Published in final edited form as:

J Affect Disord. 2011 April ; 130(0): . doi:10.1016/j.jad.2010.09.024.

Occupational Impairment and Social Anxiety Disorder in a Sample of Primary Care Patients

Ethan Moitra^{1,*}, Courtney Beard¹, Risa B. Weisberg^{1,2}, and Martin B. Keller¹

¹Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University

²Department of Family Medicine, Alpert Medical School of Brown University

Abstract

Background—Social Anxiety Disorder (SAD) is the second most prevalent psychiatric condition in the US. Because of the inherent nature of SAD, it may cause impairments in workplace functioning, particularly compared to other anxiety disorders that do not necessarily lead to social impairments. In this study, we compared workplace functioning in primary care patients with SAD to patients with other anxiety disorders and comorbid Major Depressive Disorder (MDD).

Methods—Data are obtained from the Primary Care Anxiety Project (PCAP), a naturalistic, longitudinal study of anxiety disorders in 539 primary care patients. We examined intake demographic and interviewer-assessed ratings of workplace functioning.

Results—Results revealed patients with SAD and MDD had significantly decreased workplace functioning, compared to individuals with other anxiety disorders. Furthermore, results showed patients with SAD were greater than two-times more likely to be unemployed, but expected to work, than all other patients.

Limitations—Workplace functioning was not measured objectively and the sample may not be representative of the general population.

Conclusions—These findings highlight the particular need to assess for the presence of undereducation and underperformance at work and/or underemployment in individuals with SAD, as they are at most risk for these impairments. Additionally, early detection and intervention in individuals with or at risk for SAD may curb the future impact of social anxiety on occupational attainment.

Keywords

Social Anxiety Disorder; primary care; occupational functioning

In the United States, the estimated annual cost of anxiety disorders is \$42.3 billion (Greenberg et al., 1999). This estimate includes indirect costs, which measure the price of lost productivity at work and lower wages, among other factors. These indirect costs are particularly relevant to understanding the burden of Social Anxiety Disorder (SAD), the second most common psychiatric disorder in the U.S., exceeded only by specific phobias (Kessler et al., 2005), with a lifetime prevalence ranging from 7–13% (Furmark, 2002).

*Corresponding Author: Brown University, Box G-BH, Providence, RI 02912, Phone: 401.444.1935, Fax: 401.455.0516, ethan_moitra@brown.edu.

SAD as a clinical syndrome usually begins in childhood or adolescence (Rapee, 1995) and can negatively affect school performance, relationships, and mood (Wittchen et al., 1999). Early SAD is a significant predictor of SAD in adulthood (Pine et al., 1998) and it has the lowest remission rate among Generalized Anxiety Disorder (GAD) and Panic Disorder with or without Agoraphobia (PDA; PD, respectively) (Bruce et al., 2002). Although SAD does not predict school failure, among the anxiety disorders, it is the only condition that is predictive of a person's failure to go on from high school to college (Kessler, 2003), suggesting that early development of SAD leads to undereducation and most likely, underemployment. This interference is compounded by SAD's chronic, unremitting course (Beard et al., in press).

Not surprisingly, this early-developed, chronic disorder leads to long-lasting impairments in normative life roles, including in the workplace. Adults with SAD report lower employment rates, lower income, and lower socio-economic status compared to individuals without psychiatric morbidity (Patel et al., 2002; Stein et al., 2000). For those who are employed, SAD leads to decreased work productivity, increased absences, and other work impairments (Kessler et al., 1994; Kessler, 2003; Wittchen and Beloch, 1996; Wittchen et al., 2000). Workplace SAD-related impairment also manifests in refusal of promotions because of social fears (Stein et al., 2000) and severity of SAD is a significant predictor of lower hourly wages (Katzelnick et al., 2001). In a study of socially anxious women receiving welfare, SAD not only presented a significant barrier to working full-time, but it was also more disruptive to occupational functioning than depression (Tolman et al., 2009). Clearly, SAD impedes occupational success and its effects are likely connected to the social demands inherent in most workplaces.

