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Research Article

IMPAIRMENT AND QUALITY OF LIFE IN INDIVIDUALS WITH GENERALIZED ANXIETY DISORDER†

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Once considered to be a disorder associated with minimal impairment, the link between generalized anxiety disorder (GAD) and impairment across a broad constellation of domains is now well established. However, less is known about how comorbidity affects these relationships or how GAD impacts one's perceived life satisfaction or quality of life. To investigate these questions, data from 52 treatment-seeking individuals with GAD (33 with comorbid Axis I diagnoses) were compared to data from 55 nonanxious controls. Individuals with GAD reported more impairment at work and in their social functioning than they did with home and family responsibilities. They also reported lower quality of life than nonanxious controls, particularly in regard to self-esteem, goals and values, money, work, play, learning, creativity, friends, and relatives. Trait worry was positively correlated with impairment and inversely related to life satisfaction within the clinical sample. Individuals with GAD, with and without comorbid Axis I diagnoses, showed few differences on measures of impairment (differing only on impairment in social functioning). However, individuals with GAD and comorbid disorders perceived their lives as less satisfying than did individuals with GAD without comorbid diagnoses. Depression and Anxiety 24:342–349, 2007. © 2006 Wiley-Liss, Inc.

Key words: *generalized anxiety disorder; comorbidity; impairment; life satisfaction*

INTRODUCTION

In its original conceptualization, generalized anxiety disorder (GAD) was thought to rarely result in more than mild impairment [American Psychiatric Association, 1980, 1987]. Indeed, some studies utilizing small samples of individuals with "pure" GAD (i.e., GAD in the absence of comorbidity) have suggested little impairment [e.g., Olfson et al., 1997], or a level of impairment that is not as great as that for pure depression [e.g., Schonfeld et al., 1997]. Concerns about the level of clinical impairment arising from pure GAD, coupled with observations that GAD rarely occurs without comorbidity [Bruce et al., 2001], have led to questions about the validity of GAD as an independent diagnosis [for a review of these issues, see Kessler et al., 2004].

The rates of comorbid disorders among persons with GAD are high. In the National Comorbidity Survey, which used DSM-III-R diagnostic criteria, 66% of

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individuals met criteria for an additional current disorder and 90% met criteria for another disorder during their lifetime [Wittchen et al., 1994]. Findings from the National Comorbidity Survey Replication study indicate that the rate of current comorbidity among individuals with GAD is 85% [Kessler et al., 2005]. Nevertheless, the proportion of individuals with comorbid GAD is similar to the proportion of individuals with mood disorders or other anxiety disorders who meet criteria for additional Axis I diagnoses [Kessler et al., 2004].

Impairment associated with GAD is now more well-established in the literature. Previous research has demonstrated links between GAD and increased health care utilization [Blazer et al., 1991], role impairments such as being divorced or separated, higher rates of unemployment, and self-reported interference with daily activities [Wittchen et al., 1994] and lower levels of emotional health, role functioning, and social functioning [Massion et al., 1993]. In addition, the results of several studies indicate that the degree of impairment experienced by individuals with GAD is similar to that experienced by people with major depression [Hunt et al., 2004; Kessler et al., 1999; Stein and Heimberg, 2004; Wittchen, 2002; Wittchen et al., 2000] and panic disorder [Hunt et al., 2004; Massion et al., 1993]. Nevertheless, most studies of impairment have not distinguished between GAD in its pure form and GAD with comorbid diagnoses.

A small but growing body of literature has examined the impact of GAD in its pure form. Primary care patients with GAD, but without comorbid disorders, reported reduced physical and social functioning, increased physical role/occupational limitations and emotional problems, as well as reduced energy levels and general perceptions of health when compared to individuals with no disorder [Schonfeld et al., 1997]. Primary care patients with pure GAD also reported a higher number of days in the past month in which their ability to carry out their usual activities was impaired (4.4) compared to individuals with no disorder [1.7; Ormel et al., 1994]. However, there remains a need to examine further the impairment associated with uncomplicated GAD versus that associated with GAD and comorbid disorders, particularly within treatment-seeking populations.

