Age Differences in Stress, Coping, and Appraisal: Findings From the Normative Aging Study

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Controversies exist concerning the influence of age on the stress and coping process, in part due to differences in methods across studies. We examined age differences in stress, appraisal, and coping, using both semistructured interview questions and a coping checklist in middle-aged, young-old, and old-old men. Despite extensive probing, nearly a quarter of the old-old reported having had no problems and they expended less coping effort even when they did have problems. The types of problems reported varied systematically with age. Middle-aged men were more likely to appraise their problems both as challenges and as annoyances than the older men. Different age patterns emerged from the coping interviews vs the checklists, but controlling for type of problem significantly attenuated age differences. However, there were no age differences in perceived stressfulness of the problem, appraisals of harm/loss, or helplessness appraisals, number of emotions reported, or coping efficacy. One interpretation of these results is that the nature of stress changes with age, from episodic to chronic, which in turn affects appraisal and coping processes.

The manner in which age influences the stress and coping process remains poorly understood (Folkman, Lazarus, Pimley, & Novacek, 1987). In general, debate focuses on whether young and old adults differ in the ways in which they experience and cope with stress. In part, this may be due to the fact that there are different components of the stress and coping process as well as different ways of assessing these components. For example, older people may (or may not) differ from younger people in either the amount of stress they report, the types of stressors reported, or the appraisal of how stressful a problem is, depending upon the type of measure used. Further, the use of coping strategies has variously been viewed as decreasing with age, increasing with age, or showing little or no age-related differences, again, depending on the conceptual frameworks and methodological techniques used (Aldwin, 1991). The purpose of this study was to examine age differences in the stress and coping process, contrasting in-depth interviews with more standardized measures in part to determine the extent of age-related bias in self-report instruments.

Age and the Stress Process

Late life is often seen as a time of great, often uncontrollable, stress (Rodin, 1986). Older people are often coping with chronic illness and disability, the loss of friends and family members, and their own impending mortality. However, Paykel (1983) found that the elderly report fewer stressful life events than do the young. Aldwin (1990) argued that most life event inventories sample problems which are more relevant to younger age groups, such as marriage, divorce, starting new jobs, or having children. Inventories which include items more relevant to older adults, such as retirement or divorce of children, tend to show few age differences in the amount of stress reported. Thus, older people may report the same number of life events, although the type of event may vary according to life stage (see Murrell, Norris, & Hutchins, 1984; Teri & Lewinsohn, 1982). The types of hassles, or daily stressors, experienced also vary as a function of age (Lazarus & DeLongis, 1983). Older people report fewer hassles and rate these hassles as less stressful than do younger adults (Aldwin, 1990; Folkman et al., 1987). Life events may also be appraised as less stressful in later life (Aldwin, 1991; Silverman, Eichler, & Williams, 1987).

Hassles are often a function of involvement in social roles (Lazarus, 1991; Pearlin, 1989). Thus, the decrease in the number of roles may result in fewer hassles in late life. For example, relinquishing active parenting and work roles may well decrease the numbers of daily stressors one experiences. However, why older adults appraise both life events and hassles as less stressful is not clear. A possible reason for this discrepancy may be a bias in the reporting of stress, just as there is a bias in the willingness of older adults to report psychological symptoms (Cohen, 1990). In addition, the elderly often appear to report fewer negative emotions than younger individuals (Labouvie-Vief, Hakim-Larson, & Hobart, 1987; Lawton, Kleban, & Dean, 1993).

Both questionnaires and interviews rely on the individual’s accurate access to episodic memory for the event, including its occurrence and degree of stressfulness. There is some concern that older individuals, with their higher incidence of memory problems, may provide less accurate information, particularly on questionnaires. However, Rodgers and Herzog (1987) found that older people provide information that is just as accurate (if not more so) than younger individuals on survey measures. Nonetheless, interview techniques may provide a more thorough and accurate account of stress (Brown, 1989) and thus may provide the opportunity for more accurate conclusions about the role that age plays in stress reporting and appraisal.

This may be especially relevant for the elderly. Caserta, Lund, and Dimond (1985) randomly assigned bereaved elderly subjects to groups that were either interviewed or asked to complete a mailed questionnaire which measured...
depression and life satisfaction. Although no effect of group assignment emerged, those who were interviewed were consistently more likely to provide complete information. Thus, interview techniques may yield more accurate information if there are age-related biases in the reporting of stress.

There may also be developmental reasons why older adults appraise problems as less stressful. Older people, through their greater range of experience, may have developed more coping resources and thus appraise problems as less stressful. Further, to the extent that older adults have experienced extremely stressful events, such as the death of loved ones, everyday problems may pale in comparison (Aldwin, 1994a; Aldwin, Levenson, & Spiro, 1994). However, the decrease in reserve capacity in very late life (Baltes, 1987) may render problems more stressful for the old-old. To our knowledge, no one has compared stress between the young-old and old-old.

Besides degree of stressfulness, another aspect of appraisal concerns the general type of problem—that is, a situation can be appraised as a threat, as involving harm or loss, as a challenge, or as benign (Lazarus & Folkman, 1984). Given that older people are often coping with bereavement and chronic health problems, it is often assumed that they will be more likely to appraise problems as involving harm or loss (Folkman & Lazarus, 1980; McCrae, 1982, 1989; Rodin, 1986), but, surprisingly, this has not been tested empirically.

Age and the Coping Process

An alternative explanation for age differences in the amount of reported stress may be that older individuals cope in a different way than their younger counterparts. Various theorists have posited changes in coping with age. For instance, Gutmann (1974) suggested that mastery styles shift from active to passive from youth to midlife, then to "magical" mastery in late life. In contrast, Vaillant (1977) believed that a positive change occurred in the use of defense mechanisms. He proposed that an incremental developmental process occurs across the life span, characterized by a decrease in the use of neurotic or immature defensive styles coupled with an increase in more mature defensive styles in midlife. Alternatively, others (Folkman et al., 1987; McCrae, 1982, 1989) have suggested an absence of systematic change in coping strategies with age except those due to situational demands.

