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Domains of life satisfaction in social anxiety disorder: relation to symptoms and response to cognitive-behavioral therapy

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Abstract

A general sense of satisfaction with life has been shown to be discriminable from symptom levels and disability in clinical populations. The current study focused on the utility of identifying domains of life satisfaction in social anxiety disorder and differential changes in these domains following cognitive-behavioral group therapy (CBGT). An exploratory principal axis factor analysis of the items of the Quality of Life Inventory in clients with a principal diagnosis of social anxiety disorder ($N = 138$) yielded four domains of life satisfaction: (1) Achievement, (2) Social Functioning, (3) Personal Growth, and (4) Surroundings. Prior to treatment, clients reported dissatisfaction in the Achievement and Social Functioning domains. Further, levels of satisfaction in these domains were significantly related to severity of social anxiety and depressive symptoms. Finally, analyses of a subsample of clients completing 12-weeks of cognitive-behavioral group therapy revealed significant improvements in the Achievement and Social Functioning factors. These findings provide further support for the assertion that social anxiety disorder

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has important implications for clients' quality of life and that CBGT can successfully impact several domains of satisfaction.

Keywords: Life satisfaction; Social anxiety; Cognitive-behavioral treatment

1. Domains of life satisfaction in social anxiety disorder: relation to symptoms and response to cognitive-behavioral therapy

As investigations into the assessment and treatment of social anxiety disorder have progressed, researchers have moved beyond a simple focus on symptoms and their amelioration. A growing body of research highlights the nature of impairments in life functioning. Suffering from a disorder characterized by excessive fear of social and performance situations, individuals with social anxiety disorder are less likely to be married (Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992) and report impaired social functioning and social support (Liebowitz, Gorman, Fyer, & Klein, 1985; Schneier et al., 1994; Turner, Beidel, Dancu, & Keys, 1986) than their non-anxious counterparts. They also report lower levels of educational attainment and reduced productivity in the workplace (Schneier et al., 1994; Stein & Kean, 2000; Wittchen, Fuetsch, Sonntag, Muller, & Liebowitz, 1999). Furthermore, persons with social anxiety disorder have been found to utilize medical services more frequently and are more likely to be dependent on welfare or disability than individuals without a psychiatric disorder (Davidson, Hughes, George, & Blazer, 1993; Schneier et al., 1992).

Although these reports of disability tell us the degree of difficulty socially anxious persons have in different areas of functioning, they fail to assess how much these difficulties actually matter to the individual. To this end, assessment of life satisfaction is tied more to an evaluative process that reflects the degree to which an individual's most important needs, goals, and desires have been met. Previous reports of the correlations between measures of disability and a measure of life satisfaction (the Quality of Life Inventory, QOLI; Frisch, 1994) among clients with social anxiety disorder have indicated that only about 25% of the variance in quality of life is accounted for by disability (Hambrick, Turk, Heimberg, Schneier, & Leibowitz, in press).

Life satisfaction is an important indicator of response to cognitive-behavioral therapies because it can detect changes in cognitively-mediated perceptions of life satisfaction, despite perhaps, an unchanged external environment. Utilizing total scores on the QOLI, we observed that immediately following a course of cognitive-behavioral group therapy (CBGT) for social anxiety disorder, clients demonstrated significant improvement in self-perceived quality of life (Safren, Heimberg, Brown, & Holle, 1997). These improvements were maintained for several months after treatment (Eng, Coles, Heimberg & Safren, 2001).

Although these studies have provided important information regarding life satisfaction in social anxiety disorder and the efficacy of CBGT in improving life satisfaction, they may be limited in their reliance on a single global index of life satisfaction. Indeed, life satisfaction may differ across domains (e.g., work functioning, interpersonal functioning, health, etc.). Combining scores derived from these domains into a total score may obscure important differences in outcome. For example, an individual with social anxiety disorder may be satisfied with his or her health but dissatisfied with his or her interpersonal relationships. Further, identification of domains of life satisfaction would allow for more fine-grained analysis of the effects of cognitive-behavioral treatment. For example, improvement in one area of functioning (e.g., social network) may lead to changes in other aspects of life (e.g., work becomes more pleasurable) but leave other areas unaffected (e.g., physical health or altruistic behaviors). Building from the existing literature, the present study addressed four main questions. First, are there specific domains of life satisfaction among individuals with social anxiety disorder? Second, if so, do individuals with social anxiety disorder show dissatisfaction in particular domains or are they pervasively dissatisfied? Third, what are the relationships between life satisfaction in different domains and severity of social anxiety and depressive symptoms? And, finally, how does CBGT impact life satisfaction in different domains?