An area that has received far less attention is how GAD affects one's quality of life. Impairment and quality of life are separate constructs that are only moderately related [Hambrick et al., 2003]. Consistent with the findings reviewed earlier, impairment is typically conceptualized as the negative impact a disorder has on an individual's ability to fulfill roles such as worker, spouse, parent, and autonomous individual [Hambrick et al., 2003]. In contrast, quality of life is typically conceptualized as an individual's subjective sense of satisfaction with his or her own life [Mendlowicz and Stein, 2000]. Stein and Heimberg [2004] reported that GAD is associated with lower likelihood of satisfaction in family life, in one's sense of overall well-being, and in one's present main activity, even after controlling for the presence of comorbid major depressive disorder.

Our first goal in this study was to replicate research suggesting clinically significant impairment among individuals with GAD and to examine the impact of comorbidity on degree of impairment. Of particular interest was the relative impairment across various domains of functioning. For instance, recent theoretical and empirical work have emphasized the importance of interpersonal dysfunction [e.g., Newman et al., 2004] and emotion dysregulation in GAD [e.g., Mennin et al., 2004, 2005], and we were interested in discovering whether these domains would stand out as ones in which individuals with GAD have particular difficulty. With regard to the issue of comorbidity, we expected individuals with comorbid GAD to report more impairment than individuals with uncomplicated GAD.

Our second goal in this study was to examine quality of life in GAD. We hypothesized that individuals with GAD and a comorbid diagnosis would report lower quality of life than would individuals with uncomplicated GAD, but that individuals with uncomplicated GAD would nevertheless report less life satisfaction than community controls. Given the historically prevalent belief that GAD does not involve meaningful impairment, we felt that it was important to have a community control group to establish that individuals with pure GAD do, in fact, experience a low quality of life. Finally, we predicted that the core feature of GAD, worry, would be significantly related to quality of life, as well as functional impairment.

METHODS

PARTICIPANTS

Patients were individuals seeking treatment for chronic worry and associated difficulties as part of several ongoing research projects at the Adult Anxiety Clinic of Temple University (AACT). Patients were referred to the AACT by other professionals or self-referred in response to community advertisements regarding the treatment of worry. Thirty-five women (67.3%) and 17 men (32.7%) who met DSM-IV [American Psychiatric Association, 1994] criteria for a principal diagnosis of GAD were included in the study. Of the patients with GAD, 33 met criteria for one or more secondary diagnoses (see Table 1). Participants were excluded if they demonstrated evidence of an organic mental disorder, significant risk of self-harm, significant substance abuse or dependence within the last 6 months, or a comorbid psychotic disorder. An additional 32 women (58.2%) and 23 men (41.8%) who did not meet DSM-IV criteria for any Axis I disorder, with the exception of two individuals who met criteria for a specific phobia, were included as nonanxious

controls. These individuals were recruited through advertisements in local newspapers and flyers soliciting the paid participation of individuals who did not experience problems with anxiety or depression. See Table 2 for demographic information for both participants with GAD and control participants.

MATERIALS

Diagnostic interview. Anxiety Disorders Interview Schedule, Lifetime version for DSM-IV (ADIS-IV-L): The ADIS-IV-L [DiNardo et al., 1994] is a semistructured interview for the diagnosis of DSM-IV anxiety, mood, somatoform, and substance-related disorders. A 0–8 clinician severity rating (CSR) is assigned for each diagnosis, based on the severity of the patient's distress regarding his or her symptoms and the degree of interference in daily functioning related to these symptoms. A CSR of 4 or higher is considered clinically significant. A disorder is designated as the principal diagnosis if it is given a CSR that is at least one point higher than any other clinically significant diagnosis. The ADIS-IV demonstrated good interrater reliability for a principal diagnosis of GAD in a clinical sample of 362 individuals [$\kappa = .67$; Brown et al., 2001].

Interviewers were clinical psychologists or doctoral students in clinical psychology trained according to the guidelines put forth by Brown et al. [2001]. To assess diagnostic reliability, 43 of the 52 individuals meeting criteria for a principal diagnosis of GAD were also administered the current GAD module from the ADIS-IV-L by an independent assessor. "Diagnostic agreement," defined as the percentage of time that both assessors rated the CSR for GAD as 4 or above, was 100%. In addition, the two raters agreed on the GAD CSR 60% of the time and were within 1 CSR point in 95% of cases.