Antony and colleagues (1998) found SAD, Obsessive-Compulsive Disorder (OCD), and PDA/PD were associated with similar levels of work impairment. With the exception of this one study, though, little attention has been paid to the comparison of workplace functional impairments across anxiety conditions. These comparisons provide crucial context to the differential effects of these disorders and to the understanding of their relative impact on broad estimates of the effects of anxiety on public health concerns (e.g., Greenberg et al., 1999). For example, because of gaps in the literature, it is unclear if occupational impairments associated with SAD differ from those associated with GAD and if these disorders differentially contribute to the lost productivity associated with anxiety disorders. Because of the social impairments associated with SAD, it is likely that individuals with this disorder suffer increased occupational impairment compared to those with other anxiety conditions. Furthermore, even less attention has been paid to comparing occupational impairment in SAD to Major Depressive Disorder (MDD), which itself, is associated with significant workplace impairments (e.g., Stewart et al., 2003). Refined knowledge of these differential effects may clarify epidemiological findings and better guide what life domains are most salient in assessment and treatment of anxiety disorders.

Thus, the present study sought to refine knowledge of SAD's effects on occupation by comparing employment rates and workplace functioning in SAD to other anxiety disorders and comorbid MDD. In light of previous research, we hypothesized that patients with SAD would show equivalent occupational impairment to individuals with PD, PDA, and comorbid MDD. Because of SAD's influence on social functioning, we predicted SAD-associated occupational impairment would be higher than in individuals with GAD and Posttraumatic Stress Disorder (PTSD). Furthermore, we predicted unemployment rates would be higher in SAD, compared to other conditions. Lastly, we sought to explore the association between disability status (psychiatric or medical) and each of these disorders, without specific directional hypotheses.

Methods

Participants

Participants were part of the Primary Care Anxiety Project (PCAP), a longitudinal, naturalistic study of 539 primary care patients with anxiety disorders. Inclusion criteria consisted of the following: participants were a minimum of 18-years-old, English was their primary language, they had an index anxiety disorder, and they presented at the primary care practice for a medical appointment on the day of recruitment. Index anxiety disorders were: SAD, PTSD, GAD, PDA, PD, Agoraphobia without history of Panic Disorder (AWOPD), or Mixed Anxiety Depressive Disorder (MAD). Due to too few cases, patients with AWOPD and MAD are not assessed here. Active psychosis and pregnancy at the time of intake were exclusion criteria (see Weisberg et al. (2005) for further details of PCAP methods).

Procedures

Potential participants completed a screening questionnaire for symptoms of anxiety. Those who screened positive for the presence of anxiety symptoms were assessed with the Structured Clinical Interview for the DSM-IV (SCID-IV; First et al., 1996). Patients who indicated the presence of at least one index anxiety disorder as defined by the *DSM-IV* were invited to join the study. At baseline, these patients completed a number of measures assessing symptomatology, psychosocial functioning, and treatments received. Subsequent follow-ups were obtained at 6-month, 1-year, and annually thereafter. Only baseline data are analyzed here.

Measures

Structured Clinical Interview for the DSM-IV (SCID-IV; First et al., 1996)—Index anxiety disorders and comorbid MDD diagnoses were established with the SCID-IV. Several diagnosticians conducted interviews in order to increase external validity. All interviews were audiotaped, and inter-rater reliability on a random sample of 30% of the interviews was high (intraclass correlation = .96).

