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Attachment, depression, and fear of death in older adults: The roles of neediness and perceived availability of social support

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Abstract

This study investigated individual differences in depression and fear of death in older adulthood in the context of attachment theory. The roles of neediness and perceived availability of social support were examined. Participants were 113 Israeli older adults (aged 69–85) who were all in good health and functioning well. Social support was found to moderate the association between a low positive other-dimension (PO) of attachment and fear of death. Neediness mediated the relationships between a low positive self-dimension (PS) of attachment and depression. Findings are discussed within the framework of Bowlby's distinction between attachment and dependency.

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1. Introduction

Depression in later life is a persistent and recurrent problem. The present study aimed to investigate individual differences in depression and fear of death in older adults in the context of attach-

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23 ment theory. Two aspects of participants' relationships were explored as intervening variables in
24 the associations between attachment dimensions and outcomes: the mediating role of neediness
25 and the moderating role of perceived availability of social support.

26 Older adulthood is characterized by heightened distress related to actual and symbolic losses and
27 separations (e.g., Ryff, Singer, Love, & Essex, 1998) and by the need to face increased levels of
28 physical and psychological dependence (e.g., Pollock, 1987). Advanced age and death are linked
29 in the attitudes and expectations of young, as well as older persons. While depression among older
30 adults is a well-researched area, less is known about fear of death in this age group and extant evi-
31 dence is not unequivocal. Tomer (1994) defined fear of death as the anxiety a person experiences in
32 daily life as a result of the anticipation of death. In contrast to a more acute fear elicited by an
33 immediate threat to one's life, fear of death is regarded as an ongoing state. A review of research
34 on the topic (Fortner, Neimeyer, & Rybarczeck, 2000) has shown that higher levels of death anx-
35 iety in older adults are associated with greater numbers of physical and psychological problems,
36 depression, and related forms of distress (e.g., Besser & Priel, 2005; Wu, Tang, & Kwok, 2002).

37 1.1. Attachment theory

38 Bowlby (1969) proposed that representations or internal working models of the self in relation
39 to others are constructed based on interactive experiences. These internal working models shape
40 the individual's expectations, responses, and interpretations in relationships. Bowlby (1980) pro-
41 posed that models of early caregiving constitute the context within which the child, and later the
42 adult, organizes and regulates emotional experiences. Working models of self and other are as-
43 sumed to be positively or negatively valenced and to have enduring impacts on an individual's
44 self-concept, interpersonal perceptions, and behavior across the lifespan (e.g., Colin, 1996). Bar-
45 tholomew and Shaver (1998) described the positivity of the self model as indicating the degree to
46 which a person has internalized a sense of his or her self-worth (versus feeling anxious and uncer-
47 tain of the self's lovability). The self model is therefore associated with the degree of *anxiety* and
48 dependency on others' approval in close relationships. (p. 31). The positivity of the other model
49 reflects the degree to which others are expected to be available and supportive and is associated
50 with the tendency to seek out or *avoid* closeness (Bartholomew & Shaver, 1998, p. 31).

51 According to this classification, secure attachment includes positive models of self (PS) and of
52 other (PO), while insecure attachment implies that one or both of these models are less positive
53 (that is, more negative). Studies of attachment in adulthood have reported negative links between
54 attachment security and indices of psychological distress, such as depression and anxiety (e.g.,
55 Besser & Priel, 2003, 2005, 2007; Wei, Mallinckrodt, Russell, & Abraham, 2004), general distress
56 symptoms (Lopez, Mitchell, & Gormley, 2002), and negative affect (e.g., Simpson, 1990).

57 1.2. Attachment and dependency needs in older adults

58 Research on attachment in older adults has focused on the associations between individual dif-
59 ferences in attachment styles and well-being (Bradley & Cafferty, 2001). Securely attached older
60 adults report greater life satisfaction, greater social integration, and better physical health than
61 their insecure counterparts; findings that support the assumption that the PS dimension of attach-
62 ment plays the main role in predicting positive outcomes among older adults (Patterson, Smith,

63 Smith, Yager, & Grant, 1992). However, most of the studies in this area have dealt with severely
64 ill older adults, and many of them were based on indirect assessments of attachment (e.g., Bradley
65 & Cafferty, 2001). Their findings might not be generalizable to relatively healthy and independent
66 individuals in this age group. Moreover, many of these studies did not differentiate between
67 attachment and dependency, an issue of importance in older adulthood.

