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SOCIAL PHOBIA: COMMENTS ON THE VIABILITY AND VALIDITY OF AN ANALOGUE RESEARCH STRATEGY AND BRITISH NORMS FOR THE FEAR OF NEGATIVE EVALUATION QUESTIONNAIRE

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Abstract. This paper discusses the viability of an analogue research design for studying key processes in social phobia by comparing individuals who score high and low on the Fear of Negative Evaluation Scale (FNE: Watson & Friend, 1969). Research indicates remarkable consistency in the processes that distinguish patients with social phobia from controls and high FNE volunteers from low FNE volunteers. Unfortunately, all existing FNE norms are based on North American populations. The present paper presents British student norms and suggests possible cut-off points for defining groups for analogue research. Advantages of the analogue strategy include rapid piloting of new paradigms and the use of more complex experimental designs that require substantial sample sizes. Limitations of analogue research are also highlighted.

Keywords: Social phobia, cognitive processes, fear of negative evaluation.

Introduction

Social Phobia is defined in DSM-IV as a ‘‘marked and persistent fear of social or performance situations in which embarrassment may occur’’ and which is associated with significant functional impairment (APA, 1994). Recent epidemiological studies indicate that social phobia is extremely common (Chapman, Mannuzza, & Fyer, 1995). Lifetime prevalence rates based on DSM-IV diagnostic criteria are 4.9% for males and 9.5% for females (Wittchen, Stein, & Kessler, 1999). The frequency of social fears that do not meet full diagnostic criteria is considerably higher. For example, Pollard and Henderson (1988) and Furmark et al. (1999) both found that over 20% of the population report irrational social fears although the disruption to everyday functioning may not be sufficient to meet full diagnostic criteria for social phobia. Fear of public speaking appears to be the most common

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of the fears. Despite the high prevalence of social phobia, many sufferers do not seek treatment (Wittchen et al., 1999). This may be because patients with social phobia see their problems as part of their character. Patients may only seek help from the mental health services when a secondary disorder such as depression or alcoholism develops or when lifestyle changes mean the problem becomes excessively disruptive. As a result, it is often difficult to conduct experimental studies on social phobia in a relatively short period of time.

This paper describes a complementary research strategy using high and low socially anxious participants and provides British norms for the selection of participants using the Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969). The analogue approach to studying psychopathology has been successful in a number of areas, including the role of worry in generalized anxiety disorder (Molina, Borkovec, Peasley, & Person, 1998; Roemer, Molina, & Borkovec, 1997; Borkovec & Roemer, 1995) and in the study of obsessive-compulsive disorder (Burns, Formea, Keortge, & Sternberger, 1995; Sternberger & Burns, 1991). The analogue approach to studying social phobia has two important strengths: it permits the use of more complex experimental designs that require large numbers of subjects and it also means that new tasks can be piloted in an efficient manner. It is generally accepted that social anxiety is continuously distributed in the general population. This suggests that comparing individuals in the non-clinical population who score relatively high and relatively low on social anxiety should be a fruitful way of identifying the psychological processes that underlie extreme social anxiety and social phobia. This paper presents data in support of the use of the FNE as a means of identifying an appropriate analogue population for the study of social phobia.

Brief review of analogue research

There are three main sets of data that indicate that using high FNE groups as an analogue of social phobia is a valid strategy. First, the FNE discriminates between patients with social phobia and both non-patient controls and patients with other anxiety disorders. Patients with social phobia obtain higher FNE scores than patients with other anxiety disorders and non-clinical controls (Turner, Beidel, & Larkin, 1986; Turner, McCanna, & Beidel, 1987; Stopa & Clark, 1993, 2000). The difference between patients with social phobia and patients with other anxiety disorders remains significant when the two groups are equated on measures of trait anxiety (Stopa & Clark, 1993; Stopa, 1995). Therefore, it appears that FNE is a specific measure of social-evaluative anxiety.

