

Social Support and Attitudes to Aging in Later Life

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SOCIAL SUPPORT AND ATTITUDES TO AGING

Abstract

Negative attitudes to aging are a risk factor for poor health and well-being. The current study sought to examine satisfaction with social support as a potentially modifiable factor that might facilitate the development of more positive attitudes to aging. A convenience sample of 501 older respondents ($M_{\text{age}} = 72.06$) reported on frequency of social support and their satisfaction with it, as well as completing a rating of attachment (model of the self and others), a measure of attitudes to aging, and a number of background measures. Results indicated that better subjective health, younger age, and greater satisfaction with social support were all significant predictors of more positive attitudes to aging, while frequency of social support was not. Model of the self accounted for some variation in satisfaction with social support. Interventions to increase satisfaction with social support in later life, recognizing individual differences and attachment styles, may improve attitudes to aging, and further support health and well-being.

Key words: Social networks; social support; attitudes to aging; health; well-being; attachment.

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SOCIAL SUPPORT AND ATTITUDES TO AGING

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Ensuring that increases in life expectancy are accompanied by more years of good health is a key aim of international policy (World Health Organisation, 2015). As social beings, our social networks and the support they provide are often considered an important factor in health and well-being across the lifespan. Greater social support has been linked to better cognitive and physical health, and mood, in later life (e.g., Antonucci, Fuhrer, & Dartigues, 1997; Ellwardt, Aartsen, Deeg, & Steverink, 2013; Zunzunegui et al., 2004). For this reason, social support is often promoted within later life interventions (Cattan, White, Bond, & Learmouth, 2005) and is considered a key component of models of healthy aging (World Health Organisation, 2015). A more positive attitude to aging has also been linked with improved health and well-being in later life (e.g., Bryant et al., 2012; Kavirajan et al., 2011; Levy, Pilver, & Pietrzak, 2014; Levy, Slade, & Gill, 2006; Sarkisian, Hays, & Mangione, 2002), but there has been little research on the relationship between social support and attitudes to aging. Within the current paper, we therefore explore whether social support might be a predictor of more positive attitudes to aging.

Attitudes to Aging, and Health and Well-Being

Stereotypes are both positive and negative characteristics attributed to a person/people from a particular social group which are believed to be shared by most of that group's members (Brown, 2010). Although stereotypes applied to those in later life include positive aspects such as expectations of increased warmth, morality and wisdom, this is accompanied by prevalent stereotypes of older people as having low status, being less competent and experiencing wide-spread decline (e.g., Abrams, Eilola, & Swift, 2009; Hummert, Garstka, Shaner, & Strahm, 1994; Lamont, 2016; Sweiry & Willetts, 2012). Age stereotypes internalised at a young age are also likely to be reflected in people's expectations of their own future as they get older, known as their *attitudes to aging*. Measures of attitudes to aging

SOCIAL SUPPORT AND ATTITUDES TO AGING

therefore examine the extent to which people endorse negative stereotypes of aging, and may also examine endorsement of positive stereotypes, creating an overall picture of the valence of people's attitudes, either overall or in specific domains (e.g., Barker, O'Hanlon, McGee, Hickey, & Conroy, 2007; Laidlaw, Power, & Schmidt, 2007; Lawton, 1975).

Negative attitudes to aging and general exposure to and awareness of age stereotypes can affect emotions, motivations and behaviors (Levy, 2009). Perceiving aging more negatively is associated with fewer preventative health behaviors (e.g., Sarkisian, Prohaska, Wong, Hirsch, & Mangoine, 2005), while awareness of age stereotypes can degrade outcomes such as cognitive and physical performance (e.g., Lamont, Swift, & Abrams, 2015; Meisner, 2012). Exposure to negative age stereotypes is also thought to act as a stressor, increasing the risk of negative physiological responses that may be harmful to cardiovascular health (Levy, 2009; Levy, Hausdorff, Hencke, & Wei, 2000). Through these multiple pathways, negative attitudes to aging can then become self-fulfilling and impact upon health and well-being.

In support of this, longitudinal research has found that holding positive views of aging earlier in life (measured anything from 6 to 23 years earlier) predicts increased preventative health behaviors, better functional health (Levy & Myers, 2004; Levy, Slade, & Kasl, 2002; Robertson, Savva, King-Kallimanis, & Kenny, 2015), and increased longevity (Levy, Slade, Kunkel, & Kasl, 2002; Maier & Smith, 1999; Sargent-Cox, Anstey, & Luszcz, 2014). Levy, Slade, May, and Caracciolo (2006) also found that holding more positive age stereotypes predicted better physical recovery over a period of six months among older people following a myocardial infarction. Based on these findings, it is important to understand the factors linked to positive attitudes to aging in older people.