Empirical evidence for these positions appears to be mixed. McCrae (1982) found that older adults used fewer escapist and hostile strategies when coping with problems. Yet, few differences in problem-focused strategies emerged once he controlled for the type of problem. Indeed, most studies which examine age differences in coping focus on specific stressful episodes, due to the strong evidence of situational effects on individual coping.

Studies using the Ways of Coping Scale (Folkman & Lazarus, 1980, 1985) and its derivatives have generally confirmed McCrae's (1982) findings. Indeed, several researchers have shown that older adults use less escapism or avoidant coping but a similar or higher level of problem-focused coping as do younger adults (Blanchard-Fields, Sulsky, & Robinson-Whelen, 1991; Felton & Revenson, 1987; Irion & Blanchard-Fields, 1987). An exception to this trend is a study by Folkman et al. (1987) which found that older people used less planful problem solving and more escape avoidance. However, in their study they examined the relative use of coping strategies, or the ratio of these strategies to overall strategies used, although Aldwin (1991) was unable to replicate age differences in these coping ratios. Finally, regardless of the overall pattern of strategies used, older individuals do seem to use fewer strategies, while remaining as effective as the young in their ability to cope (Aldwin, 1991; Meeks, Carstensen, Tamsky, Wright, & Pellegrini, 1989).

Contradictory findings may also be due to the limitations of the measures being used. For instance, standard coping inventories may oversample maladaptive strategies while undersampling adaptive ones, as indicated by the general tendency of such scales to correlate positively with poor outcomes such as psychological or physical symptoms (Aldwin & Revenson, 1987) rather than more benign outcomes such as mastery or positive affect (Aldwin, 1994b). Further, studies which have used standard checklists may not be sensitive to aspects of the coping process which change over time, especially positive or adaptive coping which may increase with maturity (Labouvie-Vief et al., 1987). These inventories have not been designed for the examination of developmental differences in coping and, as a result, may not be tapping appropriate strategies.

Using qualitative techniques, some researchers have identified coping processes that appear to change. Vaillant (1977, 1993) documented age-related increases in mature defenses in three longitudinal samples: the Grant men, the Terman men and women, and a sample of poor inner-city residents once at risk for juvenile delinquency. These findings were partially confirmed using cross-sectional data from a self-report inventory of defense mechanisms (Diehl, Coyle, & Labouvie-Vief, in press).

It is also possible that there are qualitative (as opposed to quantitative) differences in the use of coping strategies. Using a mixture of qualitative and quantitative data, Labouvie-Vief et al. (1987) found that older individuals used coping strategies similar to those of younger individuals, but that they did so for different reasons. For example, while both young and old subjects sought social support in coping with problems, younger subjects did so primarily for self-validation, while older individuals sought social support as a way to obtain feedback about the appropriateness of the strategies they were using. In general, qualitative procedures are more likely to reveal age-related change than are quantitative methods.

In summary, it is clear that there are age-related changes in social roles and health status which affect the numbers and types of stressors experienced, which in turn influence the ways in which people may cope with stress. However, why the elderly report less stress in the face of increasing disabilities and loss of family and friends is not clear and may reflect reporting biases and/or developmental processes. Further, there are differences between quantitative and qualitative studies concerning whether there are direct age-related in-
Present Study

In this study, age differences in several aspects of the stress and coping process were examined, using both qualitative and quantitative data from older men, ranging from the middle-aged to the old-old. We asked for the most stressful problem in the prior week and how they coped with this specific problem, using both open-ended and close-ended formats, to examine a number of questions.

1. Given prior work (Aldwin, 1991), it is likely that we will see age-related differences in the types of problems experienced, with work- and parenting-related stressors reported more by those in mid-life and health-related stressors reported more frequently in late life.

2. To the extent that the age differences in stress reporting and appraisal are a function of response bias, we hypothesize that the use of interviews will minimize this age-related response bias in the reporting and appraisal of stress, as well as negative emotions. However, if there are developmental/maturational effects on the appraisal of stress, then age differences should emerge even with extensive probing.

3. We hypothesize that the patterns of age differences in coping strategies typically found with self-report questionnaires will be attenuated when coping strategies are elicited using semi-structured interview questions for some problems. In other words, probing should decrease the tendency of the elderly to report fewer strategies, unless there are direct age-related influences on the coping process.

4. If the age-related influences on coping are indirect and mediated by changes in the type of problems experienced (McCrae, 1982, 1989), we would expect that controlling for types of problems reported would attenuate any age-related differences in coping.

5. Conversely, based on work by Vaillant (1993), we hypothesize that coping interviews may show that the elderly use more adaptive strategies than middle-aged individuals. At the very least, there should be no differences in self-rated coping efficacy between the two groups.

6. Finally, we will explore stress and coping processes among the old-old, and hypothesize that some of the age-related decrements hypothesized in coping will primarily be seen in that group.

METHOD

Sample and Procedure

The Normative Aging Study (NAS) is a longitudinal study of biomedical and psychosocial factors in normal aging that has followed 2,280 men for over 30 years. All men were screened for the absence of serious chronic disease, as well as blood pressure greater than 140/90 before participating in the study. In addition, men were selected who were likely to be geographically stable, assessed by the extent of family ties. As such, they reflect the demographics of the Boston population of males in the late 1950s and early 1960s, and are primarily White and are equally divided between blue- and white-collar workers. (For more information on NAS sample characteristics, see Bossé, Ekerdt, & Silbert, 1984; Spiro, Aldwin, Ward, & Mroczek, 1995.)