68 Bowlby proposed that old age is primarily characterized by a reorganization of the attachment
69 system (Bowlby, 1980). This reorganization must take into consideration the impact of changing
70 circumstances in older adulthood, such as the normal increase in dependency needs (e.g., Sable,
71 1989) and the need to disengage as an adaptation to the losses (e.g., loss of capabilities, loved
72 ones, independence) that older adults confront (e.g., Cummings & Henry, 1961). Since it is known
73 that dependency needs increase in older adults, in the present study we explored Bowlby's seminal
74 distinction between attachment and dependency (Bowlby, 1969, p. 298). Bowlby conceptualized
75 attachment as a specific bond between infant and caregiver as well as an organization of behavior
76 in service of this bond, while he viewed dependency as a form of behavior toward people in gen-
77 eral. Accordingly, an infant can be dependent on the care of strangers while attached to his or her
78 mother, and that an infant can depend on the mother before becoming attached to her (Bowlby,
79 1969). Bowlby suggested that attachment and dependency might be differently associated with
80 adaptive behavior in Western culture: To call someone attached in their personal relationships
81 is a rather positive characterization, whereas to say that someone is dependent in their personal
82 relationships might imply a negative evaluation or disapproval (Bowlby, 1969, p. 298).

83 While attachment is defined as a belief in the availability of the attachment figure that promotes
84 development, dependency implies doubt about the availability of others in general, leading to
85 helplessness and impaired autonomy. The interplay between attachment styles and dependency
86 needs has been documented in the earlier developmental stages of infancy and early childhood
87 (e.g., Sroufe, Fox, & Pancake, 1983). Among young adults, anxious attachment has been found
88 to associate with individuals' increased involvement and relationship needs, as well as with an
89 inability to accurately perceive others' commitment (Guerrero & Burgoon, 1996).¹ Dependency
90 related behaviors seem to mediate the effects of anxious attachment style on negative outcomes.
91 Even though anxious attachment and dependency are associated these are two different con-
92 structs: dependency refers to specific behavioral patterns related to people in general while anx-
93 ious attachment refers to internalized models of the relationship and the resulting behavior in
94 relation to a significant other.

95 Studies of dependency converge with attachment studies in distinguishing between attachment
96 and dependency variables. Consistent with attachment theory, Rude and Burnham (1995) argued
97 that a "relational orientation" should be distinguished from generalized anxiety about gaining ap-
98 proval, and proposed an operational distinction between maladaptive dependency, which they
99 termed *neediness*, akin to Bowlby's concept of dependency and a normal relational orientation,
100 which they termed *connectedness*, akin to Bowlby's concept of attachment. Whiffen, Aube,
101 Thompson, and Campbell (2000) further validated the neediness construct as different from the
102 attachment assessment and as related to maladaptive outcomes. The interplay between attach-

¹ Although overall personality traits change little over the lifespan, behavioral expressions such as an increase in somatic complaints, being very demanding, and neediness may be more prominent in late life (e.g., Agronin & Maletta, 2000).

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103 ment styles and dependency needs has not yet been explored among older adults. Viewing death as
104 an extreme case of separation (the paradigmatic trigger of attachment feelings and behaviors), we
105 assumed that low positive models of self and other would increase old individuals' dependency
106 needs, leading to increased levels of depression and fear of death.

107 1.3. Social support and attachment

108 The association between the perceived availability of social support and internal working mod-
109 els of attachment has been amply documented in studies based on assessments of romantic attach-
110 ment (e.g., Priel & Besser, 2002; Priel & Shamai, 1995; for review see Mikulincer & Shaver, 2007).
111 The perceived availability of social support has been found to play an important buffering role in
112 the prediction of coping effectiveness, well-being, and psychological and physical health through-
113 out the life cycle (e.g., Sarason, Pierce, & Sarason, 1990, 1990).

