

Exploring Age Differences in the Stress-Buffering Function of Social Support

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The purpose of this study is to see if there are age differences in the relationship between chronic financial strain, emotional support, and life satisfaction among people aged 65 and older. Data from a nationwide survey of older people ($N = 1,518$) indicate that emotional support tends to reduce the noxious effects of economic problems on life satisfaction for the sample as a whole. However, the findings further reveal that the potential benefits of emotional support arise primarily among the oldest-old. In contrast, emotional support does not offset the negative effects of financial strain on life satisfaction among the young-old.

Keywords: chronic strain, emotional support

Social and behavioral gerontologists have been studying the stress process for at least 30 years (Lowenthal, Thurnher, & Chiriboga, 1975). This research consistently shows that older people who are exposed to high levels of stress tend to have more physical and mental health problems than older adults who encounter lower levels of stress (Krause, 2001). However, when most researchers study the stress process in late life, they typically pool all study participants into a single group consisting of people aged 65 and older. Many times this is done because study samples do not contain sufficient numbers of the old-old and (especially) the oldest-old. Those who use this strategy assume implicitly that development ceases at age 65 and that all older people react to, and are affected by, stress in the same way. These may not be valid assumptions.

The purpose of this study is to probe for age variations in the stress process using a large, nationally representative probability sample of older adults that contains sufficient numbers of old-old and oldest-old study participants. In the process, special attention will be given to the potential stress-buffering properties of social support. It is hypothesized that the stress-buffering effects of social support will become increasingly evident as people go through late life. There do not appear to be any studies in the literature that have evaluated this hypothesis.

Age, Stress, Social Support, and Well-Being

There are two reasons why age variations in the stress process may arise during the course of late life. First, developmental

changes that accompany advanced old age may affect the nature and functioning of social support networks. Second, age-related physical and cognitive changes may make the old-old, and especially the oldest-old, more vulnerable to stress.

Changes in the Nature of Social Support in Late Life

There are two reasons why the nature and functioning of social support networks may change as people grow older. First, research by Carstensen and her colleagues reveals that as people become older they become increasingly aware they have only a few years left to live. The growing awareness of time leads them to seek out relationships that are emotionally close and shed social ties that are more peripheral (e.g., Fung & Carstensen, 2004). These developmental changes are important, because they signal a change in the nature of social support networks. If social relationships become deeper and more emotionally meaningful as people grow older (Murrell, Norris & Grote, 1988), then these support systems should become increasingly well suited for helping older adults deal with adversity.

Second, a number of researchers have observed that older people tend to encounter fewer stressful life events as they grow older (Murrell, Norris, & Grote, 1988). In contrast, they are more likely to encounter stressors that are continuous and ongoing (i.e., chronic strains) (Krause, 1999). One type of chronic strain, chronic financial strain, forms the focal point of this study. It is especially important to examine this type of chronic strain, because there may be age variations in the way older people respond to it. A number of individuals retire from the labor force by the time they reach age 65 (Schulz, 2001). However, it is also true that many reenter the labor force after retirement (Henretta, 2001). An obvious reason for doing so is to alleviate financial difficulties. The opportunity to take this kind of direct action may diminish with advancing age; by the time people reach age 75 or so, problems associated with physical and cognitive functioning may prohibit reentry into the labor force. Under these circumstances, social support from significant others may become increasingly important.

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Age-Related Physical and Cognitive Change

It is widely documented that people encounter a greater number of physical limitations as they go through late life (Nuland, 1994). Moreover, a number of studies provide compelling evidence that cognitive abilities decline markedly during the course of late life (George, Landerman, Blazer, & Anthony, 1991). The physical and cognitive changes that accompany old age have important implications for the way older people deal with stress. Evidence of this may be found, for example, in a study by Krause and Thompson (1998). Their work reveals that older adults who suffer from cognitive dysfunction are more vulnerable to the effects of financial difficulties than older people who are cognitively intact. If people cannot deal effectively with stressors on their own, then assistance from family members and close friends may become an especially important coping resource for them as they go through advanced old age.

Taken as a whole, the theoretical rationale developed for this study leads to the following study hypotheses:

1. Social support will buffer or offset the noxious effects of chronic financial strain on subjective well-being.
2. The stress-buffering effects of social support will be more evident among the oldest-old than the young-old.