2. Methods

2.1. Participants and procedure

The sample consisted of 138 clients who sought treatment for interpersonal and/or performance anxiety at the Center for Stress and Anxiety Disorders of the University at Albany, State University of New York ($n = 11$) or the Adult Anxiety Clinic of Temple University (AACT) in Philadelphia, PA ($n = 127$). All participants were assigned a principal diagnosis of social anxiety disorder according to the criteria of the forth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; American Psychiatric Association, 1994) as assessed by the Anxiety Disorders Interview Schedule for DSM-IV: Lifetime Version (ADIS-IV-L; DiNardo, Brown, & Barlow, 1994). The ADIS-IV-L has demonstrated excellent reliability ($k = 0.77$) for a principal diagnosis of social anxiety disorder in a previously reported sample (Brown, DiNardo, Lehman, & Campbell, 2001). Diagnostic interviewers for the current study were trained and certified according to the procedures outlined by the developers of the ADIS-IV-L. This included review of the training manual and successful completion of a series of diagnostic interviews. Trainees first observed a series of interviews conducted by a senior diagnostician and then conducted interviews while being observed. In order to become certified to conduct interviews independently, the trainee needed to match the senior interviewer on three consecutive interviews regarding the principal

diagnosis and presence of all additional current and lifetime diagnoses. Reliability data available for 80 clients in the current sample showed 100% agreement between the ADIS interviewer and an independent assessor on the diagnosis of social anxiety disorder. Scores on the Clinician's Severity Rating, which assesses the severity of social anxiety symptoms and the degree of associated impairment were significantly correlated ($r = .61$), with 100% agreement within one rating point (range from 0 to 8).

Clients with comorbid diagnoses of bipolar disorder, psychotic disorders, organic mental disorders, or active substance dependence or abuse in the past three months were excluded. Of the 131 clients for whom subtype data were available, 103 (78.6%) met criteria for the generalized subtype of social anxiety disorder.

All clients completed self-report questionnaire measures as part of their initial assessment. In addition, individuals who agreed to enter treatment also participated in an interview with an independent assessor and completed self-report questionnaires at the end of treatment. A total of 81 clients agreed to enter a treatment program within the center and 40 of these individuals subsequently received a 12-week course of CBGT for social anxiety (Heimberg & Becker, 2002). Other clients received pharmacotherapy for their social anxiety disorder or were referred elsewhere for treatment and are not considered in the present analyses of treatment outcome.

CBGT was conducted in weekly 21/2-h sessions with groups of five to seven clients. During the first two sessions, the cognitive-behavioral model of social anxiety was presented, and clients were taught to identify and to challenge negative automatic thoughts. During the remaining sessions, clients integrated this cognitive restructuring with therapist-led exposure exercises (role-plays of feared social situations) within the group setting. Additionally, clients completed homework assignments for in vivo exposures outside of group. CBGT has been found to be superior to both waiting list (Hope, Heimberg, & Bruch, 1995) and placebo treatment (Heimberg et al., 1990, 1998) and comparable to medication treatment (Heimberg et al., 1998; Otto et al., 2000). Clients have maintained treatment gains at follow-up assessments 4–6 years after CBGT was discontinued (Heimberg, Salzman, Holt, & Blendell 1993).