114 Findings showing an association between attachment styles and perceptions of social support
115 suggest that the core idea in conceptualizations of both these concepts is rewarding ties with other
116 people (Sarason, Sarason, & Shearin, 1986). However, these are different constructs, because assess-
117 ments of social support center on the interpersonal aspect – mainly, on the perception by individuals
118 that others communicate their care (Sarason, Shearin, Pierce, & Sarason, 1987) – whereas measures
119 of attachment are assumed to tap the particular codes that guide a person's expectations and inter-
120 pretations of meaningful relationships. In the present study, perceptions of social support as avail-
121 able were assumed to constitute a main protective factor in a population that confronts cumulative
122 stress, important changes in social roles, and physical decline. We assumed that perceptions of the
123 availability of social support might moderate the associations between low positive models of self
124 and/or other and older adults' levels of depression and fear of death.

125 1.4. Hypotheses

126 We expected that older adults, with low PS and PO scores, would likely experience higher levels
127 of depression and fear of death (Hypothesis 1). In addition, it was expected that social support
128 would moderate the association between low PS and low PO and levels of depression and fear
129 of death. That is, high levels of social support were expected to buffer the associations between
130 low PS and low PO and high levels of depression and fear of death (Hypothesis 2). In addition,
131 we assumed that higher levels of neediness would mediate the associations between low PS and
132 low PO and high levels of depression and fear of death. That is, low levels of PS and low levels
133 of PO would increase neediness, which would, in turn, increase depression and fear of death
134 (Hypothesis 3).

135 2. Method

136 2.1. Participants

137 Participants were 113 adults, aged 69–85 ($M = 72.08$, $SD = 3.55$), recruited from an urban area
138 in Israel. The sample consisted of well-educated, non-impaired individuals who were highly inde-

139 pendent in everyday living and relatively healthy (i.e., with few medical problems). The majority
 140 of participants did not live alone. Potential participants were volunteers contacted individually
 141 based on lists from “golden age” clubs at local community centers. Of those we approached,
 142 89% agreed to take part in the study. The sample characteristics are presented in Table 1.

Table 1
Descriptive statistics for demographic variables

Variables	Women (<i>n</i> = 52, 46%)	Men (<i>n</i> = 61, 54%)	Entire sample (<i>N</i> = 113)	Median	Range
	<i>M</i> ± <i>SD</i>	<i>M</i> ± <i>SD</i>	<i>M</i> ± <i>SD</i>		
Demographics					
Age (years)	71.90 ± 3.78	72.23 ± 3.37	72.08 ± 3.55	71	69–85
Education completed (years)	11.44 ± 4.31	11.90 ± 3.35	11.69 ± 3.81	12	4–24
<i>Living alone (%)</i>					
Yes	48.1	19.7	32.7		
No	51.9	80.3	67.3		
<i>Living with child or family member (%)</i>					
Yes	9.6	11.5	10.6		
No	90.4	88.5	89.4		
<i>Marital status (%)</i>					
Married	55.8	73.8	65.5		
Separated/divorced	5.8	8.2	7.1		
Widowed	38.5	16.4	26.5		
Never married	0	1.6	.9		
<i>Economic problems (%)</i>					
None	67.3	62.3	64.6		
Minor	32.7	27.9	30.1		
Major	0	9.8	5.3		
Self-rated health measures					
<i>Physical health (number of illnesses)</i>					
	1.15 ± 1.11	.93 ± 1.0	1.04 ± 1.05	1	0–4
<i>Subjective health (%)</i>					
Poor	0	3.3	1.8		
Average	48.1	50.8	49.6		
Good	48.1	37.7	42.5		
Excellent	3.8	8.2	6.2		
<i>Change in health over the past year (%)</i>					
Less healthy	26.9	27.9	27.4		
Same	69.2	63.9	66.4		
Better	3.8	8.2	6.2		

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143 2.2. Measures and procedure

144 2.2.1. Demographic variables and health measures

145 Participants completed a questionnaire indicating their date of birth, years of education, mar-
146 ital status, economic problems, and whether they lived alone, with a family member, or with a
147 caregiver not related to them. Self-rated health was measured in three ways: (a) asking partici-
148 pants to rate their current health as compared with that of their peers; (b) asking participants
149 to rate their current health as compared with their health a year ago; and (c) an open-ended ques-
150 tion in which participants were asked to report their medical problems, from which we determined
151 the number of illnesses afflicting each respondent (see Besser & Priel, 2005, 2007).

