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Quality of Life Impairment in Generalized Anxiety Disorder, Social Phobia, and Panic Disorder

Terri L. Barrera and **Peter J. Norton**
University of Houston

Abstract

Interest in the assessment of quality of life in the anxiety disorders is growing. The present study examined quality of life impairments in individuals with Generalized Anxiety Disorder (GAD), Social Phobia, and Panic Disorder. Results showed that individuals with these disorders reported less satisfaction with their quality of life than non-anxious adults in the community. However, the degree of quality of life impairment is similar across these three disorders. Additionally, comorbid depression, but not anxiety, was found to negatively impact quality of life in these individuals. Finally, diagnostic symptom severity was not found to influence quality of life, indicating that subjective measures of quality of life offer unique information on the effects of anxiety disorders.

Keywords

Anxiety; Generalized Anxiety Disorder; Social Phobia; Panic Disorder; Quality of Life; Depression

Recently there has been a growing interest in the research literature to assess quality of life impairment in many psychological disorders. Attention is shifting away from a sole focus on symptom severity to include the broader impact of psychological disorders on individuals' lives, especially individuals' perceptions of their quality of life (Katschnig, 1997). The importance of including quality of life assessments in evaluations of both the influence of psychological disorders and their treatment is widely recognized (Bourland et al., 2000; Frisch, 1994; Katschnig, 1997; National Institute of Mental Health, 1998).

Disagreement exists as to the operational definition of quality of life (Bourland et al., 2000; Gill & Feinstein, 1994), with some researchers choosing to assess quality of life in relation to functional impairment (Lochner et al., 2003) and others measuring individuals' subjective perception of their lives (Eng, Coles, Heimberg, & Safren, 2005). However, the general consensus is that the focus should be on the subjective experience of quality of life rather than objective factors, since objective factors do not capture the importance an individual places on various life domains (Frisch, 1994; Mendlowicz & Stein, 2000). Measuring quality of life in terms of functional impairment provides little more than a health status rating (Gill & Feinstein, 1994). Quality of life is set apart from other indicators of mental health precisely because it takes into account an individual's perception of their own well being, rather than solely relying on an objective assessment. Subjective measures of quality of life offer a rich alternative to

traditional mental health assessments by allowing individuals to express their own insights and values regarding their lives.

Research addressing impairment of quality of life in the anxiety disorders has been slower to progress than assessments of quality of life in other disorders (Mogotsi, Kaminer, & Stein, 2000); however, interest in this area is progressing. Panic disorder has been shown to be related to impairments in both physical and social arenas (Simon et al., 2002), including areas such as work and social functioning, home responsibilities (Telch et al., 1995), and "vision in terms of ability to do work/hobbies" (Rapaport, Clary, Fayyad, & Endicott, 2005). Safren, Heimberg, Brown, and Holle (1997) found that individuals with social phobia reported poorer quality of life than a normative control group, and that quality of life was negatively correlated with functional impairment and depression. Norberg, Calamri, Cohen, and Reimann (2008) reported low quality of life among patients with obsessive-compulsive disorder (OCD), particularly in the areas of self-esteem and work. Similarly, posttraumatic stress disorder (PTSD) has been linked to poor quality of life, with social relationships and self-esteem being especially affected (Lunney & Schnurr, 2007). Generalized anxiety disorder (GAD) has also been associated with diminished quality of life (Bourland et al., 2000), with substantial impairment in work and social roles (Henning et al., 2007).

While quality of life impairment is evident in each of the individual anxiety disorders, there is very little research focused on comparing quality of life impairments among the major anxiety disorders. A recent meta-analysis (Olatunji, Cisler, & Tolin, 2007) endeavored to compile the current research and quantify the differences in quality of life between the major anxiety disorders. While the authors found that there were no significant differences in overall quality of life impairment, patients with PTSD, GAD, panic disorder, and mixed anxiety diagnoses reported particularly low quality of life in the mental health domain. Conversely, patients with social phobia were not significantly impaired in the areas of work and physical health. Due to the nature of meta-analysis, however; this study included both functional and subjective measures of quality of life, making comparisons across studies problematic as these two constructs are meaningfully dissimilar.

