Pergamon

Journal of Anxiety Disorders, Vol. 14, No. 2, pp. 157–172, 2000
Copyright © 2000 Elsevier Science Ltd
Printed in the USA. All rights reserved
0887-6185/00 $–see front matter

PII S0887-6185(99)00046-8

Personality Disorders and Coping Among Anxious Older Adults

Frederick L. Coolidge, Ph.D., Daniel L. Segal, Ph.D., Julie N. Hook, M.A., and Sharon Stewart, B.A.

University of Colorado at Colorado Springs, Colorado, USA

Abstract—This study examined the interrelationships among anxiety, personality disorders, and coping strategies in anxious older adults (n = 28; age range = 55–89; mean = 66.0), nonanxious older adults (n = 100, age range = 55–79, mean = 64.6), and anxious younger adults (n = 132; age range = 17–30; mean = 20.2). Younger participants were college students and older participants were community-based family members of the students or recruits from local senior centers. Participants completed the Coolidge Axis II Inventory, the Coping Orientations to Problems Experienced scale, and the Brief Symptom Inventory. Results indicated that the prevalence of generalized anxiety states was relatively low and similar in both older and younger groups and dependent on measurement scale and criterion. At least one personality disorder was found in 61% of the older persons group; obsessive-compulsive, schizoid, and avoidant were the most frequently assigned personality disorders. Anxious older adults had elevated rates of dependent and avoidant personality disorder compared with nonanxious older adults. Younger anxious persons were found to have significantly greater personality dysfunction compared with older anxious persons. Finally, coping differences existed between older anxious and older nonanxious adults and between older anxious and younger anxious adults. Implications for diagnosis and treatment of anxiety in older adults were discussed. © 2000 Elsevier Science Ltd. All rights reserved.

Keywords: Anxiety; Personality; Coping; Elderly

The comorbidity between major psychiatric disorders (Axis I) and personality disorders (Axis II) is an extensive problem that provides considerable challenge to clinicians who diagnose and treat clients with multiple and often complex disorders. Several studies in particular have focused on the co-occurrence of anxiety disorders and personality disorders (e.g., Reich et al., 1994; Sanderson, Wetzler, Beck, & Betz, 1994; Skodol et al., 1995). To our knowledge, however, systematic reports on the patterns in anxiety and personality

Requests for reprints (and/or copies of the CATI for research purposes) should be sent to Frederick Coolidge, Ph.D., Department of Psychology, University of Colorado at Colorado Springs, Colorado Springs, CO 80933-7150. E-mail: fcoolidg@mail.uccs.edu

comorbidity among older persons have been slow to emerge. Investigations pertaining to the relationships of coping strategies and anxiety symptoms among older adults are also few. By examining personality patterns of anxious older adults, insight into the possible causes and sustaining factors of anxiety can be elucidated. Similarly, investigation into the relationship between coping and anxiety symptoms could also provide insight into how coping styles may affect the evolution of, or play a part in sustaining, anxiety symptoms. Approaches for assisting anxious older adults could then be better tailored toward their specific needs and problems. However, knowledge is presently limited in these areas, which is striking given that anxiety symptoms are common among older adults (see recent review by Scogin, 1998; also see Rapp, Parisi, & Walsh, 1988; Reiger et al., 1988; Sheikh, 1992).

Research on the comorbidity between anxiety and personality disorders has lagged behind the study of comorbidity between anxiety and other, more commonly associated conditions such as depression, alcohol abuse, and medical illnesses (for a full review of these comorbidity studies, see Flint, 1994). However, a number of interesting studies have been conducted in an attempt to shed light on the potentially important relationship between personality and anxiety. In general, these studies indicate substantial rates of personality dysfunction in persons with most types of anxiety disorders, although it is uncertain whether there is a clear relationship between the specific anxiety disorders and the specific personality disorders.

Over a decade ago, Alnaes and Torgersen (1988a, 1988b) reported that outpatients with diverse anxiety disorders had significant comorbidity with schizotypal, paranoid, narcissistic, avoidant, and dependent personality disorders. Mauri et al. (1992) observed significant dependent and avoidant personality disorder attributes among patients diagnosed with generalized anxiety disorder (GAD) or panic disorder. Sanderson et al. (1994) examined personality disorders in 347 patients with an anxiety disorder. Their results indicated that patients with GAD and social phobia had a higher prevalence of personality pathology than those with panic disorder, agoraphobia, or simple phobia. The most common personality disorders among the patients were: avoidant (13%), obsessive-compulsive (11%), and dependent (8%).

Oldham et al. (1995) evaluated 200 inpatients and outpatients with semi-structured interviews and found significantly elevated odds ratios for co-occurrence of anxiety disorders with dependent, avoidant, and borderline personality disorders. Mavissakalian, Hamann, Haidar, and de Groot (1995) focused solely on patients with primary GAD and found the most frequent personality disorder diagnoses to be avoidant (26%), paranoid (10%), and schizotypal (10%). In one of the few studies with older persons, Coolidge, Janitell, and Griego (1994) found a strong comorbid relationship among anxiety, depression, and personality disorders in a sample of 83 community-dwelling elderly. They noted that

when anxiety is a prominent feature in an elderly person it may be a strong pathognomonic sign for the presence of a personality disorder. When higher levels of anxiety were present, they found more likely the presence of the schizotypal, dependent, and avoidant personality disorders.