152 Eligible participants were met individually in their homes. Upon the interviewer's arrival, each
153 participant completed the questionnaire packet in the presence of the interviewer, who was avail-
154 able for assistance and clarifications. After participants completed the background questionnaire,
155 they completed the relationship questionnaire (RQ; Bartholomew & Horowitz, 1991), depressive
156 experience questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976), CES-D (Radloff, 1977; Radl-
157 off & Teri, 1986), fear of death (Carmel & Mutran, 1999), and social support (Fleishman, 1996;
158 Shuval, Fleishman, & Shmueli, 1982) measures (detailed information on the scales, representative
159 items, and reliabilities is available from the corresponding author on request). To account for or-
160 der effects, the order of the presentation of the questionnaires was randomized.

161 3. Results

162 3.1. Preliminary analyses

163 A series of correlational analyses, independent-sample *t*-tests, and MANOVA analyses were
164 performed to estimate the associations between the demographic variables (gender, age, educa-
165 tion, marital status, living alone, economic problems, and medical problems) and the study vari-
166 ables (depression and fear of death). Among these preliminary analyses only three were found to
167 be significantly associated with depression, fear of death, or both: gender, economic problems,
168 and medical problems (see Tables 1 and 2). Women reported higher levels of fear of death than
169 men ($t[111] = 2.36, p < .02$); and, associations were found between economic problems and high
170 levels of depression ($r = .27, p < .004$). We also found that the number of illnesses was associated
171 with fear of death ($r = .41, p < .0001$).

172 Therefore, in the analyses performed for the prediction of the criterion variables (fear of death
173 and depression), we controlled for gender, economic problems, and medical problems by consid-
174 ering them as covariates.

175 3.2. Moderational and mediational analyses

176 After assessing the correlations among the main study variables (see Table 2), we proceeded to
177 analyze our three hypotheses. We computed hierarchical multiple regressions (HMR) with inter-
178 actions represented by product terms (Aiken & West, 1991) to examine the moderational and
179 mediational hypotheses, and ensured all the conditions for omnibus regression analysis, reducing

Table 2
Correlations among predictor, intervening, and outcome variables

Variables	1	2	3	4	5	Women (<i>n</i> = 52, 46%) <i>M</i> ± <i>SD</i>	Men (<i>n</i> = 61, 54%) <i>M</i> ± <i>SD</i>	Entire sample (<i>N</i> = 113) <i>M</i> ± <i>SD</i>	Median	Range
Descriptive statistics for predictor, intervening and outcome variables										
<i>Predictor: attachment</i>										
1. Positive self	–					.46 ± 3.06	1.14 ± 3.43	.83 ± 3.27	1	–7–7
2. Positive other	.45***					.00 ± 3.19	.77 ± 3.03	.43 ± 3.11	1	–8–7
<i>Intervening</i>										
3. Neediness	–.33***	–.17	–			–.51 ± .72	–.71 ± .86	–.62 ± .80	–.56	–2.67–1.87
4. Perceived social support	.21*	.04	–.31***	–		28.19 ± 2.82	28.26 ± 3.40	28.23 ± 3.13	29	17–34
<i>Outcome</i>										
5. Fear of death	–.67***	–.57**	.40***	–.19*	–	3.15 ± .68	2.83 ± .77	2.97 ± .75	3	1.42–5
6. Depression	–.29**	–.13	.57***	–.39***	.28*	14.94 ± 9.74	13.18 ± 8.79	13.99 ± 9.24	12	0–52

Note. Preliminary correlation analyses revealed no clear gender differences; therefore, the results are presented for the combined sample of men and women (*N* = 113).

Positive self (PS) = (Secure + Dismissing) – (Fearful + Preoccupied).

Positive other (PO) = (Secure + Preoccupied) – (Dismissing + Fearful).

Depression = CES-D score.

*** *p* < .001, two-tailed.

** *p* < .01.

* *p* < .05.

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180 substantially the chances of Type I errors. As shown in Table 2, PS but not PO was associated
 181 with depression, and both PS and PO were associated with fear of death. Both social support
 182 and neediness were associated with depression and fear of death.