Though the information gained through meta-analysis can be illuminating, it is also important to look at the results of individual studies. Lochner et al., (2003) conducted a study comparing quality of life in OCD, social phobia, and panic disorder and found a similar degree of overall impairment across groups, with differences emerging in several domains. The OCD sample had poorer quality of life in the areas of family and activities of daily living, while the social phobia sample was more impaired in social and leisure areas. Patients with panic disorder reported impairment in leisure activities and difficulty refraining from the use of nonprescribed medications. Although this study used the same quality of life measures for all participants, the measures assessed functional impairment and not subjective perception of quality of life. As stated previously, a sole focus on functioning may omit pertinent information regarding the domains valued by each individual.

Rapaport and colleagues (2005) assessed subjective quality of life in individuals with a variety of anxiety and depressive disorders and found all were associated with poorer quality of life than the normative community sample. Patients with OCD, social phobia, and panic disorder reported substantial impairment in the areas of social and family relationships, leisure, and ability to function, and were less impaired in the areas of physical health, work, sex, and ability to get around. Curiously though, the authors did not statistically analyze these differences and instead reported mean quality of life scores and percentages of individuals with quality of life impairment in each group. While these are important descriptions of the samples, statistical analysis is necessary to determine whether the group differences are significant.

Additional areas of interest in the study of quality of life impairment in the anxiety disorders are the roles of symptom severity and comorbidity in quality of life impairment. Several studies have shown that comorbid depression is related to poorer quality of life in individuals with GAD (Bourland et al., 2000), OCD, social phobia, and panic disorder (Lochner et al., 2003), and recently Norberg, Diefenbach, and Tolin (2008) found that comorbid anxiety did not significantly impact quality of life in patients with a primary anxiety disorder. To date, results for the relationship between symptom severity of the primary anxiety diagnosis and quality of life are mixed with some studies showing an inverse relationship (Lochner, et al., 2003; Rapaport et al., 2005) and others reporting no relationship (Bourland et al., 2000).

Although interest in the impact of anxiety disorders on quality of life is growing, many questions remained unanswered. While existence of quality of life impairment in the anxiety disorders has been established, the relative degree of impairment across the anxiety disorders is still in question. Also undetermined are the roles of symptom severity and comorbid diagnoses in relation to quality of life impairment in the anxiety disorders. More research is needed to elucidate these issues. The aims of the current study are three-fold: First, this study examines degree of overall and domain-specific quality of life impairment in individuals with panic disorder, social phobia, and GAD using a subjective measure of quality of life. It is hypothesized that the current sample will report greater quality of life impairment than a published non-psychiatric sample, and that the impairment will be similar to other samples of individuals with anxiety disorders. Neither overall nor domain-specific quality of life impairment in this sample is expected to differ across diagnoses. Second, the authors examine the relationship between symptom severity and quality of life impairment. Symptom severity is not expected to affect quality of life impairment across diagnoses. Finally, impact of comorbid anxiety and depression on quality of life is assessed. Based on the findings of previous studies (Bourland et al., 2000; Lochner et al., 2003) comorbid depression is expected to negatively impact quality of life while comorbid anxiety is not expected to significantly affect quality of life (Norberg, Diefenbach, & Tolin, 2008).

Method

Participants

The sample consisted of 67 individuals presenting for treatment at the University of Houston Anxiety Disorder Clinic. All participants were given a primary diagnosis of GAD (N = 17), Panic Disorder with or without Agoraphobia (N = 23), or Social Phobia (N = 27). The majority of the sample (65%) had comorbid anxiety (51%) or depression (33%).

