

# Measuring Prosocial Attitudes for Future Generations: The Social Generativity Scale

Davide Morselli<sup>1</sup> · Stefano Passini<sup>2</sup>

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**Abstract** Erik Erikson’s theory of human development defines generativity as the concern for the continuation of life after an individual’s death. According to the theory, such a concern has a wide spectrum that ranges from the desire to procreate to the willingness to contribute for the sake of generations that have yet to come, and is thus closely related to concepts of social responsibility and agency. Although this is a well-known aspect of the theory it is only marginally measured in the common quantitative measures of generativity—e.g. the Loyola Generativity Scale. In this study we present the Social Generativity Scale (SGS), which is focused on responsibility for future generation. Correlational analysis showed that the SGS is more consistently linked to future orientation than other generativity measures (i.e. measured with consideration of future consequences), inclusiveness, and political engagement, and negatively related to social dominance orientation and prejudice. The results suggest that the SGS better captures the social responsibility dimension of the generativity concept than previous measures, and for this reason it is complementary to those scales that comprehend generativity as the concern for personal continuation after death and desire of parenting.

**Keywords** Generativity · Future time orientation · Inclusion · Social responsibility

## Introduction

According to Erikson’s (1963) theory of human development, adulthood is characterized by the concern for the continuity of life, which Erikson called generativity. Generativity is commonly and biologically expressed by parenting, but can also turn into a more general sense of responsibility for the community and the future generations, leading adults to find satisfaction in social activities such as teaching, mentoring, leadership and other actions that may leave behind a positive legacy for the future. “Generativity, then, is primarily the concern in establishing and guiding the next generation. [...] The concept of generativity is meant to include such more popular synonyms as productivity and creativity” (Erikson 1963, p. 267). Generativity is described as becoming less oriented towards individual success and happiness, and more focused on giving back to society and leaving a legacy for others. “Essentially, generativity describes the adult’s need to assume social, work, and community responsibilities that will be advantageous to others” (O’Hanlon and Coleman 2004, p. 48). Although social responsibility is a central dimension of generativity, the current psychometric measures of this concept are mainly focused on the self, leaving a marginal space to communitarian and social responsibility. In the present article, we present and validate the Social Generativity Scale (SGS), aimed at complementing the more commonly used measures of generativity by focusing on those aspects of responsibility for future generations that are central to the theory.

## From the Individual to Society: The Wide Range of Generativity

Long forgotten, in relatively recent years the concept of generativity has found new applications, especially in

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✉ Davide Morselli  
davide.morselli@unil.ch

<sup>1</sup> Swiss National Centre of Competence in Research LIVES, University of Lausanne, Lausanne, Switzerland

<sup>2</sup> University of Bologna, Bologna, Italy

empirical research on life-course, personality psychology and in sociology studies (e.g. de St. Aubin et al. 2004; Kotre 1984; McAdams and de St. Aubin 1992; Snarey 1993). One of the merits of Erikson's theory in general is to link individual's psychological development to the social context. According to Erikson, the individual and his/her social life are the two sides of the same coin, with the one unable to exist without the other. For understanding psychological development, Erikson's theory suggests looking at the relationship between the individual and his/her social context. For this reason, the Eriksonian approach is particularly suitable to interdisciplinary research and the life-course paradigm.

Within Erikson's framework, generativity or the adult's desire for parenthood are not simply ego-centred motivation for fulfilment but rather complex aspects of the psychological development in which personal (e.g. the desire to give a meaning to one's personal life) and social (e.g. the desire to contribute to something bigger than one's personal life) motivations coexist and interact. Indeed, Marcia (2010) argues that generativity ranges from being individually centred to being society-centred. Generating life for the continuation of society (or of the human species) in the future is, in this sense, the basic stage of generativity. However, in its most multifaced form, generativity is independent of one's own family. It is rather focused on generations that have yet to come and children yet to be born. Thus, generativity is closely related to future-related concepts that pinpoint the way people project themselves into the future, such as the future time perspective (Lewin 1951; Zimbardo and Boyd 1999) and the consideration of future consequences (CFCs) (Strathman et al. 1994), and to social responsibility (Morselli 2013). Empirical evidence has indeed shown a moderate relationship between future perspective and generativity in different areas of interest (e.g. Kooij and Van De Voorde 2011; Peterson 2006).