184 3.3. Hypothesis 1: main effects

185 (a) *Predicting depression.* After designating the relevant demographic variables as covariables,
 186 we found that, among the attachment variables, only low PS was associated with high
 187 depression. Among the assumed intervening variables, both low social support and high
 188 neediness were associated with high levels of depression (see Table 3).

189 (b) *Predicting fear of death.* After controlling for the relevant demographic variables, we found
 190 that both PS and PO were associated with low levels of fear of death. Neediness, but not low
 191 social support, was associated with a greater fear of death (see Table 4).

194 3.4. Hypothesis 2: the moderating role of social support

195 The moderational hypothesis stated that social support interacts with the PO and PS dimen-
 196 sions of attachment to predict elevated levels of depression and/or fear of death. Two sets of

Table 3
Hierarchical multiple regressions for depressive symptoms

Predictors	<i>R</i>	<i>R</i> ²	ΔR^2	Overall <i>F</i>	<i>F</i> Change	df	<i>t</i>	Standardized β
Step1	.31	.10		3.97**	3.97**	3,109		
Gender							-1.31	-.12, Ns.
Economic problems							3.13	.29**
Medical problems							1.12	.10, Ns.
Step 2	.39	.15	+5%	3.82**	3.34*	5,107		
PS							-2.38	-.25**
PO							.02	.02, Ns.
Step 3	.49	.24	+9%	5.62***	12.54***	6,106		
Perceived social Support							-3.54	-.31***
Alt. Step 3	.60	.36	+21%	9.90***	34.33***	6,106		
Neediness							5.86	.50***
Step 4	.49	.24	+0%	3.70***	.13, Ns.	9,103		
PS \times PO							.12	.01, Ns.
PS \times Perceived Social support							.62	.06, Ns.
PO \times Perceived Social support							-.23	-.02, Ns.

Note. Positive self (PS) = (Secure + Dismissing) – (Fearful + Preoccupied).

Positive other (PO) = (Secure + Preoccupied) – (Dismissing + Fearful).

*** $p < .001$, two-tailed.

** $p < .01$.

* $p < .05$.

Table 4
Hierarchical multiple regressions for fear of death

Predictors	<i>R</i>	<i>R</i> ²	ΔR^2	Overall <i>F</i>	<i>F</i> Change	df	<i>t</i>	Standardized β
Step 1	.49	.24		11.18***	11.18***	3,109		
Gender							−2.38	−.20*
Economic problems							2.36	−.20*
Medical problems							4.69	.40***
Step 2	.77	.59	+36%	31.02***	46.70***	5,107		
PS							−6.39	−.46***
PO							−4.11	−.29***
Step 3	.77	.59	+0%	25.86***	.63, Ns.	6,106		
Perceived social Support							−.79	−.05, Ns.
Alt. Step 3	.78	.61	+3%	28.03***	5.93**	6,106		
Neediness							2.44	.16**
Step 4	.79	.62	+3%	18.72***	3.01*	9,103		
PS × PO							−1.97	−.13*
PS × Perceived Social support							1.15	.08, Ns.
PO × Perceived Social support							−2.07	−.14*

Note. Positive self (PS) = (Secure + Dismissing) − (Fearful + Preoccupied).

Positive Other (PO) = (Secure + Preoccupied) − (Dismissing + Fearful).

*** $p < .001$, two-tailed.

** $p < .01$.

* $p < .05$.

197 two HMR models were tested, one with depression and the other with fear of death as the crite-
 198 rion. Within each set, we explored the moderating role of social support or the mediating role of
 199 neediness. Variables were centered prior to the computation of the product terms. The results of
 200 these analyses are presented in Tables 3 and 4. We did not detect any interactions between social
 201 support and PS or PO in the prediction of depression (see Table 3). However, an interaction be-
 202 tween PS and PO was noted in the prediction of fear of death (see Table 4). The PS × PO inter-
 203 action is presented in Fig. 1.

