UDC 159.923.3:316.6
Original research paper

**Dalia Georgieva**[37]
**Diana Christova**[38]
Sofia University "St. Kliment Ohridski", Sofia, Bulgaria
Dept. of Psychology
Faculty of Philosophy

# THE DIMENSIONS OF SOCIAL SUPPORT AS PREDICTORS OF GENERATIVITY

## Abstract

The purpose of this study is to examine how the four dimensions of social support (SS) – giving and receiving emotional and instrumental support respectively – predict generativity (Erikson, 1968). Given the essence of generativity, we hypothesize that the giving aspects of SS are predictors of generativity and have a greater effect on it than receiving ones. Our sample (222 people) is aged between 16 and 74 ($M = 34.90$; $SD = 14.36$) and is predominantly female (70 % women). Participants filled out two self-report measures – the Loyola Generativity Scale (McAdams, & de St. Aubin, 1992) and the Brief 2-Way Social Support Scale (Obst, et al., 2019). The multiple hierarchical regression analysis has the receiving SS dimensions as a first model ($F$ (2, 219) = 10.822, $p < .001$), with the giving SS dimensions included in the second one ($F$ (4, 217) = 15.708, $p < .001$). First model (9% explained variance) identifies receiving emotional support ($\beta = .211$, $p < .05$) as a predictor of generativity. In the second model (22% explained variance), the two giving SS dimensions – of emotional ($\beta = .269$, $p < .001$) and instrumental support ($\beta = .241$, $p < .001$), have a significant effect, while receiving emotional support loses its predictive value. Findings provide important evidence for the need to examine both giving and receiving support (emotional and instrumental) in prediction of generativity

**Key words**: generativity, social support dimensions, giving and receiving support.

## Introduction

According to Erik Erikson (1968), in the seventh stage of development in his theory on ego identity, the stage which corresponds to middle adulthood, people are supposed to be driven by an inner call for procreativity, productivity and creativity, and to be mostly occupied with generating and nurturing whom and what will outlive them. That call he shortly defines as "the concern for establishing and guiding the next generation" (Erikson, 1968, p. 138) and terms "generativity". The opposing tendency one may have, namely the lack of such concern, Erikson calls "stagnation".

[37] georgieva.dalia@yahoo.com

[38] dahristova@phls.uni-sofia.bg

Generativity is what ensures the continuation of culture and society. There could be some misunderstanding that it is a simply biological concept – hence, that it can be reduced to biologically procreating and nurturing one's offspring. Quite the opposite – generativity is a rather broad category, which may encompass not only parenting, but also teaching, mentoring, volunteer work, leadership, charitable activities, religious involvements, political activities, and even paying one's taxes (McAdams, 2013). Moreover, according to McAdams and de St. Aubin (1992), generativity may be conceived in terms of seven interrelated features: cultural demand, inner desire, generative concern, belief in the species, commitment, generative action, and personal narration.

More metaphorically speaking, generativity consists of an investment of one's substance in various forms of life and work that will outlive the self (Kotre, 1984). Because of its orientation toward the future, the generative tendency is of great societal value – these "investments" form the basis of the existence and evolution of civilization (Huta & Zuroff, 2008), they are the "store" of human life (Erikson & Erikson, 1998, p. 57) and in some way, they are the pillars of society. This tendency indeed is what creates an occasion for generations to meet and for social exchange to occur between them, which is beneficial for both sides.

It is rather obvious that the youth need nurturance and guidance. What probably is not discussed enough is that mature people need to be needed and their maturity as well needs to be guided and encouraged by what they have produced and are taking care of (Erikson, 1977). Therefore, the psychosocial virtue of care, emblematic for the seventh stage, needs opportunities to be channeled and directed toward significant others (or significant causes). Some theorists also argue (Kotre, 1984) that the shift in contemporary social life allows various generative expression and therefore generativity is not a prerogative of midlife. This means all ages are prone to generative actions – actions that ensure the meaning of culture will be preserved and that support society in times of need.