The present sample consisted of 1,065 men who reported for their triennial physical examination between the years 1989 and 1991. Only 13 men refused to participate in the interview, leaving a sample of 1,052 men and a response rate of 98.8%. The N varies slightly across analyses, due to missing data.

The men ranged in age from 48 to 91 at the time of the interview, with an average age of 65.63 (SD = 7.68). Since the NAS disproportionately sampled middle-aged subjects at the beginning of the study, we divided the men into four age groups: early mid-life (45–54, n = 76); later mid-life (55–64, n = 405); young-old (65–74, n = 438); and old-old (75+, n = 132). This also allowed us to investigate nonlinear age differences.

Measures

The men were administered the Stress and Coping Interview on the day of their medical examination. The original design called for self-administered questionnaires to be completed throughout the course of the day. However, pilot testing of the instrument indicated that over a quarter of the men did not report having had a problem in the past week on the self-administered questionnaires. Confirmatory interviews with these men suggested that some men did not report having a problem on the questionnaire actually had had problems in the past week, which were often quite serious. For example, two of the men who participated in pilot interviews were primary caretakers for dying wives. There had been no flare-ups in the wives’ medical conditions during the prior week, so they did not report problems on the questionnaire. Nonetheless, it was clear from the interviews that this was a very stressful time for them.

We also observed that many of the oldest men denied having "problems," per se. One 84-year-old man explained that he had "concerns" but that he was not "the sort of person who had problems." (He explained that, during his formative years during the Depression, one simply did not admit to "having problems." ) His "concern" that week was that he was trying to convince his 91-year-old sister to enter a nursing home. She lived alone in a major metropolitan area and had fallen several times. He was very worried about her and troubled by his inability to convince her to enter a nursing home. This "concern" seemed to be very stressful for him. Thus, we asked for "concerns" as well as problems in our interviews.

Using the interview format, we asked participants to identify the most serious problem or concern they had had in the past week and to describe it briefly. We asked respondents for a specific problem in the past week, for several reasons. First, we were concerned about memory problems and wanted to elicit a very recent episode to minimize this. Second, there is a fair amount of evidence that coping varies greatly by situation, and little can be inferred from questions about general coping styles (see Aldwin, 1994a, for a review). Third, most studies which have examined coping in the elderly have focused on a specific problem, and we wished our results to be comparable.

If a respondent did not immediately respond with a prob-
lem, we assured them that the problem did not have to be "major," but could be anything that had bothered them in the past week. If this did not elicit a problem, we then said that they could talk about problems at work or at home, with their family or their health, or with home or car maintenance. This might elicit several problems, and we would ask the men to pick the one that they found the most troubling. The men's responses were recorded verbatim by the interviewer. Respondents were given a 0 if they did not report a problem, and the rest of the appraisal and coping sections were not completed.

For the problem selected, respondents were then asked to rate this problem according to its stressfulness, compared to other problems they may have had in the past. The standard 7-point scale was used, with 1 = "not troubled at all" and 7 = "the most troubled I've ever been."

Respondents were then presented a list of appraisals or "feelings about the problem," and asked to indicate which were appropriate to the problem just described. We expanded on Folkman and Lazarus's (1980) original three stress appraisals of threat, harm/loss, or challenge, because pilot interviews indicated that these appraisals did not cover all of the ways in which the men appraised their problems. The new appraisals were: at a loss for what to do next (i.e., helpless), annoyed, and/or worried about others. Further, the respondents often felt strongly that more than one appraisal fit the problem, so we allowed them to indicate multiple appraisals. For example, a man caregiving for a terminally ill wife might simultaneously feel threatened at the prospective loss of his wife, worried about her comfort and well-being, and challenged in his caretaking tasks. The mean number of appraisals reported was 2.2 (SD = 1.33).

When we asked, in the pilot interviews, how they had coped with the problem, we found that these older men had a tendency to disregard how they coped with their feelings, instead telling us how they managed the situation. Thus, we first asked, "Can you tell us how you coped with or tried to manage this problem?", using general probes such as "Did you do anything else?" to elicit as many strategies as possible. We then asked specifically about emotions that they had experienced. If they had mentioned an emotion in the previous question, we prompted their recall by the phrase, "You said you were 'X' [e.g., frustrated]. Can you tell me a little bit more about that?" If the men were not forthcoming about their emotions, we asked, "Were you angry or frustrated, sad or a little blue?"

Finally, we asked specifically, "How did you try to cope with or manage your feelings?" If the men were too vague or general, the interviewer would try to get more specific information, for example, by mentioning an emotion elicited by the previous question and asking how they dealt with that specific emotion. All information on coping strategies and emotions was recorded verbatim by the interviewer.

The Brief Ways of Coping (BWOC; Folkman & Lazarus, 1988) questionnaire was then administered orally regarding the same problem. The BWOC is a list of 25 coping strategies rated from 0 to 3, in which 0 indicates that the respondent did not use this strategy at all and 3 indicates that he used it a lot. The scale was derived by selecting the top items from the eight factors of the revised BWOC (see DeLongis, 1986). Unlike the interview questions, the BWOC was not administered separately for problems and emotions.

We factored the items using principal axis analysis with both varimax and oblique rotations. The scree test indicated that there were between five and eight factors; we opted for the eight-factor solution with varimax rotation to enhance both interpretability and comparability to other samples. This solution accounted for 60.1% of the variance. Sub-scales were computed by summing items scores, using unit weights, and include: instrumental action, escape avoidance, social support, self-blame, cognitive reframing, interpersonal/hostile, threat minimization, and self-isolation. Only two of the items differed from the DeLongis (1986) factor solution: prayer loaded on escape avoidance rather than cognitive reframing, and the item "Did you try not to act too hastily..." did not load on any factor. This makes sense, given the restricted nature of our sample (older males). Coping effort scores were created by summing the number of strategies reported both in the interviews and on the BWOC.