As Van De Water and McAdams (1989) theorized and Peterson and Stewart (1996) also demonstrated, individuals high in generativity are more politically conscientious and more likely to favour movements that promote social justice. Moreover, using in-depth interviews, some scholars (Bradley 1997; Bradley and Marcia 1998) have shown that generativity differs from fostering others for instrumental purposes—i.e. caring only for people considered to be similar (as members of ingroup) or mainly for achieving personal goals. In this sense, rather than being exclusive or ascribed to one's own family and beloved children generativity describes an inclusive attitude towards society (Marcia 2010). Furthermore, research in the Midlife Development in the United States (MIDUS) survey (Ryff et al. 2007) has shown that generativity was the most consistent predictor of several dimensions of social responsibility, such as volunteering and contributing with

time and money to community concerns, even after controlling for age and other socio-demographic factors. Similarly, Cole and Stewart (1996) and de St. Aubin and McAdams (1995) found that generativity was linked to feelings of attachment to the community and civic agency, and non-generative people were found to be unconcerned with promoting the well-being of their community (Bradley and Marcia 1998; Van Hiele et al. 2006). According to Erikson (1982), the opposite of generativity—i.e. psychological stagnation—is indeed tightly attached to the exclusion of non-familiar others, which is manifested as prejudices against other ways of thinking or people different from oneself. These considerations suggest that generativity is linked to pro-social attitudes and therefore to a definition of community as an inclusive playground for different categories of people and social groups. For these reasons, we think that the concept of generativity is closely related to attitudes of inclusion and social equality.

### Generativity and Inclusion

The process of inclusion of outgroups within the concept of one's own community involves the extension of social justice to groups that had formerly been excluded, such as groups oppressed by and marginalised from society (Opatow 1990; Passini 2010). Inclusion is linked to considering outgroups as eligible of fairness entitled to resources, and is therefore linked to the willingness of making sacrifices to foster a common sake (Opatow 2008). The exclusion of the other from shared norms, justice and moral values is instead connected to a focus on the ingroup and a conception of the world as being hierarchically stratified. Therefore, on the opposite side to inclusiveness there are worldviews that legitimise exclusion and social inequality. For instance, the social dominance theory (Sidanius and Pratto 1999) postulates that motivations, development, worldviews, beliefs, values, and attitudes are used to justify inter-group hierarchy. Social dominant oriented people are more likely to defend the idea that some groups have to be dominating others, and they assume that social hierarchies always exist and should be sustained.

The commonly used indicator of social dominance—the social dominance orientation scale (SDO, Pratto et al. 1994)—has been shown to be a strong predictor of prejudice (e.g. Ekehammar et al. 2004; Roets et al. 2006; Van Hiel and Mervielde 2002), exclusion (e.g. Passini and Villano 2013; Pratto et al. 2013), and it is more focused on the interest for personal rather than community's future (Morselli and Passini 2011). In contrast, people low on the SDO are more likely to be egalitarian (e.g. Pratto et al. 1994) and endorse socio-political egalitarianism in political beliefs and attitudes (e.g. Jost et al. 2003; McFarland and Mathews 2005; Sidanius and Pratto 1999). Similarly, Van

Hiel et al. (2010) have shown that people with a relatively low prejudice against group minorities ascribe more importance to contributing positively to their own community, country, and ultimately to the global world, than individuals with a strong prejudice.

According to Erikson (1963) and Marcia (2010), a basic sense of generativity is more likely to be connected to a narrow interest in the community and therefore to ideologies that foster group exclusion, such as SDO. On the opposite side, a developed sense of generativity is not centred on the advantages of a close group and is more likely to be related to inclusive attitudes and worldviews. Grouzet et al. (2005) indeed found that activism and generativity are loaded together with universal values, which in turn are negatively related to prejudice and exclusion (Feather 2004; Schwartz 2007).

### Limitations of Current Generativity Measures

Several strategies have been developed to measure generativity. By using a semistructured interview, Bradley and Marcia (1998) investigated five generativity statuses based on two criteria related to the self and others: *involvement*, that is the active concern in the growth of the self and others (sense of responsibility); *inclusion*, that is the scope of a caregiving activity and of who and what is included/excluded. This is consistent with Erikson's (1963) theory which considers the mature ego as being capable of greater levels of tolerance of diversity.