Social support is indeed a form of relational, communicative behavior, and communicative not only in its everyday meaning, but also in the sense that it creates a community around individuals, which is especially needed when a person is "riding" the fluctuations of life. One of the very first well-developed conceptualizations of social support, Sidney Cobb's one (1976, p. 300), defines it as information that belongs to one of three classes: "leading the subject to believe that he/she 1) is cared for and loved; 2) is esteemed and valued; and/or 3) belongs to a network of communication and mutual obligation". Due to its various aspects, social support is a complicated term to give a unified definition to (Bruhn & Philips, 1984; Stewart, 1989), even though different authors have proposed such (Albrecht & Adelman, 1984; 1987; Cohen & Wills, 1985; House & Kahn, 1985). Rather, it is more valuable to regard social support as an umbrella term that encompasses a variety of ways in which one may provide another with "a sense of reassurance, validation, and acceptance […], within a web of ties in a supportive network" (Albrecht & Goldsmith, 2003, p. 265).

Authors have found social support to play a role in mediating the effects of stressful life events, in protecting health, and in buffering against stressful circumstances or crises (Cohen, Gottlieb, & Underwood, 2000; Lindsey & Yates, 2004). It is also proven to be of a great necessity for the quality of life of especially vulnerable populations such as the elderly (Newsom & Schulz, 1996), people with physical illnesses (Alferi, Carver, Antoni, Weiss, & Duran, 2001) or mental health struggles (Kessler & McLeod, 1985), people with a low income (Green & Rodgers, 2001) and etc. We could conclude that receiving social support is crucial. Some even say that receiving social support is of such importance when one is facing an obstacle, that its absence could be considered "an incongruity of considerable significance" on its own (Moss, 1973).

Providing social support though, also proves to be significant for people's wellbeing. Research implies that the beneficial effect of giving social support applies even more for the aged population, being a factor in the reduction of distress (Liang, Krause, & Bennett, 2001). What is an even more significant finding, providing social support (with analyses being done for both instrumental and emotional support) reduces the risks for mortality (Brown, Nesse, Vinokur, & Smith, 2003). Authors did not find any significant mediator for that linkage, but they have proposed a possible explanation for it in the face of the evolutionary advantages of helping others. Perhaps, this could be linked with what Erikson meant by saying that the generative tendency, which also requires nurturance, is the "store" of human life (Erikson & Erikson, 1998, p. 57), and that mature people need to be needed. Another research finds the reciprocity in giving and receiving social support when it comes to one's intimate relationships is associated with short- and long-term sickness absenteeism (Vaananen, Buunk, Kivimaki, Pentti, & Vahtera, 2005). We could comment on that last finding by mentioning that love and care as psychosocial virtues in Erikson's theory are subsequent. Thus, a healthy midlife adult (the sample's mean age is around 40) should be able to both love and care for the loved ones – and healthy, apparently, not only in the psychosocial field of life, but also biologically.

There are also direct links between generativity and social support. One research focuses on the differences in generativity and social involvement between African Americans and White Americans (Hart, McAdams, Hirsch, & Bauer, 2001). One of the components of social involvement is indeed social support, which correlates moderately with generativity in the whole sample. Another rather new research finds a strong correlation between social support and generativity (Chang, 2020). Also, a medium influence on adult subjective well-being by both social support and generativity has recently been observed (Chang & Sohn, 2020).

The purpose of this study is to examine how the dimensions of social support predict generativity: two of giving and two of receiving (emotional and instrumental support, respectively), Based on Erikson's conceptualization of generativity (nurturance, maintenance and guidance) and available research, we hypothesize that 1) all dimensions of social support will be correlated positively

and significantly with generativity, and 2) the contribution of the giving aspects of social support to the outcome's variance would be greater. Previous research regarding the second hypothesis was not found by the authors due to a lack of a usage of a measure which differentiate the effect of giving and receiving support on generativity. However, conceptually there is enough evidence that hints at the possibility that providing for the future generations, as well as being emotionally and helpfully present in others' life could be more predicting for generativity than receiving support. Specifically, because such research in particular has not been done before, it is valuable to examine whether there is empirical evidence to presume that these aspects of social support are more crucial for generativity.

## Method

### Participants

The study includes a sample of 222 Bulgarians, aged between 16 and 74 ($M$ = 34.90; $SD$ = 14.36) and divided into three age groups – below 22 years of age (24%), from 22 to 39 years of age (38%), and from 39 to 74 years of age (37%). The majority (70%) of participants are women, while men constitute a smaller proportion of the sample (30%), and only one participant has not mentioned their gender (0.4%). When it comes to the level of education, the distribution is as follows: 35% have graduated high school, 34% have a bachelor diploma, and 31% are either MD or PhD graduates. As to occupation, 52% of the participants are full-time employees, 22% - part-time employees and students, 19% - students and a minority of 4% - retired and 3% - unemployed. Regarding residence, 67% of the participants live in the capital of Bulgaria, 14% in a village, 11% in a big town and 8% in a small town. Concerning marital status and having children - 51% of the participants are not married and 49% are married, with 54% of the sample not having children and 46% - having one or more children.