Social Support and Attitudes to Aging

Various factors have been linked to more positive attitudes to aging, including greater wealth, health and education, lower neuroticism, living with others, a higher sense of mastery, younger age and being married (Barrett, Savva, Timonen, & Kenny, 2011; Bryant et al., 2012; Jang, Poon, Kim, & Shin, 2004; Sarkisian et al., 2002). These characteristics may lead to more positive attitudes to aging by enabling individuals to disconfirm negative stereotypes of aging (both to themselves and to others). For example, those with better health are likely to be able to remain more active, both physically and socially, countering perceptions of later life as a time of social and functional loss (Barker et al., 2007; Laidlaw et al., 2007; Sarkisian, Hays, Berry, & Mangoine, 2002; Wurm, Tesch-Römer, & Tomasik, 2007). Similarly, social support improves access to both emotional (e.g., love and affirmation) and instrumental support (e.g., practical support and information), which may again counter negative attitudes to aging.

Two studies have examined close personal relationships in tandem with attitudes to aging. Steverink, Westerhof, Bode and Dittmann-Kohli (2001) report reduced expectations of psychosocial loss (negative experience and social loss), and Bryant and colleagues (2012) report reduced expectations of psychosocial loss alongside greater expectation of psychological growth in later life (positive growth and increasing wisdom) among those with a partner, compared to those without (also see Kavirajan et al., 2011; Steverink, Westerhof, Bode & Dittmann-Kohli, 2001). However, social support goes beyond family ties; people can also receive social support from friends and the wider community. Only a few studies have examined the impact of wider social networks on attitudes to aging. These studies have reported mixed findings as to whether larger social networks and more frequent social contact predict more favorable attitudes to aging (Kavirajan et al., 2011; Kim, Jang, & Chiriboga, 2012). One possible explanation for these mixed findings is that these studies of the number

SOCIAL SUPPORT AND ATTITUDES TO AGING

of social contacts and frequency of contact do not include ratings of satisfaction with social support. As well as there being multiple sources of social support, such support may come in different forms (e.g. emotional and instrumental support), and may vary in quality and in the extent to which it meets the needs of individuals. All of these factors will determine the overall level of satisfaction with social support.

Socioemotional selectivity theory (Carstensen, Isaacowitz, & Charles, 1999) posits that in later life we have a shortened time perspective and so prioritize the emotional significance of our relationships above other longer-term goals such as knowledge acquisition. Prioritization of emotion regulation has been shown to lead to more selective social networks as older adults are less likely to maintain wider friendships that do not satisfy this goal (Carstensen et al., 1999). Once again, this suggests that quantity or frequency of social support might not be a good predictor of more positive attitudes to aging, but that satisfaction with social support will be. The current study therefore builds upon previous research which has focused on the presence or absence of particular social support figures, the size of social networks, or the frequency of contact, and presents a first test of the association between satisfaction with social support (as well as frequency of social support) and attitudes to aging.

One important factor that may have an impact upon both level of and satisfaction with social support is *attachment style*. Attachment style is defined as an individual's internal representation (or internal working model) of the self and others in relationships, which is believed to stem from early experiences of relationships (Bartholomew & Horowitz, 1991). A person's attachment style may affect his/her ability and motivation to form social and emotional bonds with others and also the nature and type of support they seek (Bartholomew & Horowitz, 1991). Previous research has shown that attachment style is a predictor of satisfaction with social support (e.g., Kafetsios & Sideridis, 2006; Meyers & Landsberger,

SOCIAL SUPPORT AND ATTITUDES TO AGING

2002), suggesting that those that have a more secure attachment style more readily establish meaningful social support and have a greater appreciation of it. However, it is expected that satisfaction with social support is dependent not only on attachment style, but also on other situational factors including opportunities and ability to make contacts (such as those provided by later life interventions). Therefore, the final element of this study examines whether satisfaction with social support remains a predictor of attitudes to aging, even when taking into account differences in attachment styles.

The Current Study

The current study extends research on the benefits of social support in later life by addressing the following research questions:

1. Does greater satisfaction with social support predict more positive attitudes to aging?
2. Is satisfaction with social support a stronger predictor of attitudes to aging among older people than frequency of social support?
3. Does satisfaction with social support predict attitudes to aging even when taking into account differences in people's style of attachment?

Method

Participants and Design

A convenience sample of 501 English speaking older people was recruited from local community groups, events and contacts. Ethical approval for the study was obtained from Bangor University Research Ethics Committee and all participants provided informed consent. Of the 501 respondents (197 male, 304 female; aged 60-97 years, $M_{\text{age}} = 72.06$, $SD_{\text{age}} = 8.72$), 96% considered their ethnic origin to be white British/European. The relationship status of respondents was as follows: married (58%); widowed (26%); separated/divorced (9%); single (5%) and in a civil partnership (2%). A high percentage of respondents had completed some college or university level education (43%), while half (50%) had completed

SOCIAL SUPPORT AND ATTITUDES TO AGING

high school only, and 7% had completed primary/elementary education only. Over two-thirds of respondents were retired or unemployed (76.4%), while 7.6% were working full-time, 8% were working part-time and a further 8% classified themselves as volunteers. Predominantly, respondents rated their current physical health as good (47%), followed by fairly good (38%) and a smaller number as not good (15%).