Peterson and Klohnen (1995) instead used the California Adult Q-Set (CAQ) procedure that consists of a battery of 100 personality, attitudinal, and behavioural descriptors (e.g. "Has a wide range of interests," "Is uncomfortable with uncertainty and complexities") written on 100 separate cards to be ranked by the respondent from *extremely uncharacteristic* to *extremely characteristic*. These items can be sorted by the experts to describe a wide range of various psychological constructs (e.g. authoritarianism, narcissism). Peterson and Klohnen (1995) identify a generativity prototype providing a rating of the ideally generative person.

Both these tools have their pros and cons. Capitalising on the richness of open questions, the Bradley and Marcia's tool returns multifaceted data on generativity. Similarly, Peterson and Klohnen's CAQ procedure allows researchers to tap the priorities given to certain generative values and dimensions, returning a multi-cored and multi-faceted measure of generativity. On the downside, neither of these tools is easily implementable in large and/or online surveys, constituting a considerable limitation for social research.

For this purpose, some Likert-type scales of generativity have been designed. For instance, Ochse and Plug (1986)

used a set of quotations from Erikson's writings to design a scale that tapped the first seven dimensions of Erikson's developmental theory. Generativity is indicated by ten items, such as "I help people to improve themselves," "I do something of lasting value," and reversed items such as "I feel that I have done nothing that will survive after I die," "I take great care of myself."

Apart from Ochse and Plug's battery of question, the most commonly used scale for generativity is the Loyola Generativity Scale (LGS, McAdams and de St. Aubin 1992). Akin to Ochse and Plug's scale, the LGS is a Likert-type scale that asks respondents to express, on a one-to-four scale, how well a list of twenty statements describes them. Examples of the statements are "I think I would like the work of a teacher," "I think I will be remembered a long time after I die," and "Other people say that I am a very productive person," along with some reverse-coded negative items such as "I do not feel that other people need me," and "I feel that I have done nothing that will survive after I die." The LGS has been shown as having high homogeneity, strong internal validity, and test-retest reliability (McAdams and de St. Aubin 1992). It positively correlates with the narrative and qualitative measures of generativity (McAdams et al. 1998), and it is consistent across different cultural settings (Hofer et al. 2008; Kim and Youn 2002; Marushima and Arimitsu 2007). However, the relatively large number of items of this scale reduces its possibility of implementation in large surveys and web-questionnaires.<sup>1</sup> For this reason, a reduced version (R-LGS, Keyes and Ryff 1998) was designed to be implemented in population surveys (e.g. MIDUS). The short version consists of six items: three tap concerns for passing on knowledge, skills, and the like to the next generation; two relate to doing things that will last for a long time; and only one refers to caring and taking responsibility for other people. Results have shown that this six-items version successfully tapped generativity concerns and can be considered equivalent to the full length scale (Keyes and Ryff 1998).

In our opinion, the items of the Ochse and Plug's Erikson Generativity Scale (EGS) and the McAdams and de St. Aubin's LGS (and its shortened version) are properly focused on the dimension of transcending one's own personal life. However, they do not strongly tap the orientations towards future generations which are central to the generativity concept. For instance, the words "future" and "generation" do not appear in any version of the two scales. Both the EGS and the LGS are built around items

<sup>1</sup> Complementarily to the LGS, McAdams and de St. Aubin (1992) designed also the generative behavior checklist, a 50-item act-frequency checklist to tap behavior, which alike the original version of the LGS is too long to be implemented in large surveys.

centred on the personal future more than the social future. They are focused on the respondents' perception of usefulness, concerns for being remembered after death, and willingness to have children. In other words, both these scales are centred on the individual and his/her concern for the continuity of his/her life, and only marginally tap social responsibility which is another important dimension of generativity.

### Scale Development

Based on these considerations, we developed the SGS, designing items that could tap the concerns for future generations and the contribution of respondents' present actions to the future of the community. The aim was to design a scale that on the one side could tap the social dimension of generativity and on the other could be short enough to be inserted in large and/or online survey designs as an alternative to the more complex and complete tools discussed above (e.g. Bradley and Marcia 1998; Peterson and Klohnen 1995).

Three SGS items were designed to capture the concern for future generations: "I carry out activities in order to ensure a better world for future generations," "I give up part of my daily comforts to foster the development of next generations," and "I think that I am responsible for ensuring a state of well-being for future generations." In addition, the three items of the LGS and the EGS that were more linked to social responsibility were adapted to be included in the SGS: "I have a personal responsibility to improve the area in which I live", "I commit myself to doing things that will survive even after I die", and "I help people to improve themselves."

