

Generativity Among Elderly in a Rural Area of Maharashtra, India: Correlates and Relationship With Quality of Life Approved

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Abstract

Generativity, “a concern for others and a need to contribute something to the next generation,” is a dimension of successful aging in and of itself, but also predicts other positive health outcomes. We examine its manifestations and correlates among elderly in rural India and assess the association between generativity and quality of life (QoL). Three hundred and forty-eight rural Indian elderly completed an interviewer-assisted questionnaire assessing generativity, QoL, and other personal and familial factors. Regression models were used to examine potential correlates of generativity and the relationship between generativity and QoL. Higher education, inheritance income, more living children, and a son/daughter living in the home predicted higher levels of generativity. Higher levels of generativity were associated with higher QoL. There are both personal and familial correlates of generativity, and family relationships are important for generative development. Family-oriented interventions to increase generativity among elderly Indians could improve QoL.

Keywords

generativity, elderly, quality of life, gender, India

Introduction

With increasing acknowledgement of the importance of psychosocial factors in successful aging, previously overlooked psychosocial domains are now being considered. Generativity, “a concern for others and a need to contribute something to the next generation,” as first described by

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Erikson,¹ is one such construct. It is theorized that as individuals get older, generative concerns increase.² More specifically, generativity serves as a means through which an adult may guide, educate, or nurture the next generation and thus produce outcomes that can benefit society at large and can continue on through future generations.³ Generativity can be considered as a dimension of successful aging in and of itself, but it has also been shown to predict other positive health outcomes.^{4,5} While generativity may be present at various stages of life, as life expectancy, and consequently, the elderly population continues to increase in India, it is important to understand generativity and associated factors in this population and setting.

Successful aging has been defined as (1) low risk of disease and disease-related disability, (2) a high functional level of mental and physical health, and (3) “active engagement with life.”⁶ Generativity may be part of, and contribute to, successful aging in 2 ways, through contributions to society and one’s community, and through personal development and improvement.⁶ Most studies of generativity thus far have examined its effects on subjective social and psychological well-being, including correlations between generativity and aspects of social well-being/social health (social contribution)⁷ and on well-being achieved through parenting experience,⁸ life satisfaction, and self-rated health, dysphoria, and happiness.⁷ One study found that elderly participants in a volunteer program, focused on increasing generative activity, increased their levels of physical, social, and cognitive activity.⁹ A review of studies of volunteerism and health among elderly found that older volunteers, compared with nonvolunteers, experience less depressive symptomatology.¹⁰ In our previous work, we found that generative activities were positively correlated with higher cognitive function scores among individuals over 60 years of age.⁵ In addition to the mentioned studies of generativity from East Asia¹¹⁻¹³ and our own studies from Sri Lanka,^{5,14} one other relevant study from Sri Lanka was found.¹⁵ That study suggested that social participation of elders serves as a protective factor against morbidity and mortality due to chronic, non-communicable conditions.¹⁵ Beyond this, however, few studies have investigated the extent to which and how generativity may improve health.

A number of personal factors have been shown to predict or correlate with increased generativity in Western populations, including higher education, socioeconomic status, and general engagement in society.^{3,16} Gender differences in generativity have been less consistent, with some studies showing less³ while others show more generativity in women compared with men.^{16,17} An and Cooney⁸ found that generativity has a greater impact on well-being for women than it does for men.

In addition to personal factors, several familial factors are also correlated with generativity. In fact, a relationship between generativity and being a parent or grandparent has been theorized.^{3,8} One of the most visible generative activities among elderly is the caring for, and spending time with, grandchildren.^{3,8} While Rothrauff and Cooney¹⁸ showed no difference in generativity for childless adults versus parents, other studies have shown a positive relationship between grandparenthood and generativity.^{19,20}

Furthermore, older adults who are more family oriented report not only higher generativity but also greater well-being and higher quality of life (QoL)²¹; the importance of family-oriented activities for successful ageing and for QoL was recently observed among elderly in South Korea and in Bhutan.^{22,23} QoL is an important marker of well-being among the elderly, and there is increasing evidence that generativity is an important determinant of QoL in elderly populations.⁵

Few studies have examined these factors in South Asia. Elsewhere in Asia, Rahmaniah and Krisnatuti¹⁷ examined the influence of ageism, as perceived by the elderly, and generativity on developmental tasks of elderly widows and widowers in Indonesia. Overall, high generativity was reported by less than one third of the participants.