Measures

Attitudes to aging. Respondents completed the 5-item attitude toward own aging (ATOA) sub-scale of the Philadelphia Geriatric Center Morale Scale (PGCMS; Lawton, 1975), a valid and reliable measure of attitudes to aging (Liang, Asano, Bollen, Kahana, & Maeda, 1987; Liang & Bollen, 1983). Respondents could either *agree* (0) or *disagree* (1) with each statement and so higher total scores (0-5) reflect more positive ATOA (Cronbach's $\alpha = .75$).

Frequency of social support and satisfaction with support. Four items were used to measure the frequency of social contact on a 5-point scale from *Never* to *Daily*. Items asked about frequency of contact with relatives, friends and neighbors, and attendance at social or religious groups (based on the social support network typology of Wenger, 1994). Calculating the mean of these four items, higher scores indicate greater frequency of social support. Further, four satisfaction items asked about satisfaction with the general support, practical assistance and emotional support received from family and friends (adapted from the Social Network Scale; Stokes, 1983), and a final item was included to address satisfaction with social life and community activities (5-point scale; *very dissatisfied* - *very satisfied*). Higher mean scores indicate greater satisfaction with current levels of social support (Cronbach's $\alpha = .80$). The full measure is described in the Appendix.

Attachment style. Bartholomew and Horowitz's (1991) Relationship Questionnaire was utilized as a measure of internal working models held by respondents about the self (as

SOCIAL SUPPORT AND ATTITUDES TO AGING

worthy of another's love, support and attention) and others (as supportive, trustworthy and responsive to their needs). Respondents rated their level of agreement (1 = *does not describe me at all*, 7 = *very much describes me*) with four statements, each describing a different attachment type (secure, dismissing, preoccupied or fearful). To compute scores for the model of the self, the sum of each individual's ratings on the preoccupied and fearful items were subtracted from the sum of his or her ratings on the secure and dismissing items. To compute scores of the model of others dimension, the sum of each individual's ratings on the dismissing and fearful items were subtracted from the sum of his or her ratings on the secure and preoccupied items. For both, scores ranged from -12 (very negative model of the self/others) to +12 (positive model of the self/others).

Results

Table 1 shows means, standard deviations and ranges for each measure. Total ATOA scores were negatively skewed (-0.58 , $SE = .11$) and were not normally distributed (Kolmogorov-Smirnov tests; $D(501) = .21$, $p < .001$; $M = 3.19$, $SD = 1.67$), as were scores for satisfaction with social support (-1.00 , $SE = .11$; $D(486) = .12$, $p < .001$; $M = 4.20$, $SD = 0.66$). This shows that respondents' ATOA tended to be more positive (consistent with previous research e.g., Bryant et al., 2012; Shenkin et al., 2014) and that respondents were generally satisfied with their levels of social support. Transformations of the data were not needed as residual plots indicated that the model generally fitted well to the data and attempting transformations produced very little difference in outcome¹.

Bivariate correlations among variables (Table 2) revealed that more positive ATOA were associated with higher education, younger age and better health. As predicted, having a

¹ Log transformations on these two variables reduced skewness for ATOA (-0.07 , $SE = .11$) and satisfaction with social support ($.15$, $SE = .11$). However, the assumption of normality was still violated when using the log transformed versions of ATOA ($D(501) = .20$, $p < .001$) and satisfaction with social support ($D(486) = .13$, $p < .001$), as shown by the Kolmogorov-Smirnov test. Associations for log transformation were generally similar to the original results and would not have changed conclusions. Therefore, it was decided that transformation would not improve the analysis of this data.

SOCIAL SUPPORT AND ATTITUDES TO AGING

more positive model of the self and others, and higher levels of social support and satisfaction with social support, were all positively correlated, but also associated with more positive ATOA. Greater frequency of social support was associated with higher education, and greater satisfaction with social support was associated with both higher education and better health. Frequency of social support and satisfaction with social support were not correlated with any other background variables. Multicollinearity in the model was unlikely as the highest correlation between variables was .47 (between frequency and satisfaction with social support). Independent samples *t*-tests revealed significant differences in ATOA between those with ($M = 3.49, SD = 1.59$) and without a partner ($M = 2.75, SD = 1.70$) $t(499) = -5.02, p < .001$, and between those in ($M = 3.82, SD = 1.47$) and not in paid work ($M = 3.07, SD = 1.68$) $t(495) = -3.69, p = .05$. No differences in ATOA were found between men and women, $t(499) = .54, p = .45$ ($M_{women} = 3.16, SD_{women} = 1.67; M_{men} = 3.24, SD_{men} = 1.67$).