### Hypotheses

The aim of the present study is to validate the SGS. Specifically, our goals are: (1) to develop an internally reliable measure of generativity; (2) to test the relationship between the SGS and other attitudinal variables; and (3) to test the non-redundancy between the SGS and the other generativity measures. On the basis of the literature seen in the introduction, we expected SGS to be positively correlated to social attitudes such as inclusion and social engagement and negatively correlated to derogative attitudes toward minorities, such as prejudice and social dominance. We also expected the SGS tapping a different dimension of generativity from EGS and LGS. Thus, we hypothesised that the correlation between SGS and the other predictive variables would be larger than those between EGS, LGS and the same variables, and that it would still be significant even after controlling for the other two generativity

measures. Finally, in line with the Erikson theory and previous results (McAdams et al. 1993; Ochse and Plug 1986) that posits generativity as being developed in adulthood for both men and women alike, we expected a positive correlation between SGS and age and a null correlation with gender.

## Method

### Participants

A total of 199 Italian adult citizens (49.2 % women) participated in the study after receiving an invitation via the internet and they responded to an online questionnaire. Specifically, the questionnaire was constructed using the open-access survey-generating tool Limesurvey (<http://www.limesurvey.org>). The questionnaire was publicly accessible and an invitation with the link to the questionnaire was emailed to the potential participants by various methods (e.g. mailing lists, newsgroups). The questionnaire was drafted in Italian. In order to check and prevent a person from reaccessing the survey site we monitored the IP address of the subject and the declared e-mail. Twenty-three people did not complete the questionnaire and were excluded from among the participants. The data were collected at the beginning of 2012.

Participants' ages ranged from 20 to 70 years ( $M = 40.73$ ,  $SD = 11.59$ ). The majority (61.7 %) declared they were born in Northern Italy, while 25.4 % in the Centre and 13 % in the South of the country. With regards to level of education, 1.5 % said they had obtained a middle school diploma, 32.3 % a high school diploma, 46.9 % a university degree and 19.3 % a Ph.D./Master. Job-wise, 34.2 % declared they were clerical workers, 24.7 % freelance, 17.1 % teachers, 9.6 % students, 4.8 % unemployed, 3.4 % retired and, finally, 6.2 % chose "other." Concerning socio-economic status and answering to the question "compared to the other people of your country, how would you describe your economic situation?" 21.2 % answered "better than many others," 36.9 % "good," 38.9 % "so so" and finally 3 % "poor."

### Measures

Given the context of an online questionnaire, reduced versions of the measures were preferred when available (see Couper 2008; Galesic and Bosnjak 2009).

#### *Social Generativity Scale*

The 6-items scale introduced in the theoretical section was used. Participants responded to each item on a seven-point

scale ranging from 1 (strongly disagree) to 7 (strongly agree).

#### *Loyola Generativity Scale*

Participants responded to the reduced Loyola Generativity Scale (R-LGS, Keyes and Ryff 1998). Response format was on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). The R-LGS parses items of the McAdams and de St. Aubin's scale (1992) and contains a mix of behavioural (e.g. "I do not volunteer for charity work," reverse scored) and self-reflective items ("I think I will be remembered a long time after I die"). As indicated by the authors, a unidimensional index was computed ( $\alpha = .70$ ).

#### *Erikson Generativity*

Participants answered the ten items Generativity versus Stagnation subscale developed by Ochse and Plug (1986). An example of item is "I help people to improve themselves." Response format was on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). As indicated by the authors, a unidimensional index was computed ( $\alpha = .69$ ).

#### *Future Time Orientation*

Future orientation was measured by a reduced four-item version of the CFCs (Strathman et al. 1994). Participants were asked to rate on a scale from 1 (extremely uncharacteristic) to 7 (extremely characteristic) the extent to which each statement described them. Strathman et al. (1994) showed that the scale is one-dimensional. The items were "I consider how things might be in the future, and try to influence those things with my day to day behaviour," "I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time" (reversed), "I often engage in a particular behaviour in order to achieve outcomes that may not materialise for many years" and "I only act to satisfy immediate concerns, figuring the future will take care of itself" (reversed). The scale had good reliability:  $\alpha = .72$ .