Measures of impairment, quality of life, and symptoms. Liebowitz Self-Rated Disability Scale [LSRDS; Schneier et al., 1994]: The LSRDS comprises 11 items that assess current (last 2 weeks) impairment, as well as the worst impairment ever experienced. Some examples include "Going as far in school as my money and intelligence permit" and "Having at least a few close friends and a small group of acquaintances."

TABLE 1. Proportion of additional Axis I diagnoses in the comorbid group ($n = 33$)

Diagnosis	#	% of comorbid group with this disorder
Social anxiety disorder	22	66.7
Specific phobia	12	36.3
Major depressive disorder	8	24.2
Depressive disorder not otherwise specified	8	24.2
Dysthymic disorder	5	15.1
Posttraumatic stress disorder	3	9.1
Panic disorder with agoraphobia	2	6.1
Panic disorder without agoraphobia	1	3.0
Agoraphobia	1	3.0
Anxiety disorder not otherwise specified	1	3.0
Body dysmorphic disorder/hypochondriasis	1	3.0
Obsessive–compulsive disorder	1	3.0
Eating disorder not otherwise specified	1	3.0
Total additional diagnoses	66	

TABLE 2. Demographic comparison of patients with GAD and nonanxious controls

	Patients ($n = 52$)		Controls ($n = 55$)		
	n	%	*n*	%	χ^2
Gender					0.95
Female	35	67.3	32	58.2	
Male	17	32.7	23	41.8	
Marital Status					0.31
Single, never married	37	71.2	41	75.9	
Ever married	15	28.8	13	24.1	
Ethnicity					0.07
Caucasian	39	75.0	40	72.7	
Other	13	25.0	15	27.3	

	Patients		Controls			
	M	*SD*	*M*	*SD*	*df*	*t*
Age (Years)	33.0	12.3	30.1	10.4	105	1.33
Education (Years)	16.2	2.56	15.5	2.90	101	1.47

Note. *Ns* vary due to missing data. All comparisons are nonsignificant.

These items are rated on a 4-point scale, where 0 = *Problem does not limit me at all* and 3 = *Problem limits me severely*. Schneier et al. [1994] reported that the LSRDS was highly internally consistent, $\alpha = .92$ for both the current and worst ratings. In this sample of individuals with GAD, $\alpha = .65$ and .82 for the current and worst impairment scales, respectively.

Sheehan Disability Scale [SDS; Sheehan, 1983]: The SDS comprises three items assessing impairment at work, in social relationships, and in responsibilities at home and with family. Each of these items is rated on a scale from 0 to 10, where lower ratings indicate less impairment. The SDS also includes an additional global rating of work and social disability. The SDS is internally consistent, $\alpha = .89$ [Leon et al., 1997], and is a sensitive measure of impairment for a broad constellation of disorders [Olfson et al., 1997]. In our GAD sample, α was .76.

Quality of Life Inventory [QOLI; Frisch et al., 1992]: The QOLI assesses the degree to which an individual is satisfied with 16 areas of his or her life. Health, standard of living, friendships, relationship with family, and community are a few examples. These areas are rated once on a 0- to 2-point scale of importance to the individual's life and again on a scale of −3 to 3 points to indicate how satisfied the individual is in each area. The total score is derived by multiplying the ratings for importance and satisfaction for each domain, then averaging across the 16 domains. The total score has been shown to be internally consistent ($\alpha = .98$) and has demonstrated adequate test–retest reliability [*r*s ranging from .80 to .91; Frisch et al., 1992]. QOLI scores were also positively correlated with scores on a clinician-administered life satisfaction interview, peer ratings of life satisfaction, and five self-report measures assessing life satisfaction and subjective well-being. In our sample, αs were .80 and .81 for individuals with GAD and nonanxious individuals, respectively.