The relationship between both satisfaction with and frequency of social support, and ATOA was first examined (research questions 1 and 2). Education, age, employment, health and relationship status were entered into the first block of an hierarchical linear regression as key demographic variables, all previously linked to more positive ATOA. Variables within the first block explained 32.3% of variance in ATOA $F(5, 472) = 45.00, p < .001$. Age $\beta = -.14, t(472) = -3.35, p = .001$, and health status $\beta = .50, t(472) = 12.34, p < .001$, were significant predictors within the model. A second block including frequency and satisfaction with social support as additional predictors in the regression resulted in a small but significant increase in variance explained $F_{change} = 11.05$ ($p = .002$), and the model accounted for 35.3% of variance in ATOA $F(7, 470) = 36.67, p < .001$. Age $\beta = -.17, t(470) = -3.96, p < .001$, and health status $\beta = .46, t(470) = 11.47, p < .001$ remained significant predictors of ATOA, and satisfaction with social support also accounted for variance in ATOA within this model, $\beta = .14, t(470) = 3.10, p = .002$. No other predictors were significant ($p > .05$). Therefore,

SOCIAL SUPPORT AND ATTITUDES TO AGING

younger respondents and those reporting better health and greater satisfaction with social support were more likely to hold positive ATOA. As predicted, greater frequency of social support was only a marginal predictor of this outcome when included in the same model.

Next, to assess whether satisfaction with social support remains a significant predictor of ATOA even when accounting for differences in attachment style (research question 3), regression analyses were repeated, but this time included models of the self and others within the first block. Variables within the first block explained 36.3% of variance in ATOA $F(7, 462) = 37.55, p < .001$. Age $\beta = -.16, t(462) = -3.82, p < .001$, health status $\beta = .49, t(462) = 12.25, p < .001$, model of the self $\beta = .19, t(462) = 4.99, p < .001$ and model of others $\beta = .08, t(462) = 2.09, p = .037$, were all significant predictors within the model. A second block including frequency and satisfaction with social support again resulted in a small but significant increase in variance explained $F_{\text{change}} = 6.57 (p = .002)$, and the model accounted for 38% of variance in ATOA $F(9, 460) = 31.37, p < .001$. Age $\beta = -.17, t(460) = -4.21, p < .001$, health status $\beta = .46, t(460) = 11.54, p < .001$ and model of the self $\beta = .16, t(460) = 4.30, p < .001$, remained significant predictors of ATOA. Satisfaction with social support $\beta = .10, t(460) = 2.18, p = .03$, also accounted for variance in ATOA within this model, suggesting that it predicts some variance in attitudes to aging even when taking differences in attachment styles into consideration. No other predictors were significant ($p > .05$; see Table 3 for a summary of regression statistics).

Discussion

While supporting previous research that demonstrates a positive association between younger age, better physical health and more positive attitudes to aging in later life (e.g., Barrett et al., 2011; Bryant et al., 2012), the current findings add a new dimension to this picture. The present study demonstrates a positive association between greater satisfaction with social support and attitudes to aging, but also between more positive attachment styles

SOCIAL SUPPORT AND ATTITUDES TO AGING

(model of the self in relationships) and attitudes to aging. It was expected that physical health would be an important predictor of attitudes to aging, as maintaining good health increases the likelihood that people are able to disconfirm negative stereotypes of aging, most notably stereotypes of older adults as less competent (Abrams, Vauclair, & Swift, 2011). Although physical health explained a large portion of variance in attitudes to aging, our hypotheses surrounding the importance of social networks and attachment styles were also supported.

The current study presents a first test of the association between satisfaction with social support (as well as frequency of social support) and attitudes to aging. As predicted, frequency of social support, in contrast to satisfaction with social support, was not a significant predictor of attitudes to aging when included in the same model. This finding is in line with Carstensen et al.'s (1999) socioemotional selectivity theory, which predicts that frequent social interactions serve the goals of younger people better than older people for whom quality of social support and promotion of emotional stability is more important than frequent social contact (although a comparison with younger adults was not made). These findings highlight the importance of subjective experience and quality of social relationships in later life as a way of maintaining more positive attitudes to aging. It has been recommended that diverse approaches be used when facilitating and providing social support in later life rather than advocating that one model fits all (Jopling, 2015). Jopling (2015) discusses the importance of identifying individual needs before supporting access to services, such as looking at whether individuals might benefit from support in forming new relationships, or assistance in maintaining existing relationships.

The final aim of this study was to assess whether the association between satisfaction with social support and attitudes to aging is restricted by individual attachment styles. Attachment theory contends that secure adults, with a history of responsive caregiving, have positive internal representations of themselves in relationships and the availability of others

SOCIAL SUPPORT AND ATTITUDES TO AGING

in times of need (Hazan & Shaver, 1987). This may make the securely attached more appreciative and secure in later relationships (Anders & Tucker, 2000; Florian, Mikulincer, & Bucholtz, 1995). Indeed, the current study found that a negative model of the self was associated with more negative attitudes to aging and accounted for some of the variance in satisfaction with social support. Instead of disregarding the benefits of social support interventions for improving attitudes to aging among those with less positive models of the self, this again demonstrates the importance of considering individual differences in attachment tendencies and previous experiences of social support. Moreover, it should be recognized that although attachment styles are often discussed as if assumed to be formed at an early age and to remain constant throughout life, life experiences and significant life events may with time alter an individual's attachment style.