Longitudinal Interval Follow-Up Evaluation (LIFE; Keller et al., 1987)—The LIFE is an interviewer-administered assessment that collects detailed information on disorder symptoms, psychosocial functioning, and treatment status. Baseline LIFE work status ratings, for those who were employed, are used here. These interviewer-assessed ratings represent the degree of impairment in work activities suffered in the past week. The quantity and quality of work carried out were assessed on a five-point Likert scale ranging from 1 (i.e., has worked as much as someone in his/her social situation would be expected to work, and worked at a high level) to 5 (i.e., has missed a great deal of work when someone in his/her social situation would have been expected to work and/or has been virtually unable to carry out his work activities when he did work).

Results

Descriptive analyses

A total of 539 patients who met *DSM-IV* criteria for one or more anxiety disorders were enrolled into the study. One hundred and eighty-two of these patients met criteria for SAD (see Table 1 for a summary of demographic variables). Seventy-one percent met criteria for at least one other psychiatric disorder at intake and 100% met criteria for additional comorbid disorders at some point in their lifetime. Comorbidity patterns in the PCAP sample are described in detail elsewhere (Rodriguez et al., 2004). Results revealed SAD age of onset was significantly correlated with education ($r = -.015$, $p = .045$), with an earlier onset

age predicting lower educational attainment. This trend was also observed in patients with PDA ($r=-.163$, $p=.046$). Educational attainment and onset age were not significantly correlated in any other disorder group ($ps>.05$).

Primary analyses

In a multivariate linear regression model controlling for educational attainment, results indicated SAD ($\beta=-0.27$, $t=2.43$, $p=0.02$) and MDD ($\beta=-0.51$, $t=4.59$, $p<.0001$) were unique predictors associated with lower workplace functioning ratings on the LIFE, whereas all other disorders were not ($ps>.05$).

Binary logistic regression was used to assess likelihood of being unemployed depending on diagnosis. Results revealed individuals with SAD were greater than two-times more likely to be unemployed and that individuals with other anxiety disorders were more likely to be employed. Furthermore, results revealed MDD was not significantly predictive of unemployment status (see Table 2 for summary of odds ratios).

Secondary analyses

We explored the relationship between diagnosis and disability (psychiatric or medical). Binary logistic regression revealed that patients with SAD were less likely to be disabled ($\text{Exp}(B)=-0.63$; $\text{OR}=0.53$; 95% CI: [0.30, 0.95]; $p=.03$). This pattern was also observed in GAD ($\text{Exp}(B)=-0.79$; $\text{OR}=0.45$; 95% CI: [0.22, 0.92]; $p=.03$). However, those with PDA were nearly three-times more likely to be disabled ($\text{Exp}(B)=1.04$; $\text{OR}=2.82$; 95% CI: [1.53, 5.20]; $p=.001$). All other disorders were not predictive of disability ($ps>.05$).

Discussion

Despite knowledge of SAD's chronicity and detrimental effects on occupational functioning, few researchers have compared impairment associated with SAD with that related to other anxiety and mood conditions. By nature, the workplace may trigger SAD symptoms in particular, and consequently cause more impairment than in conditions associated with less social interference (e.g., GAD). This study addressed this gap in the literature by comparing likelihood of unemployment and disability (psychiatric or medical) status, as well as overall workplace functioning in primary care patients with SAD, GAD, PTSD, PD, PDA, and comorbid MDD.

Patients with SAD and MDD were significantly more impaired in the workplace than all other individuals, regardless of education level. Results also indicated patients with SAD were 2.25 times more likely to be unemployed but expected to work, than patients with any other psychiatric condition. In fact, results suggested the presence of PD, PDA, GAD, and PTSD made a patient *more* likely to be gainfully employed compared to patients with SAD. Lastly, exploratory analyses indicated that among the disorders examined, individuals with PDA were most likely to be disabled. This finding suggests PDA may be the most debilitating anxiety disorder overall, as these individuals were not working. As compared to PDA, results indicate SAD may not put individuals at a greater risk for disability. Instead once in the workforce, individuals with SAD suffer the most impairment.

