These instruments, which were chosen for the current study, underwent new testing to ensure that they were still relevant. All of the resources were translated into the local language of Telugu and tested on a small group of people. Validity and reliability analyses were performed on every instrument that would be utilized in this investigation. The following are descriptions of the finalized details: a) Personal Data Form (PDF), (b) Life Events Scale (Jamuna and Ramamurti 1999), (c) Spielberger's State-Trait Anger Expression Inventory (Spielberger et al., 1985) (d) Measure of Perception of Social Supports Inventory (Jamuna and Ramamurti 1991) (e) Self-Rated Health (Jamuna, 2014). (f) Measure of Health Behaviour ((Ramamurti, 1996).

3. Statistical Analysis:

Multivariate statistical techniques were used to analyze prediction of independent variables to dependent variable self-rated health, as per the objectives of the study.

Results and Discussion

The results pertaining to multiple regression analysis are presented in (table-1). An attempt has been made to examine the prediction of personality, stress, self-regulation, social support, health behavior practices, health behavior motivation and physical and mental activity to self-rated health to realize specific objective of the study.

Table-1: MRA of Independent Variables to the Dependent Variable, Self-Rated Health (Subjective) among Elderly Men and Women among Different Social Classes in Time I

Sl. No	Variables included	R ²	Increase in R ²	F value
1.	Objective Health	.284	.284	187.88*
2.	Health Behavior Motivation	.315	.031	108.66*
3.	Self-Regulation	.333	.018	78.40*
4.	Anger Control	.349	.016	63.022*
5.	Family Supports	.364	.015	53.63*
6.	Anxiety In	.372	.008	46.22*
7.	Health Practices	.380	.008	40.55*
8.	Social Supports	.378	.003	47.35*
9.	Physical and Mental Activity	.386	.008	41.96*
*p<0.01				

The prediction of independent variables to the outcome variable, self-rated health among elderly in table 1 Indicates that out of 11 variables 9 variables were significant in regression equation and together accounted for 38.6 percent of variance ($R^2=.386$) in the dependent variable self-rated health among elderly. The variables entered were objective health (objective) with 28.4 percent, health behavior motivation with an additional variance of 3.1 percent, self-regulation with 1.8 percent, anger control with 1.6 percent, family supports with .284 percent, anger in with less than 1 percent, health behavior practices with less than 1 percent (0.8 percent) and physical and mental activity with an additional variance of 0.8 percent to the total variance in self-rated health among elderly men and women. From the results table 1, it can be concluded that objective health is the most significant determinant of self-rated health (subjective) followed by health behavior, motivation, self-regulation, anger control, social supports, anger in, health behavior practices, and physical and mental activity.

Table 2: MRA of Independent Variables to Dependent Variables Self Rated Health (Subjective) among Elderly Men and Women with Different Social Classes in Time 2

S.No.	Variables Included	R ²	Increased in R ²	F
1.	Social Support	.146	.146	81.47*
2.	Anger In	.229	.083	70.67*
3.	Physical and Mental Activity	.266	.037	57.44*

4.	Anger Out	.288	.022	47.95*
5.	State Anger	.295	.007	39.64*
6.	Anger Control	.362	.007	34.11*
*p<0.01				

Results reported in Table 2 on MRA of independent variables to outcome variable among elderly in Time 2 indicate that among independent variables included to predict the outcome variable self-rated health (subjective), a set of independent variables entered in the regression equation were personality, self-regulation, state anger, trait anger, anger control, anger out, anger in, social supports, health behavior practices, health behavior motivation and physical and mental activity. It is noteworthy that out of 11 variables, only 6 variables entered in regression equation with a total contribution of 30.2% in the total variance in the dependent variable, social support contributed 14.6% of variance, anger in with 8.3%, physical and mental activities with 3.7%, anger out with 2.2%, state anger with 0.7% and anger control with additional contribution of 0.7% variance. The aforementioned MRA indicates that the role of social support, anger in and physical and mental activities, state anger and anger control significantly determine one's SRH (subjective) among elderly.

Table 3: MRA of Independent Variables to Dependent Variable Self Rated Health (Subjective) among Elderly Men and Women from Different Social Classes in Time 3

S.N o.	Variables Included	R ²	Increased in R ²	F
1.	Social supports	.150	.150	81.379*
2.	State – anger	.202	.051	60.165*
3.	Self-regulation behaviour	.221	.019	44.896*
*p<0.01				

Table 3 provides the contribution of independent variables to outcome variable self-rated health (subjective) among elderly men and women from different social classes in Time 3. A set of variables entered in the regression equation were personality (trait anger, state anger, anger control, anger out, and anger in), self-regulation behavior, stress, social supports, health behavior-practices, health behavior-motivation and physical and mental activity. It is noteworthy that out of 11 variables, only three variables entered the regression equation with a total contribution of 22.1% of variance in the dependent variable self-rated health. Of which the variable social supports contributed 15% of variance, state anger (personality) with an

additional contribution of 5.1% and self-regulation behavior with an additional contribution of 1.9% entered the equation as the last variable to dependent variable, self-rated health. The aforementioned MRA indicates that the self-rated health is determined significantly by social supports, state anger and self-regulation among elderly men and women from different social classes.