It is unfortunately apparent that most studies of anxiety and personality have been conducted on younger populations. It is likely, however, that this type of research on older persons has important implications for the assessment and management of older persons with anxiety disorders. For example, if anxiety disorders among the elderly are consistently associated with specific personality disorders, then a common cause for both disorders may exist. The presence of a comorbid personality disorder in an anxious older person could also be used to modify treatment strategies or predict the response to various treatments (e.g., longer expected time until a therapeutic response to intervention; anxious elder with borderline personality may be prone to abusing antianxiety medications). Indeed, it is likely that a greater understanding of personality patterns underlying anxiety symptoms can lead to more accurate case conceptualization, and hence more effective treatment strategies. Personality disorders among older persons are becoming increasingly recognized and treated in their own right (see review by Segal & Coolidge, 1998), and dysfunctional personality traits underlying other mental disorders in the aged, such as depression, are being elucidated and targeted for treatment (Segal, Hersen, Kabacoff, Falk, Van Hasselt, & Dorfman, 1998).

Coping styles also play an important role in adaptation to stressors in psychiatric illness. Coping is described as "an individual's efforts to master demands (conditions of harm, threat or challenge) that are appraised (or perceived) as exceeding or taxing his or her resources" (Monat & Lazarus, 1991, p. 5). Thus it is likely that one's coping strategy will be intimately associated with the severity of distress one experiences. For example, effective use of coping strategies may protect a person from cognitive, environmental, and biologic factors that may bring about symptoms of anxiety.

Studies that have looked at coping as it relates to anxiety have suggested that individuals with anxiety symptoms or anxiety disorders were not using their coping strategies effectively (e.g., Endler & Parker, 1990; Tremblay & King, 1994). In one interesting study, Hoffart and Martinsen (1993) examined inpatients ($N = 63$; M age $= 41.1$) at a psychiatric hospital who were diagnosed with major depression, agoraphobia, or both. They found that patients with a dual diagnosis or a single diagnosis of agoraphobia were more likely to use emotion and avoidance-oriented coping styles than the individuals with major depression. Over the course of treatment in the hospital, use of emotion-oriented coping styles decreased with all participants, but increased use of avoidance-oriented coping remained constant in both groups with agoraphobia. Therefore, at least some evidence suggests that there are specific relationships between some dysfunctional coping styles and certain kinds of anxiety symptoms, although definitive conclusions cannot be made at the present

time. Moreover, none of these studies have examined coping in older adults, and some evidence suggests that older adults cope with stress in substantially different ways than younger adults (Diehl, Coyle, & Labouvie-Vief, 1996; Folkman, Lazarus, Pimley, & Novacek, 1987).

Weaknesses of previous studies in this area include reliance on outdated *DSM-III* (American Psychiatric Association, 1980) or *DSM-III-R* (American Psychiatric Association, 1987) criteria for the assessment of personality disorders, limited data on personality and coping among older anxious persons, insufficient study of age-related differences in personality and coping, and the evaluation of only a few coping strategies. An investigation that used current *DSM-IV* (American Psychiatric Association, 1994) conceptualizations of personality disorders, assessed multiple dimensions of coping, and examined age-related differences in personality and coping would therefore address gaps in this literature. The broad purpose of the present study, therefore, was to evaluate the impact of diverse personality disorders and coping styles on anxiety in younger and older persons. More specifically, it was hypothesized that personality disorders would be more prominent in anxious older persons than in nonanxious older persons, that anxious and nonanxious older persons would use different coping mechanisms, and that anxious older people would have different personality disorder features than anxious younger people.

METHOD

Participants

The present study was part of a comprehensive evaluation of social and emotional adjustment in community-dwelling younger and older adults. There were three between-subjects groups: older anxious, older nonanxious, and younger anxious persons. The older adults were family members or friends of students in psychology classes or were recruits from local senior centers. The initial older sample consisted of 129 persons. Older participants were divided into anxious and nonanxious groups based on scores on the Brief Symptom Inventory (BSI) anxiety scale.

The older anxious group ($n = 28$) ranged in age from 55 to 89 years ($M = 66.0$). They were predominantly female (71%) and reported their ethnicity as follows: 89% white, 7% Hispanic, and 4% other. Their marital status was: 7% have never been married, 29% were married, 32% were divorced or separated, and 32% were widowed. The mean level of education was 13.1 years.

The older nonanxious group ($n = 100$) ranged in age from 55 to 79 years ($M = 64.6$). Most were female (59%), and they reported their ethnicity as follows: 85% white, 6% African American, 4% Hispanic, 2% Asian American, 2% American Indian, and 1% other. Their marital status was: 7% have never

been married, 52% were married, 21% were divorced or separated, and 20% were widowed. The mean level of education was 14.6 years.