The results of this study should be interpreted bearing in mind aspects of the respondent characteristics. In particular, the sample included more women (61%) than men (39%), and there was very little ethnic diversity in the sample (96% White British/European). Respondent culture and gender are likely to affect construal of social relationships, views on the aging process and emotional responses to these factors (e.g., Abrams et al., 2011; Grossman, Karasawa, Kan, & Kitayama, 2014; Levy, Ashman, & Slade, 2009). For example, Grossman, Karasawa, Kan, and Kitayama (2014) found that older American respondents, but not older Japanese respondents, reported fewer negative interpersonal experiences than younger adults from their own nation. This may reflect genuine differences in social support cross-culturally or different expectations and goals when seeking social support. Therefore, future studies could examine whether individual and societal characteristics predict variations in attitudes to aging, social support variables and their relationship.

As with any correlational research, the study is limited in its interpretation of the causal direction of associations found between variables, and findings could be further

SOCIAL SUPPORT AND ATTITUDES TO AGING

validated through examination of social support interventions. In addition, more recent measures of attitudes to aging have recognized the multi-dimensionality of these attitudes (e.g., Barker et al. 2007; Laidlaw et al., 2007; Sarkisian et al., 2002; Wurm et al., 2007). By using one of these multi-dimensional scales, it might have been possible to delineate why social support increases positivity toward aging and in what areas. For example, positivity may just increase in the area of psychosocial loss. Alternatively, social support may open up opportunities in other areas (e.g., physical activity and personal development), improving attitudes towards broader aspects of aging.

In this study we sought to test whether satisfaction with social support might play a role in improving attitudes to aging in later life, a variable that has consequences for health and well-being. The study established a modest association between more positive attitudes to aging and satisfaction with social support (but not frequency of social support), even when accounting for variation in attachment styles. Further, previous research findings showing more positive attitudes to aging among those with better physical health and of a younger age were supported. While active social lives are often emphasized in younger years, this study shows the continued importance of varied social activities catering to the individual needs of older people. Having a fulfilling social life may help to break down negative attitudes to aging among older people and may also help to contradict negative stereotypes of aging in the eyes of others. Finally, improved attitudes to aging should be considered as a mechanism through which social support might promote better health and well-being in later life.

SOCIAL SUPPORT AND ATTITUDES TO AGING

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SOCIAL SUPPORT AND ATTITUDES TO AGING

References

- Abrams, D., Eilola, T., & Swift, H. J. (2009). *Attitudes to age in Britain 2004-8*. (Research Report 599). London: Department for Work and Pensions. Retrieved from http://kar.kent.ac.uk/23668/1/abrams_attitudes_age.pdf
- Abrams, D., Vauclair, C.-M. & Swift, H. (2011). Predictors of attitudes to age across Europe (Research Report No 735). Department for Work and Pensions: London. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/214509/rrep735.pdf
- Anders, S. L., & Tucker, J. S. (2000). Adult attachment style, interpersonal communication competence, and social support. *Personal Relationships, 7*, 379-389. doi: 10.1111/j.1475-6811.2000.tb00023.x
- Antonucci T. C., Fuhrer R., & Dartigues J. F. (1997). Social relations and depressive symptomatology in a sample of community-dwelling French older adults. *Psychology & Aging, 12*, 189-195. doi: 10.1037/0882-7974.12.1.189
- Barker, M., O'Hanlon, A., McGee, H. M., Hickey, A., & Conroy, R. M. (2007). Cross-sectional validation of the Aging Perceptions Questionnaire: A multidimensional instrument for assessing self-perceptions of aging. *BMC Geriatrics, 7*, 1-13. doi:10.1186/1471-2318-7-9
- Barrett, A., Savva, G., Timonen, V., & Kenny, R. A. (2011). Fifty plus in Ireland 2011: First results from the Irish Longitudinal Study on Ageing (The Irish Longitudinal Study on Ageing report). Retrieved from: <http://epubs.rcsi.ie/cgi/viewcontent.cgi?article=1047&context=psycholrep>