Exclusion criteria were: (a) presence of dementia or another neurocognitive condition (b) acute suicidality and (c) serious substance abuse. Four of the 67 participants were diagnosed with a comorbid substance abuse disorder, but were not excluded from the study as the severity of the substance abuse was in the low to moderate range. Recruitment for the study occurred via advertisements in local newspapers, referrals from health and mental health professions, as well as public service radio announcements.

The sample was composed of 25 men and 42 women between the ages of 16 and 58 (M = 33.83, SD = 10.02) and was moderately racially diverse (61.2% Caucasian, 13.4% Hispanic, 4.5% Asian American, 3.0% African American, 4.5% Other or Mixed, 1.5% Native American, and 11.9% unreported). Most participants were either single (41.8%) or married (41.8%), and were fairly well educated (35.6% some undergraduate, 35.6% Bachelors degree or equivalent, 6.0% some professional/graduate school, 10.4% graduate/professional degree). On average, participants reported consuming 2 drinks of alcohol per week.

Measures

All participants received a semi-structured interview, the Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV; Brown, Di Nardo, & Barlow, 1994) including the Clinician Severity Ratings for each diagnosis (CSR). As part of a larger self-report assessment battery, participants also completed one self-report measure, the Quality of Life Inventory (QOLI; Frisch, 1994).

Anxiety Disorders Interview Schedule for DSM-IV—The Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV; Brown, Di Nardo, & Barlow, 1994) is a semi-structured diagnostic interview designed to assess the presence of anxiety disorders and to aid in differential diagnosis of the anxiety disorders according to DSM-IV criteria. The ADIS-IV also assesses current mood disorders, somatoform disorders, and substance abuse/dependence, and provides a screen for conversion and psychotic symptoms. In the current study advanced doctoral students served as the ADIS-IV interviewers after undergoing training supervised by the second author. They first observed an interview conducted by an experienced ADIS-IV interviewer and generated diagnoses and diagnostic severity ratings along with the experienced interviewer. A match was considered reliable if all diagnoses were equivalent and the Clinician Severity Rating (CSR; see below) for the primary diagnosis was within 1 point of the experienced interviewer's rating. After this initial training interview, they then conducted at least three additional interviews under observation in which the same matching conditions applied. The reliability of diagnoses obtained by ADIS-IV interviewers trained using the above mentioned standards has been investigated, with Brown, Di Nardo, Lehman, and Campbell (2001) reporting good to excellent test-retest reliability and interrater reliability.

Clinician Severity Ratings—Clinician Severity Ratings (CSR) are a component of the ADIS-IV in which diagnosticians quantify the degree of severity for each disorder diagnosed with the ADIS-IV by applying a subjective severity rating. CSR range from 0 (not at all severe) to 8 (extremely severe/distressing). A CSR of 4, indicating moderate impairment, is generally held to be the cut-off for clinical significance for a disorder (e.g., Heimberg et al., 1990).

Quality of Life Inventory—The Quality of Life Inventory (QOLI; Frisch, 1994) is a 16-item measure designed to assess subjective quality of life across various life domains including self-esteem, money, and love. Respondents assign importance ratings to each domain on a scale of 0 (Not at all important) to 2 (Extremely important). They then rate their satisfaction with each domain on a scale of −3 (Very dissatisfied) to 3 (Very satisfied). Weighted satisfaction scores are obtained by multiplying the importance and satisfaction ratings for each domain to produce scores ranging from −6 to 6. Overall quality of life ratings are created by summing the weighted satisfaction scores and averaging this sum by the number of domains given a non-zero importance rating. Investigations of the latent structure of the QOLI have yielded four factor models, though the specific factor loadings differ across studies (Eng et al., 2005; Norberg et al., 2008). Factors and item loadings indentified by Eng and colleagues were chosen for this study as their sample of patients with Social Phobia is most similar to the current sample. These four factors are Achievement, Social Functioning, Personal Growth, and Surroundings. The QOLI is a psychometrically sound measure, with good reliability and validity (Frisch, 1994). It has also demonstrated sensitivity to change following treatment (Frisch, 1994; Eng et al, 2005).