Penn State Worry Questionnaire [PSWQ; Meyer et al., 1990]: The PSWQ is a 16-item questionnaire designed to assess trait worry, the core feature of GAD, regardless of worry content. Sample items include "My worries overwhelm me" and "I worry all the time." Items are rated on a 5-point scale, where 1 = *Not at all typical* and 5 = *Very typical*. The PSWQ is internally consistent (αs range from .86 to .93) and has demonstrated acceptable test–retest reliability [*r*s range from .74 to .93; Molina and Borkovec, 1994; Turk et al., 2004]. In addition, individuals with GAD scored higher on the PSWQ than did individuals with obsessive–compulsive disorder, social anxiety disorder, and panic disorder, both with and without agoraphobia [Brown et al., 1992]. In our samples, αs = .79 and .80 for individuals with GAD and nonanxious individuals, respectively.

Beck Depression Inventory [BDI; Beck et al., 1979]: The BDI is a 21-item questionnaire assessing the symptoms of depression including the affective, cognitive, behavioral, somatic, and motivational components, as well as suicidal ideation. Recent research indicates that the BDI retains its reliability ($\alpha = .85$) and validity when assessing depressive symptoms in individuals with GAD [Weeks and Heimberg, 2005]. In our sample, αs were .86 and .67 for individuals with GAD and nonanxious individuals, respectively.

PROCEDURE

The ADIS-IV-L was administered to the clinical sample and to nonanxious controls, who were required to be free from Axis I diagnoses, with the exception of specific phobia, for the past 2 years. Individuals who may have met diagnostic criteria for Axis I diagnosis more than 2 years previously but did not meet criteria for the past 2 years were included in the nonanxious control group. After the interview, each participant was given a packet of questionnaires, which included the questionnaires utilized in this study. Patients completed the packets at home and returned them before initiation of treatment. Nonanxious controls completed a similar questionnaire battery in the lab but were not administered the disability scales, because the instructions for these scales ask the respondents to rate the impairment due to their disorder, which was not applicable. Nonanxious controls were paid for their participation.

RESULTS

PRELIMINARY ANALYSES

Chi-square analyses failed to reveal significant differences between the individuals with GAD and nonanxious controls on gender, ethnicity, and marital status. Independent-sample *t*-tests further revealed that the patients and nonanxious controls did not differ in mean age or years of education (see Table 2).

As expected, individuals with GAD achieved significantly higher scores on the PSWQ ($M = 69.2$, $SD = 7.41$) than did nonanxious controls [$M = 32.2$, $SD = 8.84$, $t\ (104) = 23.3$, $P < .001$, Cohen's $d = 4.51$]. They also reported higher levels of depression ($M = 16.0$, $SD = 8.40$) than did nonanxious controls [$M = 2.30$, $SD = 2.60$, $t\ (103) = 11.5$, $P < .001$, $d = 2.26$].

Within the clinical sample, the QOLI was significantly correlated with current disability as assessed by the LSRDS [$r\ (48) = -.54$, $P < .001$], as well as disability when emotional problems were at their worst [$r\ (49) = -.28$, $P = .048$]. There was also an inverse relationship between the QOLI and impairment at work [$r\ (50) = -.42$, $P = .002$], impairment in social life [$r\ (50) = -.53$, $P < .001$], and impairment with family/home responsibilities [$r\ (50) = -.46$, $P = .001$], as measured by the SDS. Moreover, although impairment and quality of life were related within the clinical sample, they were not so highly correlated as to suggest that they are redundant concepts.

IMPAIRMENT

As assessed by the SDS, individuals with GAD reported experiencing significantly more impairment at work ($M = 5.14$, $SD = 2.77$) than they experienced with home and family responsibilities [$M = 4.15$, $SD = 2.93$, paired-sample t (51) = 2.71, $P = .009$]. Similarly, they reported greater impairments in their social relationships ($M = 5.42$, $SD = 2.38$) than they experienced with home and family responsibilities [t (51) = 3.30, $P = .002$]. There was no difference between the disability they reported at work and in social relationships [t (51) = 0.79, $P = .43$].