### Measures

Participants filled out two self-reported measures. The first one is the 20-item Loyola Generativity Scale (LGS, McAdams & de St. Aubin, 1992). The LGS is a unidimensional measure that consists of 20 statements ($\alpha$ = .810) that participants rate on a 4-point Likert scale from 1 "not at all like me" to 4 "very much like me". Example items are "I try to pass along the knowledge I have gained through my experiences" and "I do not feel that other people need me" (reversed).

The second measure is the 12-item Brief 2-Way Social Support Scale (Brief 2-Way SSS, Obst, Shakespeare-Finch, Krosch, & Rogers, 2019) which is divided into 4 subscales – receiving emotional support ($\alpha$ = .870), giving emotional support ($\alpha$ = .651), receiving instrumental support ($\alpha$ = .739), and giving instrumental support ($\alpha$ = .848). All four subscales of the Brief 2-Way SSS consist of 3 statements that participants rate of a 6-point Likert scale from 0 "Never" to 5 "Always". Example items for each of the scales are as follows:

- receiving emotional support (RES) - "When I am feeling down there is someone I can lean on."
- giving emotional support (GES) - "People close to me tell me their fears and worries."
- receiving instrumental support (RIS) - "I have someone to help me if I am physically unwell."
- giving instrumental support (GIS) – "I am a person others turn to for help with tasks."

### Procedure

The research was conducted[39] at the end of 2019 and the beginning of 2020, partly after the occurrence of the COVID-19 pandemic. Therefore, most of the data was collected in an online format, but still some of it was obtained in person on paper prints of the questionnaire. Participation was voluntary and anonymous. Participants were instructed that the statements included are related to different ways in which people may think, feel or act, and that their participation demands choosing the specific point of agreement with these statements that feels closest to them. Data was analysed by using SPSS, Version 20.0 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp).

## Results

### Descriptive statistics

**Table 1** displays descriptive statistics for the unidimensional Loyola Generativity Scale and the four subscales of the Brief 2-way social support scale, namely - receiving emotional support; giving emotional support; receiving instrumental support; giving instrumental support.

Table 1
*Descriptive characteristics of the scales*

| Scale | Min | Max | *M* | *SD* | Skewness | Kurtosis | α |
|---|---|---|---|---|---|---|---|
| LGS | 39 | 78 | 60.95 | 8.34 | -,170 | -.17 | .810 |
| RES | 1 | 5 | 4.40 | .88 | -1.82 | 2.99 | .870 |
| GES | 1 | 5 | 4.15 | .77 | -.83 | .34 | .651 |
| RIS | 1 | 5 | 4.20 | .83 | -1.31 | 1.61 | .739 |
| GIS | 1 | 5 | 4.02 | .88 | -.98 | .80 | .848 |

*Abbreviations: **LGS** - Loyola Generativity Scale; **RES** - receiving emotional support; **GES** - giving emotional support; **RIS** - receiving instrumental support; **GIS** - giving instrumental support*

[39] Acknowledgments to Bozhidar Lechov, BSc student at Sofia University "St. Kliment Ohridski", for his assistance with the scale's translation and the data collection. We would also like to express to him our deep gratitude for presenting the paper at the International virtual-online conference 16th days of applied psychology.

The absolute values of the measures of asymmetry Skewness and Kurtosis are both within acceptable range of < 2 and < 7 respectively, therefore the distribution is almost normal (Hair, & al., 2010; Tabachnik & Fidell, 2019). The Cronbach's alpha values indicate the reliability of the scales, mostly above .700.

*Correlation analysis*

As shown in **Table 2**, generativity was found to correlate positively and statistically significantly with all aspects of social support.