204 Older adults who reported high levels of PS were less vulnerable to fear of death if they also had
 205 high levels of PO (i.e., secure individuals). Low levels of PS were associated with high vulnerability
 206 to the experience of fear of death, independent of the level of PO. Moreover, an interaction was
 207 found between PO and social support in the prediction of fear of death. The Social Support × PO
 208 interaction is presented in Fig. 2. Older adults who reported high levels of PO were less vulnerable
 209 to fear of death if they also had high levels of social support. Low levels of PO were associated
 210 with high vulnerability to the experience of fear of death, independent of the level of social sup-
 211 port. No significant interactions of neediness with PS or PO were detected for the prediction of
 212 depression or fear of death.

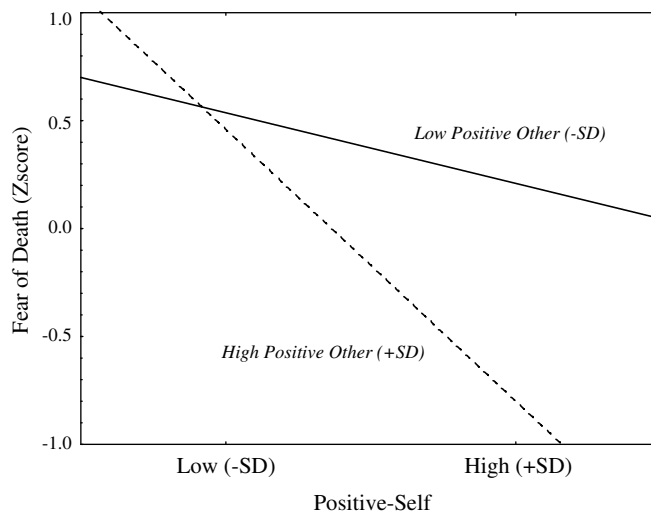


Fig. 1. The relations between high (1SD) and low (-1SD) levels of PS and fear of death for high (1SD) and low (-1SD) levels of PO.

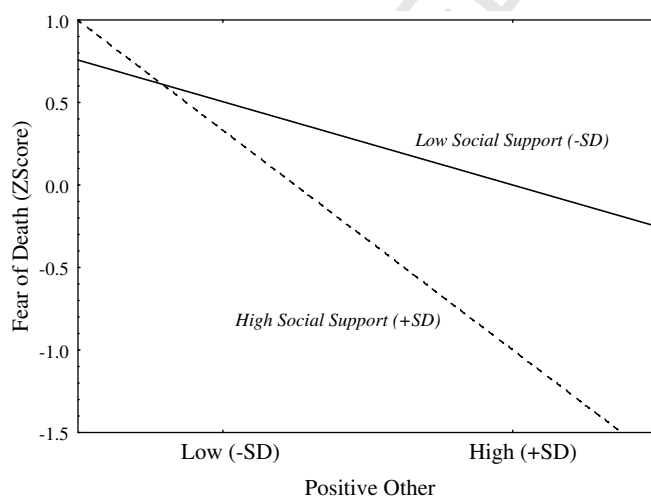


Fig. 2. The relations between high (1SD) and low (-1SD) levels of PO and fear of death for high (1SD) and low (-1SD) levels of perceived social support.

213 *3.5. Hypothesis 3: the mediating role of neediness*

214 To explore the assumption that neediness mediates the associations between older adults'
215 attachment dimensions (PS and PO) and depression and/or fear of death, we followed **Baron**
216 **and Kenny's (1986)** recommendations.

217 As a first stage, after accounting for factors relevant for depression and fear of death in older
218 adults, the relationship between the predictors (PS and PO) and the hypothesized mediator (need-
219 iness) was estimated. We computed regressions with gender, economic problems, and medical

220 problems in the first step, and PS and PO (predictors) in the second step, predicting neediness (the
221 assumed mediator). This regression revealed an association between PS and Neediness ($\beta = -.29$,
222 $p < .004$). Then, the relationships between the independent variables and the dependent variables
223 were investigated, controlling for the hypothesized mediator. Two models were explored, one for
224 each of the two outcome variables: depression and fear of death. In addition, as further tests of
225 mediation, statistics were computed to examine the indirect relationship between the independent
226 variables and the dependent variables via the hypothesized mediator.