For comparison purposes, a group of anxious younger persons was also obtained. The younger adults were undergraduate volunteers recruited from psychology classes. From an initial sample of 276 younger adults, a group of anxious younger persons were identified (n = 132) based on elevated scores on the BSI anxiety scale. This group ranged in age from 17 to 30 years (M = 20.1). They were predominantly female (65%) and almost all (90%) had never been married. They reported their ethnicity as follows: 78% white, 5% African American, 8% Hispanic, 6% Asian American, and 3% other. The mean level of education was 13.0 years.

Measures

The Brief Symptom Inventory. The BSI (Derogatis, 1993) was used as the measure of anxiety. The BSI is a self-report measure that consists of 53 items and yields scaled scores on nine symptom patterns: anxiety, somatization, obsessive-compulsive, interpersonal sensitivity, depression, hostility, phobic anxiety, paranoid ideation, and psychoticism. Individuals respond to the items using a 5-point scale that has anchors at *not at all* (1) to *extremely* (5). According to Derogatis, internal consistency (coefficient alpha) for the nine symptom patterns ranges from .71 (psychoticism) to .85 (depression). The test–retest reliability for the nine scales ranges from .68 (somatization) to .91 (phobic anxiety) with a mean of .82 (Derogatis, 1993). The BSI is widely used in clinical practice and research.

The Coping Orientations to Problems Experienced scale. The Coping Orientations to Problems Experienced scale (COPE; Carver, Scheier, & Weintraub, 1989) is a theoretically based, 60-item self-report measure. Carver and colleagues (1989) developed the measure with the belief that coping is a stable disposition rather than situationally specific. Participants are instructed to report what they usually do when under stress. Respondents choose their answers based on a 4-point scale that is anchored at *not at all* (1) to *a lot* (4). The COPE scale consists of three main groupings with five scales per group and four items per scale: (a) problem-focused coping: active coping, planning, restraint coping, seeking social support for instrumental reasons, and suppression of competing activities; (b) emotion-focused coping: positive reinterpretation and growth, religion, humor, acceptance, and seeking social support for emotional reasons; and (c) dysfunctional coping: focus on and venting of emotions, denial, behavioral disengagement, mental disengagement, and alcohol or drug use. Carver et al. reported alpha reliabilities all above .6 except for the mental disengagement scale (.45). The internal validity of the individual

COPE scales shows that the scales are not excessively intercorrelated with a few exceptions.

The Coolidge Axis II Inventory. The Coolidge Axis II Inventory (CATI; Coolidge, 1993) is a 225-item, self-report measure in which respondents answer using a 4-point Likert scale that ranges from *strongly false* (1) to *strongly true* (4). It assesses all 10 of the personality disorders in accordance with the *DSM-IV* criteria: paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent, and obsessive-compulsive. The CATI also includes the two personality disorders in the *DSM-IV* appendix for further study: depressive and passive-aggressive. Assessment for two personality disorders from the *DSM-III-R* are also found in this measure: self-defeating and sadistic. It also incorporates evaluations of several Axis I disorders (e.g., depression, anxiety, social phobia, posttraumatic stress disorder, and schizophrenia) and clinical symptoms (e.g., withdrawal and psychotic thinking). The CATI has been normed on 682 purportedly healthy adults and has an extensive variety of validity studies (e.g., Coolidge, Merwin, & Nathan, 1996). The CATI has test–retest reliability of .90 within a 1-week interval (Coolidge & Merwin, 1992). Internal consistency (Cronbach's alpha) of the 14 personality disorder scales ranged from .66 (self-defeating) to .87 (dependent) with a median reliability of .76. With regard to discriminant validity, the CATI had a 50% concordance rate with clinicians' diagnoses for 24 patients with personality disorders (Coolidge & Merwin, 1992).

Procedure

Participants read and signed an informed consent form and then were given packets to complete and turn in the following week. Undergraduates received extra credit for their participation and older adults received a nominal payment of $5. Measures were administered by Masters-level students, all of whom were trained in administration and scoring.

RESULTS

The sample of older persons (age ≥ 55; $n = 128$) was first examined for the overall rates of anxiety. On the BSI anxiety scale 22% (28 of 128 cases) had *T* scores of 60 or more, and 3% (4 of 128 cases) had *T* scores of 70 or more. The anxiety scale of the CATI appeared to be more conservative: 7% (9 of 128 cases) had *T* scores of 60 or more, and less than 1% (1 of 128 cases) had *T* scores or more than 70. Correlations between age and the BSI anxiety scale ($r = .05$) and the CATI anxiety scale ($r = .08$) were both small. Interestingly, a specific item on the CATI, "I worry a lot," also had a small correlation with age of $r = -.06$. Thirty percent of the sample answered "More True Than

TABLE 1
PREVALENCE OF PERSONALITY DISORDERS ON THE COOLIDGE AXIS II INVENTORY AMONG ANXIOUS OLDER ADULTS ($N = 28$; $T \geq 60$)

Personality Disorder Scales	*n*	Percentage
Obsessive-compulsive	11	39
Schizoid	11	39
Avoidant	7	29
Dependent	2	7
Depressive	2	7
Self-defeating	2	7
Paranoid	1	4
Histrionic	1	4
Antisocial	0	0
Borderline	0	0
Narcissistic	0	0
Sadistic	0	0
Passive-aggressive	0	0
Schizotypal	0	0

False" and 16% answered "Strongly True" to the latter item; however, these percentages are not significantly different than in the CATI normative sample ($N = 682$).