Table 2

*Correlations between generativity and social support dimensions*

| | RES | RIS | GES | GIS |
|---|---|---|---|---|
| **Generativity** | .287*** | .254*** | .414*** | .385*** |
| **RES** | | .657*** | .512*** | .320*** |
| **RIS** | | | .442*** | .365*** |
| **GES** | | | | .450*** |

Note: Correlation is significant at the 0.001 level

*Abbreviations: **RES** - receiving emotional support; **GES** - giving emotional support; **RIS** - receiving instrumental support; **GIS** - giving instrumental support*

Among these correlations, the highest value of Pearson's *r*, indicating a moderate strength of association, was identified between the scores on generativity and the scores on giving emotional support ($r = .414$, $p < .001$). Generativity and receiving instrumental support marked the lowest correlation with moderate intensity ($r = .254$, $p < .001$).

The dimensions of social support also proved to intercorrelate in a statistically significant and positive way. The strongest correlation was found between the scores on receiving instrumental support and these on receiving emotional support ($r = .657$, $p < .001$), followed by the correlation between the scores on giving and those on receiving emotional support ($r = .512$, $p < .001$). The lowest correlation – a moderate one, was between receiving emotional support and giving instrumental support ($r = .320$, $p < .001$). None of the correlations exceeded 0.7 as a threshold for multicollinearity among independent variables, thus allowing the subsequent regression analysis.

**Hierarchical multiple regression analysis**

To approach our research questions, we conducted a two-step hierarchical regression analysis in order to evaluate the prediction of generativity from the two receiving and the two giving social support dimensions. The scores on the two receiving social support subscales were regressed onto the scores on generativity scale at step 1. The scores on the two giving social support subscales were introduced at step 2. The summary of regression models is presented at **Table 3**.

Table 3
*Summary of hierarchical multiple regression analysis*

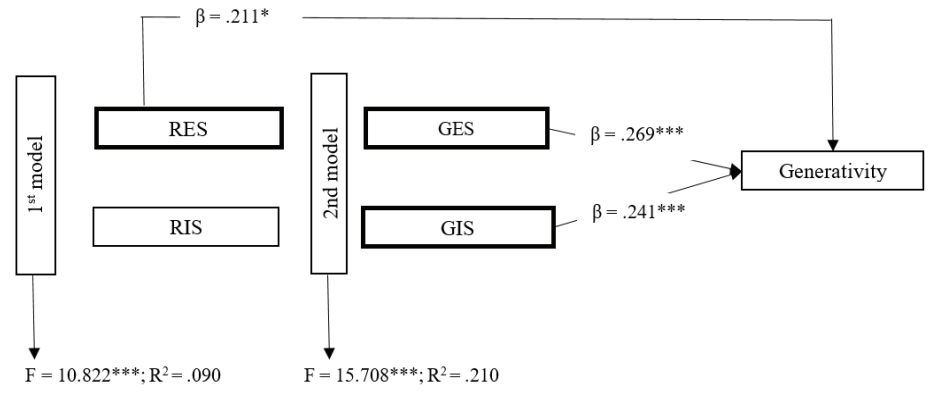
| Model | R | $R^2$ | Adj. $R^2$ | SE | $\Delta R^2$ | $\Delta F$ | *p* |
|---|---|---|---|---|---|---|---|
| **1** | .30[1] | .09 | .08 | 7.99 | .09 | 10.82 | .000 |
| **2** | .47[2] | .22 | .21 | 7.41 | .13 | 18.83 | .000 |

1. Predictors: (Constant), receiving instrumental support, receiving emotional support
2. Predictors: (Constant), receiving instrumental support, receiving emotional support, giving instrumental support, giving emotional support

We analyzed the indicators of Tolerance and Variance Inflation Factor (VIF), recommended as the most important and reliable test of multicollinearity (Hair, & al., ibid.). The VIF values were all bellow 10 (for receiving emotional support - model 1: VIF = 1.75, model 2: VIF = 1.97; for receiving instrumental support = model 1: VIF = 1.75, model 2 – VIF = 1.86; for giving emotional support - model 2: VIF=1.56; for giving instrumental support - model 2: VIF=1.31). The values of tolerance were all greater than .2 and therefore acceptable (for receiving emotional support – .56 in model 1; .53 in model 2; for receiving instrumental support – .56 in model 1; .50 in model 2; for giving emotional support: – .64 in model 2; for giving instrumental support – .76 in model 2). On this base, the assumption of multicollinearity was deemed to be met.