In a study from Hong Kong, Cheng¹¹ examined elderly responses to measures of generative concern, action, perceived respect, and psychological well-being over time. They conclude that, later in life, generative concern is largely dependent on the attitudes of the younger

generation. When the younger generations exhibit opposition, there is a decrease in generativity and well-being.

While generativity and related factors have been studied elsewhere, and these studies point toward certain characteristics that may influence generativity universally, they may be different in the rural Indian context. Local society and culture can influence how people are generative, and for whom it is acceptable to act in a generative manner.²⁴ In rural India, gender disparities exist in access to resources and education, (early) marriage is more common than in Western societies, and joint families are prevalent, sometimes with several generations in one household.²⁵ Rural India may be more communitarian than the more individualistic societies where most studies of generativity have been conducted to date. Such societal differences in general, and gender differences in particular, may affect the correlates, consequences, and manifestations of generativity in this population.

We, therefore, first explored the internal consistency of the chosen generativity measure in a rural Indian elderly population. We then investigated which manifestations of generativity were most common among these elderly men and women, and assessed the association of personal (including gender) and familial characteristics with generativity. Finally, we investigated the relationship between generativity and QoL in this population.

Methods

Study Design

A cross-sectional study was conducted in the Ambi-Panshet village region, Taluka Haveli, Pune, Maharashtra, India, from September to December 2014. Sociodemographic and health information was collected from 348 elderly participants using an interviewer-administered questionnaire. The study was approved by the institutional review boards of the Indian Institute of Public Health Bhubaneswar and the Duke University School of Medicine.

Participants

Participants included 348 elderly individuals aged 60 and above. Sociodemographic and health-related information was collected across 10 villages using a combination of verbal interviews and brief physical examinations. Villages that were within 35 km radius of the Janaseva Rural Hospital in the Ambi-Panshet village region were sampled. Invited elderly were selected using stratified random sampling from a Janaseva Foundation registry list of people across those 10 villages. Potential participants were approached in their home and enrolled after giving informed consent. Given the possibility of cognitive impairment in this age group, participants' capacity to provide informed consent was assessed via the full Mini-Mental State Examination.²⁶ Those who scored ≥ 21 completed the survey independently. Those who scored < 21 or had hindered communication provided consent and completed the survey through a family member (18 or older), or proxy, with good knowledge of the older person. Any eligible person who was not available, or could not be located at the time of the house visit, was replaced by a neighbor or by a new randomly generated name from the original list. Elderly with proxy responses only were not included in the current analyses. The incentive for participation was a Tata Swach Smart-Water Purifier, which was gifted after the completion of the interview.

Measures

All questions and scales included in the questionnaire were translated into Marathi, the local language, and back-translated into English to check for accuracy of translation.

Generativity

Two central concepts of generativity have been proposed: generative concern (concern for the next generation) and generative action (participating in behaviors that promote the well-being of future generations). We chose to measure generative concern, as this has been suggested to be especially important for health, well-being, and life satisfaction.^{11,27} Generative concern was assessed via the Loyola Generativity Scale (LGS).³ The LGS contains 20 statements or items reflecting a range of manifestations of generativity, such as “I try to pass along the knowledge I have gained through my experiences” and “I feel as though I have made a difference to many people.” For each item, respondents indicate how often it applies on a 4-point Likert-type scale (0 = never, 1 = occasionally, 2 = fairly often, 3 = very often). Six items are negatively worded and reverse coded. The total possible score ranges from 0 to 60, with a higher score indicating more generativity.

The LGS has been validated in other populations and has previously been employed in one Indian setting as well as among the elderly in other Asian (but not South Asian) cultures.¹¹ We assessed its internal consistency reliability, and Cronbach’s α was 0.75.

Quality of Life

The WHOQOL-AGE questionnaire is specifically designed for older adult populations (people aged 50+ years).²⁸ The scale contains 13 positively worded items scored on 5-point scales. These are combined for a total score ranging from 0 to 100. Higher scores represent greater well-being.

Other Variables

Other variables were collected through the questionnaire to examine personal and familial correlates of generativity. Education was grouped to show whether primary school (5 years of schooling) had been completed. Other personal characteristics collected included age, gender, self-reported health (on a 5-point scale), and whether the elder was the head of the household. Familial correlates included marital status, number of living children, which family members lived in the home (son, daughter, or grandchildren), and sources of income. Income was measured by the question, “Which of the following were sources of income in the past 1 year?” with multiple response options. Income from inheritance, from this question, was used in analyses.

Analysis

All analyses were conducted using SAS version 9.4.

After tabulating subject characteristics (Table 1, Panel 1), mean scores for each item of the LGS were calculated overall and by gender (Table 2). Gender differences in the score for each item were explored using a 2-tailed unpaired *t* test.