On the LSRDS, individuals with GAD rated their current level of disability ($M = 9.10$, $SD = 4.67$) as significantly less severe than the level of disability they experienced when their emotional problems were at their worst [$M = 15.1$, $SD = 7.21$, t (49) = 6.26, $P < .001$]. The percentages of individuals with GAD experiencing various levels of impairment at the time of presentation for treatment are depicted in Table 3.

With regard to comorbidity, individuals with comorbid disorders reported significantly greater impairment in social functioning on the SDS than did individuals with uncomplicated GAD [t (50) = 4.00, $P < .001$, $d = 1.15$]. However, individuals with comorbid disorders did not differ from individuals with uncomplicated GAD on the SDS for impairment at work [t (50) = 0.68, $P = .50$, $d = 0.19$] or family life/home responsibilities [t (50) = 1.80, $P = .078$, $d = 0.52$]. Furthermore, individuals with comorbid disorders and uncomplicated GAD did not differ in current disability as assessed by the LSRDS [t (48) = 1.86, $P = .068$, $d = 0.55$] or impairment when emotional problems were at their worst [t (49) = 1.34, $P = .19$, $d = 0.39$].

QUALITY OF LIFE

Individuals with GAD reported less satisfaction with their quality of life ($M = 0.06$, $SD = 1.73$) than did nonanxious controls [$M = 2.47$, $SD = 1.31$, t (93.01) = 8.07, $P < .001$, $d = 1.67$]. This test was adjusted to account for unequal variance between the groups, as were all subsequent t-tests comparing the clinical and nonanxious groups across the 16 domains assessed by the QOLI. Since a significant difference existed between the groups on depressive symptoms, a hierarchical regression analysis was conducted to determine whether differences between groups were independent of differences in depression. BDI scores were entered first, followed by group. BDI scores accounted for a significant proportion of the variance [$R^2 = .453$, F (1, 102) = 84.4, $P < .001$]. After controlling for BDI scores, group accounted for a significant proportion of the variance [$\Delta R^2 = .03$, F (1, 101) = 5.84, $P = .017$; Cohen's $f^2 = 0.06$].

To determine what aspects of quality of life were most affected by GAD, the clinical sample and nonanxious controls were compared on each of the 16 domains assessed by the QOLI. Independent sample t-tests revealed that individuals with GAD reported lower life satisfaction for 15 of the 16 domains ($P < .05$); there was no group difference in satisfaction with regard to children. To control for α inflation, a Bonferroni correction was used (.05/16 = .003). Relative to nonanxious controls, using this more stringent criterion, individuals with GAD indicated significantly less satisfaction in nine domains: self-esteem, goals and values, money, work, play, learning, creativity, friends, and relatives (see Table 4).

We used independent sample t-tests, adjusted for unequal variances, to examine the QOLI scores of individuals with GAD uncomplicated by any current diagnosis other than specific phobia ($n = 19$), individuals with comorbid GAD ($n = 33$), and nonanxious controls ($n = 55$). Individuals with comorbid GAD perceived their lives as significantly less satisfying than did nonanxious controls [t (63.0) = 9.34, $P < .001$, $d = 2.10$] and individuals with uncomplicated GAD [t (26.8) = 2.29, $P = .03$, $d = 0.74$]. In addition, individuals with uncomplicated GAD reported significantly

TABLE 3. Percentage of patients with GAD experiencing various levels of current disability in domains assessed by the LSRDS

Domains	No limitations	Slight limitations	Moderate limitations	Severe limitations
Moderate alcohol use	84.6	13.5	1.9	0.0
Drug abstinence	90.4	9.6	0.0	0.0
Mood regulation	13.5	21.2	51.9	7.7
Education	15.4	13.5	7.7	5.8
Employment	19.2	9.6	17.3	3.8
Family relationships	30.8	36.5	25.0	5.8
Romantic relationships	19.2	28.8	21.2	28.8
Friendships	30.8	42.3	17.3	5.8
Hobbies	25.0	30.8	26.9	15.4
Activities of daily living	51.9	25.0	11.5	9.6
Desire to live	76.9	13.5	7.70	0.0

Note. Because there were missing data and not every item applied to every individual (e.g., a person could be currently in school but not working), row totals do not always add up to 100%.