Method

Sample

The data used in the analyses come from a longitudinal study by Krause (1994). When the baseline data were collected, the study population was defined as all household residents who were noninstitutionalized, English-speaking, at least 65 years of age, and retired (i.e., not working for pay). The study population was also restricted to eligible persons residing in the coterminous United States (i.e., Alaska and Hawaii were excluded).

The sampling frame consisted of all eligible persons in the Center for Medicare and Medicaid (CMS) beneficiary list. Three waves of interviews were conducted between 1992 and 1999. A total of 1,103 interviews were successfully completed at the baseline interview in 1992–1993. The response rate for the baseline interview was 69.1%. Then, 605 of these study participants were successfully reinterviewed in 1997–1998. A third wave of data collection was carried out in 1998–1999 ($n = 530$).

A fourth wave of interviews was conducted in 2002–2003. However, the sampling strategy was complex. Two groups of study participants were interviewed at this point. The first consisted of older people who participated in Waves 1–3 ($n = 269$). This group was supplemented with a sample of older people who had not been interviewed previously. The CMS files were again used as a sampling frame for identifying elders in the supplementary sample. However, in this case, the sample was selected so that when it was combined with persons who had participated in the study, there would be an approximately equal number of people in each of the following age cohorts: age 65–74 ($n = 491$), age 75–84 ($n = 515$), age 85 and older ($n = 509$). The Wave 4 sample consisted of 1,518 older adults. The overall response rate for the Wave 4 survey was 54%.

Because adequate numbers of oldest-old study participants were not recruited until the Wave 4 survey, all analyses in this study are based on this round of interviews only. After using listwise deletion of cases containing item nonresponse, complete data were available for 1,315 older people. Preliminary analyses revealed that the average age of these study participants was 78.6 years ($SD = 8.3$), 39% were men, 50% were married at the time the interview took place, and 90% were White. The average number of years of completed schooling in this sample was 12.0 years ($SD = 3.5$). These descriptive statistics, as well as the findings presented later, are based on data that have been weighted within each age cohort so

they are consistent with the most recent U.S. Census Bureau estimates of race and gender for the nation as a whole.

Measures

Financial strain. Ongoing financial problems are assessed with three indicators. The following indicator illustrates how this construct was assessed: “How much difficulty do you have meeting payments on your bills?” These items were taken from the work of Pearlin, Menaghan, Lieberman, and Mullan (1981). The financial strain items are coded so that a high score denotes greater economic difficulty. The internal consistency reliability estimate for this brief composite is .755.

Emotional support. Social support is measured with four items that assess how often family members and friends provided study participants with emotional support during the year prior to the interview. There are two reasons why a measure of emotional support was used in this study. First, other researchers have provided evidence indicating that emotional support buffers the effects of financial strain on well-being in late life (Mendes de Leon, Rapp, & Kasl, 1994). Second, other types of support (i.e., tangible help) often involve the provision of financial assistance. However, this may confound social support with the measure of financial strain. The measures of emotional support were taken from the work of Krause (1995) (e.g., “How often has someone listened to you talk about your private feelings?”). These items are coded so that a high score represents more emotional support. The internal consistency reliability estimate of this brief scale is .860.

Life satisfaction. There are two reasons why life satisfaction is used as the dependent variable in this study. First, research consistently reveals that economic problems tend to erode feelings of life satisfaction among older people (George, 1992). Second, as George (1981) points out, life satisfaction represents judgments or assessments of progress toward desired goals. It is the perceived congruence between what one set out to do and what one has actually been able to accomplish. Most older people value financial independence highly (Lee, 1985). If financial strain is encountered, a person’s inability to attain the desired goal of economic security may be manifest in his or her diminished sense of satisfaction with the way life has turned out.

Life satisfaction is measured in this study with four indicators. Three indicators used to assess this conceptual domain come from the Life Satisfaction Index A (Neugarten, Havighurst, & Tobin, 1961; e.g., “As I look back over my life, I am fairly well satisfied.”). The fourth item assesses feelings of satisfaction with life as a whole. A high score on these measures means that study participants are more satisfied with the way their lives have turned out. The internal consistency reliability estimate for this brief scale is .745.