After reviewing the distribution of the LGS score and concluding that it was reasonably normal, we assessed the association between elder characteristics and LGS in both simple (bivariate; Table 1, Panel 2) and multiple linear regression analysis (Table 3, Panel 1). The model initially included all personal and familial covariates described above, and variables were retained if the *P* value was $\leq .1$.

We then examined the association of generativity with QoL, again using multiple linear regression (Table 3, Panel 2). In this analysis, we were concerned with understanding the specific association of generativity with QoL while controlling for potential confounders. An a priori list of potential confounders was selected based on previous literature and face validity, namely, gender, age, education, health status, and inheritance, number of living children, and son/daughter living at home.

Table 1. Subject Characteristics and Associations With Generativity.

Elder Characteristics	Panel 1: Distribution		Panel 2: Generativity	
	N	%	Mean (SD)	<i>P</i> ^a
Personal				
Gender				
Male	172	49.4	38.7 (6.3)	—
Female	176	50.6	37.1 (6.1)	.01
Age				
60-69	167	48.0	38.2 (6.5)	—
70-79	121	34.8	37.6 (5.8)	.56
>79	60	17.2	37.7 (6.2)	.86
Education				
No education	199	57.2	36.8 (6.1)	—
1-5 years	112	32.2	39.0 (6.0)	.002
>5 years	37	10.6	40.4 (6.2)	.001
Self-reported health				
Very poor or poor	43	12.4	38.2 (5.2)	—
Fair	205	58.9	37.5 (6.3)	.51
Good or excellent	100	28.7	38.5 (6.5)	.78
Elder is head of household				
Yes	225	64.7	38.5 (6.3)	—
No	123	35.3	36.9 (6.0)	.02
Familial				
Widowed				
Yes	136	39.1	37.0 (5.8)	—
No	212	60.9	38.5 (6.4)	.03
Inheritance				
Yes	197	56.6	39.5 (6.2)	—
No	151	43.4	35.9 (5.6)	.0001
Number of living children				
0-2 children	71	20.4	37.6 (6.7)	—
3-6 children	268	77.0	37.9 (6.2)	0.93
>7 children	9	2.6	39.2 (3.5)	0.75
Son/daughter living in home				
Yes	214	61.5	38.4 (6.0)	—
No	134	38.5	37.1 (6.4)	.046
Grandchild living at home				
Yes	181	52.0	38.2 (6.3)	—
No	167	48.0	37.6 (6.1)	.33

^aSimple linear regression.

Results

Table 1 presents participant characteristics (Panel 1) and their (unadjusted) relationships to generativity (Panel 2). The mean age of the 348 elderly was 71 years (range 60-94 years). Just over half (50.6%) of participants were male. The majority reported no education and that their health was “fair.” Table 1, Panel 2, shows that (in bivariate analyses) males, those with higher education, heads of households, those with a living spouse, and those with income from inheritance reported higher generativity.

Table 2. Loyola Generativity Scale Mean Question Responses and Differences in Mean by Gender.