SOCIAL SUPPORT AND ATTITUDES TO AGING

- Bartholomew, K., & Horowitz, L. (1991). Attachment styles among young adults: A test of the four-category model. *Journal of Personality & Social Psychology*, *61*, 226-245. doi: 10.1037/0022-3514.61.2.226
- Brown, R. (2010). *Prejudice: Its social psychology*. Oxford, UK: John Wiley & Sons.
- Bryant, C., Bei, B., Gilson, K., Komiti, A., Jackson, H., & Judd, F. (2012). The relationship between attitudes to aging and physical and mental health in older adults. *International Psychogeriatrics*, *24*, 1674-1683. doi: 10.1017/S1041610212000774
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, *54*, 165-181. doi: 10.1037/0003-066X.54.3.165
- Cattan, M., White, M., Bond, J., & Learmouth, A. (2005). Preventing social isolation and loneliness among older people: A systematic review of health promotion interventions. *Ageing & Society*, *25*, 41-67. doi: 10.1017/S0144686X04002594
- Ellwardt, L., Aartsen, M., Deeg, D., & Steverink, N. (2013). Does loneliness mediate the relation between social support and cognitive functioning in later life? *Social Science & Medicine*, *98*, 116-124. doi:10.1016/j.socscimed.2013.09.002
- Florian, V., Mikulincer, M., & Bucholtz, I. (1995). Effects of adult attachment style on the perception and search for social support. *The Journal of Psychology*, *129*, 665-676. doi: 10.1080/00223980.1995.9914937
- Grossmann, I., Karasawa, M., Kan, C., & Kitayama, S. (2014). A cultural perspective on emotional experiences across the life span. *Emotion*, *14*, 679-692. doi: 10.1037/a0036041

SOCIAL SUPPORT AND ATTITUDES TO AGING

- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality & Social Psychology*, *52*, 511-524. doi: 10.1037/0022-3514.52.3.511
- Hummert, M. L., Garstka, T. A., Shaner, J. L., & Strahm, S. (1994). Stereotypes of the elderly held by young, middle-aged, and elderly adults. *Journal of Gerontology*, *49*, 240-249. doi: 10.1093/geronj/49.5.P240
- Jang, Y., Poon, L. W., Kim, S. Y., & Shin, B. K. (2004). Self-perception of aging and health among older adults in Korea. *Journal of Aging Studies*, *18*, 485-496. doi: 10.1016/j.jaging.2004.06.001
- Jopling. (2015). Promising approaches to reducing loneliness and isolation in later life (AgeUK campaign to end loneliness). Retrieved from <http://www.campaigntoendloneliness.org/wp-content/uploads/Promising-approaches-to-reducing-loneliness-and-isolation-in-later-life.pdf>
- Kafetsios, K., & Sideridis, G. D. (2006). Attachment, social support and well-being in young and older adults. *Journal of Health Psychology*, *11*, 863-875. doi: 10.1177/1359105306069084
- Kavirajan, H., Vahia, I. V., Thompson, W. K., Depp, C., Allison, M., & Jeste, D. V. (2011). Attitude toward own aging and mental health in post-menopausal women. *Asian Journal of Psychiatry*, *4*, 26-30. doi: 10.1016/j.ajp.2011.01.006
- Kim, G., Jang, Y., & Chiriboga, D. A. (2012). Personal views about aging among Korean American older adults: The role of physical health, social network, and acculturation. *Journal of Cross-Cultural Gerontology*, *27*, 139-148. doi: 10.1007/s10823-012-9165-2

SOCIAL SUPPORT AND ATTITUDES TO AGING

- Laidlaw, K., Power, M. J., & Schmidt, S. (2007). The Attitudes to Ageing Questionnaire (AAQ): Development and psychometric properties. *International Journal of Geriatric Psychiatry, 22*, 367-379. doi: 10.1002/gps.1683
- Lamont, R.A., Swift, H.J., & Abrams, D. (2015). A review and meta-analysis of age-based stereotype threat: Negative stereotypes, not facts, do the damage. *Psychology & Aging*, published online first. doi: 10.1037/a0038586
- Lamont, R. L. (2016). Older People's Responses to Age Stereotypes: Implications for Performance Outcomes, and Health and Well-Being (Unpublished thesis). University of Kent, Canterbury, UK.
- Lawton, M. P. (1975). Philadelphia Geriatric Morale Scale: A revision. *Journal of Gerontology, 30*, 85-89. doi: 10.1093/geronj/30.1.85
- Levy, B. R. (2009). Stereotype embodiment a psychosocial approach to aging. *Current Directions in Psychological Science, 18*, 332-336. doi: 10.1111/j.1467-8721.2009.01662.x
- Levy, B. R., Ashman, O., & Slade, M. D. (2009). Age attributions and aging health: Contrast between the United States and Japan. *The Journals of Gerontology Series B: Psychological Sciences & Social Sciences, 64*, 335-338. doi: 10.1093/geronb/gbp002
- Levy, B.R., Hausdorff, J.M., Hencke, R., & Wei, J.Y. (2000). Reducing cardiovascular stress with positive self-stereotypes of aging. *Journals of Gerontology, Series B: Psychological Sciences & Social Sciences, 55*, 205-213.
doi: 10.1093/geronb/55.4.P205
- Levy, B. R., & Myers, L. M. (2004). Preventive health behaviors influenced by self-perceptions of aging. *Preventive Medicine, 39*, 625-629. doi: 10.1016/j.ypmed.2004.02.029