227 (a) *Predicting depression.* When the assumed mediator (neediness) was entered into Step 3 of
228 each of the two regressions on depression (presented in Table 3 as Alt.), we found that
229 the significant association between PS and depression ($\beta = -.25$, $p < .01$) declined and
230 became nonsignificant ($\beta = .10$, Ns.). The reduction of the association between PS and
231 depression, once the neediness mediator was controlled for, was statistically significant
232 Q2 (see MacKinnon et al., 2002): $z' = 2.66$, $p < .007$. According to this analysis, neediness medi-
233 ates the association between high PS and low depression scores.

234 (b) *Predicting fear of death.* When the assumed mediator (neediness) was entered into Step 3 of
235 each of the two regressions on fear of death (presented in Table 4 as Alt.), we found that the
236 significant association between PO and fear of death ($\beta = -.29$, $p < .0001$) and between PS
237 and fear of death ($\beta = -.46$, $p < .0001$) remained significant ($\beta = -.29$, $p < .0001$ and
238 $\beta = -.41$, $p < .0001$, respectively). Thus, neediness did not mediate the associations between
239 the attachment dimensions and fear of death. All HMR analyses were also performed with-
240 out the covariates (Step 1); the presence of the covariates in the model did not affect the
241 obtained results.²

242
243 Finally, although we had hypothesized that social support would moderate the associations be-
244 tween attachment and depression or fear of death, we also explored the possibility of the coexis-
245 tence of mediating effects of social support. We found that when social support was included in
246 the regression models, the associations between attachment and fear of death and attachment and
247 depression declined, but remained significant. A summary of the findings of the main study is pre-
248 sented in Fig. 3.

249 4. Discussion

250 The findings of the present study underscore the importance of positive models of self as a main
251 factor in psychological resilience among older adults in Israel. Positive models of other were asso-
252 ciated with lower levels of death anxiety. In addition, dependency needs and social support were
253 found to affect older adults' quality of life.

² Given our sample size ($N = 113$), with 6 (for the mediating models of neediness, Steps 1, 2, and Alt. 3 of the regressions) to 9 predictors (for the moderating role of social support, Steps 1–4 of the regressions) and alpha set at .05, focusing on the cumulative R^2 , power analyses models indicated that the N used in the present study guaranteed sufficient power of the tests (a power of .99–1.0). In addition, all HMR were performed again without the covariates (Step 1); the obtained effects all remained the same.

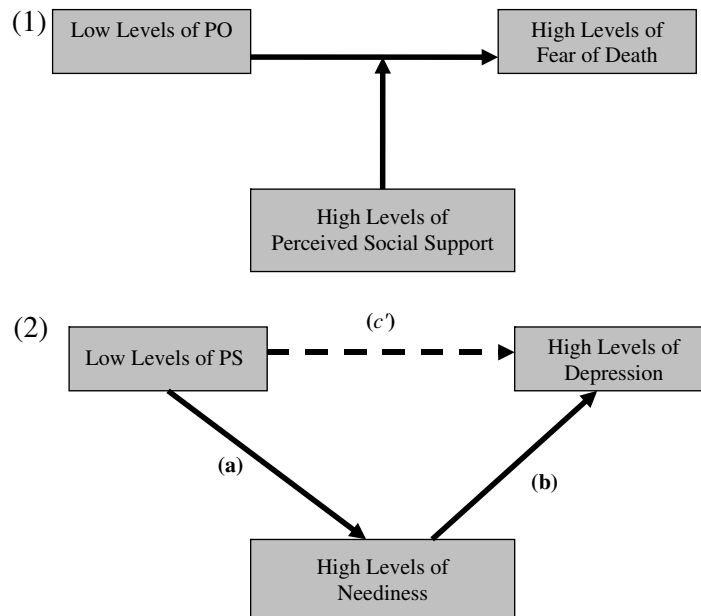


Fig. 3. Study's main findings. (1) Perceived social support *moderates* the relationships between positive other (PO) and fear of death: perceived social support affects the strength of relation between positive other (PO) and fear of death. (2) Neediness *mediates* the relationships between positive self (PS) and depression: neediness accounts for the relation between positive self (PS) and depression. The dotted path (c') indicates a significant drop in path (c) when neediness is included in (a) and (b) the model.