The prevalence of personality disorders was also examined in the older anxious group (based on elevated BSI anxiety scale scores), and the results are presented in Table 1. Sixty-one percent of the sample (17 of 28 cases) met criteria ($T = 60$) for at least one personality disorder. The mean number of personality disorders per person in this sample was 1.4, and the range was from 0 to 6 personality disorders. As seen in Table 1, the most prevalent personality disorders were obsessive-compulsive (39%), schizoid (39%), and avoidant (29%).

To test the first hypothesis that personality disorder differences may exist between anxious and nonanxious older persons, the older sample (age ≥ 55; $n = 128$) was divided into two groups on the basis of their BSI anxiety *T* score: those with a *T* score of 60 or more were classified as anxious; those with a *T* score less than 60 were classified as nonanxious. Multiple analyses of variance (ANOVAs) were performed on the 14 personality disorder scales of the CATI between the anxious elderly group ($n = 28$) and the nonanxious elderly group ($n = 100$). A summary of the means, standard deviations, and ANOVAs for the 14 CATI scales appears in Table 2.

To control for the experiment-wise error rate across these contrasts while maintaining sufficient statistical power, a modified Bonferroni method suggested by Holm (1979) was used. According to Holm, the *p* values of the *F* values in the ANOVAs are ordered from smallest to largest. The smallest *p* value

TABLE 2
A Summary of ANOVAs on the Coolidge Axis II Inventory Personality Disorder Scale *T* Scores in the Elderly Sample as a Function of Anxiety Grouping

Personality Disorder Scale	Anxiety Group	Mean	Standard Deviation	*F* Value	Significance Level (α)
Dependent	Anxious	50.9	6.3	15.85	.001*
	Nonanxious	44.0	8.4		
Avoidant	Anxious	53.3	9.2	11.34	.001*
	Nonanxious	46.4	9.5		
Obsessive-compulsive	Anxious	55.8	9.4	7.71	.006
	Nonanxious	50.0	10.0		
Depressive	Anxious	49.7	8.4	7.68	.006
	Nonanxious	44.4	9.2		
Borderline	Anxious	44.8	5.7	7.53	.007
	Nonanxious	41.0	6.7		
Passive-aggressive	Anxious	47.2	7.4	5.70	.018
	Nonanxious	42.7	9.2		
Self-defeating	Anxious	51.4	6.5	5.46	.021
	Nonanxious	47.5	8.0		
Paranoid	Anxious	46.2	8.7	4.58	.034
	Nonanxious	41.9	9.4		
Schizotypal	Anxious	46.8	6.9	3.98	.048
	Nonanxious	43.0	9.5		
Narcissistic	Anxious	43.9	5.8	1.65	.201
	Nonanxious	41.5	9.3		
Schizoid	Anxious	56.3	10.1	0.42	.517
	Nonanxious	57.6	9.2		
Histrionic	Anxious	45.1	8.5	0.18	.676
	Nonanxious	44.3	8.8		
Antisocial	Anxious	42.1	5.3	0.25	.876
	Nonanxious	42.3	7.3		
Sadistic	Anxious	42.7	4.9	0.02	.885
	Nonanxious	42.5	6.3		

* Significant according to the Holm's modified Bonferroni procedure. All other contrasts are considered nonsignificant.

is measured against an alpha of .05 divided by the total number of contrasts performed. If the contrast is found to be significant at this level, then the next smallest p value is measured against an alpha level of .05 divided by the value $k - 1$, representing the remaining number of contrasts. This procedure is continued until a nonsignificant difference is observed. At that point, all remaining contrasts are considered nonsignificant. Using the Holm procedure, it was found that the dependent and avoidant personality disorders were both significantly elevated in the anxious group at $p < .004$. Eta^2 was used as a measure of effect size (i.e., the proportion of variance in one variable that can be accounted for by the other variable). The Eta^2 for the dependent personality

disorder and anxiety indicated that they shared 11% of common variance. The Eta^2 for the avoidant personality disorder and anxiety showed 8% common variance. These findings suggest a small to modest effect size.

To test the second hypothesis that anxious and nonanxious older persons would use different coping mechanisms, three between-group ANOVAs were performed on the three cluster scores of the COPE scale. According to the Holm technique, only the dysfunctional cluster was significantly elevated in the anxious group relative to the nonanxious group, $F(1,126) = 13.21$, $p < .001$. The Eta^2 for the dysfunctional cluster and anxiety was .10. Two of the five subscales of the COPE dysfunctional cluster were significantly elevated in the anxious group on subsequent investigation with Holm's modified Bonferroni technique: the mental disengagement scale, $F(1,126) = 6.42$, $p < .013$, $Eta^2 = .05$, and the behavioral disengagement scale, $F(1,126) = 9.04$, $p < .003$, $Eta^2 = .07$.