Age. Age is assessed through self-report and is scored in a continuous format.

Demographic control measures. The relationships among age, financial strain, emotional support, and life satisfaction were assessed after the effects of sex, marital status, education, and race had been controlled statistically. Sex (1 = *men*, 0 = *women*), marital status (1 = *married at Wave 4 interview*, 0 = *not married at Wave 4 interview*), and race (1 = *White*, 0 = *all other racial groups*) are assessed with binary indicators. In contrast, education is coded in a continuous format reflecting the total number of years of completed schooling.

Results

Financial Strain, Emotional Support, and Life Satisfaction

Table 1 contains the results of the hierarchical regression analyses that were conducted to evaluate the study hypotheses. Tests for the additive effects of financial strain and emotional support on feelings of life satisfaction are presented in the first column (i.e.,

Table 1
Age, Financial Strain, Emotional Support, and Life Satisfaction
($N = 1,315$)

Independent variables	Model 1	Model 2	Model 3
Age	-.036 ^a (-.011) ^b	-.037 (-.011)	-.035 (-.011)
Sex	.005 (.025)	.004 (.023)	.004 (.020)
Marital status	.096** (.499)	.096** (.502)	.100*** (.522)
Education	-.014 (-.011)	-.012 (-.009)	-.010 (-.007)
Race	-.095*** (-.835)	-.094*** (-.872)	-.099*** (-.872)
Financial strain	-.304*** (-.253)	-.297*** (-.248)	-.301*** (-.252)
Emotional support	.079** (.058)	.083** (.061)	.089*** (.064)
Financial strain \times emotional support	(.018)***	(.018)***	
Age \times financial strain	—	—	(.003)
Age \times emotional support	—	—	(.002)
Age \times emotional support \times financial strain	—	—	(.003)***
Multiple R^2	.115	.121	.133

^a Standardized regression coefficient. ^b Metric (unstandardized) regression coefficient.

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

Model 1). The data suggest that greater financial strain is associated with a fairly steep decline in feelings of life satisfaction ($\beta = -.304$, $p < .001$). In addition, the findings indicate that older adults who receive emotional support from family and friends tend to be more satisfied with their lives than older people who get relatively little emotional support from significant others ($\beta = .079$, $p < .01$).

Stress-Buffering Effects of Emotional Support

The data in column 2 (i.e., Model 2) contain the results of the test for the proposed two-way interaction between financial strain and emotional support on feelings of life satisfaction. The data reveal that the regression coefficient associated with the lower order multiplicative term is statistically significant ($b = 0.018$, $p < .001$). (Unstandardized coefficients are discussed when reviewing interaction effects because standardized estimates are meaningless in this context.) Steps were taken to clarify the nature of this interaction by performing the calculations recommended by Aiken and West (1991). This involves estimating the relationship between financial strain and life satisfaction at select levels of emotional support. Although any value could be used for this purpose, the calculations were performed with the following emotional support values: -1 SD below the mean emotional support value, the mean social support value, and $+1$ SD above the mean emotional support score. The additional calculations (not shown in Table 1) reveal that greater financial strain is associated with diminished feelings of life satisfaction for older people who get relatively little emotional support from family and friends (i.e., -1 SD below the mean; $\beta = -.374$, $b = -.0313$, $p < .001$). The inverse relationship between financial strain and life satisfaction is still evident among older people with average levels of emotional

support ($\beta = -.297$, $b = -.0248$, $p < .001$), but the size of the relationship has been reduced by about 21%. The findings derived from the calculations further reveal that the deleterious effects of financial strain on feelings of life satisfaction are reduced even further for older people who receive relatively more emotional support from significant others (i.e., $+1$ SD above the mean; $\beta = -.219$, $b = -.0183$, $p < .001$).

Exploring Variations by Age

Hypothesis 2 states that the relationships between financial strain, emotional support, and life satisfaction will vary by age. In effect, this specifies that there is a three-way interaction between age, financial strain, and emotional support on feelings of life satisfaction. Tests of this hypothesis are provided in Model 3 of Table 1. The data suggest that the hypothesized higher order interaction is statistically significant ($b = 0.003$, $p < .001$).