#### *Attitudes of Inclusion*

Inclusion of outgroup was measured with the *Moral Inclusion/Exclusion of other Groups (MIEG)* scale constructed by Morselli and Passini (2012) on the basis of the moral exclusion scale (Passini 2005). Participants were asked in a first step to list from 2 to 4 ethnic/cultural groups other than their own that lived in their neighbourhood. Subsequently, the MIEG items were prompted referring to

the listed groups. The most frequent groups nominated were: Chinese ( $f = 64$ ), Moroccans ( $f = 53$ ), Romanians ( $f = 48$ ) and Albanians ( $f = 33$ ). Then, each time for each group the respondents were asked to choose where his or her position lies, on a scale between two statements (one identifying moral exclusion of the group, one moral inclusion of the group). Four oppositions were used: (1) "Values held by this group represent a threat to our well-being" versus "Values held by this group represent an opportunity for our well-being;" (2) "Members of this group deserve no respect" versus "Members of this group deserve our utmost respect;" (3) "It is necessary to avoid any kind of contact with members of this group" versus "It is necessary for all of us to engage in establishing constructive contacts with this group's members;" (4) "I think that members of this group of people are extremely uncivilised" versus "I think that members of this group of people are extremely civilised." As in the original studies, a one factor solution was considered (Cronbach's  $\alpha = .92$ ) and a MIEG index was computed as the mean of all the items.

#### *Social Dominance Orientation*

SDO was measured by a four-item version of the SDO6 scale (Pratto et al. 1994) as used in previous research (Passini 2008). This version of the scale uses the two positive and the two negative items of the SDO6 with highest factor loadings. Items were "Some groups of people are simply inferior to other groups," "Inferior groups should stay in their place," and the reversed items "all groups should be given an equal chance in life," "we should do what we can to equalise conditions for different groups." Participants responded to each item on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Reliability of the scale was  $\alpha = .65$ .

#### *Prejudice*

To measure prejudice towards social minorities, in line with Wohl and Branscombe's (2009) research five items from the modern sexism scale (Swim et al. 1995) were adapted to fit racism toward immigrants. The items (measured on a seven-point scale ranging from 1 = strongly disagree to 7 = strongly agree) were: "Discrimination against immigrants is no longer a problem in Italy;" "Over the past few years, immigrants have obtained more economically than they deserve;" "It is easy to understand the anger of immigrants people in Italy" (reversed item); "Immigrants are getting too demanding in their push for equal rights;" and "Immigrants should not push themselves where they are not wanted." A principal axis factoring of the items was performed. The scree test revealed a clear

break between the first and second eigenvalue: 2.44, .96, .72, .57, .31. Hence, only one factor was retained from the analysis and a modern racism index was computed as the mean of all the items (Cronbach's  $\alpha = .78$ ) such that higher scores indicate greater racism.

### *Demographics and Politics*

In all the samples, participants indicated their age and gender. Importance attached to politics (on a seven-point scale, from 1 = not at all to 7 = very much) was used as proxy for social participation.

### **Analytical Procedures**

First, the internal reliability and the item analysis of the generativity scale is presented. Then, confirmatory factor analysis was performed in order to examine the structure of the scale. This analysis was performed with Mplus 6.1 (Muthén and Muthén 1998–2010). As suggested by Hu and Bentler (1999), model fit was assessed using the comparative fit index (CFI), Tucker–Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardised root mean square residual (SRMR). For the CFI and TLI, values close to or  $>.95$  indicate good model fit, while for RMSEA and SRMR values below  $.08$  indicate good model fit (Hu and Bentler 1999). Finally, correlations and partial correlations of the generativity scale with the other variables were computed.

### **Results**

The internal reliability of the generativity scale was  $\alpha = .78$ . Cronbach's  $\alpha$  did not increase with the elimination of any item. Item-total correlations ranged from  $.40$  to  $.64$ . Item-total correlations  $>.30$  are considered acceptable (Green and Lewis 1986). Then, in order to assess the structure of the scale, a confirmatory factor analysis was performed on the scale items. In addition to the paths between the six items and the latent factor, Mplus suggested adding one correlation between the error terms of the items “I carry out activities in order to ensure a better world for future generations” and “I think that I am responsible for ensuring a state of wellbeing for future generations.” Given that both items referred to responsibility for future generations, this correlation was considered suitable. This unidimensional model fit the data in an acceptable way:  $\chi^2(8) = 18.26$  [baseline model:  $\chi^2(15) = 296.82$ ];  $CFI = .96$ ,  $TLI = .93$ ;  $RMSEA = .08$ ,  $SRMR = .04$ . All the factor loadings (see Table 1) were significant at  $p < .001$ . A better fit could have been obtained by introducing one extra correlation between error terms.