Procedure

The current study is part of a larger, ongoing anxiety treatment study at the University of Houston Anxiety Disorder Clinic (see Norton, 2008 for a description of the treatment study). All methods and procedures were approved by the Institutional Review Board of the University of Houston, and all participants provided informed consent. Prior to being included in the

treatment protocol, all potential participants underwent a brief telephone screen to determine suitability for the study. Those who appeared to be eligible for participation were mailed a packet of self-report questionnaires, including the QOLI, which they returned at the time of the structured diagnostic evaluation.

Results

Descriptive data

A Shapiro-Wilk test indicated that QOLI scores of the current sample are normally distributed ($W = 0.97$, $p = .259$). Total scores on the QOLI ranged from −4.62 to 4.00 with a mean of 0.15. Table 1 shows means and standard deviations on the QOLI by diagnosis. Internal consistency of the QOLI in the current sample was computed using the weighted satisfaction ratings of the 16 domains. The coefficient alpha was high ($\alpha = .86$), indicating good reliability. The internal consistencies of the four factors of the QOLI ranged from moderate to high, (Achievement, $\alpha = .67$; Social Functioning, $\alpha = .59$; Personal Growth, $\alpha = .70$; Surroundings, $\alpha = .83$). T-tests revealed no significant differences on QOLI total scores due to gender, race (white versus non-white), or marital status (married vs. non-married). Correlational analyses also showed non-significant relationships for age and education level with QOLI total scores.

Comparison to published norms

A one-sample *t*-test indicated that QOLI total scores of the anxiety disorder sample in this study (M = 0.15, SD = 1.98) were significantly lower than those of a non-psychiatric community sample reported by Frisch (1994), (M = 2.6, SD = 1.3, $t = -10.09$, $p < 0.0001$). Additional *t*-tests revealed non-significant differences between the individuals in the current study and a social anxiety disorder sample (Eng et al., 2005) on the Achievement ($M_{Barrera} = -0.67$, $M_{Eng} = -0.66$, $t = -0.54$, $p = .957$), Personal Growth ($M_{Barrera} = 0.60$, $M_{Eng} = 0.82$, $t = -0.65$, $p = .517$), and Surroundings ($M_{Barrera} = 0.73$, $M_{Eng} = 0.68$, $t = .15$, $p = .879$) domains of the QOLI. There was a significant difference in the Social Functioning domain ($t = 2.19$, $p = .032$), with the social anxiety disorder sample from Eng and colleagues (M = −0.48, SD = 2.37) scoring lower than the mixed anxiety disorder sample of the current study (M = 0.13, SD = 2.29).

Comparison by diagnosis

To examine whether quality of life in the current sample differed by diagnosis, a MANOVA was used. QOLI total scores were entered as the dependent variable with primary diagnosis (GAD, Panic Disorder, and Social Phobia) as the between-subjects factor. Results indicated a non-significant effect of diagnosis [$F(2,66) = 0.19$, $p = .820$]. Univariate follow-up analyses were conducted to test whether significant main effects of diagnosis were present on the four domains of the QOLI. Again results indicated a non-significant effect of diagnosis for the Achievement [$F(2,66) = 0.24$, $p = .782$], Social Functioning [$F(2,66) = 0.52$, $p = .472$], Personal Growth [$F(2,66) = 0.50$, $p = .606$], and Surroundings [$F(2,66) = 0.57$, $p = .569$] domains.