2.2. Materials

2.2.1. Life satisfaction

The *Quality of Life Inventory* (Frisch, 1994) is a 32-item self-report questionnaire that assesses life satisfaction across 16 domains (e.g., health, work, relationships). Respondents rate the degree of importance they attribute to each domain on a 3-point scale (0 = not at all important to 2 = very important), and their satisfaction with that domain on a 6-point scale (−3 = very dissatisfied to +3 = very satisfied, excluding 0). These importance and satisfaction scores are multiplied to create 16 weighted satisfaction scores that can be summed into a

total quality of life score. The QOLI total score demonstrates good internal consistency among non-clinical and clinical samples (Frisch, Cornell, Villanueva, & Retzlaff, 1992). It also demonstrates high concurrent validity with other measures of subjective well-being and is negatively correlated with measures of general psychopathology, depression, and anxiety. Further, QOLI scores are inversely associated with social interaction anxiety, depression, and functional impairment among persons with social anxiety disorder (Safren et al., 1997).

2.2.2. Social anxiety

The Social Interaction Anxiety Scale (SIAS) and Social Phobia Scale (SPS) are companion self-report measures designed to assess fear of interacting in dyads and groups and fear of being scrutinized by others, respectively (Mattick & Clarke, 1998). Each scale contains 20-items rated on 5-point Likert-type scales (0 = not at all characteristic of me, 4 = extremely characteristic of me). The SIAS and the SPS demonstrated adequate 12-week retest reliability and are positively correlated with other measures of social anxiety (Mattick & Clarke, 1998; Ries et al., 1998). Excellent internal consistency has been reported for both scales among clients with social anxiety disorder and in non-clinical samples (Heimberg, Mueller, Holt, Hope, & Liebowitz, 1992; Mattick & Clarke, 1998).

The *Brief Fear of Negative Evaluation Scale* (BFNE; Leary, 1983) is a 12-item self-report measure assessing concerns about negative evaluation by others on a 5-point scale (1 = not at all characteristic of me, 5 = extremely characteristic of me). It is based upon and correlates highly ($r = .96$) with the original 30-item Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969) that has been widely used in clinical samples. The BFNE has also been found to be more sensitive than the FNE in discriminating within high levels of fear of negative evaluation (Rodebaugh et al., 2004). In a large sample of clients with social anxiety disorder, the BFNE demonstrated highly significant correlations with other self-report and clinician-administered measures of social anxiety (Weeks et al., 2004).

2.3. Depression

The *Beck Depression Inventory* (BDI; Beck, Rush, Shaw, & Emery, 1979) is a 21-item self-report measure assessing cognitive, affective, behavioral, and somatic symptoms of depression on a 4-point scale (0 = denial of symptom to 3 = strong endorsement of symptom). A meta-analysis of 25 years of research (Beck, Steer, & Garbin, 1988) revealed high internal consistency for clinical and non-clinical samples. The BDI has good concurrent validity with other self-report and clinician-administered measures of depression. The BDI has also been shown to have strong reliability and validity in individuals with principal social anxiety disorder (Coles, Gibb, & Heimberg, 2001).

3. Results

3.1. Preliminary analyses

There were no significant differences between clients with social anxiety disorder from the Albany and Philadelphia sites in terms of age, $t(136) = -0.50$, *ns*; gender ratio, $\chi^2\ (1, N = 138) = 1.07$, *ns*; living situation, $\chi^2\ (3, N = 133) = 4.71$, *ns*; ethnicity, $\chi^2\ (3, N = 138) = 3.76$, *ns*; marital status, $\chi^2\ (1, N = 137) = 1.97$, *ns*; or level of education, $\chi^2\ (2, N = 138) = 1.69$, *ns*. There were also no significant site differences for the social phobia or depression indices [Wilks' $\lambda = 0.97$; $F(4, 130) = 0.98$; $P = ns$]. These analyses indicated that these two subgroups were comparable on demographic and clinical characteristics and, therefore, they were merged to comprise the current sample. Demographic data are presented in Table 1.