Coping differences between the anxious older and anxious younger persons were also examined. Again, three between-group ANOVAs were performed on the three cluster scores of the COPE. According to the Holm technique, both the dysfunctional cluster and the problem-focused cluster scores were significantly different between the older and younger anxious adults. The younger group was significantly more elevated on the dysfunctional cluster ($F(1,158) = 15.59$, $p < .001$), and the older group was significantly more elevated on the problem-focused cluster ($F(1,158) = 10.56$, $p < .001$). Regarding dysfunctional coping, younger adults were significantly higher on the mental disengagement subscale as well as the alcohol and drug use subscale. With respect to problem-focused coping, older adults were higher on the planning, restraint coping, and suppression of competing activities subscales.

To test the third hypothesis that older anxious people would have different personality disorder features than younger anxious people, the same sample of anxious elderly persons was compared with a group of younger anxious persons ($n = 131$, BSI Anxiety T score > 60, age ≤ 30 years) on the 14 personality disorder scales of the CATI. First, however, T tests were performed on the anxiety scales of the BSI and the CATI to determine the equivalence of the groups in their anxiety levels. These tests revealed no significant differences in anxiety between the two groups on either scale, but both groups were elevated on both scales. Multiple ANOVAs were performed on the 14 scales between the older anxious group and younger anxious group. Holm's technique revealed that the younger sample was significantly elevated on 9 of the 14 scales, whereas the older adults were significantly elevated on only the schizoid personality disorder scale. A summary of the means, standard deviations, ANOVAs, and Eta^2 values for the scales appears in Table 3.

DISCUSSION

The present study initially established the presence of anxiety in this sample of older community-dwelling persons. Our findings of excessive anxiety

TABLE 3
A Summary of ANOVAs on the Coolidge Axis II Inventory Personality Disorder Scale *T* Scores in the Younger and Older Anxious Samples

Personality Disorder Scale	Age Group	Mean	Standard Deviation	*F* Value	Significance Level (α)	Eta^2
Borderline	Younger	55.4	8.8	36.93	.001*	.19
	Older	44.8	5.7			
Narcissistic	Younger	53.9	8.5	35.30	.001*	.18
	Older	43.9	5.8			
Antisocial	Younger	53.3	10.2	32.25	.001*	.17
	Older	42.1	5.3			
Sadistic	Younger	52.1	9.4	26.49	.001*	.14
	Older	42.7	4.9			
Passive-aggressive	Younger	53.4	8.8	21.24	.001*	.12
	Older	47.1	7.4			
Schizoid	Younger	47.2	10.0	19.20	.001*	.11
	Older	56.3	10.1			
Histrionic	Younger	52.4	9.5	13.99	.001*	.08
	Older	45.1	8.5			
Schizotypal	Younger	52.3	8.3	10.60	.001*	.06
	Older	46.8	6.9			
Paranoid	Younger	53.4	11.1	10.57	.001*	.06
	Older	46.2	8.7			
Self-defeating	Younger	56.0	8.1	8.03	.005*	.05
	Older	51.4	6.5			
Depressive	Younger	54.4	10.1	5.36	.022	.03
	Older	49.7	8.4			
Dependent	Younger	54.8	9.3	4.60	.034	.03
	Older	50.9	6.3			
Obsessive-compulsive	Younger	51.9	9.6	3.94	.049	.02
	Older	55.8	9.4			
Avoidant	Younger	53.0	9.3	0.02	.876	.00
	Older	53.3	9.2			

ANOVA = analysis of variance.
* Significant according to the Holm's modified Bonferroni procedure.

levels ranging from less than 1% to 22% of the sample (depending on the scale and criterion level) appear consistent with the literature that the rates of anxiety in older persons are no greater than the population at large. For example, Blazer (1997) reported that the prevalence of a generalized anxiety disorder in adults over 65 was approximately 2.2%. In a large survey of community-dwelling older persons, Himmelfarb and Murrell (1984), using the State-Trait Anxiety Inventory, found clinically significant anxiety in 7% of males and 22% of females. Other studies have not reported noticeable gender differences, at least in terms of generalized anxiety states (e.g., Smith, Colenda, & Espeland, 1994).

In fact, there was some evidence both on the BSI anxiety scale and the CATI anxiety scale that, at two standard deviations above the normative mean, levels of anxiety in the elderly may even be less than in a younger population. At the very least, these findings suggest that older persons as a whole may not experience any *increase* in generalized anxiety as a function of aging. In the present study, correlations between age and the BSI anxiety scale (r = .05) and the CATI anxiety scale (r = .08) were both small. Smith et al. (1994) found a significant inverse correlation with age and current state of anxiety ($\beta = -.029$) among 123 geriatric primary care patients, suggesting that anxiety states may even decline with age. Interestingly, Flint (1994) theorized that, given that later life stressful events may be expected actually to increase anxiety rates in the elderly, there may be age-related physiological factors that reduce an older person's sensitivity to the stressful events. The cumulative neuronal cell loss and decreased brain levels of many chemical neurotransmitters may counterbalance these later life stresses, resulting in either a modest reduction in overall anxiety in older adults or in anxiety rates comparable with younger adults. We also suggest that effective coping strategies used by older persons may also repel anxiety.