Role of symptom severity—While the previous analyses showed no main effect of diagnosis on QOLI scores, symptom severity was not taken into account. It is possible that significant effects do exist, but that they were suppressed due to the omission of symptom severity in the model. To test this, a MANCOVA procedure was used with QOLI total scores as the dependent variable, primary diagnosis as the between-subjects factor, and CSR scores as the covariate. Results indicated that even after controlling for symptom severity, quality of life did not differ by diagnosis [$F(1,65) = 0.01$, $p = .983$]. Univariate follow-up analyses were again performed on the four domains of the QOLI. Results indicated a non-significant effect of diagnosis after controlling for symptom severity on the Achievement [$F(1,65) = 0.17$, $p =$.

895], Social Functioning [F (1,65) = 1.18, p = .281], Personal Growth [F (1,65) = 0.31, p = .862], and Surroundings [F (1,65) = 0.02, p = .883] domains.

Role of Comorbidity—Due to the high rate of diagnostic comorbidity in this and many outpatient samples, the impact of comorbid anxiety and depression on quality of life was also investigated. A MANCOVA was performed using the same parameters as reported previously, with comorbid anxiety and comorbid depression both coded as present or absent and entered as additional between-subjects factors. Results indicated significant main effects of comorbid depression on overall quality of life [F (1,65) = 10.19, p = .002], but no significant effects were found for comorbid anxiety [F (1,65) = 1.23, p = .271]. Comorbid depression also showed significant main effects on the Achievement [F (1,65) = 4.18, p = .046], Social Functioning [F (1,65) = 8.29, p = .006], and Surroundings [F (1,65) = 7.16, p = .010] domains. Additionally, the Achievement domain showed a significant primary diagnosis by comorbid depression interaction [F (2,65) = 5.33, p = .008], as well as a significant primary diagnosis by comorbid anxiety interaction [F (1,65) = 3.32, p = .044]. The nature of the primary diagnosis by comorbid depression interaction was such that individuals with panic disorder and comorbid depression reported significantly higher achievement scores than individuals with GAD or social phobia and comorbid depression. Conversely, individuals with panic disorder and comorbid anxiety reported lower achievement scores than individuals with GAD or social phobia and comorbid anxiety.

Discussion

This study examined subjective quality of life in a sample of treatment-seeking individuals with primary diagnoses of GAD, Social Phobia, and Panic Disorder. Consistent with previous research, results from this study illustrate the substantial impairment in quality of life experienced by individuals with these anxiety disorders. Comparisons of overall quality of life in the current sample versus a normative community sample indicate that individuals with anxiety disorders report experiencing poorer quality of life than non-anxious individuals in the general population. Results also showed that the degree of quality of life impairment reported by individuals in the current sample is similar to that reported by individuals with social anxiety in a previous study (Eng et al., 2005) with the exception of the Social Functioning domain which was more impaired in the social anxiety disorder sample. These findings demonstrate the negative impact of GAD, Social Phobia, and Panic Disorder on quality of life and highlight the need for clinicians and researchers to not only assess, but perhaps also address quality of life impairment in the treatment of anxiety disorders.

One of the main findings of this study is that degree of quality of life impairment is similar across GAD, Social Phobia, and Panic Disorder. Results showing a non-significant effect of diagnosis for overall quality of life are consistent with the research of Lochner et al. (2003) and Olatunji, Cisler, and Tolin (2007). In contrast to these studies, however, were results indicating that the anxiety disorders examined in the present study did not significantly differ on specific domains of quality of life. One possible explanation for this disparate finding is that each study utilized different measures of quality of life and therefore assessed different quality of life domains. Additional research on quality of life impairments across anxiety disorders is needed to determine whether diagnosis differentially affects distinct quality of life domains.

The role of symptom severity in relation to quality of life impairment was also investigated. Results indicated that neither overall nor domain specific quality of life differed by diagnosis after controlling for symptom severity. This finding is consistent with previous research examining subjective quality of life (Bourland et al., 2000; Rapaport et al., 2005), but is in contrast to research assessing quality of life in terms of functional impairment (Lochner, et al.,

2003). It may be that individuals with greater diagnostic symptom severity appear more impaired on objective indices of impairment, but that the impairment disappears when individuals express their own quality of life in terms of domains that are important to them.