Finally, the participants were asked to indicate how effective they believed they were in managing the problem, using a scale from 1 to 5, with 1 = "not well at all" and 5 = "very well" (Aldwin & Revenson, 1987), and also rated how effective they thought they would be with a similar problem in the future.

Content Analyses

Content analyses were used to identify types of problems, coping strategies, and emotions. All interviews were coded by the first and third authors, and agreement rates for the total sample ranged from .75 to .97. Nonetheless, all differences were reconciled.

Ten major types of problems were identified. These included health problems (self and others), marital relations and wife's problems, children and grandchildren, social, work, retirement, finances, bereavement, and general hassles (e.g., car repair, home maintenance, getting lost, etc.). In addition, we included a "multiple problems" category. Although we were successful in getting the men to focus on a particular episode, some problems cut across domains and it was occasionally impossible to disentangle them. For example, one respondent's son-in-law was believed to have molested a grandchild, and he was simultaneously helping his daughter cope with the divorce and the molestation trial, as well as helping the grandchildren.

We also content analyzed the coping strategies reported for both the problem- and emotion-focused questions, identifying 119 different coping strategies that were grouped into 10 major categories. (We had hoped to identify strategies which we considered more developmentally mature, such as transformational coping — e.g., the ability to transform negative situations into positive ones. However, spontaneous reporting of these types of strategies was so rare that we opted to use a grouping scheme that more closely resembled that normally found with coping inventories, which would also be more useful in this comparative study.)

The problem-focused coping strategies included instrumental action, interpersonal action, and restrained action. Instrumental action included strategies such as "Made a plan..."
of action and followed it," while interpersonal action was directed specifically at individuals within the situation, e.g., "Triended to get the other person to see your point of view."

Restrained action included strategies such as, "Decided to defer action on problem," and was often used while awaiting results from medical tests.

The emotion-focused strategies included: threat minimization/acceptance, redefinition of the problem, anxiety reduction, distraction, escapism, and emotional expression. In addition, the social support category included both providing and receiving social support (the coding scheme is available on request from the first author). Threat minimization included strategies such as "Accepted situation or was resigned to it"; anxiety reduction included using medications, alcohol, food, or exercise to reduce stress; distraction included strategies such as watching television or playing with grandchildren, specifically to avoid thinking about the problem. Escapism included strategies such as "Fantasized about unrealistic solutions to problems" or going on vacation, while expressed emotion included venting emotions to others, swearing, crying, and so on.

There were individual differences in the number of coping strategies elicited; however, most people reported five or fewer strategies for each of the coping questions. Thus, for each person, we coded up to five strategies for the problem-focused questions and five for the emotion-focused questions. The number of strategies were summed within each of the 10 major coping categories separately for both the problem- and the emotion-focused questions.

We compared the ability of the questions about managing the problem vs managing the emotions to differentially elicit problem- and emotion-focused coping. Paired t-tests on the coping strategies elicited by these two questions confirmed that scores on the problem-focused and social support subscales were higher for the question about managing the problem (t's ranged from 2.40 to 19.18), while the emotion-focused subscale scores were higher for the question, "How did you cope with your emotions?" (t's ranged from -5.16 to -16.16). Interestingly, escapism was the only strategy that was used equally as (in)frequently for both questions.

Negative and positive emotions were also coded. Rather than grouping the emotions, we used content analysis based upon the exact emotion terms used. Thus, we coded for the mention of specific emotion terms, such as sad, blue, miserable, angry, etc. We identified 89 negative terms and 23 positive terms. The number of emotions were summed for both the positive and negative dimensions.

**RESULTS**

**Stress Analyses**

Using extensive probing, 90% (n = 952) of the men reported a problem in the past week, compared to the typical 70–80% of community residents who typically report problems on self-report questionnaires (e.g., Aldwin & Reven-son, 1987). Nonetheless, the old-old subjects were still less likely to report having had a problem in the past week, χ²(N = 1,052) = 17.69, p < .001. Nearly one fifth of the old-old men (17.4%) said they had had no problems in the past week, compared to only two men (2.6%) in the early mid-life group. Percentages for the two other groups were 6.9% and 10.7%, respectively.

As expected, there were age differences in the types of problems men reported, χ²(n = 952) = 121.18, p < .0001. As Table 1 indicates, the oldest-old were most likely to report health problems (27.5%) and general hassles (27.5%), while the early mid-life group were most likely to report problems at work (43.2%) and with children, who were often adolescents or young adults (20.3%). In terms of the types of problems reported, the two oldest groups were most similar to each other, while the middle-aged groups were also wrestling with similar problems. Consistent with our earlier work on retirement stress, very few of the NAS men reported problems with retirement (for a review see Bossé, Levenson, Spiro, Aldwin, & Mroczek, 1992; Bossé, Spiro, & Levenson, in press). Note that the problems referred to as ‘‘wife’’ could include the wife’s health problems as well, which is probably why this is reported slightly more frequently in the older groups.