Two sets of calculations recommended by Aiken and West (1991) are used to illustrate the nature of the three-way interaction. The first set involves the assessment of the stress-buffering effects of emotional support among study participants who are relatively old (i.e., those who are 1 SD above the mean age for the sample [86.9 years old]), whereas the second set of calculations involves the assessment of the stress-buffering effects of emotional support among young-old respondents (i.e., those who are 1 SD below the mean age for the sample [70.2 years old]).

The first set of additional calculations (not shown in Table 1) suggests that when study participants are relatively older, and they receive little emotional support from family and friends, then the relationship between financial strain and life satisfaction is especially evident ($\beta = -.457$, $b = -.0381$, $p < .001$). However, when study participants are relatively old, and they receive a relatively high amount of emotional support, then the relationship between financial strain and life satisfaction is reduced substantially ($\beta = -.087$, $b = -.0073$, ns).

A different picture emerges from the data for study participants who are relatively young. More specifically, the findings (not shown in Table 1) indicate that when study participants are relatively young, and they receive little emotional support, then financial strain is associated with a significant decline in feelings of life satisfaction ($\beta = -.302$, $b = -.0252$, $p < .001$). Perhaps more important, the data further suggest that the deleterious effects of financial strain on life satisfaction are not diminished for young-old study participants who receive relatively more emotional support from their social network members ($\beta = -.362$, $b = -.0302$; $p < .001$).

Discussion

The findings from this study suggest that emotional support from family and friends may help older adults cope more effectively with the deleterious effects of financial strain. This is important because it suggests that interventions that focus on the delivery of emotional support to financially challenged older adults may be beneficial. However, the data further reveal that the oldest-old may be more likely to benefit from informal emotional support than the young-old. These findings are important, because they may help researchers more clearly specify an appropriate target group for intervention research. If the target group is defined too broadly, then services are given to those who do not need them.

If the target group is too narrow, then people who need help will be overlooked. The demonstration that most oldest-old, but not the young-old, benefit from emotional support represents an important first step in identifying persons who are in greatest need. When the theoretical rationale for this study was presented, it was argued that the oldest-old may be more vulnerable to the effects of financial strain because they are more likely to be confronted with both physical and cognitive decline. If empirical tests of this perspective turn out to be valid, then target groups for interventions may be even more clearly specified by focusing on members of the oldest-old cohort who are either physically or cognitively impaired.

Four limitations in this study should be kept in mind as the findings are reviewed. First, the data were gathered at a single point in time. Therefore, causal statements about the relationships between financial strain, emotional support, and life satisfaction were based on theoretical considerations alone. As a result, it is possible to reverse the proposed causal ordering and argue that older people who are dissatisfied with their lives in general subsequently tend to be dissatisfied with their financial situation as well. However, if this alternative scenario is true, then it would be difficult to explain why age differences emerged in the relationships among financial strain, emotional support, and life satisfaction in this study. Nevertheless, the temporal assumptions embedded in this study must be evaluated with data that have been gathered at more than one point in time.

The second shortcoming is related to the first. The differences between the young-old and oldest-old that emerged in this study were attributed to the aging process. But because the data were gathered at a single point in time, it is not possible to distinguish between age, period, and cohort effects. Complex panel studies are needed to disentangle the influence of age and cohort effects.

Only one coping resource was examined in this study—emotional support. A number of other coping resources have been identified in the literature, including feelings of personal control (Mirowsky, 1995) and religion (Pargament, 1997). An exploration of the use of other coping resources should help round out our understanding of how older people respond to the financial problems that confront them.

The analyses provided here focus solely on one type of stressful experience—financial strain. However, older people are confronted by other stressors, such as the death of a loved one. We need to know whether age variations arise in response to these types of stressors as well.

Some time ago, Nelson and Dannefer (1992) alerted the gerontological community to the fact that the aging population is incredibly diverse and that older people tend to become more dissimilar with advancing age. It is still not clear why this may be so. Although a number of factors may be responsible for the increasing heterogeneity they observed, the findings from this study suggest that age variations in the stress process may have something effect. When viewed at the broadest level, the findings presented here may motivate other investigators to probe more deeply into the social and psychological forces that tend to promote the incredible diversity that is evident in the current population of older adults.

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