Table 1
Demographic characteristics

Characteristic	*M*	S.D.
Age (years)	34.39	13.91
	n	%
Gender		
Female	58	42.0
Male	80	58.0
Ethnicity		
Caucasian	105	76.1
African-American	17	12.3
Other	15	10.9
Marital status		
Single	92	67.2
Married	27	19.7
Divorced/separated	18	13.1
Living situation		
Alone	41	30.8
With spouse/girl or boyfriend	28	21.1
With children and/or parents	34	25.6
Other	30	22.6
Employment status		
Employed full-time/student	88	64.2
Employed part-time	35	25.5
Unemployed	14	10.2
Education		
Any high school	10	7.2
Any college	95	68.8
Any graduate school	33	23.9

Note. ns vary due to missing data. Percentages do not always sum to 100 due to rounding.

Table 2
Factor loadings of Quality of Life Inventory weighted satisfaction items, and means, standard deviations, and Cronbach's alphas for factor scores ($N = 138$)

Item name and corresponding numbers	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1: Achievement ($M = -0.66$, S.D. $= 2.22$, $\alpha = .69$)				
Self-esteem (3, 4)	*0.35*	0.25	0.30	0.04
Money (7, 8)	*0.58*	0.08	0.18	0.07
Work (9, 10)	*0.72*	0.12	0.24	0.07
Home (27, 28)	*0.45*	0.15	0.10	0.26
Factor 2: Social Functioning ($M = -0.48$, S.D. $= 2.37$, $\alpha = .72$)				
Play (11, 12)	0.11	*0.58*	0.48	0.10
Helping (17, 18)	0.31	*0.38*	−0.01	0.03
Love (19, 20)	0.03	*0.49*	0.24	0.04
Friends (21, 22)	0.09	*0.70*	0.24	0.16
Relatives (25, 26)	0.31	*0.43*	0.00	0.04
Factor 3: Personal Growth ($M = 0.82$, S.D. $= 2.45$, $\alpha = .65$)				
Goals and values (5, 6)	0.12	0.25	*0.52*	0.18
Learning (13, 14)	0.26	0.04	*0.76*	−0.03
Creativity (15, 16)	0.36	0.16	*0.43*	0.05
Factor 4: Surroundings ($M = 0.68$, S.D. $= 2.23$, $\alpha = .77$)				
Neighborhood (29, 30)	0.13	−0.02	−0.05	*0.93*
Community (31, 32)	0.12	0.23	0.22	*0.67*

Note. Each listed item represents a weighted satisfaction of two QOLI items assessing importance and satisfaction, respectively. M = mean factor score; S.D. = standard deviation of mean factor score. $N = 138$.

3.2. Factor analysis of the QOLI

To investigate the factor structure of the QOLI in the present sample, the correlation matrix of the participants' scores on all weighted satisfaction items was submitted to exploratory principal axis factor analysis followed by varimax rotation.[1] To determine the number of factors to extract, the scree plot was examined as well as the size of each factor's eigenvalue, using Kaiser's (1960) eigenvalues-greater-than-1 rule. As use of such eigenvalue criteria is often insufficient (see Floyd & Widaman, 1995), we also examined each factor to assess its stability and interpretability.

The factor analysis yielded five factors with eigenvalues of greater than 1, accounting for 60.58% of the overall variance. Items were retained when factor score coefficients were greater than or equal to 0.35. Accordingly, one item (health) was deleted because it failed to meet this criterion. Furthermore, the fifth factor was dropped as it included only one item (children). The remaining four factors demonstrated good internal consistency (see Table 2). Additionally, there

[1] The only other known study of the factor structure of the QOLI was reported by Claiborne, Krause, Heilman and Leung (1999) in a sample of chronic back pain clients.

were no cases in which deletion of an item improved the internal consistency of the factor. Table 2 shows the item loadings on each of the four retained factors and the alpha coefficients for each factor.

Items loading on factor 1 mainly reflect occupational activities, economic achievement and one's standard of living. This factor also encompasses psychological well being via the self-esteem item, ''liking and respecting yourself in light of your strengths and weaknesses, successes and failures, and ability to handle problems.'' Items that loaded on factor 2 express satisfaction with social activities and the quality of current relationships. Items reflect a sense of involvement with others and prosocial leisure activities (e.g., ''how you get along when you are doing things together like visiting, talking on the telephone, or helping each other out''). Factor 3 items represent activities and pursuits that provide self-fulfillment and intrinsic reward, such as ''gaining new skills or information about things that interest you.'' Factor 4 items tap one's satisfaction with the surrounding physical environment including ''how nice the area looks, the amount of crime, and how well you like the people.'' The four factors were labeled (1) Achievement, (2) Social Functioning, (3) Personal Growth, and (4) Surroundings, respectively.