To examine further generalized anxiety in our older sample, we chose the CATI item, "I worry a lot," and found that 46% of the entire older sample answered "More True Than False" or "Strongly True." This percentage is nearly identical to the younger normative sample. Although a substantial proportion of the present sample characterized themselves as worrying, it may be that only the nature of their worries changes with age (e.g., bereavement, somatic concerns, financial problems, declining performance with age, etc.) and not the overall amount. In support of this conclusion, Gurian, Verhoff, and Feld (1963), in a survey of 2460 community-dwelling adults, found somatic anxiety occurring at seven times the rate of younger persons. Penninx et al. (1996) also found a strong linear association between the number of chronic diseases with anxiety and psychological distress in a community-based sample of 3076 persons ages 55 to 85. Thus it may be more useful for future researchers to define the specific nature or target of anxiety in older persons and to identify age differences in worrying among older and younger persons (e.g., see an informative study by Powers, Wisocki & Whitbourne, 1992). It may be that more general measures of anxiety may not be as useful as specific measures that narrow their focus on phobic disorders, somatic concerns, cognitive concerns, economic concerns, and so forth. For example, Manela, Katona, and Livingston (1996), although reporting an overall anxiety rate in 774 older persons (M age = 76) of 15%, found that phobic disorders accounted for approximately two thirds of all types of anxiety. Furthermore, somatic symptoms of anxiety should be carefully evaluated, because many of these symptoms (e.g. shortness of breath, minor chest pains, and dizziness) could herald more serious

physical problems. Further, as Small (1997) has noted, anxiety often accompanies what may turn out to be the onset of progressive cognitive impairment.

The present findings are also in substantial agreement with the prior literature on the nature of personality disorders in patients with anxiety disorders. For example, Sanderson et al. (1994) found that the most common personality disorders among patients with anxiety disorders were avoidant, obsessive-compulsive, and dependent. In the present study, we found obsessive-compulsive, schizoid, and avoidant to be the most prevalent disorders. Oldham et al. (1995) found the dependent, avoidant, and borderline personality disorders to be highly comorbid with anxiety disorders in older persons, whereas Mavissakalian et al. (1995) found the avoidant, paranoid, and schizotypal personality disorders to be the most frequent in persons with GAD. Thus the avoidant personality disorder followed by the obsessive-compulsive personality disorder appear to be the most prominent personality structures underlying anxiety, although other studies suggest the role of other personality disorders as well. We are puzzled at present why schizoid personality disorder was elevated in our older anxious group, especially because this disorder is characterized by emotional coldness.

The present study was also able to confirm its three hypotheses. First, we found that personality disorders were highly comorbid and prevalent (61%) with anxiety in older adults, replicating an earlier finding (Coolidge et al., 1994). The effect size, however, was not substantial. This finding does suggest that personality disorders commonly appear in older persons with anxiety, just like they underlie depression (Segal et al., 1998). It is possible that anxiety masks these underlying psychopathologic conditions that are more chronic and less amenable to medical treatment. This issue may be important for clinicians because anxiety disorders may be more prominent and florid on initial interview. Professionals able to prescribe drugs may focus on antianxiety agents, yet they may find that those older persons with concomitant personality disorders may not respond in the same fashion as those who do not have them. It is also interesting to note that anxiety itself in the elderly may be masked by seemingly nonpsychopathologic concerns. For example, Beck and Stanley (1997) noted that reports of sleep disturbances may often yield anxiety disorders on more intimate investigation. It should also be noted here that the most elevated personality disorders among anxious versus nonanxious older adults (dependent, avoidant, obsessive-compulsive) fully comprise *DSM-IV* Cluster C (the anxious or fearful cluster), suggesting that these three conditions are conceptually similar and all anxiety based.

The second hypothesis in the present study was also confirmed in that the coping strategies of anxious older adults were different than coping in nonanxious older adults. Even with the statistically conservative Holm's (1979) technique, it was found that anxious elders relied more on the dysfunctional strategies of mental disengagement and behavioral disengagement, perhaps as a

way of coping with their anxiety. This result is consistent with our initial finding that avoidant personality disorder features are characteristic of older anxious persons. It is apparent, then, that the strategies of avoidance, denial, and disengagement are strongly related to a heightened experience of anxiety. Ironically, because the levels of anxiety were measurable in these older persons, none of these techniques appear to be successful. Our suggestions to clinicians based on these findings would be that the use of disengagement coping strategies does not appear very successful (at least in terms of suppressing anxiety), and clinicians should be encouraged to make their patients aware of their coping strategies and to help them confront their problems and fears in a more straightforward manner. Also, we found that older anxious persons demonstrated more effective coping than younger anxious persons, indicating that experience and wisdom associated with age may result in healthier coping responses in spite of potentially greater exposure to environmental stressors and losses.

