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What determines observer-rated social performance in individuals with social anxiety disorder?

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ABSTRACT

Clark and Wells (1995) proposed that cognitive variables and safety behaviors are related to social performance in social anxiety disorder (SAD). Here, we tested this relationship by concurrent assessment of cognitive, behavioral, and physiological variables and social performance in a prototypical social interaction situation. 103 participants with SAD and 23 healthy controls interacted with a confederate. Anxiety, self-focused attention, cognitions, and safety behaviors were assessed by self-report and by confederate ratings. Social performance was evaluated by independent observers using a behavioral coding system. Social performance was predicted using two regression models for self-report and confederate ratings. Between-group differences in social performance disappeared when talking time was taken into account. Talking time emerged as the most powerful predictor of social performance (54% and 58% accounted variance). Positive cognitions, self-focused attention and safety behaviors accounted for an additional, but marginal amount of variance. Reduced talking time might represent a safety behavior and may be considered an easy to measure final common behavioral outcome of cognitive processes underlying social anxiety.

1. Introduction

Social performance refers to overt behavior in a social situation that is observable to others and that likely is a primary source of information for others' judgment. By contrast, social skills are defined as the knowledge and availability of behaviors that the individual can flexibly and appropriately adjust depending on the social situation (Fydrich & Bürgener, 1999). Hopko, McNeil, Zvolensky, and Eifert (2001) have suggested that the term "social performance" should be used when describing an individual's behavior in observational studies, because the term "social skill" not only refers to the actual behavior, but implies that the individual may not be able to show adequate behavior despite having the behavior repertoire and knowledge (see also Bögels & Voncken, 2008). Observational studies do not usually allow distinguishing between lack of ability and situational inhibiting factors (e.g., anxiety). Indeed, social performance may be more relevant for understanding and treating social anxiety because it determines how an individual is perceived by others (Alden & Taylor, 2004).

A standard approach in examining putative differences in social performance between individuals with and without social anxiety is exposing participants to common social situations such as a speech or an interaction. Discrepancies between self versus other ratings of social performance have supported the notion of a biased perception of the self as suggested by modern cognitive theories of social anxiety disorder (SAD; Clark & Wells, 1995; Rapee & Heimberg, 1997). Most consistently, individuals with SAD underestimate their actual performance when compared to observer performance ratings in speech (Rapee & Lim, 1992) as well as in interaction situations (Stopa & Clark, 1993). Moreover, socially anxious and nonanxious participants have been compared with regard to specific overt behaviors (e.g., gaze contact, pauses during speech: Hofmann, Gerlach, Wender, & Roth, 1997) or overall impression of their performance (Norton & Hope, 2001) as perceived by independent observers or the confederate. Individuals with SAD seem to perform worse in social interaction situations compared to healthy participants (Baker & Edelmann, 2002; Norton & Hope, 2001; Voncken & Bogels, 2008), participants with other

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anxiety disorders (Fydrich, Chambless, Perry, Buergener, & Beazley, 1998) and individuals with dysthymia (Norton & Hope, 2001). For speech tasks, the findings are more complex. Some studies suggest lower performance in individuals with SAD compared to controls (Moscovitch & Hofmann, 2007), others failed to detect differences (Voncken & Bogels, 2008). In their review on the effects of social anxiety on social performance, Strahan and Conger (1999) underline that the performance of socially anxious individuals is often comparable to the one of healthy controls. They propose that this may reflect the highly idiosyncratic nature of situationally elicited fear. Between group differences may not consistently be obtained due to high within-group variability with regard to elicited fear. They also suggest that social performance is disrupted depending on cognitive and physiological arousal. Consistent with this view, current cognitive models of social anxiety assume that actual social performance should be reduced due to anxiety-related inhibition of situationally adequate behaviors (Clark & Wells, 1995; Rapee & Heimberg, 1997) and therefore is likely to depend on the specific situation (e.g., Beidel, Turner, & Dancu, 1985; Rapee & Lim, 1992). Clark and Wells (1995) proposed that individuals rely on safety behaviors to cope with anxiety related symptoms, which are subsequently interpreted by others as unfriendly or arrogant (Alden & Wallace, 1995). Hence, safety behaviors and cognitive factors, as suggested in the Clark and Wells model, may account for the variance of social performance across situations. If anxiety inhibits social performance, observed social performance should depend on the severity of the cognitive, behavioral and physiological anxiety response.