However, given that the fit of the model with a single error term correlation was acceptable, that model was preferred owing to statistical parsimony.

In line with the hypotheses, the SGS was positively correlated with MIEG, CFC and importance given to politics, and negatively correlated with SDO and prejudice (see Table 2). The SGS was also positively correlated with the other two generativity scales: the R-LGS and EGS. This was not surprising given that the SGS shares some items with the other two tools.

Unexpectedly, age was weakly correlated with the SGS. The coefficient was positive as predicted, but not significant. The same result was found for the EGS. Only the R-LGS correlated significantly with age. In line with the hypotheses, the correlation between generativity and gender was null.

In line with our expectation the zero-order correlations between the predictive variables and the other two measures of generativity were considerably weaker than the correlations with the SGS. In particular, the R-LGS was not correlated to any of the social attitude variables, while the EGS was only correlated with MIEG and SDO but not with prejudice and importance attached to politics.

In order to further test whether the SGS had predictive power over and above the other two measures, the correlations between the SGS and the predictive variables were computed after partialising out both R-LGS and EGS and also partialising both in one single step. Table 2 shows that sign, magnitudes and significance of the partial correlations do not differ substantially from the zero-order correlations for most of the discriminant variables. In particular, the coefficients were not affected when controlling for the R-LGS, while a slightly higher variation in the magnitude was observed when the EGS was partialised out. Correlations were significant even when both the discriminant variables were partialised in one step.

### **Discussion**

The aim of this study was to construct and validate a scale for measuring the social related aspects of generativity, as expressed in Erikson's original theory. Previous measures of generativity only marginally measured the dimension of responsibility for present and future generations, which is instead central in Erikson's concept of generativity. By including some of the items used in previous and lasting scales of generativity and by attaching more importance to the dimension of responsibility, the SGS aimed to improve and expand the measurement quality of these scales. We thus think that the SGS has the advantage of broadening the scope of existing generativity measures on the one side, and, on the other, of providing researchers with a short

**Table 1** Items of the social generativity scale

	<i>M</i>	<i>SD</i>	Item-total correlation	Cronbach's $\alpha$ if item deleted	Factor loadings
I carry out activities in order to ensure a better world for future generations	4.43	2.10	.40	.78	.39
I have a personal responsibility to improve the area in which I live	5.62	1.67	.57	.73	.61
I give up part of my daily comforts to foster the development of next generations	4.31	1.74	.41	.77	.46
I think that I am responsible for ensuring a state of well-being for future generations	5.59	1.55	.62	.72	.79
I commit myself to do things that will survive even after I die	5.12	1.63	.64	.71	.73
I help people to improve themselves	5.06	1.47	.55	.74	.54

**Table 2** Zero-order and partial correlations between the generativity scale and all the other variables

	<i>M</i>	<i>SD</i>	Zero order correlations			Partial correlations removing		
			SGS	R-LGS	EGS	R-LGS	EGS	R-LGS + EGS
SGS	5.02	1.18	–	–	–	–	–	–
R-LGS	2.89	.39	.46***	–	–	–	.30***	–
EGS	3.07	.36	.48***	.48***	–	.34***	–	–
MIEG	5.74	1.14	.26***	.07	.27***	.26***	.16*	.19*
SDO	1.54	.90	–.18*	.04	–.15*	–.22**	–.13	–.17*
Prejudice	2.37	1.22	–.21**	–.03	–.09	–.21**	–.19**	–.20**
Imp. pol.	5.11	1.74	.24**	.13	.14	.20**	.19**	.18*
Age	40.73	11.59	.12	.19**	.11	.04	.07	.03
Sex	–	–	–.02	.11	–.11	–.07	.04	–.01

R-LGS, EGS scoring from 1 to 4. SGS, MIEG, SDO, prejudice, imp. pol. scoring from 1 to 7. Sex was coded 1 = men and 2 = women

SGS Social Generativity Scale, R-LGS Reduced Loyola Generativity Scale, EGS Erikson Generativity Scale, MIEG Moral Inclusion/Exclusion of Other Groups Scale, SDO social dominance orientation, Imp. pol. importance given to politics

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

measure that will have small impact in terms of questionnaire length.