Questions	Overall, Mean (SD)	Men, Mean (SD)	Women, Mean (SD)	<i>P</i> ^a
<i>Passing on knowledge and skills to the next generation</i>				
1. I try to pass along the knowledge I have gained through my experiences.	1.87 (0.7)	1.92 (0.6)	1.81 (0.7)	.139
3. I think I would like the work of a teacher.	1.76 (0.8)	1.76 (0.7)	1.75 (0.8)	.889
12. I have important skills that I try to teach others.	1.41 (0.8)	1.52 (0.8)	1.31 (0.8)	.018
19. People come to me for advice.	1.37 (0.8)	1.51 (0.8)	1.22 (0.8)	.001
<i>Making contributions for the betterment of one's community</i>				
5. I do not volunteer to work for a charity. (reverse coded)	2.20 (1.1)	2.00 (1.2)	2.40 (0.9)	.0001
15. I feel as though I have done nothing of worth to contribute to others. (reverse coded)	2.90 (0.4)	2.89 (0.4)	2.90 (0.3)	.843
18. I have a responsibility to improve the neighborhood in which I live.	1.88 (0.8)	1.94 (0.8)	1.82 (0.8)	.161
20. I feel as though my contributions will exist after I die.	1.48 (0.7)	1.55 (0.7)	1.41 (0.7)	.063
<i>Doing things that will be remembered for a long time</i>				
4. I feel as though I have made a difference to many people.	1.64 (0.8)	1.70 (0.8)	1.59 (0.7)	.185
6. I have made and created things that have had an impact on other people.	1.41 (0.8)	1.55 (0.8)	1.28 (0.9)	.003
8. I think that I will be remembered for a long time after I die.	1.93 (0.7)	1.95 (0.7)	1.91 (0.7)	.530
10. Others would say that I have made unique contributions to society.	1.49 (0.8)	1.55 (0.8)	1.43 (0.8)	.150
13. I feel that I have done nothing that will survive after I die (reverse coded).	2.80 (0.5)	2.89 (0.5)	2.80 (0.4)	.097
14. In general, my actions do not have a positive effect on other people. (reverse coded)	2.90 (0.4)	2.88 (0.4)	2.85 (0.4)	.375
<i>Being creative and productive</i>				
7. I try to be creative in most things that I do.	1.06 (0.9)	1.16 (0.9)	0.96 (0.8)	.033
17. Other people say that I am a very productive person.	1.46 (0.6)	1.55 (0.6)	1.38 (0.6)	.014
<i>Caring and taking responsibility for others</i>				
2. I do not feel that other people need me. (reverse coded)	2.72 (0.7)	2.70 (0.7)	2.74 (0.7)	.584
9. I believe that society cannot be responsible for providing food and shelter for all homeless people.	2.82 (0.6)	2.78 (0.6)	2.85 (0.5)	.226
11. If I were unable to have children of my own, I would like to adopt children.	0.96 (1.0)	1.08 (1.0)	0.84 (1.0)	.021
16. I have made many commitments to many different kinds of people, groups, and activities in my life.	1.84 (0.8)	1.89 (0.7)	1.79 (0.8)	.217
Total Score:	37.9 (6.2)	38.7 (6.3)	37.1 (6.1)	.012

^aDifference in means by gender (unpaired *t* test).

We were also interested in exploring the specific manifestations of generativity in this population. Table 2 shows the mean score for each question by gender and overall. Men were more likely to endorse that they have important skills to teach others, that people come to them for

Table 3. Correlates of Generativity and the Association Between Generativity and QoL (Multiple Linear Regression; n = 348).

	Model 1: Generativity		Model 2: Quality of Life	
	PE (SE)	P	PE (SE)	P
Intercept	28.77 (0.86)	<.001	36.60 (3.87)	<.001
LGS score			0.39 (0.09)	<.001
Personal				
Male	0.27 (0.64)	.67	-1.66 (1.23)	.18
Aged 70-79 (ref = 60-69)			1.31 (1.55)	.40
Aged 80+ (ref = 60-69)			0.05 (1.55)	.97
Education 1-5 years (ref = 0 years)	2.07 (0.69)	<.01	0.91 (1.34)	.50
Education > 5 years (ref = 0 years)	3.99 (1.00)	<.001	3.22 (2.05)	.12
Fair health (ref = poor or very poor)			2.79 (1.64)	.09
Good or very good health (ref = poor or very poor)			8.06 (1.79)	<.001
Familial				
Receiving income from inheritance	4.02 (0.57)	<.001	-3.83 (1.13)	<.001
Number of living children	0.34 (0.18)	.06	0.71 (0.35)	.04
Son/daughter living at home	1.11 (0.57)	.05	1.99 (1.08)	.07
R ²		0.19		0.20

Abbreviations: QoL, quality of life; PE, parameter estimate; SE, standard error; LGS, Loyola Generativity Scale.

advice, that they had made and created impactful things, that they try to be creative, that others say they are productive, and that they would like to adopt children. Women were more likely to volunteer for a charity. Overall generativity was slightly higher among men than women (in unadjusted analyses).

Using significant variables from the bivariate models (from Table 1, Panel 2), we built the multiple linear regression model of generativity presented in Table 3, Model 1. Higher education, income from inheritance, more living children, and having a son/daughter living in the home were all positively correlated with generativity. In the adjusted analyses, there was no significant difference in generativity between men and women. We also explored whether there were differences between men and women in terms of which correlates were significantly associated with generativity, but found no such gender differences (results not shown).

Finally, we examined the relationship between generativity and QoL (Table 3, Model 2). Mean QoL score was 16.9 (SD = 2.1). Mean QoL was similar in women (mean = 17.0, SD = 2.0) and men (mean = 16.8, SD = 2.3). Higher generativity was associated with higher QoL. After controlling for the covariates, the relationship between generativity and QoL remains: for each unit increase in generativity, there was a 0.39 unit increase in QoL.