Among the men who reported having a problem, we found that there was only a trend for the older groups to rate their problems as less stressful [F(3,947) = 2.19, p = .09]; the two middle-aged groups had means of 3.9 and 4.1, and the two older groups had means of 3.8. We investigated whether this relationship was linear or nonlinear. A marginal cubic

Table 1. Age Differences in the Types of Problems Reported (Percentages)

<table>
<thead>
<tr>
<th>Type of Problem</th>
<th>Early Mid-Life (n = 74)</th>
<th>Late Mid-Life (n = 377)</th>
<th>Young-Old (n = 392)</th>
<th>Old-Old (n = 109)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>5.4%</td>
<td>15.1%</td>
<td>21.2%</td>
<td>27.5%</td>
</tr>
<tr>
<td>Wife</td>
<td>6.8</td>
<td>9.8</td>
<td>11.5</td>
<td>11.9</td>
</tr>
<tr>
<td>Children</td>
<td>20.3</td>
<td>13.0</td>
<td>13.3</td>
<td>9.2</td>
</tr>
<tr>
<td>Social</td>
<td>5.4</td>
<td>10.3</td>
<td>11.0</td>
<td>10.1</td>
</tr>
<tr>
<td>Work</td>
<td>43.2</td>
<td>23.9</td>
<td>7.1</td>
<td>3.7</td>
</tr>
<tr>
<td>Retirement</td>
<td>0.0</td>
<td>1.6</td>
<td>1.5</td>
<td>0.9</td>
</tr>
<tr>
<td>Finances</td>
<td>0.0</td>
<td>5.6</td>
<td>4.3</td>
<td>4.6</td>
</tr>
<tr>
<td>General hassles</td>
<td>14.9</td>
<td>15.9</td>
<td>25.0</td>
<td>27.5</td>
</tr>
<tr>
<td>Bereavement</td>
<td>1.4</td>
<td>1.3</td>
<td>2.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Multiple problems</td>
<td>2.7</td>
<td>3.4</td>
<td>2.3</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Note: χ²(3, n = 952) = 121.18, p < .0001.
term \( F(1,947) = 2.96, \ p = .09 \) indicated a nonlinear trend. However, these differences appear to be trivial.

Separate chi-squares were used to examine age-group differences for each appraisal item. There were no age differences in appraisals commonly thought to increase with age, such as threat, harm/loss, or at a loss for what to do next, nor were there any differences in being worried about others (see Table 2). However, there were significant age differences in two appraisals: feeling challenged, \( \chi^2(3, n = 949) = 20.77, \ p < .001 \), and annoyed, \( \chi^2(3, n = 935) = 15.65, \ p = .001 \). The early mid-life group was most likely to consider the problem a challenge (64.9%); but 40.6% of those in late life also reported being challenged by the problem. Those in early mid-life were nearly universally annoyed by the problem (87.5%); but two-thirds (67.0%) of the old-old were also annoyed by the problem. Finally, older individuals also endorsed fewer appraisals \( F(3,946) = 6.05, \ p < .001 \); mean number of appraisals endorsed ranged from 1.97 for the old-old to 2.66 for those in early mid-life.

In exploratory analyses, we found that all of the appraisals varied significantly by problem type, with chi-squares ranging from 30.83 to 105.29 (all \( p \)'s < .001). However, this did not totally explain the age differences found in the previous analysis. As would be expected, work problems were most likely to elicit both challenged (74%) and annoyed appraisals (85.2%); the absence of work problems in late life would explain why these appraisals decrease. In contrast, health problems were most likely to elicit both threat (28.1%) and harm/loss appraisals (22.5%), and age increased the likelihood that the problem reported was a health problem. How-ever, this environmental “pull” was apparently not strong enough to result in age differences in threat and harm/loss appraisals. Among all age groups, wife problems universally elicited annoyance (92.8%).

In summary, some interesting age differences emerged in the propensity to report stressors and in the types of problems that occurred, which in turn affect appraisals of challenge and annoyance. Despite repeated probing, older adults, especially the old-old, were less likely to report having had a problem in the past week. There were also clear age differences in types of problems reported, with the middle-aged grappling with children and work, and older adults facing health problems and general problems of everyday living. While no significant age differences appeared in the stressfulness ratings, there were differences in the specific appraisals. Older men were less likely to feel challenged or annoyed, probably due to the lack of a work role. However, they were not more likely to feel threatened, harmed, that they had suffered a loss, or were at a loss as to what to do next.

Copings Analyses

Age differences in coping strategies were analyzed using the multivariate analysis of variance (MANOVA) program in SPSS (SPSS, 1986), which compensates for unequal cell sizes. Analyses on the semi-structured interview questions revealed that only weak age differences emerged in the types of strategies used to deal with the problem, Wilks’ lambda = .955, \( F(30,2757) = 1.46, \ p = .05 \). No significant differences between age groups emerged for strategies used to deal with emotions, Wilks’ lambda = .959, \( F(30,2757) = 1.34, \ p = .ns \).

Inspection of the univariate Fs for the strategies elicited by the problem-focused question revealed that only two strategies differed, interpersonal, \( F(3,948) = .273, \ p < .05 \), and escapism, \( F(3,948) = 4.53, \ p < .01 \). While a Scheffé’s post-hoc range test showed no groups differed significantly at the .05 level for interpersonal strategies, a significant weighted linear relationship, \( F(1,948) = 6.033, \ p < .01 \), indicated that older individuals appeared to use fewer interpersonal strategies. As expected, older people did use less escapism, and examination for nonlinear trends using a one-way analysis of variance showed a significant cubic relationship \( F(1,948) = 8.85, \ p < .01 \). Only a few of the early mid-life group reported these strategies; virtually none of the other three groups did. (The mean for the old-old group was .000, indicating that none of the 97 men over the age of 74 reported using any form of escapism to deal with their problems.)

A MANOVA examining age differences in the BWOC subscales revealed a different pattern of results. There was a significant overall effect of age for coping strategies, Wilks’ lambda = .954, \( F(24,2715) = 1.88, \ p < .01 \). As Table 3 indicates, four of the eight subscales showed age differences: instrumental action, social support, cognitive reframing, and interpersonal hostile strategies. While all showed linear decreases with age, Scheffé’s post-hoc range tests suggested that the middle-aged groups were significantly different from the old-old. As indicated by paired subscripts on Table 3, the old-old were significantly different from both middle-aged groups on the instrumental action, cognitive reframing, and interpersonal hostile subscales. The young-old group was also significantly different from the late mid-life group on the latter strategy.