**Figure 1.**

**1st (receiving SS dimensions) and 2nd (giving social support dimensions included) models**




* - p < .05; ** - p < .01; *** - p < .001

As shown on **Figure 1**, the results of the first block hierarchical regression analysis revealed a model to be statistically significant ($F$ (2,219) = 10.82, $p < .001$). Model 1 accounted for 9 % of the variance in generativity ($R^2$ = .09). It was found that receiving emotional support was a significant predictor of generativity (β = 0.21; $p = .01$), and receiving instrumental support – was not (β = .11; $p = .17$).

Entering the scores on the two giving social support dimensions at step 2 raised the prediction up to 22 % ($R^2 = 0.22$). Model 2 proved to be also significant ($F$ (4,217) = 15.70, $p < .001$). With all four independent variables entered in model 2, only the giving social support aspects were significant predictors (giving social support: β = .26; p < .001; giving instrumental support: β = .24; $p = .001$). The receiving aspects did not contribute statistically significantly to the regression model (receiving instrumental support: β = .21; p = .390; receiving instrumental support: β = .00; p = .997). Therefore, giving emotional and instrumental support were the most important predictors, which uniquely explained 13 % of the variance of generativity.

## Discussion

The purpose of this study was to deepen our understanding of the role of social support dimensions in prediction of generativity. Its theoretical background integrated the developmental perspective to adult identity and the special mission of generativity in human life cycle with multidimensional approach to social support. Both kind of variables – predictors and criterion, we were interested in, refer to the global category of prosocial behavior intended to help and benefits others, maintain human connection and community. Contemporary psychologists emphasize the need to differentiate this complex behavior and overcome unidimensional approach leading to mixed and inconsistent finding (Padilla-Walker & Carlo, 2014). Although several previous researches suggest that social support is associated to generativity, the contribution of giving and receiving support dimensions is unclear. Our study was an attempt to illuminate their differential effects on the outcome measure. The two instruments used – The Loyola Generativity Scale and The Brief two-way social support scale were chosen to measures of the criterion and the predictive variables, respectively. They displayed a good internal consistency in the current sample in accordance with previous studies. We checked the assumptions of our research hypotheses by applying a two-steps hierarchical regression strategy.

Consistent with past research, discussed in the introduction, the results of the correlation analysis provided statistical confirmation of the meaningful integration of social support in research of the construct of generativity. Generativity was found to be positively and significantly related to all aspects of social support. Therefore, the first hypothesis of our study was empirically verified and supported. Higher scores of generative dispositions were connected to higher

scores on both giving and receiving emotional and instrumental support. These results point out the role of perceived quality of social exchange in promoting generativity. More generative participants appeared to be more convinced in their position of provider and receiver of tangible assistance, comfort, trust and affection in their relations. The strongest correlation found related generativity to giving emotional support thus revealing personal willingness to be present in life of others as a source of validation and empathy for them.

Another important aspect of the results of the correlation analysis is the interconnectedness of the four social support dimensions. Generally, the disposition to give/receive one kind of support enhance the disposition to give/receive another kind. Here our results replicate the finding of Obst. & al., including the lowest association between receiving emotional support and giving instrumental support "in line with the theory underpinning the scale construct" (Obst. & al., ibid, p. 5). The strongest association found between emotional support provision and emotional support receiving highlights the importance of mutual affective engagement and attunement in interpersonal interactions, demonstrated in other research (Morelli, Lee, Arnn, & Zaki, 2015).

The second hypothesis, aimed to differentiate the effects of the giving and the receiving social support dimensions on generativity, was tested and confirmed by applying a two-step hierarchical regression analysis. When the two receiving aspects entered the first model, only receiving emotional support showed a significant effect on the criterion, accounting for 9% of its variance. According to results at step one, it appeared that generativity would be more probable when a person felt there was somebody who genuinely cared about him/her, someone to lean on in times of need than when being assisted in a tangible manner.

With adding the two giving dimensions as predictors in the second model, the effect of receiving emotional support disappeared and the two giving support dimensions proved to relate significantly to generativity above and beyond the receiving ones. In this way they emerged as significant unique positive predictors of generativity explaining 13 % of its variance. This result suggests that one's perceived position of a supporter/helper in the interpersonal exchange of resources (emotional comfort, an advice, a tangible aid) is an important factor in shaping the generative disposition. Its predictive value is consistent with Eriksonian view of the psychosocial virtue of generativity, namely – care (Erikson, ibid).