SOCIAL SUPPORT AND ATTITUDES TO AGING

- Levy, B. R., Pilver, C. E., & Pietrzak, R. H. (2014). Lower prevalence of psychiatric conditions when negative age stereotypes are resisted. *Social Science & Medicine*, *119*, 170-174. doi: 10.1016/j.socscimed.2014.06.046
- Levy, B. R., Slade, M. D., & Gill, T. M. (2006). Hearing decline predicted by elders' stereotypes. *The Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, *61*, 82-87. Retrieved from <http://psychogerontology.oxfordjournals.org/content/61/2/P82.short>
- Levy, B. R., Slade, M. D., & Kasl, S. V. (2002). Longitudinal benefit of positive self-perceptions of aging on functional health. *The Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, *57*, 409-417. doi: 10.1093/geronb/57.5.P409
- Levy, B. R., Slade, M. D., Kunkel, S. R., & Kasl, S. V. (2002). Longevity increased by positive self-perceptions of aging. *Journal of Personality & Social Psychology*, *83*, 261-270. doi: 10.1037/0022-3514.83.2.261
- Levy, B. R., Slade, M. D., May, J., & Caracciolo, E. A. (2006). Physical recovery after acute myocardial infarction: Positive age self-stereotypes as a resource. *International Journal of Aging & Human Development*, *62*, 285-301. doi: 10.2190/EJK1-1Q0D-LHGE-7A35
- Liang, J., Asano, H., Bollen, K. A., Kahana, E. F., & Maeda, D. (1987). Cross-cultural comparability of the Philadelphia Geriatric Center Morale Scale: An American-Japanese comparison. *Journal of Gerontology*, *42*, 37-43. doi: 10.1093/geronj/42.1.37
- Liang, J., & Bollen, K. A. (1983). The structure of the Philadelphia Geriatric Center Morale scale: A reinterpretation. *Journal of Gerontology*, *38*, 181-189. doi: 10.1093/geronj/38.2.181

SOCIAL SUPPORT AND ATTITUDES TO AGING

- Maier, H., & Smith, J. (1999). Psychological predictors of mortality in old age. *Journals of Gerontology, Series B: Psychological Sciences & Social Sciences*, *54*, 44-54.
doi: 10.1093/geronb/54B.1.P44
- Meisner, B. A. (2012). A meta-analysis of positive and negative age stereotype priming effects on behavior among older adults. *The Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, *67*, 13-17. doi: 10.1093/geronb/gbr062
- Meyers, S. A., & Landsberger, S. A. (2002). Direct and indirect pathways between adult attachment style and marital satisfaction. *Personal Relationships*, *9*, 159-172. doi: 10.1111/1475-6811.00010
- Robertson, D. A., Savva, G. M., King-Kallimanis, B. L., & Kenny, R. A. (2015). Negative perceptions of aging and decline in walking speed: A self-fulfilling prophecy. *PLoS ONE*, *10*, 1-17. doi: e0123260. doi:10.1371/journal.pone.0123260
- Sargent-Cox, K. A., Anstey, K. J., & Luszcz, M. A. (2014). Longitudinal change of self-perceptions of aging and mortality. *The Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, *69*, 168-173. doi: 10.1093/geronb/gbt005
- Sarkisian, C. A., Hays, R. D., Berry, S., & Mangione, C. M. (2002). Development, reliability, and validity of the expectations regarding aging (ERA-38) survey. *The Gerontologist*, *42*, 534-542. doi: 10.1093/geront/42.4.534
- Sarkisian, C. A., Hays, R. D., & Mangione, C. M. (2002). Do older adults expect to age successfully? The association between expectations regarding aging and beliefs regarding healthcare seeking among older adults. *Journal of the American Geriatrics Society*, *50*, 1837-1843. doi: 10.1046/j.1532-5415.2002.50513.x
- Sarkisian, C. A., Prohaska, T. R., Wong, M. D., Hirsch, S. H., & Mangione, C. M. (2005). The relationship between expectations of aging and physical activity among older

SOCIAL SUPPORT AND ATTITUDES TO AGING

adults. *Journal of Internal Medicine*, 20, 911-915. doi:10.1111/j.1525-1497.2005.0204.x

Shenkin, S. D., Laidlaw, K., Allerhand, M., Mead, G. E., Starr, J. M., & Deary, I. J. (2014). Life course influences of physical and cognitive function and personality on attitudes to aging in the Lothian Birth Cohort 1936. *International Psychogeriatrics*, 26, 1417-1430. doi: 10.1017/S1041610214000301

Steverink, N., Westerhof, G. J., Bode, C., & Dittmann-Kohli, F. (2001). The personal experience of aging, individual resources, and subjective well-being. *The Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, 56, 364-373. doi: 10.1093/geronb/56.6.P364

Stokes, J. P. (1983). Predicting satisfaction with social support from social network structure. *American Journal of Community Psychology*, 11, 141-152. doi: 10.1007/BF00894363

Sweiry, D., & Willitts, M. (2012). *Attitudes to age in Britain 2010/11* (In-house research No 7). London: Department for Work and Pensions.