Second, FNE is associated with other measures of social anxiety. For example, Heimberg, Meuller, Holt, Hope and Liebowitz (1992) showed that FNE correlated significantly with two of the standardized measures of social anxiety: the Social Phobia Scale and the Social Interaction Anxiety Scale (Mattick & Clark, 1998) in a community sample and in an undergraduate sample. In addition, Stopa (1995) and Mansell (1997) found that selecting individuals on the basis of high and low scores on the FNE creates groups that differ significantly on other standardized measures of social anxiety such as the Social Avoidance and Distress Scale (SADS; Watson & Friend, 1969), the Social Phobia and Anxiety Inventory (Turner, Beidel, Dancu, & Stanley, 1989), and the Personal Report of Confidence as a Speaker (Paul, 1966).

Third, when participants from the normal population are divided into high and low social

anxiety groups on the basis of their FNE scores, the psychological processes that differentiate high and low scorers are essentially the same as those that differentiate patients with social phobia from non-patient controls. Examples of such findings, with references for the clinical comparisons (patients with social phobia vs controls) and the analogue comparisons (high FNE vs low FNE) include high socially anxious individuals being:

1. More likely to make negative interpretations of ambiguous social events (clinical comparison: Stopa & Clark, 2000; analogue comparison: Stopa, 1995).
2. More likely to catastrophize in response to mildly negative social events (clinical comparison: Stopa & Clark, 2000; analogue comparison: Stopa, 1995).
3. More likely to selectively attend to socially threatening verbal stimuli (clinical comparison: Hope, Rapee, Heinberg, & Dombeck, 1990; Mattia, Heimberg, & Hope, 1993; Asmundson & Stein, 1994; analogue comparison; Stopa, 1995).
4. More likely to show an attentional bias away from faces (clinical comparison: Chen, Ehlers, Clark, & Mansell, 2001; analogue comparison: Mansell, Clark, Ehlers, & Chen, 1999).
5. More likely to take the observer perspective in memory for social interactions (clinical comparison: Wells, Clark, & Ahmad, 1998; Wells & Papageorgiu, 1999; analogue comparison: Papageorgiou & Wells, 1997).

As far as we are aware, there are no demonstrations of differences between patients with social phobia and controls that have failed to be demonstrated in comparisons between high and low FNE subjects.

Thus, there is a growing body of evidence to support the use of a strategy in which high and low FNE groups are used as an analogue to study cognitive processes in social phobia. Given that this appears to be a valid approach, it is important to have information about the relevant cut off points for selecting the high and low FNE groups in the United Kingdom. The FNE, which was specifically intended as a measure of fear of negative evaluation, and the Social Avoidance and Distress Scale (SAD: Watson & Friend, 1969), which was intended as a more direct measure of anxiety and avoidance, were originally standardized on a population of American college students. Watson and Friend (1969) reported a mean score of 15.47 ($SD = 8.62$) for the FNE and a mean score of 9.11 ($SD = 8.01$) for the SAD. There were differences between the males and females on both scales. On the FNE, the mean scores were 13.97 for males and 16.10 for females. On the SAD, the mean scores were 11.20 for males and 8.24 for females. Since then, several other researchers have looked at the norms for the FNE and SAD on different samples. Arkowitz, Lichtenstein, McGovern, and Hines (1975) reported mean FNE and SAD scores in a sample of 205 high and low frequency daters in a college population. The mean FNE score for high frequency daters was 7.85 and the mean SAD score was 4.25. The mean FNE score for low frequency daters was 18.74 and the mean SAD score was 14.94. Heimberg (1988) reports that a study conducted on the SAD at the State University of New York at Albany on a sample of 259 males and 302 females obtained means of 7.35 ($SD = 6.03$) and 6.68 ($SD = 5.53$) respectively.

Recent discussion of apparent cross-national differences in the prevalence of social phobia (Chapman et al., 1995) and the way in which social fears are expressed in different cultures means that one cannot assume that normative data collected in a U.S. sample will apply to a U.K. sample. For this reason, it is necessary to directly ascertain the British norms.

British FNE Norms

A large sample of students was recruited for two studies that formed part of the first author's doctoral dissertation. In one of the studies, 208 students were screened using the FNE in order to recruit 32 high FNE and 32 low FNE participants. None of the students was told that the study was about social anxiety. In the second study, 335 students completed a questionnaire pack that included the FNE, SAD, Social Cognition Questionnaire (SCQ: Wells, Stopa, & Clark, 1995) and the Anxiety Sensitivity Index (ASI: Reiss, Peterson, Gursky, & McNally, 1986). Again, none of the participants was told that the study was about social anxiety. The final sample, comprising individuals from both samples, consisted of a total of 535 students: 233 males and 306 females. The mean age of the males was 21.06 (SD = 3.01) and the mean age of the females was 21.98 (SD = 7.69).