The third hypothesis, that anxious older persons would have different comorbid psychopathological features than anxious younger persons, was also confirmed. Interestingly, of the 10 significant personality differences between older and younger anxious people, nine of the personality disorder scales were significantly elevated in the younger sample. Only the schizoid scale was significantly elevated in the older anxious group. Thus it appears that as far as anxiety is concerned, the comorbidity with personality disorders is far more florid in younger people than older people.

It is also interesting to note that the personality disorders with the greatest proportion of variance accounted for between anxiety and the personality disorder were the borderline, narcissistic, and antisocial disorders, which are three of the four personality disorders from Cluster B (the dramatic, emotional, or erratic cluster) of *DSM-IV*. This finding suggests that, although anxiety is comorbid with personality disorders among anxious older persons, younger persons are significantly more likely to have personality disorders that have a strong emotional or affective-reactive component. Interestingly, there was also no significant difference between the younger and older anxious groups on all three Cluster C personality disorders (avoidant, dependent, obsessive-compulsive) that are characterized by anxiousness or fearfulness. This finding suggests that there is no diminution of the anxious or fearful cluster in older persons, nor does there appear to be an exacerbation of the Cluster C symptoms in younger persons, as was true of the Cluster B personality disorders.

In summary, our study has shown that generalized anxiety states appear to be no more common in older adults than in younger persons, although it appears that the prevalence of anxiety in older persons is highly dependent on the measure of anxiety, the chosen criterion level, and the specific anxiety disorder. Furthermore, we were able to establish and support previous findings

on younger persons that anxiety is a highly comorbid feature of personality disorders and that the obsessive-compulsive, schizoid, and avoidant personality disorders were far more prevalent than the other disorders in the anxious older person. It was also found that the coping strategies of anxious older adults were different than in nonanxious older adults in that it appears that anxious older adults relied on more dysfunctional coping strategies, such as mental and behavioral disengagement. Finally, when comparing anxious younger and older persons, personality disorders were far more florid in the younger people than in the older people. It is hoped that the present study may help clinicians in recognizing the nature of anxiety's mask and in recognizing the chronic disorders behind the mask.

REFERENCES

Alnaes, R., & Torgersen, S. (1988a). DSM-III symptom disorders (axis I) and personality disorders (axis II) in an outpatient population. *Acta Psychiatrica Scandinavica*, **78**, 348–355.

Alnaes, R., & Torgersen, S. (1988b). The relationship between DSM-III symptom disorders (axis I) and personality disorders (axis II) in an outpatient population. *Acta Psychiatrica Scandinavica*, **78**, 485–492.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., revised). Washington, DC: Author.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Beck, J. G., & Stanley, M. A. (1997). Anxiety disorders in the elderly: The emerging role of behavior therapy. *Behavior Therapy*, **28**, 83–100.

Blazer, D. G. (1997). Generalized anxiety disorder and panic disorder in the elderly: A review. *Harvard Review of Psychiatry*, **5**(1), 18–27.

Carver, C. S., Scheier, M. F, & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, **56**, 267–283.

Coolidge, F. L. (1993). *The Coolidge Axis II Inventory manual.* Clermont, FL: Synergistic Office Solutions.

Coolidge, F. L., Janitell, P. M., & Griego, J. A. (1994). Personality disorders, depression and anxiety in the elderly. *Journal of Clinical Gerontology*, **15**, 81–83.

Coolidge, F. L., & Merwin, M. M. (1992). Reliability and validity of the Coolidge Axis II Inventory: A new inventory for the assessment of personality disorders. *Journal of Personality Assessment*, **59**, 223–238.

Coolidge, F. L., Merwin, M. M., & Nathan, J. H. (1996). Assessment of neurobehavioral symptoms after traumatic brain injury. *Indian Journal of Psychological Issues*, **4**(1), 1–9.

Derogatis, L. R. (1993). *The Brief Symptom Inventory (BSI): Administration, scoring and procedures manual* (3rd ed.). Minneapolis: National Computer Systems, Inc.

Diehl, M., Coyle, N., & Labouvie-Vief, G. (1996). Age and sex differences in strategies of coping and defense across the life span. *Psychology and Aging*, **11**, 127–139.

Endler, N. S., & Parker, J. D. A. (1990). State and trait anxiety, depression and coping styles. *Australian Journal of Psychology*, **42**, 207–220.

Flint, A. J. (1994). Epidemiology and comorbidity of anxiety disorders in the elderly. *American Journal of Psychiatry*, **151**(5), 640–649.

Folkman, S., Lazarus, R. S., Pimley, S., & Novacek, J. (1987). Age differences in stress and coping processes. *Psychology and Aging*, **2**, 171–184.

Gurian, G., Verhoff, J., & Feld, S. (1963). *Americans view their mental health.* New York: Basic Books.

Himmelfarb, S., & Murrell, S. A. (1984). The prevalence and correlates of anxiety symptoms in older adults. *The Journal of Psychology*, **116**, 159–167.