However, the strategies used by different age groups might be influenced by the types of problems they encountered. As

<p>| Table 2. Age Differences in the Appraisals of Problems Reported (Percentages) |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|</p>
<table>
<thead>
<tr>
<th>Type of Appraisal</th>
<th>Early Mid-Life (( n = 74 ))</th>
<th>Late Mid-Life (( n = 377 ))</th>
<th>Young-Old (( n = 392 ))</th>
<th>Old-Old (( n = 109 ))</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threat</td>
<td>18.9</td>
<td>14.3</td>
<td>14.0</td>
<td>15.0</td>
<td>1.24</td>
</tr>
<tr>
<td>Harm/loss</td>
<td>24.3</td>
<td>24.2</td>
<td>20.4</td>
<td>16.8</td>
<td>3.54</td>
</tr>
<tr>
<td>Challenged</td>
<td>64.9</td>
<td>58.9</td>
<td>47.4</td>
<td>40.6</td>
<td>20.77*</td>
</tr>
<tr>
<td>At a loss</td>
<td>21.6</td>
<td>24.7</td>
<td>24.7</td>
<td>20.6</td>
<td>1.15</td>
</tr>
<tr>
<td>Annoyed</td>
<td>87.5</td>
<td>80.0</td>
<td>72.6</td>
<td>67.0</td>
<td>15.65*</td>
</tr>
<tr>
<td>Worried</td>
<td>51.4</td>
<td>39.3</td>
<td>37.8</td>
<td>38.7</td>
<td>4.89</td>
</tr>
</tbody>
</table>

*\( p \leq .001 \).
indicated earlier, the groups differed most on problems with work and children; not surprisingly, the two old groups, who were most likely to have relinquished both work and active parenting roles, were least likely to report these types of problems. Thus, we created two dummy indicator variables for the two problem types in order to control for problem type. MANCOVAs revealed that, once we controlled for these two problem types, there were no differences in the means for the problem-focused coping effort, i.e., the number of strategies reported. For the BWOC subscales also became nonsignificant, Wilks' lambda as 0.966, F(24, 2710) = 1.37, p < .05.

We also examined whether there were age differences in coping effort, i.e., the number of strategies reported. For the interview data, there were no differences in the number of strategies elicited by either the problem-focused question, F(3, 948) = 1.15, n.s., or the emotion-focused question, F(3, 948) = 1.59, n.s. The means for the problem-focused and emotion-focused strategies were 2.60 and 2.27, respectively. However, there were highly significant differences for the number of items reported on the BWOC, F(3, 944) = 9.05, p < .0001. The weighted linear term was significant, F(1, 945) = 25.02, p < .001, but a Scheffe's post-hoc range test (p < .05) showed that those in the old-old group (M = 11.00) were most different for those in the middle-aged groups (Ms = 13.24 and 13.39, respectively), while the young-old were intermediate (M = 11.99). Note that this remained significant even after controlling for type of problem, F(3, 946) = 6.27, p < .001.

Emotions and Efficacy Analyses
In these interviews, there was no significant effect of age group on the reporting of either negative emotions, F(3, 926) = 1.22, n.s., or positive emotions, F(3, 923) = 0.31, n.s. Finally, as expected, the elderly felt they were just as effective in dealing with the problem as did the middle-aged men, F(3, 923) = .77, n.s., and felt they would be just as effective in dealing with similar problems in the future, F(3, 923) = 0.57, n.s.

DISCUSSION
This study provided an in-depth examination of the types of stressors experienced by older men, how they are appraised, and the coping strategies used in dealing with everyday problems. Given the complexity of the results, we will divide the discussion into two sections, one on stress and the other on coping.

Stress
As noted in the introduction, there is a discrepancy between the widespread assumptions about the severity and types of stressors thought to be common in late life and empirical studies, which typically find that older people report fewer stressors. We hypothesized that this finding might be an artifact reflecting a reporting bias among the elderly, which would be attenuated by the use of intensive interview techniques.

To a certain extent, the hypothesis of a reporting bias was supported. By using extensive probing, 90% of the NAS men reported having had a problem in the past week. This contrasts with 25–30% who do not report problems, even over the past month, in most community surveys (e.g., Aldwin & Revenson, 1987). Among those that did report a problem, there were no significant age differences in the stress ratings of the problem.

Nonetheless, we did observe age-related differences in many aspects of the stress process. Despite extensive probing, the old-old were still less likely to report having had a problem in the past week (17.4% as opposed to 2.6% in middle life). In addition, the type of problem did vary by age, as expected. The middle-aged men were most likely to report problems at work and with their children, who were primarily adolescents and young adults. At this life stage, many of the men reported problems with their children using drugs and alcohol, getting into trouble with the law, or had concerns about launching them into adulthood. In addition, many of the NAS men held fairly responsible positions and had to supervise employees or subordinates, placate their own supervisors, deal with the declining economy, lawsuits, and so on. To a certain extent, the older men substituted various projects for their work-related roles, such as maintenance and repair tasks, volunteer work, and participation in the community or church governance. These types of tasks were coded as "general hassles," which is why these, and, as expected, health problems, were reported more frequently in late life.