The distribution of the data was examined. Figure 1 shows histograms of the FNE and SAD distributions of scores. Neither of the questionnaires was normally distributed (FNE: Kolmogorv-Smirnov = 0.07, $p < .001$; SAD: Kolmogorov-Smirnov = 0.16, $p < .001$). The kurtosis statistic for the FNE was .90 (SE .21) and the skewness statistic was .17 (SE .11) indicating that the FNE was slightly positively skewed. The kurtosis statistic for the SAD was .93 (SE .21) and the skewness statistic was 1.19 (SE .11) indicating that the SAD scale was significantly positively skewed. Table 1 shows the means, medians, modes, standard deviations and observed percentiles (5th, 15th, 25th, 50th, 75th, 85th, 95th) for the FNE and SAD for the whole sample, and for males and females separately. There was a significant difference between males and females on the FNE (U = 28259, $p < .001$) but no difference between males and females on the SAD (U = 35116, p = .82).

The normative data presented here are broadly similar to the results of previous studies that have used college students in the United States. The analogue strategy using high and low FNE samples to study social anxiety means that the researcher has to make decisions about which cut-off scores to use to select the groups. The data presented here allow the researcher to make these decisions in an informed way. The high and low FNE groups could be selected by choosing the mean score on the FNE plus or minus one standard deviation, which would produce scores of 7.00 and below for the low FNE group and 22 or above for the high FNE group. Alternatively, the groups could be selected by choosing the upper (75th percentile) and lower (25th percentile) quartiles as the cut-off scores. This would produce a range of 8 or below for the low FNE group and 20 or above for the high FNE group. So far no one has used SAD to divide people into high and low social anxiety groups and therefore we have no data on the validity of using a similar approach based on this questionnaire. All the comments about the viability and validity of an analogue approach are only applicable when the FNE is used as a selector.

Conclusions

In conclusion, existing research suggests that comparing high and low FNE participants from the general population appears to be a valid analogue strategy for identifying processes that may be important in social phobia. United Kingdom norms that would help researchers identify suitable cut-off points have been presented. These norms are, however, based on a young educated population and therefore may not be fully representative of the population

Table 1. Descriptive statistics for FNES and SADS

Means, medians, modes and standard deviations					
Total sample					
	N	Mean	Median	Mode	*SD*
FNES	539	14.26	14.00	10.00	7.72
SADS	539	6.27	4.00	0.00	5.72
Males					
	N	Mean	Median	Mode	*SD*
FNES	233	12.70	12.00	10.00	7.50
SADS	233	6.24	4.00	0.00	5.77
Females					
	N	Mean	Median	Mode	*SD*
FNES	305	15.44	15.00	15.00	7.69
SADS	305	6.29	4.00	2.00	5.70

Observed percentiles scores for the sample distribution							
FNES							
Percentile	5th	15th	25th	50th	75th	85th	95th
Total	2	6	8	14	20	24	28
Males	2	5	7	12	18	21	27
Females	3	7	9.5	15	21.5	25	28
SADS							
Percentile	5th	15th	25th	50th	75th	85th	95th
Total	0	1	2	4	9	12	19
Males	0	1	2	4	9	12	19.3
Females	0	1	2	4	9	12	19

as a whole. The great advantage of analogue research is that it facilitates piloting, allows complex experimental designs that are not always feasible with patient populations, and allows key questions to be addressed more quickly. However, it is always necessary to validate the key aspects of novel findings in a contrast between patients with social phobia and controls. Finally, there are several other measures of social anxiety in addition to the FNE. If an experimenter were interested only in a circumscribed social fear, such as fear of public speaking, the Personal Report of Confidence as a Speaker (Paul, 1966) might be a better measure for defining an analogue comparison. The FNE relates to a broader range of social-evaluative concerns. Other measures with a broad range include the Social Phobia Scale and the Social Interaction and Anxiety Scale (Mattick & Clarke, 1998) and the Social Phobia and Anxiety Inventory (Turner et al., 1989). Each of these may also provide a suitable basis for analogue studies. However, at the moment, there are very few analogue studies that have utilized these measures. Consequently, we do not know whether comparing groups who are high and low on these measures would mirror the comparisons between patients with social phobia and non-patient controls that have so far been demonstrated in the FNE.