Wenger, G. C. (1994). Support networks and dementia. *International Journal of Geriatric Psychiatry*, 9, 181-194. doi: 10.1002/gps.930090303

World Health Organisation. (2015). *World report on ageing and health*. Retrieved from http://apps.who.int/iris/bitstream/10665/186463/1/9789240694811_eng.pdf?ua=1

Wurm, S., Tesch-Römer, C., & Tomasik, M. J. (2007). Longitudinal findings on aging-related cognitions, control beliefs, and health in later life. *The Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, 62, 156-164. doi.org/10.1093/geronb/62.3.p156

Zunzunegui, M. V., Koné, A., Johri, M., Béland, F., Wolfson, C., & Bergman, H. (2004). Social networks and self-rated health in two French-speaking Canadian community

SOCIAL SUPPORT AND ATTITUDES TO AGING

dwelling populations over 65. *Social Science & Medicine*, 58, 2069-2081.

doi:10.1016/j.socscimed.2003.08.005

SOCIAL SUPPORT AND ATTITUDES TO AGING

Appendix

Frequency of Social Support Scale

Never	Less than weekly	At least weekly	2/3 times a week	Daily
1	2	3	4	5

- 1. How often do you see/chat with a relative?**
- 2. How often do you see/chat with a friend?**
- 3. How often do you see/chat with a neighbour?**
- 4. How frequently do you attend meetings of social or religious groups?**

Satisfaction with Social Support Scale

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	2	3	4	5

- 1. How satisfied are you in general with the support you get from family and friends?**
- 2. How satisfied are you with practical assistance from family and friends e.g. help with shopping, transportation?**
- 3. How satisfied are you with emotional support from family and friends e.g. having someone who you can talk to and who will listen to you?**
- 4. How satisfied are you with your social life/ community activities?**

SOCIAL SUPPORT AND ATTITUDES TO AGING

Table 1

Summary of Main Study Variables.

	<i>M</i>	<i>SD</i>	Range
ATOA	3.19	1.67	0 - 5
Model of the self	3.37	3.74	-9 to 12
Model of others	.09	3.63	-12 to 12
Social support- frequency	3.56	.64	1.75 - 5
Social support- satisfaction	4.20	.66	1- 5

Note: ATOA = attitudes towards own aging; *M* = mean; *SD* = standard deviation; Range

shows actual (rather than possible) range.

SOCIAL SUPPORT AND ATTITUDES TO AGING

Table 2

Pearson's Correlations among Main Variables.

	2	3	4	5	6	7	8
1. ATOA	.18***	-.24***	.54***	.22***	.10*	.16***	.29***
2. Education	-	-.19***	.23***	.10*	.07	.13**	.26***
3. Age	-	-	-.16***	.03	.00	.08	.03
4. Health status	-	-	-	.08	.03	.08	.25***
5. Model of the self	-	-	-	-	-.02	.11*	.22***
6. Model of others	-	-	-	-	-	.14**	.16**
7. Social support- frequency	-	-	-	-	-	-	.47***
8. Social support- satisfaction	-	-	-	-	-	-	-

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. ATOA = attitudes towards own aging.

SOCIAL SUPPORT AND ATTITUDES TO AGING

Table 3

Summary of Multiple Regressions Examining Predictors of Attitudes to Aging

Regression 1			Overall Model					
	Change Statistics		Variable	β	t	df	Adj R^2	F
	R^2 Change	F Change						
Block 1	.32	45.00***	Age	-.14	-3.35**	(5, 472)	.32	45.00***
			Education	.03	.80			
			Employment status	-.003	-.08			
			Health status	.50	12.34***			
			Relationship status	.06	1.51			
Block 2	.03	11.05***	Age	-.17	-3.96***	(7, 470)	.35	36.67***
			Education	-.01	-.24			
			Employment status	.002	.05			
			Health status	.46	11.47***			
			Relationship status	.05	1.35			
			Frequency of social support	.07	1.75			
			Satisfaction with social support	.14	3.10**			
Regression 2			Overall Model					
	Change Statistics		Variable	β	t	df	Adj R^2	F
	R^2 Change	F Change						
Block 1	0.36	37.55***	Age	-.16	-3.82***	(7, 462)	.36	37.55***
			Education	.01	.24			
			Employment status	-.02	-.46			
			Health status	.49	12.25***			
			Relationship status	.06	1.53			
			Model of the self	.19	4.99***			
			Model of others	.08	2.09*			
Block 2	.02	6.57**	Age	-.17	-4.21***	(9, 460)	.38	31.37***
			Education	-.02	-.48			
			Employment status	-.01	-.30			
			Health status	.46	11.54***			
			Relationship status	.06	1.47			
			Model of the self	.16	4.30***			
			Model of others	.06	1.49			
			Frequency of social support	.07	1.66			
			Satisfaction with social support	.10	2.18*			

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. df = degrees of freedom.