There were also age differences in how stress was appraised. The old-old were less likely to appraise their prob-

Table 3. Age Differences in Coping Strategies Using the Brief Ways of Coping

<table>
<thead>
<tr>
<th>Coping Strategy</th>
<th>Early Mid-Life (n = 74)</th>
<th>Late Mid-Life (n = 376)</th>
<th>Young-Old (n = 390)</th>
<th>Old-Old (n = 107)</th>
<th>Univariate F(3, 943)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumental action</td>
<td>5.51*</td>
<td>5.32*</td>
<td>4.85</td>
<td>4.35*</td>
<td>4.90**</td>
</tr>
<tr>
<td>Escape avoidance</td>
<td>3.21</td>
<td>3.58</td>
<td>3.45</td>
<td>3.15</td>
<td>0.12</td>
</tr>
<tr>
<td>Social support</td>
<td>3.88</td>
<td>3.87</td>
<td>3.35</td>
<td>3.32</td>
<td>2.77*</td>
</tr>
<tr>
<td>Blame self</td>
<td>2.30</td>
<td>2.04</td>
<td>2.09</td>
<td>1.57</td>
<td>1.79</td>
</tr>
<tr>
<td>Cognitive reframing</td>
<td>2.53*</td>
<td>2.81*</td>
<td>2.29</td>
<td>2.00*</td>
<td>4.73**</td>
</tr>
<tr>
<td>Interpersonal hostile</td>
<td>2.62*</td>
<td>2.46*</td>
<td>1.97*</td>
<td>1.81*</td>
<td>7.29***</td>
</tr>
<tr>
<td>Threat minimization</td>
<td>3.11</td>
<td>3.02</td>
<td>2.99</td>
<td>2.89</td>
<td>0.17</td>
</tr>
<tr>
<td>Self isolation</td>
<td>1.91</td>
<td>1.85</td>
<td>1.83</td>
<td>1.56</td>
<td>0.92</td>
</tr>
</tbody>
</table>

Note. Superscripts denote pairs which are different from each other, i.e., as are different from bs, and cs differ from ds.
*p < .05; **p < .01; ***p < .001.
problem as a challenge (although some 40% still did so), and they were less likely to report being annoyed by their problem (although two-thirds were annoyed). As these appraisals were largely associated with work problems, this age-related finding was largely due to differences in the type of problem being faced.

In many ways, the lack of differences in some appraisals was more interesting. Contrary to common opinion, older men were not more likely to appraise problems in terms of loss or threat, despite the fact that they were dealing with health problems. Thus, although we know that older people are more likely to experience losses through bereavement and health problems (Aldwin, 1990), their everyday lives are not characterized in these terms.

Why the old-old reported fewer problems, despite extensive probing, is not clear. In part, this decrease can be attributed to a declining involvement in some social roles such as work and active parenting. Fewer problems in the old-old might reflect a narrowing or constriction of everyday life. As Johnson and Barer (1993) pointed out, the lives of the oldest old often have much narrower foci, as activities which are no longer possible or physically too taxing are eliminated. Baltes' (1987) construct of selective optimization implies that the old narrow their range of activities to those which are most possible and rewarding. Further, it should be emphasized that we were examining problems in the past week. Major life events may not decrease with age, as long as the sampling of items is age-appropriate (Aldwin, 1990).

In addition, the nature of the sample must be considered. The NAS sample consists largely of White, middle-class men, most of whom are married and had jobs with pensions. Further, they had to be healthy enough to make a trip into downtown Boston. Some of them, especially those with dementia, were accompanied by their wives, but all of them were ambulatory. Thus, our old-old must be considered as relatively healthy, although most did have chronic illnesses of some sort, such as arthritis, hypertension, and diabetes. Nonetheless, if our sample had been elderly African American widows, 80% of whom fall below the poverty line (Smeeding, 1990), our findings might have been very different. However, the fact that African American elders typically report higher satisfaction levels than do White elders (Jackson, Antonucci, & Gibson, 1990) suggests that similar processes may be occurring in other demographic groups as well. In contrast, a developmental interpretation is that the old-old may simply have developed a more “philosophical” outlook in later life, which meant that they were less likely to regard situations as problematic. To the extent that Erikson's (1950) ego integrity involves acceptance of life as it is, the old may become de facto stoics.

However, this “philosophical” outlook can also be attributed to a shift in the temporal characteristics of stress from middle to late life — that is, whether stress is episodic or chronic. To a large extent, the middle-aged men were dealing primarily with episodic stressors — a particular problem at work which needed resolving or specific incidents with their children, which immediately came to mind when asked about a problem in the past week. Health problems in late life, on the other hand, tend to be chronic, and thus their management becomes part of the fabric of daily living. To the extent that consistent management strategies are developed which both forestall problems and mitigate the negative impact of a chronic stressor, then that chronic stressor no longer is an immediate problem per se. For example, diet, exercise, and medications are typically used to manage chronic illnesses such as hypertension and diabetes. Unless there was an episode in which metabolic control was lost, such as a fainting spell in diabetes, chances are quite likely that people with chronic illnesses may not perceive having had a problem in the past week. For example, we suspect that hypertension was only cited as a problem if it was a recent diagnosis or if there was a sudden change in status, even though nearly 40% of the NAS men are hypertensive. (For more discussion of this issue, see Aldwin & Brustrom, in press.)

In summary, the results supported a response bias, in that age differences were attenuated by the interview process. However, age-related differences did emerge, primarily in the type of problem reported, which in turn affected how problems were appraised. However, the old-old were still less likely to report problems, which we attributed in part to a shift from episodic to chronic stressors. It must be emphasized, however, that all of the differences reported here were cross-sectional, which means that we cannot distinguish age from cohort effects.

**Coping**

We hypothesized that interviews would attenuate the usual age-related patterns seen in coping strategies and that any differences which did occur would reflect age-related differences in the types of problems being faced. Further, any residual age effect would be seen primarily in the coping interviews rather than the checklist.

The expected age differences did emerge in both the interview and BWOC coping subscales but were stronger for the checklist than for the interviews, contrary to expectations. On the interviews, older men were less likely to report using interpersonal hostility and escapism. The use of this latter strategy was rare, even among those in early mid-life, and nonexistent in the old-old. This supports similar findings in other populations (see Aldwin, 1991, for a review). Escapism is a strategy which is probably the least efficacious, and includes using drugs, alcohol, and wishful thinking. Hopefully, by mid-life most have learned that these are ineffective strategies; those who have not are probably functioning fairly poorly (see also Vaillant, 1993).