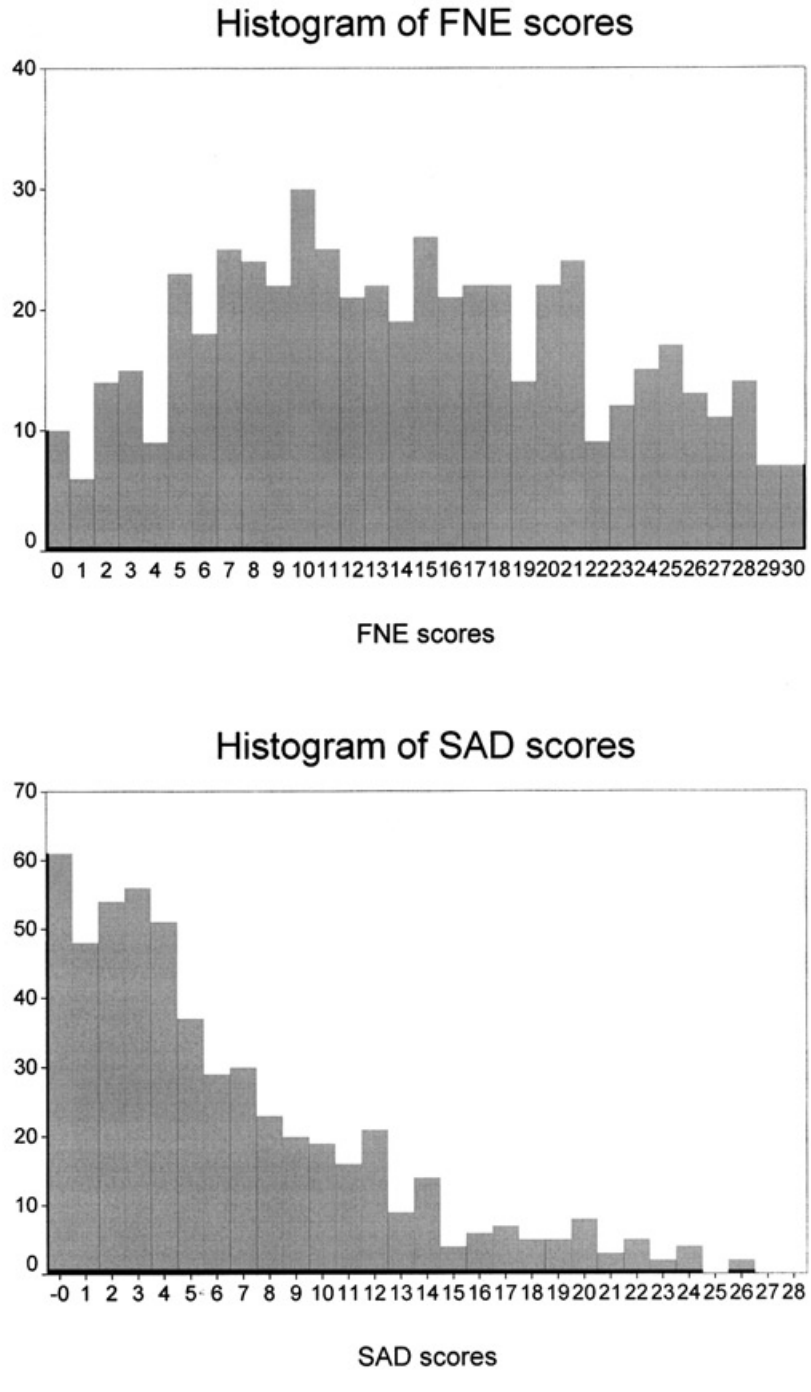

Figure 1. Histogram showing the distribution of FNES and SADS scores.

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