Hoffart, A., & Martinsen, E. W. (1993). Coping strategies in major depressed, agoraphobic and comorbid in-patients: A longitudinal study. *British Journal of Medical Psychology*, **66**, 143–155.

Holm, S. (1979). A simple sequentially rejective multiple test procedure. *Scandinavian Journal of Statistics*, **6**, 65–70.

Manela, M., Katona, C., & Livingston, G. (1996). How common are the anxiety disorders in old age? *International Journal of Geriatric Psychiatry*, **11**, 65–70.

Mauri, M., Sarno, N., Rossi, V. M., Armani, A., Zambotto, S., Cassano, G. B., & Akiskal, H. S. (1992). Personality disorders associated with generalized anxiety, panic, and recurrent depressive disorders. *Journal of Personality Disorders*, **8**, 162–167.

Mavissakalian, M. R., Hamann, M. S., Haidar, S. A., & de Groot, C. M. (1995). Correlates of DSM-III personality disorder in generalized anxiety disorder. *Journal of Anxiety Disorders*, **9**(2), 103–115.

Monat, A., & Lazarus, R. S. (Eds.). (1991). *Stress and coping: An anthology* (3rd ed.). New York: Columbia University Press.

Oldham, J. M., Skodol, A. E., Kellman, H. D., Hyler, S. E., Doidge, N., Rosnick, L., & Gallaher, P. E. (1995). Comorbidity of Axis I and Axis II disorders. *American Journal of Psychiatry*, **152**, 571–578.

Penninx, B. W. J. H., Beekman, A. T. F., Ormel, J., Kriegsman, D. M. W., Boeke, A. J. P., Van Eijk, J. T. M., & Deeg, D. J. H. (1996). Psychological status among elderly people with chronic diseases: Does type of disease play a part? *Journal of Psychosomatic Research*, **40**, 521–534.

Powers, C. B., Wisocki, P. A., & Whitbourne, S. K. (1992). Age differences and correlates of worrying in young and elderly adults. *The Gerontologist*, **32**, 82–88.

Rapp, S. R., Parisi, S. A., & Walsh, D. A. (1988). Psychological dysfunction and physical health among elderly medical inpatients. *Journal of Consulting and Clinical Psychology*, **56**, 851–855.

Reich, J., Perry, J. C., Shera, D., Dyck, I., Vasile, R., Goisman, R. M., Rodriguez-Villa, F., Massion, A. O., & Keller, M. (1994). Comparison of personality disorders in different anxiety disorder diagnoses: Panic, agoraphobia, generalized anxiety, and social phobia. *Annals of Clinical Psychiatry*, **6**, 125–134.

Reiger, D. A., Boyd, J. H., Burke, J. D., Rae, D. S., Myers, J. K., Kramer, M., Robins, L. N., George, L. K., Karno, M., & Locke, B. Z. (1988). One-month prevalence of mental disorders in the United States. *Archives of General Psychiatry*, **45**, 977–986.

Sanderson, W. C., Wetzler, S., Beck, A. T., & Betz, F. (1994). Prevalence of personality disorders among patients with anxiety disorders. *Psychiatry Research*, **51**, 167–174.

Scogin, F. R. (1998). Anxiety in old age. In I. H. Nordhus, G. R. VandenBos, S. Berg, & P. Fromholt (Eds.), *Clinical geropsychology* (pp. 205–209). Washington, DC: American Psychological Association.

Segal, D. L., & Coolidge, F. L. (1998). Personality disorders. In A. S. Bellack & M. Hersen (Eds.), *Comprehensive clinical psychology: Vol. 7. Clinical geropsychology* (pp. 267–289). New York: Elsevier Science.

Segal, D. L., Hersen, M., Kabacoff, R. I., Falk, S. B., Van Hasselt, V. B., & Dorfman, K. (1998). Personality disorders and depression in community-dwelling older adults. *Journal of Mental Health and Aging*, **4**, 171–182.

Sheikh, J. I. (1992). Anxiety and its disorders in old age. In J. E. Birren, R. B. Sloane, & G. D. Cohen (Eds.), *Handbook of mental health and aging* (2nd ed., pp. 410–432). New York: Springer.

Skodol, A. E., Oldham, J. M., Hyler, S. E., Stein, D. J., Hollander, E., Gallaher, P. E., & Lopez, A. E. (1995). Patterns of anxiety and personality disorder comorbidity. *Journal of Psychiatric Research*, **29**(5), 361–374.

Small, G. W. (1997). Recognizing and treating anxiety in the elderly. *Journal of Clinical Psychiatry*, **58**(Suppl. 3), 41–47.

Smith, S. L., Colenda, C. C., & Espeland, M. A. (1994). Factors determining the level of anxiety state in geriatric primary care patients in a community dwelling. *Psychosomatics*, **35**, 50–58.

Tremblay, P. F., & King, P. R. (1994). State and trait anxiety, coping styles and depression among psychiatric inpatients. *Canadian Journal of Behavioral Science*, **26**, 505–519.