The MRA results highlighted that objective health, motivation to keep health & fitness, self-regulation behavior, control of anger & anxiety, good health practices, family supports, social supports were found to be determinants of SRH in the elderly men and women. It is obvious that objective health consumes a major chunk of variance, good motivation, regulation of one's health habits and certainly determine one's perception towards health.

Similarly, the same elderly men and women, in Time 2 (Table 2) when they advance in age i.e., in Time 2 social supports, anger in, physical and mental activity, state anger, anger control were found to be significant predictors of self-rated health. These results also suggest that the social supports do influence perception of health followed by anger control, physical & mental activity of an individual do play a significant role in determining one's perception towards health i.e., one's self perception of health.

In Time3 (Table 3) only social supports, state anger, self-regulation behavior was seemed to be significant predictors among many psychological variables. To conclude, the variables such as social supports, state anger and self-regulation behavior with advancing age were found to be critical in determining the self-perception of health. It is reported that objective health, personality, self-regulation, social supports, health behavior-practices, health behavior-motivation, physical and mental activity significantly determine self-rated health (subjective). Over the decades, continuous debate is going on how to develop positive perception towards health in the elderly. Several factors are suspected to affect self-rated health. These factors could be personal or individual related factors. Functional status and self-rated health are two important indicators of health in old age. They are also important elements of quality of life and are widely used indicators to calculate healthy life expectancy or disability-free life expectancy. Self-rated health describes how a person perceives his or her own health and is an indicator of well-being (Hoeymans et al. 1997).

Hays et al. (1996) reported that among the elderly, poorer self-rated health correlated with depressive symptomatology, poor functional status, and comorbidity, as well as some socioeconomic factors. Self-rated health was an important factor associated with muscle strength among different age groups. Poor self-rated health has been reported to be associated with being more dependent in daily life activities (Ebly et al. 1996), and it may also worsen the quality of life. There have been many studies that have evaluated self-rated health among the Japanese elderly (Ai and Hoshi 2005). However, few have studied younger (middle-aged) generations. The results of the present study are in line with these trends. To improve and maintain self-rated health among community residents, it is important to clarify the health-related factors that could affect self-rated health depending on age, which leads to establish public health strategies for each age group.

Older adults' health is related to their ability to adapt to and compensate for their disabilities.

Their health experience has been described in terms of autonomy, togetherness, security and peace of mind. In several longitudinal studies, self-rated health has been found to be a good predictor for survival and for future health-even better than a physician's assessment. Self-rated health also corresponds closely with general hospital care, old people's home care and physician visits of people aged 65 or over. The subjective well-being of elderly people is related most strongly to perceived health, which in turn is strongly influenced by objective health assessments (Mitrushina & Satz, 1991).

José (2010) disclosed that SRH is determined by a large array of factors, such as chronic disease conditions, genetic markers, stress factors, and health behaviors. Joana, Angerika and Penka (2015) stated that social factors (education, financial resources and monthly income have direct effect on SRH and these social factors influence the relationships of psychological stress and some behavioural factors to SRH. Borg and cristensen (2000) described that lower the social class, the higher the proportion with deterioration of SRH, Which is contradicted with presented study. The results of the study are in agreement with the findings of some studies carried out. Number of studies reported that a social gradient with regard to SRH and changes in SRH over time. The associations between social class and SRH remained statistically significant due to work environment and life style factors. According to Anatharaman (1981) older people, SRH was predicted by highly with social participation activity and personal attitudes, which is similar to present study findings. There is consistent prediction between personality factors and self-perceived health. Evidence suggests that personality characteristics such as hostility (anger in and anger out) operate through risky behaviors are predicted with health perception. The present study results correlated with the above study. Also it was found that social supports were significantly predicted with SRH. Mossey and Shapiro (1982) declared self-regulation could contribute to positive perception towards health. It was reported that Health behaviors, physical and mental activity affected positively the Self Rated Health in elderly. Loeb (2004) suggested that promoting self-motivation might increase older men's perceptions of health and well-being.

Conclusion

Finding of the present suggests that these three variables viz., social supports, state anger and self-regulation behavior are to be manipulated in health intervention strategies to inculcate positive perception towards health and overcome apprehension of negative thoughts towards health. Since SRH seems to be a critical factor in health and has survival value the outcome of the study would certainly provide certain inputs to promote healthy and active aging. Thus, SRH can serve as a global measure of health status not only in elderly population but also in younger population.

Declaration of competing interest

The author declares that there is no conflict of interest.

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