The results confirmed the validity of the SGS, which had a good reliability and high item-total correlations. Moreover, the homogeneity of pool of items of the scale was confirmed by the factor analysis. As concerns the relationship with the other attitudinal variables investigated, SGS was positively correlated with the measure of future orientation, and the magnitude of the correlation was twice the one of R-LGS and EGS. In line with Erikson's (1963) theory and further development by Marcia (2010), SGS shares a portion of variance with individual's perspective towards the future, tapping the concerns between the individual and the consideration of what will still have to come.

In addition, as the theory suggested, the SGS was positively related to a concept of inclusive community while negatively correlated to attitudes of social dominance and prejudice. Correlations with pro-social attitudes of inclusion and social equality were larger with the SGS than the R-LGS and EGS. The significance of these correlations endures even after controlling for the other two similar

concepts investigated. These results support the hypothesis according to which generativity is a multifaceted concept that ranges from narrow to wide perspectives, moving from concerns for one's own family and children to a focus on future of society (Marcia 2010).

By focusing on the concerns for future generations and a long-term commitment for the community, the SGS taps a dimension of the generativity concept that was indeed underestimated in the previous measures, and in this sense is complementary to them. In clearer way than the Loyola and the EGSs, the SGS is thus connected to pro-social attitudes that define the community in inclusive manners and oppose to prejudicial and exclusionist views of social relations.

Another interesting result concerns the relationship of generativity with politics. As can be expected, the SGS is positively correlated with importance given to politics. This is not surprising, as attention for educating present and future generations should pass through an active participation in politics and in institutional and educational settings.

## Limitations and Implications of the Research

This research has some limitations which should be addressed in future studies. In particular, the results are based on a relatively narrow convenience sample. Although the participant selection was mostly randomised and it seems unlikely that only people with a great sense of social generativity had answered the questionnaire, our design did not allow us to control for selection and non-response bias. Future studies should replicate these results and confirm the validity of the SGS scale with population samples, cross-cultural settings, and longitudinal designs. The small sample size could also explain why some of the goodness indices of the confirmatory factor analysis are acceptable but not optimal (e.g. TLI and RMSEA).

In addition, the unexpectedly weak correlation between two out of three measures of generativity and age call for further investigation. The correlation was significant only between age and R-LGS, while for both the EGS and SGS the correlation was positive as expected but weak. Although a deeper understanding of this aspect goes beyond the aims of the present study, it opens the door to different interpretations of the concept of generativity. That is, social generativity may not be mainly developed in the second part of adulthood as expressed by the theory, but have a more complex path (Stewart and Vandewater 1998). Other approaches to the study of future-related concerns, such as the future time orientation, indeed suggest that future orientation may also be developed in earlier stages of life (e.g. Morselli 2011, 2013; Zimbardo and Boyd 1999). Further research should try to understand the factors that facilitate the development of social generativity, and in what ways social generativity is connected to biological or moral development.

The findings of the present research have theoretical and practical implications. As concerns the theory, the analysis of the concept of generativity may find new motivations in the use of a scale more focused on Erikson's classic theory. Indeed, the literature has mainly overlooked the dimensions of social responsibility and considerations for the future generations that are instead central to the Erikson's conceptuality of generativity. These social dimensions of the concept may add insights to studies on the hypothetical relevance of generativity in promoting tolerance, attitudes of inclusion and more positive interpersonal and intergroup relationships. The results of this research confirm a negative correlation between generativity and prejudice and a positive correlation with inclusion of other social groups. These findings suggest that it might be relevant to promote people's generativity. Indeed, social generative concerns may play an important role in promoting tolerance between social groups and in reducing prejudicial and detrimental attitudes and behaviors towards minorities.

In addition, the promotion of social generativity may be pivotal for facilitating action-taking in relation to environmental issues. A key recommendation for practitioners may be to promote educational programs and projects designed to increase the relevance of social generativity (and thus not only linked to the capacity for child-bearing) and one's own capacity to assume social responsibility and a long-term commitment for the community. In an age in which the issues of environmentalism and the depletion of the natural resources are highly topical, teaching generativity as a way of taking care of the community for present and future time may have an important impact in terms of the preservation of the natural environment.

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