Previous research has shown that comorbid diagnoses are associated with lower quality of life in patients with anxiety disorders (Bourland et al., 2000; Lochner, et al., 2003; Norberg, Diefenbach, & Tolin, 2008; Olatunji, Cisler, & Tolin 2007). Similarly, results from the current study also indicated that comorbid depression negatively affects overall quality of life as well as the Achievement, Social Functioning, and Surroundings domains of the QOLI. Conversely, comorbid anxiety was not found to significantly impact quality of life in this study. These results are consistent with previous research (Norberg, Diefenbach, & Tolin, 2008) and coupled with the high rates of comorbidity among anxiety disorders (65% of individuals in this study had one more than one anxiety disorder; also see Kessler et al., 2005) may offer additional support for a dimensional classification of anxiety (Barlow, 2000).

One possible explanation for the findings that comorbid depression but not anxiety negatively affected quality of life is that depression (whether primary or comorbid) may have a greater impact on quality of life than anxiety. Regrettably this study did not include individuals diagnosed with only a mood disorder, so we were unable to test this hypothesis. However, Rapaport and colleagues (2005) reported that 56-85% of patients with depressive disorders reported quality of life impairments, whereas fewer patients with anxiety disorders (20-59%) reported impairments in their quality of life. This disparity could be due to a negative filter common among patients with depression that colors their impression of the quality of their life experiences. Alternatively, it may simply be that depressive disorders result in greater impairment in quality of life than do anxiety disorders. Future research should endeavor to tease apart these possibilities.

One limitation to the present study is that individuals with primary diagnoses of OCD and PTSD were not included. Due to intake patterns at the university clinic there were simply not enough individuals with OCD or PTSD to create an appropriate comparison group. A second limitation is that only one measure of quality of life was examined. Due to the relatively large assessment packets clients are asked to complete, a decision was made to include only one quality of life assessment so as to limit the burden on clients and maximize compliance in completing the assessment packets. Ideally, multiple measures of quality of life would be included in future studies. A related point is that the individuals in this study did not receive a physical exam to document co-occurring medical disorders or illnesses that may have an impact on quality of life. However, given the authors' goal to assess subjective rather than objective quality of life, a physical exam was not deemed fitting. Yet, it is important to take into account the fact that the contrasts of interest in this study, quality of life and psychiatric diagnoses, were based solely on client report and therapist judgment, rather than additional independent sources. As a final point, this study included only treatment seeking individuals, and therefore the results may not be generalizable to those individuals with anxiety who do not request treatment.

In summary, this study showed that while individuals with GAD, Social Phobia, and Panic Disorder report less satisfaction with their quality of life than non-anxious adults in the community, the degree of quality of life impairment is similar across these three disorders. Additionally, the negative impact of depression on quality of life accentuates the importance of incorporating strategies for managing comorbid depression into the treatment of anxiety disorders. Finally, as diagnostic symptom severity was not found to influence quality of life, these results reflect the importance of assessing subjective quality of life in patients with anxiety disorders. Subjective quality of life assessments can be used not only as indicators of a patient's

satisfaction with their lives at the initial point of assessment, but may also be valuable outcome measures demonstrating the broad impacts of treatment beyond symptom severity.

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Table 1

Means and Standard Deviations of QOLI domains and total score.

Domain	Diagnosis					
	GAD (n = 17)		PD (n = 23)		SP (n = 27)	
	Mean	SD	Mean	SD	Mean	SD
Achievement	−0.37	2.34	−0.94	2.43	−0.63	2.72
Social Functioning	0.66	2.21	0.29	2.07	−0.33	2.49
Personal Growth	0.15	2.46	0.50	2.87	0.97	2.67
Surroundings	1.35	3.02	0.52	2.22	0.51	3.03
Total	0.73	2.76	0.03	1.75	0.89	2.22