3.3. Satisfaction ratings across empirically derived life domains

Examination of mean satisfaction ratings revealed relative dissatisfaction in the Achievement and Social Functioning domains (negative mean scores) and satisfaction in the Personal Functioning and Surroundings domains (positive mean scores; see Fig. 1). A repeated measures ANOVA was conducted to test the

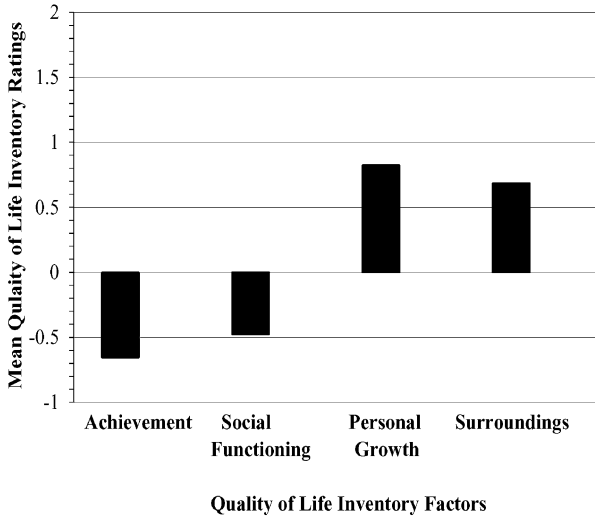

Fig. 1. Mean satisfaction ratings across empirically derived life domains.

Table 3
Pre-treatment correlations of Quality of Life Inventory factor scores with measures of social anxiety and depressive symptoms

Measure	Factor 1: Achievement	Factor 2: Social Functioning	Factor 3: Personal Growth	Factor 4: Surroundings
Social Interaction Anxiety Scale	−.35*	−.45*	−.25	−.21
Social Phobia Scale	−.34*	−.22	−.18	−.28*
Brief Fear of Negative Evaluation Scale	−.38*	−.37*	−.32*	−.11
Beck Depression Inventory	−.50*	−.41*	−.53*	−.25*

Note. $N = 138$. Correlations including the BDI based on $N = 137$.
* $P < .003$.

statistical significance of these apparent differences in satisfaction ratings. The overall ANOVA yielded a significant within-subjects effect [Wilks' $\lambda = 0.62$; $F(3, 135) = 28.54$; $P < .001$]. Using a Bonferroni-adjusted alpha level of 0.008 ($0.05/6 = 0.008$), paired-sample t-tests revealed that individuals with social anxiety disorder reported significantly lower satisfaction in the Achievement domain than in the Personal Growth ($t(137) = -7.50$, $P < .001$) and Surroundings ($t(137) = -5.96$, $P < .001$) domains. Similarly, they reported significantly lower satisfaction in the Social Functioning domain than in the Personal Growth ($t(137) = -6.12$, $P < .001$) and Surroundings ($t(137) = -4.87$, $P < .001$) domains. Satisfaction in the Achievement and Social Functioning domains did not differ ($t(137) = -0.86$, *ns*), and satisfaction in the Personal Growth and Surroundings domains did not differ ($t(137) = 0.56$, *ns*).

3.4. Relation of QOLI factors to severity of social anxiety and depressive symptoms

We examined the relationship between the QOLI factors and severity of social anxiety and depressive symptoms (see Table 3). To adjust for the number of correlations, a Bonferroni-adjusted alpha level of 0.003 ($0.05/16 = 0.003$) was utilized. All four QOLI factors showed significant inverse correlations with the measures of social anxiety and depressive symptoms. Examination of the correlation coefficients suggested that the Achievement and Social Functioning factors were more strongly correlated with social anxiety than the Personal Growth and Surroundings Factors. Tests of differences between dependent correlations (Meng, Rosenthal, & Rubin, 1992)[2] revealed that the Achievement Factor was significantly more strongly correlated with a composite score based on the measures of social anxiety than the Surroundings Factor ($Z = 1.66$, $P = .048$) and tended to be more strongly correlated with

[2] Additional information is available upon request.