Our study was intended to fill the missing knowledge about the differential effects of social support dimensions on generativity. Results provide important evidence for the significance of multidimensional approach to social support and the need to examine both giving and receiving support (emotional and instrumental) in prediction of generativity.

A future longitudinal research would allow to examine if the effects of the giving and the receiving social support dimensions on generativity are constant or change in lifetime.

Along with theoretical and research implications, the results of the study could be taken into account in development of programs for human flourishing (Dahl, Wilson-Mendenhall, & Davidson, 2020) and interventions to optimize support behavior within families or organizations. Linking with research of well-being, special attention should be given to the benefits of being "giver", empathy and importance of affective attunement and emotional support in interpersonal interactions. Supporting others not only satisfy the societal demands for generativity on adults and their current needs but also set the scene for further development - of the individuals, the offspring, culture and society.

Our study was an initial step in a broader attempt to reveal different kinds of predictors of generativity through the integration of theory and research on adult psychosocial development. And as a first step it has its limitations. The design is cross-sectional and the sample although demographically diverse is not well-balanced on some socio-demographics, especially gender. A part of the data was collected in an unusual and challenging situation of COVID-19 pandemic. Nevertheless, the main findings are consistent with Eriksonian conception of generativity and grow psychological knowledge of distinct contribution of the social support dimensions to the generative disposition's prediction.

## References


Albrecht, T. L., & Adelman, M. B. (1984). Social support and life stress: New directions for communication research. *Human Communication Research*, *11*, 3–32. https://doi.org/10.1111/j.1468-2958.1984.tb00036.x

Albrecht, T. L., & Adelman, M. B. (1987). *Communicating social support*. Newbury Park, CA: Sage.

Albrecht, T. L., & Goldsmith, D. J. (2003). Social support, social networks and health. In T. L. Thompson, A. M. Dorsey, K. I. Miller, & R. Parrott (Eds.), *Handbook of health communication* (pp. 263–284). London, UK: Erlbaum. https://doi.org/10.4324/9780203846063

Alferi, S. M., Carver, C. S., Antoni, M. H., Weiss, S., & Duran, R. E. (2001). An exploratory study of social support, distress, and life disruption among low-income Hispanic women under treatment for early-stage breast cancer. *Health Psychology*, *20*, 41–46. https://doi.org/10.1037/0278-6133.20.1.41

Brown, S. L., Nesse, R. M., Vinokur, A. D., & Smith, D. M. (2003). Providing social support may be more beneficial than receiving it: Results from a prospective study of mortality. *Psychological Science*, *14*, 320–327. https://doi.org/10.1111/1467-9280.14461

Bruhn, J. G., & Philips, B. U. (1984). Measuring social support: A synthesis of current approaches. *Journal of behavioral medicine*, *7*(2), 151-169. https://doi.org/10.1007%2FBF00845384

Chang, H. K. (2020). Depression and Generativity of the Middle Aged: Mediating Effect of Social Support. *Indian Journal of Public Health Research & Development*, *11*(3). https://medicopublication.com/index.php/ijphrd/article/view/2231

Chang, H., & Sohn, J. N. (2020). Stress, Stress Coping, Social Support, Generativity and Subjective Well-being in the Middle-Aged People. *Indian Journal of Public Health Research & Development*, *11*(4). https://medicopublication.com/index.php/ijphrd/article/view/7494/6976

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, *38*, 300–314. https://doi.org/10.1097/00006842-197609000-00003

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*, 310–357. https://doi.org/10.1037/0033-2909.98.2.310

Cohen, S., Gottlieb, B. H., & Underwood, L. G. (2000). Social relationships and health. In S. Cohen, L. G. Underwood, & B. H. Gottlieb (Eds.), *Social support measurement and intervention* (pp. 3–25). New York, NY: Oxford University Press. https://doi.org/10.1093/med:psych/9780195126709.003.0001

Dahl, C. J., Wilson-Mendenhall, C. D., & Davidson, R. J. (2020). The plasticity of well-being: A training-based framework for the cultivation of human flourishing. *Proceedings of the National Academy of Sciences of the United States of America*, *117*(51), 32197–32206. https://doi.org/10.1073/pnas.2014859117

Erikson, E. H. (1968). *Identity: Youth and crisis* (No. 7). WW Norton & Company.