On the BWOC, age differences were seen in four of the eight subscales: instrumental action, social support, cognitive reframing, and interpersonal hostility. The old-old were most different from the other groups in their coping. Their decrease in use of interpersonal hostile strategies is consistent with the abandonment of escapism as coping strategies — both strategies tend to be rather ineffective. They also reported fewer instrumental actions, yet rated their efficacy as high as the middle-aged adults. It is interesting to note that they also used slightly less coping effort — they averaged two strategies less than the middle-aged on the BWOC, although the interview questions did not reveal age differences.

In part, this difference between the interview and the BWOC may be due to the fact that, despite repeated probing,
the men reported over twice as many coping strategies using the checklist (M = 12.49) than in the interviews (M = 4.88) for the combined problem- and emotion-focused questions. In part, the checklists may serve to jog people's memories as to what they did and thought during the event, and thus may provide more complete reporting, contrary to the usual expectations about interviews vs checklists. Often, people may be so used to how they cope with problems that it does not occur to them to report the strategy unless they are reminded of it. Sometimes the checklists may overcome reluctance to talk or even low self-esteem. For example, one interview with one of the few inner city elderly in the study was most instructive. He was dealing with a particularly troublesome long-standing problem. In the semi-structured interview, he kept insisting that he did little or nothing, because there was very little that he could do except try not to think about the problem. With the checklist, however, he was able to report four or five strategies that he had actually used.

However, this may also reflect a semantic shift. The middle-aged men immediately knew what we meant by stress and coping, but the terms seemed more foreign to the older men. We had to define stress in terms of being "bothered" or "troubled" for the older men, and we suspect that similar issues may exist around their conceptualization of a "coping" strategy.

As expected, controlling for the type of problem attenuated the differences in coping: both of the multivariate Fs become marginal (ps = .12 and .11). Thus, age-related changes in social roles also appear to be driving much of the differences in coping.

However, it is our impression that the old-old did have a different attitude both toward problems and toward their resolution. They were very matter-of-fact about their physical limitations. For example, when confronted with a flooded basement, a middle-aged man might very well try to fix it himself, which would entail analyzing the problem, making a plan of action, going and getting parts, actually fixing the problem, etc. An 80-year-old, however, would be most likely to call a plumber or someone else to fix it. In response to the interview, this process might have well been described by the middle-aged respondent as "Figured out what was wrong and fixed it" (two strategies), while the BWOC would have elicited four or five subcomponents of this process (e.g., analyzing, making a plan of action, seeking help, enacting said plan, etc.). Note, however, that both fixing a plumbing problem oneself and calling a plumber are equally efficacious solutions, hence the lack of age differences in coping efficacy. Further, it would be a mistake to term the latter a "more passive" solution, as both required the expenditure of resources, one physical and the other monetary. Thus, it is likely that the old-old would expend less physical effort and therefore instrumental action on many problems, while maintaining efficacious solutions. However, the old-old may also be more likely to accept that some problems were beyond their control. For example, the 84-year-old man mentioned earlier who was trying to talk his sister into moving into a nursing home knew that he could neither travel to her house himself, nor was she likely to listen to her younger brother. So he solicited the aid of a nephew to talk her into moving. But, he mused, if she did not accept his advice, there was very little that he could do.

Relatively few age differences in coping strategies may have emerged in this study because coping may change the most from young adulthood to middle age. Young adults are developing coping repertoires to deal with marital, parenting, and work-related problems. By middle age, these coping repertoires may have been more fully developed, and thus fewer things emerge as problematic. Many of the men specifically mentioned that they used to get very upset about problems when they were young but discovered that it was a waste of time and effort. This also might help to explain why they reported fewer problems — they had learned not to get as upset over small problems. As one respondent said, "Once you've watched your 20-year-old daughter die of cancer, all other problems fade into insignificance."

It is our impression that, with age, it is not coping strategies that change per se, but rather "management strategies." That is, people learn how to arrange their lives to circumvent everyday problems as much as possible. Adolescents and young adults, with more energy than experience, can rush around from crisis to crisis. Older adults, with their more limited energy, may have learned how to prevent problems from occurring in the first place. These management strategies may be relatively simple, such as making sure the gas tank is full before driving down a particularly deserted stretch of road, to more complex tasks, such as being better able to evaluate the time and level of effort actually needed to complete a major project on time. However, very little research into such anticipatory coping strategies and management skills has been done.

The previous caveats concerning the cross-sectional nature of the design and generalizability of the sample is also a concern in interpreting these results. Further, it is also possible that there are survivor effects, in that individuals who cope ineffectively, such as by chronic use of drugs or alcohol, may not survive into late life. Thus, the lack of age-related differences may reflect less the maintenance of coping ability in late life than simply a selection effect: Those who are harder are more likely to live longer lives.

**Conclusion**

It is clear that age-related differences in the stress and coping process can be attenuated by the use of interviews and that many of the differences are reflective of changes in social roles which in turn affect the nature of the problems faced in late life. However, despite our best efforts, the old-old were still less likely to see their lives as having problems. This may be due to an intrinsic developmental process: The vantage point of extreme old age may render most problems trivial. However, it may also reflect a change in the temporal characteristic of stress from episodic to chronic, which necessitates the use of routinized management skills rather than coping strategies per se. If age differences in coping do occur, they are most likely to be seen in the old-old, who may simply expend less effort. Indeed, it makes sense that those in late life would attempt to conserve energy and resources, either by limiting the amount of effort expended or by not defining something as a problem in the first place.

In conclusion, prior studies generally have not found many age-related changes in coping, with the possible exception of a decrease in escapism. However, it is our impression from the interviews that there are developmental
effects in the stress and coping process, but that we have not directly examined these phenomena. Future research should examine changes with age in how energy is expended, in learning to arrange one’s life to avoid precipitating problems, and in a shift from a reliance on coping strategies to general management skills.

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