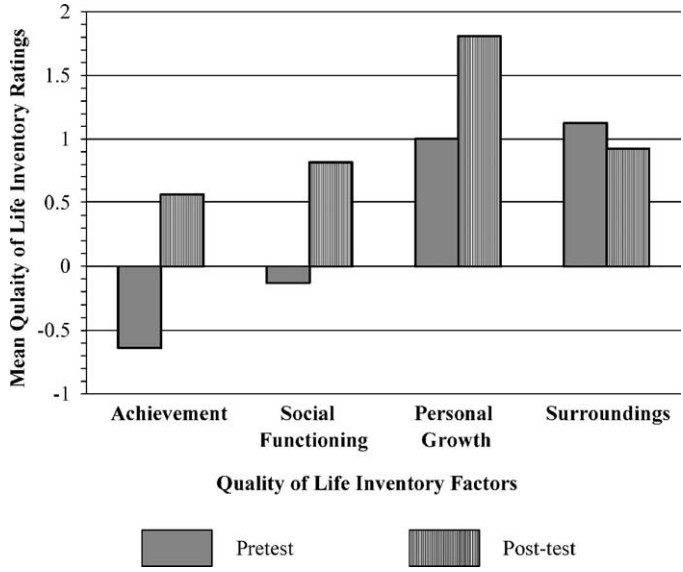

Fig. 2. Mean pre- and post-treatment Quality of Life Inventory ratings for clients who received CBGT ($n = 40$).

the measures of social anxiety than the Personal Growth Factor ($Z = 1.37$, $P = .085$). The Social Functioning Factor also tended to be more strongly correlated with the social anxiety composite than the Surroundings Factor ($Z = 1.52$, $P = .065$). No other significant differences between correlations were found.

3.5. Changes in domains of life satisfaction after CBGT

In order to assess the impact of CBGT on the empirically derived life domains, we conducted Bonferroni-adjusted (alpha of $0.05/4 = 0.013$) paired-sample t-tests comparing the pre- and post-treatment scores of CBGT clients on each of the four subscales. Fig. 2 shows that highly significant improvements in level of satisfaction were found on the Achievement (pre: $M = -0.64$, S.D. $= 2.04$; post: $M = 0.56$, S.D. $= 2.18$, $t(39) = -4.91$, $P < .001$) and Social Functioning (pre: $M = -0.13$, S.D. $= 2.37$; post: $M = 0.81$, S.D. $= 2.13$, $t(39) = -3.24$, $P = .002$) factors. Marginally significant changes following Bonferroni-correction were also found for the Personal Growth factor (pre: $M = 1.0$, S.D. $= 2.20$; post: $M = 1.80$, S.D. $= 1.94$, $t(39) = -2.56$, $P = .014$). Scores on the Surroundings subscale were relatively unchanged from pre- to post-treatment (pre: $M = 1.13$, S.D. $= 2.25$; post: $M = 0.92$, S.D. $= 2.59$, $t(38) = 0.85$, $P = .40$).[3]

[3] *ns* vary due to missing data in the Surroundings factor for one subject.

4. Discussion

The most significant finding of the current study is the extraction of four domains of life satisfaction among clients with social anxiety disorder. An exploratory factor analysis of the QOLI produced the following four factors: (1) Achievement, (2) Social Functioning, (3) Personal Growth, and (4) Surroundings. Additional findings support the utility of this four-factor solution. Individuals with social anxiety disorder were not characterized by global dissatisfaction but were particularly dissatisfied with the quality of their Achievement and Social Functioning. It was also interesting to see that self-esteem was closely linked to economic success and a sense of achievement, which may not have been expected given clients' presenting social difficulties. In contrast, clients reported relative satisfaction with Personal Growth and their Surroundings, which encompass areas of personal fulfillment and community, respectively. We also found that all domains of life satisfaction were significantly inversely correlated with the severity of social anxiety and depressive symptoms. However, tests of dependent correlations revealed that severity of social anxiety was particularly strongly related to satisfaction with Achievement and Social Functioning.