TABLE 4. Life satisfaction among patients with GAD and nonanxious controls for domains assessed by the QOLI

Domain	Individuals with GAD *M* (*SD*)	Nonanxious controls *M* (*SD*)	*t*	Effect size (Cohen's *d*)
Health	0.92 (1.73)	2.56 (2.60)	2.73*	0.53
Self-esteem	−1.87 (3.66)	3.20 (2.11)	8.70**	1.71
Goals and values	0.58 (3.29)	4.24 (2.02)	6.89**	1.35
Money	−1.04 (2.64)	.527 (2.73)	3.01**	0.58
Work	−1.59 (2.89)	1.89 (2.67)	6.39**	1.25
Play	−1.02 (3.85)	2.71 (2.79)	5.71**	1.11
Learning	1.41 (3.23)	3.80 (1.92)	4.59**	0.91
Creativity	−0.20 (3.19)	2.67 (2.23)	5.30**	1.05
Helping	0.80 (2.99)	2.22 (2.31)	2.71*	0.53
Romantic relationships	0.10 (4.16)	1.91 (3.33)	2.45	0.48
Friends	0.76 (3.75)	3.00 (2.69)	3.50**	0.69
Children	0.71 (2.98)	1.11 (2.45)	0.76	0.15
Relatives	0.35 (3.12)	2.41 (1.81)	4.14**	0.81
Home	0.33 (3.05)	1.64 (2.72)	2.34	0.46
Neighborhood	0.15 (3.10)	1.38 (2.38)	2.29	0.45
Community	0.33 (2.53)	1.40 (2.47)	2.22	0.43

Note. Cohen's effect size *d*: small effect = .20, medium effect = .50, large effect = .80.
*$P<.01$, **$P<.003$.

TABLE 5. Comparison of individuals with GAD with and without a comorbid disorder and nonanxious controls on measures of QOLI

	Individuals with GAD and at least one comorbid disorder ($n = 33$) *M* (*SD*)	Individuals with GAD and no comorbid disorder ($n = 19$) *M* (*SD*)	Nonanxious controls ($n = 55$) *M* (*SD*)
QOLI	−0.37 (1.42)	0.84 (1.98)	2.47 (1.31)
SDS Social Functioning	6.3 (1.91)	3.89 (2.38)	
SDS Work	5.33 (2.56)	4.79 (3.14)	
SDS Family/Home	4.70 (2.63)	3.21 (3.26)	
LSRDS Current	10.0 (4.31)	7.5 (4.96)	
LSRDS Worst	16.0 (6.79)	13.2 (7.63)	

less satisfaction than did nonanxious controls [t (22.0) = 3.26, $P = .004$, $d = 1.09$; see Table 5].

RELATIONSHIP OF WORRY TO IMPAIRMENT AND QUALITY OF LIFE

Within the clinical sample, the PSWQ was significantly correlated with current disability as assessed by the LSRDS [r (49) = .31, $P = .028$], as well as disability when emotional problems were at their worst [r (50) = .30, $P = .033$]. There was also a positive correlation between the PSWQ and impairment at work [r (51) = .39, $P = .004$] and impairment in social life [r (51) = .34, $P = .013$], as measured by the SDS, but the PSWQ was not related to impairment with family/home responsibilities [r (51) = .19, $P = .18$]. The PSWQ was inversely related to QOLI total scores [r (50) = −.38, $P = .006$].

DISCUSSION

Consistent with previous research, individuals seeking treatment for GAD reported meaningful levels of disability. On the LSRDS, with the exceptions of drug abstinence, alcohol use, and desire to live, at least some patients with GAD indicated experiencing severe disability in each domain (notably, substance abuse and significant suicidality were exclusion criteria for this study). More commonly, patients reported mild-to-moderate impairment across the domains of the LSRDS and the SDS. The fact that very few individuals with GAD reported no difficulties in mood regulation on the LSRDS is interesting in light of recent theoretical and empirical work suggesting that emotion dysregulation is a fundamental aspect of the disorder [e.g., Mennin et al., 2004, 2005]. However, the most striking domain was romantic relationships, with 28.8% of patients with GAD reporting severe disability on the LSRDS. Patients also reported greater impairments in their social relationships than with home and family responsibilities on the SDS, and a positive relationship was observed between impaired social relationships and worry. These findings are consistent with other recent research suggesting difficulties in interpersonal functioning among persons with GAD [e.g., Eng and Heimberg, 2006] and new

treatment protocols targeting this domain of dysfunction [e.g., Crits-Christoph et al., 2004; Newman et al., 2004].