Discussion

The goal of the present analysis was to explore the manifestations, correlates, and consequences of generativity, until now not studied among rural Indian elderly. Since family relationships are strong in India, our analyses focused on both personal and familial characteristics and their relationship to generativity. Higher education, receiving income from inheritance, more living children, and having a son/daughter living in the home were associated with higher levels of overall generativity. Higher levels of generativity were associated with higher QoL.

Consistent with previous research,²⁹ increased education was positively correlated with generativity. This finding should also be viewed in the context of India, where education disparities often exist by gender. In our sample, 81.8% of women reported no education. The more highly educated person may have more opportunities for social participation and paid labor, which have been shown to be correlates of generativity.¹⁶

Familial characteristics that were associated with increased generativity (ie, receiving income from inheritance, more living children, and having a son/daughter living in the home) have not been documented previously. Some studies indicate that social or financial support is associated with increased generativity.¹⁶ In India, close-knit extended families are often the primary means of social and to a lesser extent, financial, support for the elderly. Therefore, one explanation could be that income from inheritance, more living children, and having a son/daughter living in the home constitute means of increasing financial and social support. It is notable that income from inheritance was associated with generativity. Given this understanding, societal changes, specifically the disintegration of the traditional Indian joint family, could significantly affect generativity.³⁰

We also examined the manifestations of generativity, by examining scores on the individual LGS items in both men and women. Men scored highest on items relating to passing on knowledge and skills to the next generation, doing things that would be remembered for a long time, and being creative or productive; while women scored higher on items concerning making contributions for the betterment of one's community and caring for others. These gender differences in the manifestations of generativity may be due to gender roles in India that promote more education and creative freedom in men, and emphasize motherhood and caring for family in women.³¹

The positive association between generativity and QoL corroborate the value of the generativity for healthy aging among the elderly. Generativity may affect QoL through several different pathways. One pathway may be through the experience of positive emotions, which have been linked with numerous health outcomes.³² Another potential pathway is that generativity may keep elderly individuals engaged with their community, and this in turn maintains their social support networks. Since generativity carries a sense of contributing to others, particularly to the younger generation, the social ties may remain stronger than those resulting from more recreational activities.

Important to the study of healthy aging cross-culturally, the concept of generativity in general and the LGS in particular appear to have cross-cultural validity. The translated LGS seemed to perform well in this population, and our analysis shows similar associations to those found in studies of both Western populations and other Asian settings. These findings corroborate the value of generativity in the study of QoL and successful aging globally.

Efforts to Support Generativity Among Elderly

Since generativity is not only beneficial to the recipients but also has health benefits for the generative individual, this has important implications for interventions. In most families and communities, a range of opportunities for generativity already exist and can be supported by making it easier for elderly to participate in them. Religious communities, across cultures and traditions, are obvious repositories of generativity. Furthermore, multigenerational family time is one context that naturally supports generativity. Given these findings and the current strain on the traditional Indian joint family, it is important to maintain close relationships between family members and the elderly.

Strengths and Limitations

This is the first study to examine the correlates of generativity and the association between generativity and QoL in rural India. Strengths of the study include its comprehensive assessment of a relatively large group of elderly in a relatively remote area of rural India and a good response rate.

We were able to rely on a locally created registry of names generated by village social workers who were employed by the nongovernmental organization Janaseva Foundation. The foundation performed a census of all individuals aged 60 and above in the 10 villages that were surveyed. There were more males than females in the age bracket 80 and above than expected when compared with the national census. Furthermore, it is possible that the elderly in the villages sampled were healthier due to their proximity to the hospital. Two in 5 elders who were approached were unavailable for interview and were replaced by a neighbor or by a new randomly generated individual picked from the original list. Logistic challenges (that were mostly overcome) included the remoteness and the uncharted nature of some of the villages, difficulty locating elders' houses, and having to rely on word of mouth to schedule interview instead of telephones.

While we include both personal and familial correlates of generativity in our analyses, broader cultural determinants were not directly included. Our findings are based on a cross-sectional data set: any inference about the causal direction between generativity and QoL has to be drawn with caution. Our community-based sample of elderly represents rural areas in one state of India and the findings might not be generalizable to other states.

Conclusion

These findings highlight both a personal and a familial dimension in the correlates of generativity, and suggest that family relationships are important for generative development in rural India. Furthermore, the relationship between generativity and QoL suggests that a family-oriented approach, including approaches via schools, or through civic or religious organizations for the elderly, to generativity interventions with older Indians could improve QoL.

Author's Note

Joanna Maselko is now affiliated to University of North Carolina, Chapel Hill, NC, USA.

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