CBGT had the greatest impact on satisfaction within the Achievement and Social Functioning domains. These domains are targeted by CBGT's emphasis on exposure to, and cognitive restructuring regarding, social relationships and barriers to economic success (e.g., leading groups, talking to authority figures). The failure to improve on the Surroundings factor was not unexpected, as this was not a target of treatment. However, the finding that Personal Growth was positively affected suggests the possibility of a spillover effect among domains, as this area was also not directly addressed in CBGT. Perhaps success in the interpersonal domain following treatment increases interest in improving one's intrapersonal domain, such as engaging in creative hobbies, educational endeavors, and reassessing personal goals and values. Alternatively, increases in interpersonal satisfaction allow for the expression of interests that may once have been inhibited because of interpersonal factors, such as attending art exhibitions or joining a bicycling club.

Despite these improvements, the sample still failed to achieve normative levels of satisfaction in all domains. Referencing QOLI norms gathered from a nationwide non-clinical sample (Frisch, 1994), satisfaction on the Achievement factor changed from ''very low'' to ''low,'' the Social Functioning factor changed from ''very low'' to ''low,'' and the Personal Growth factor changed from ''low'' to ''average.'' That is, while there may have been meaningful changes within the sample, from relative dissatisfaction to satisfaction across domains, there is still much room for improvement across the Achievement and Social Functioning domains. Unfortunately, follow-up data were not available to examine if these domains may reach normative levels given time to practice skills and implement changes.

Although disorder-specific clinical norms are not currently available for this measure, it is possible to compare the QOLI scores in our sample with those

reported for mixed clinical samples. In a sample of 90 clients undergoing either an inpatient or outpatient treatment program for varied substance abuse, their pre-treatment mean QOLI score of 1.07 (low) improved significantly to 2.16 (average) following treatment of an unspecified course and nature (Frisch et al., in press). In a mixed sample of 200 clients at a community mental health center, their pre-treatment mean QOLI score of 1.09 (low) improved significantly to 2.22 (average) following treatment, again of an unspecified course and nature (Frisch et al., in press). Compared to these samples with severe mental illness and addiction, it is interesting to note that our social anxiety sample had comparatively lower QOLI scores both before and after treatment, underscoring the extreme dissatisfaction endorsed by clients with this disorder. Our findings are consistent with previous research that has shown that social anxiety symptoms affect life satisfaction beyond the disability they cause (Hambrick, Turk, Heimberg, Schneier, & Leibowitz, 2003).

It is important to recognize the study's limitations. First, the use of a treatment-seeking sample limits our ability to generalize to the larger population of socially anxious individuals who do not seek treatment. A recent study found that socially anxious internet survey participants reported higher scores than treatment-seeking clients on measures of social anxiety and disability (Erwin, Turk, Heimberg, Fresco, & Hantula, 2004), but their life satisfaction was not assessed. Also, because we did not have an untreated control group, we cannot be certain that the observed improvements were a result of CBGT and not other non-specific factors.

Finally, it is worth considering areas for future study. Future investigations might examine changes in domains of life satisfaction following different modes of treatment. It is premature to conclude that CBGT is uniquely effective, as data concerning the efficacy of pharmacotherapy and combined treatment modalities are forthcoming. Alternative measurement of life satisfaction is also important, as self-report scales do not capture all the specific life goals of socially anxious persons. To this end, it may be fruitful to conduct a pretreatment interview to assess domains of life satisfaction and broader life goals following treatment. Cognitive-behavioral treatment may be augmented with interventions specifically focused on improving these domains or helping to readjust personal expectations to be more accessible. As well, it would be interesting to see whether individual difference factors such as optimism or positive treatment expectations moderate quality of life ratings.

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