Unexpectedly, individuals with GAD and a comorbid diagnosis did not endorse greater current or lifetime impairment, impairment at work, or impairment with family life/home responsibilities than individuals with uncomplicated GAD. These findings add to the evidence suggesting that uncomplicated or "pure" GAD is an impairing disorder. Of the five impairment scales used in the comorbidity analyses, only impairment in social life was significantly higher in individuals with comorbid GAD than uncomplicated GAD. Notably, 22 (66.7%) of the individuals in the comorbid GAD sample had an additional diagnosis of social anxiety disorder. Social anxiety disorder is characterized by a persistent fear of negative evaluation and typically involves significant impairment in interpersonal relationships, which may have contributed to the group difference on this measure of impairment. Although high rates of social anxiety disorder were observed in the current sample, it is important to note that other studies also report high rates of comorbid social anxiety disorder among persons with GAD [Sanderson et al., 1990] and social anxiety appears to be an important aspect of the clinical picture for many individuals with this disorder.

Because it is often possible to both worry and act, impairment in GAD may be subtle (e.g., reduced but acceptable performance) or even nonexistent for some individuals. Consequently, regardless of level of impairment, the internal states of worry, anxiety, and tension may nevertheless interfere with quality of life. Individuals with GAD reported lower quality of life than did nonanxious controls. To illustrate how poorly individuals with GAD perceived their quality of life, their average score on the QOLI fell below the 5th percentile of the standardization sample. Individuals with such scores are described as extremely unhappy, unfulfilled in most areas of life, and vulnerable to a variety of medical and psychological problems [Frisch, 1994]. This extremely low quality of life stands in contrast to the typically moderate levels of impairment observed in the sample. These differences between individuals with and without GAD in life satisfaction remained even after statistically controlling for depression. However, it is important to note that depression did account for a large portion of the variance, reflecting the importance of depression's impact upon quality of life. Additionally, while GAD and at least one comorbid diagnosis was associated with lower quality of life than uncomplicated GAD, individuals with uncomplicated GAD still reported significantly less life satisfaction than did nonanxious controls.

The finding that individuals with GAD and at least one comorbid diagnosis generally did not endorse more overall impairment, but reported lower quality of life, suggests an important point for consideration for future research. Correlations between the QOLI and impairment measures in this study fell between −.28 and −.54. These findings suggest that impairment and quality of life are distinct but related constructs, lending support to previous conclusions drawn by Hambrick et al. [2003]. As such, it may prove beneficial to include both constructs in subsequent investigation into the nature of GAD, as well as other mental disorders, to provide a more well-rounded view of the impact of a disorder. Furthermore, an emphasis on quality of life may be particularly important in the assessment and treatment of GAD, because it is a disorder that may sometimes lack overt behavioral markers signifying disability.

There are, however, limitations to the current research that warrant attention. One is sample size, particularly in the comorbidity analyses. It is important to reexamine differences between individuals with GAD who are comorbid and individuals with GAD in isolation in a larger sample to see if the pattern of results reported above holds true. In addition, most of the individuals in the uncomplicated GAD group had previously met criteria for a comorbid diagnosis. While these individuals were not currently comorbid, it is difficult to say what role residual, subclinical symptoms may have played in the analyses. Similarly, Axis II disorders were not assessed, and these disorders, if present, may have an impact upon impairment and life satisfaction. The results are also limited by the biases inherent in reliance on self-report measures. Future research would benefit from the inclusion of clinician-administered measures of disability and quality of life to overcome the limitations of self-report data, as well as provide the opportunity to examine differences in patients' and clinicians' view of patients' impairment and life satisfaction. It may also prove useful to investigate the relationships between symptoms, impairment, and quality of life in an attempt to provide better understanding of and service for treatment-seeking individuals.

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