254 As expected, we found that both the positive model of self and the positive model of other asso-
255 ciate with lower levels of fear of death. In addition, we found a strong association between low PS
256 – but not PO – and depression, in congruence with theories emphasizing the link between depres-
257 sion and negative self-esteem (Roberts, Gotlib, & Kassel, 1996) among older adults (Murrell,
258 Meeks, & Walker, 1991). Notice that PS underscores the crucial importance of others' acceptance
259 for self-esteem. It seems that individuals low in PS anxiety about relationships stems from a lower
260 self-worth, lower social self-confidence and feeling a lack of ability to control how their lives turn
261 out (Collins & Read, 1990). From a constructivist perspective, insecurity about the self and rela-
262 tionships with others should be reflected in the ways in which individuals approach and under-
263 stand others' support.

264 The buffering effect of social support on the associations between older adults' dimensions of
265 attachment and fear of death corroborates the associations recently found for these variables in
266 younger populations (e.g., Besser & Priel, 2005). The present findings concerning the role of social
267 support vis-à-vis both depression and fear of death among insecurely attached older adults high-
268 light the importance of accounting for both the intrapersonal and the interpersonal aspects of self-
269 regulation of distress. These findings underscore some of the basic mechanisms of how self-regu-
270 lation styles are acquired and maintained, and how they can change with experience or planned
271 intervention. The ability to create a supportive environment might play a major role in the con-
272 tinuity of lifelong patterns of self-regulation and well-being.

273 Neediness and also, to some extent, social support, were found to mediate the association of
274 attachment and depression, particularly among individuals with low PS scores. Similar findings
275 have been reported in clinically depressed younger populations. Carnelley, Pietromanco, and Jaffe
276 (1994) found that nonclinical depression was associated with adult attachment styles involving
277 negative working models of both self and other, whereas depression in clinical populations was
278 associated with attachment styles involving negative working models of self only. Depression
279 among older adults was found to follow the clinical pattern, preserving a positive model of others.
280 Low levels of PS might create forms of interpersonal interaction that provoke negative interper-
281 sonal feedback, thus strengthening feelings of insecurity, which might in turn hinder communica-
282 tion strategies, as well as interest in receiving support.

283 We did not find the expected association between depression levels and low PO scores. The PO
284 dimension of attachment was also unrelated to neediness. These findings support Bowlby's dis-
285 tinction between the attachment and dependency dimensions of personal relationships. In older
286 adulthood, dependency needs (but not the perception of others as less positive) seem to increase
287 vulnerability to depression.

288 Our findings indicate the importance, within personality research, of the concomitant study of
289 the characteristics of interpersonal relationships and traits assumed to be continuous. Moreover,
290 the pattern of findings revealed by the intervening effects of neediness and social support might
291 explain the effectiveness of intervention or prevention programs using group therapy or group
292 work in old age homes, recreation centers, and private offices. These have usually been found
293 to provide immediate relief from many of the typical complaints of older adults (Grotjahn, 1989).

294 It seems plausible that the levels of depression detected in this sample combine age factors,
295 sociopolitical variables such as attendant uncertainty about the future, and ongoing concerns
296 about personal and physical safety in the context of international terrorism. Previous research
297 has called attention to the problematics of resilience among Israeli older adults, many of whom
298 have been exposed to traumas such as the Holocaust, immigration, and repeated wars (Shmotkin,
299 Blumstein, & Modan, 2003). In addition the negative effects of neediness might be affected by a
300 cultural bias. Western culture's positive evaluation of attachment and negative evaluation of
301 dependency has been noted already by Bowlby. This bias might, in some cases, distort perceptions
302 of human development at different stages of life, including old age. Thus, in order to ensure the
303 generalizability of the obtained findings and their interpretation, it is important to evaluate the
304 measurement invariance of constructs and the stability of the patterns of associations obtained.
305 For instance, studies of different populations would allow exploration of the ways in which our
306 results are specific to healthy older adults, or to adults from different settings than local commu-
307 nity centers.

308 In general, our findings suggest that intervention and prevention programs for older adults
309 could benefit from a centering on the enhancement of older adults' positive models of self and
310 other, reducing the deleterious effects of neediness and promoting more positive perceptions of
311 social support.

312 5. Uncited reference

313 Q1 Griffin and Bartholomew (1994).

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