Because of the inherent social nature of most occupations, it is not surprising that SAD is associated with occupational impairment and unemployment. However, these results are the first to the authors' knowledge that demonstrate a significant difference between SAD and other anxiety disorders in these important domains. These findings highlight the particular need to assess for the presence of undereducation and underperformance at work in individuals with SAD, as they are at most risk for these impairments. Efforts toward

detection and intervention in childhood and adolescence are especially important, given the correlation found in the current study between SAD age of onset and educational attainment.

Strengths of the current study include the large sample size and the range of comparison disorders. However, the current study also has limitations. The current study is not an epidemiological study, as we did not systematically interview all members of the available population. However, some of the current sample's demographic characteristics (e.g., employment rates) are similar to those found in larger epidemiological studies (e.g., Davidson et al., 1993), suggesting that the current findings might generalize to samples outside of primary care. It is important to note that in the current study, all participants had at least one anxiety disorder to qualify for study entry. Thus, all MDD was comorbid with an anxiety disorder, whereas not all cases of any of the anxiety disorders were comorbid. Therefore, the findings indicate that, among anxiety disorder patients, having comorbid MDD predicts worse occupational functioning than not having MDD. Finally, our measure of workplace impairment was an interviewer's subjective rating based upon patient report. Objective measures of workplace functioning would bolster the current findings and should be included in future investigations.

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Table 1

Sociodemographic Characteristics (N=539)

	Social Anxiety Disorder (N=182)	Other Anxiety Disorders (N=357)
Characteristic	N (%)	N (%)
Female	134 (73.6)	278 (77.9)
Race/ethnicity		
Caucasian	147 (80.8)	300 (84.0)
African American	13 (7.1)	28 (7.8)
Hispanic/Latino	11 (6.0)	8 (2.2)
Asian	3 (1.7)	4 (1.1)
Native American	2 (1.1)	7 (2.1)
Other	6 (3.3)	10 (2.8)
Marital Status		
Never Married	51 (28.0)	96 (26.9)
Married ^a	82 (45.1)	185 (51.8)
Divorced/separated/widowed	49 (26.9)	76 (21.3)
Education		
< High school graduate	20 (11.0)	32 (9.0)
High school graduate	46 (25.3)	88 (24.6)
Some college	78 (42.9)	151 (42.3)
College graduate	38 (20.8)	86 (24.1)
Income (\$ per year)		
< 5,000	42 (23.2)	56 (15.7)
5,000 – 19,999	66 (36.5)	130 (36.5)
20,000 – 34,999	35 (19.3)	69 (19.4)
35,000 – 49,999	16 (8.8)	51 (14.3)
> 50,000	16 (8.8)	37 (10.4)
Not reported	7 (3.4)	13 (3.7)
Employment		
Full-Time	65 (35.7)	144 (40.3)
Unemployed ^b	30 (16.5)	19 (5.3)
Disabled ^c	60 (33.0)	113 (31.7)
Other	27 (14.8)	81 (22.7)
Age in years (M, <i>SD</i>)	39.1 (11.0)	39.1 (12.0)

^aIncludes persons living with someone as though married.^bUnemployed but expected to work.^cPsychiatrically or medically disabled.

Table 2Effect of Diagnosis on Unemployment Status ^a

Diagnosis	Exp(B)	OR	95% CI	<i>p</i>
Panic Disorder	-1.44	0.24	[0.08, 0.75]	0.014
Panic Disorder with Agoraphobia	-1.63	0.20	[0.09, 0.43]	< .0001
Social Anxiety Disorder	0.81	2.25	[1.19, 4.26]	0.013
Generalized Anxiety Disorder	-0.95	0.39	[0.17, 0.87]	0.023
Posttraumatic Stress Disorder	-1.33	0.27	[0.14, 0.50]	<.0001
Major Depressive Disorder	0.01	1.01	[0.55, 1.86]	0.971

^aUnemployed but expected to work.

Note. OR = Odds Ratio; CI = Confidence Interval.