Erikson, E. H. (1977). *Childhood and society*. Paladin Books. First published in 1951 by Imago Publishing Company.

Erikson, E. H., & Erikson, J. M. (1998). *The life cycle completed (extended version)*. WW Norton & Company.

Green, B. L., & Rodgers, A. (2001). Determinants of social support among low-income mothers: A longitudinal analysis. *American Journal of Community Psychology*, *29*(3), 419-441. https://doi.org/10.1023/A:1010371830131

Hair, J., Black, W. C., Babin, B. J., Anderson, R. E. (2010) *Multivariate data analysis*. 7th ed. Upper Saddle River, New Jersey: Pearson Educational International.

Hart, H. M., McAdams, D. P., Hirsch, B. J., & Bauer, J. J. (2001). Generativity and social involvement among African Americans and White adults. *Journal of research in personality*, *35*(2), 208-230. https://doi.org/10.1006/jrpe.2001.2318

House, J. S., & Kahn, R. L. (1985). Measures and concepts of social support. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 83–108). Orlando, FL: Academic Press. https://ci.nii.ac.jp/naid/20001694721/

Huta, V., & Zuroff, D. C. (2007). Examining mediators of the link between generativity and well-being. *Journal of adult development*, *14*(1-2), 47-52. https://doi.org/10.1007%2Fs10804-007-9030-7

Kessler, R. C., & McLeod, J. D. (1985). *Social support and mental health in community samples*. Academic Press.

Kotre, J. N. (1984). *Outliving the self: Generativity and the interpretation of lives*. Johns Hopkins University Press.

Liang, J., Krause, N. M., & Bennett, J. M. (2001). Social exchange and wellbeing: Is giving better than receiving? *Psychology and Aging*, *16*, 511–523. https://doi.org/10.1037/0882-7974.16.3.511

Lindsey, A. M., & Yates, B. C. (2004). Social support: Conceptualization and measurement instruments. In M. Frank-Stromborg & S. J. Olsen (Eds.), *Instruments for clinical health-care research* (pp. 164–199). Sudbury, MA: Jones & Bartlett. https://www.worldcat.org/title/instruments-for-clinical-health-care-research/oclc/52595242

McAdams, D. P. (2013). *The redemptive self: Stories Americans live by-revised and expanded edition*. Oxford University Press.

McAdams, D. P., & de St Aubin, E. D. (1992). A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. *Journal of personality and socialpsychology*, *62*(6), 1003-1015. https://doi.org/10.1037/0022-3514.62.6.1003

Morelli, S. A., Lee, I. A., Arnn, M. E., & Zaki, J. (2015). Emotional and instrumental support provision interact to predict well-being. *Emotion (Washington, D.C.)*, *15*(4), 484–493. https://doi.org/10.1037/emo0000084

Moss, G. E. (1973). *Illness, immunity, and social interaction*. New York: Wiley Interscience.

Newsom, J. T., & Schulz, R. (1996). Social support as a mediator in the relation between functional status and quality of life in older adults. *Psychology and Aging*, *11*(1), 34-44. https://doi.org/10.1037/0882-7974.11.1.34

Obst, P., Shakespeare-Finch, J., Krosch, D. J., & Rogers, E. J. (2019). Reliability and validity of the Brief 2-Way Social Support Scale: an investigation of social support in promoting older adult well-being. *SAGE open medicine*, *7*, 2050312119836020. https://doi.org/10.1177/2050312119836020

Padilla-Walker, L. M., & Carlo, G. (Eds.). (2014). *Prosocial Development: A Multidimensional Approach*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199964772.001.0001

Stewart, M. J. (1989). Social support: Diverse theoretical perspectives. *Social Science & Medicine*, *28*(12), 1275-1282. https://doi.org/10.1016/0277-9536(89)90346-8

Tabachnik, B., G., Fidell, L. S. (2019). *Using multivariate statistics*. 7th ed. NY, NY: Pearson.

Vaananen, A., Buunk, B. P., Kivimaki, M., Pentti, J., & Vahtera, J. (2005). When it is better to give than to receive: Long-term health effects of perceived reciprocity in support exchange. *Journal of Personality and Social Psychology*, *89*, 176–193. https://doi.org/10.1037/0022-3514.89.2.176