Interestingly, the relationship between model-derived cognitive, behavioral, and physiological variables and social performance has not been studied extensively. It is unclear which factors contribute to social performance as perceived by others. In socially anxious individuals participating in an opposite-sex interaction, higher self and confederate ratings of anxiety were related to lower perceived social performance (Beidel et al., 1985). In a conversation task, self-reported negative cognitions were the only significant predictor of a social performance score as rated by independent video raters (Norton & Hope, 2001). Furthermore, greater self-focused attention has been related to low social performance in a speech as rated by the participant and the audience, but only when the participants lacked confidence in their social skills prior to the task (Burgio, Merluzzi, & Pryor, 1986). Finally, self-reported anxiety and physiological arousal have been associated with lower observer rated social performance, but only when impression management demands were low (Sheffer, Penn, & Cassisi, 2001). To summarize, there is some evidence for a potential influence of situational anxiety, cognitive processes, safety behaviors and self-focused attention on how an individual is perceived by others in a social situation. However, more generalized conclusions are difficult because, across studies, the reporting source of the predictor and the criterion variables (participants themselves, confederates, independent observers) greatly varied as did the measure used for determining social performance (single-item, standard behavioral ratings systems).

In the present study, participants with SAD and healthy controls (HC) participated in an interaction task. Based on the Clark and Wells (1995) model, core cognitive (anxiety, negative/positive cognitions, and self-focused attention), behavioral (safety behaviors) and physiological (heart rate, perceived physical symptoms) variables were measured by self-report of the participant and by confederate report. Since the ratings of the various variables may affect the rating of perceived social performance and vice versa, independent observers assessed social performance using a standard behavioral coding system. The primary goal of this study was to evaluate variables derived from the cognitive model as predictors of observer rated social performance, taking into account the reporting source, i.e. the participant him/herself or the confederate as a proxy of the observer's perspective. Specifically, we predicted individuals with SAD to perform worse during social interaction compared to HC using a standardized behavioral coding system. Furthermore, as suggested by Clark and Wells (1995), we expected individuals with SAD to report more dysfunctional cognitions, greater self-focused attention, as well as more safety behaviors, and to be more physiologically aroused which in turn would impair social performance. We further expected that these cognitive, behavioral and physiological variables would emerge as significant predictors for social performance both when assessed by self-report and when judged by the confederate.

Table 1
Sociodemographic data and clinical characteristics of individuals with SAD and healthy controls (HC).

	SAD (n = 103) M (SD)	HC (n = 23) M (SD)	
Gender (N, % male)	42 (40.8%)	9 (45%)	$\chi^2(1,123) = .12$, n.s.
Age (years)	37.8 (10.2)	38.2 (9.2)	$t(1,121) = .1$, n.s.
Years of education	11.73 (2.06)	12.24 (1.3)	$t(1,121) = .2$, n.s.
CES-D	21.7 (11.1)	6.7 (3.8)	$F(1,123) = 27.09^{**}$
SPS	35.4 (14.1)	9.1 (8.4)	$F(1,123) = 71.36^{**}$
SIAS	46.3 (13.5)	19.5 (10.6)	$F(1,123) = 81.42^{**}$
FNE	63.7 (9.9)	36.8 (9.2)	$F(1,123) = 117.69^{**}$

Note: CES-D: Center for Epidemiological Studies-Depression Scale; SIAS: Social Interaction Anxiety Scale; SPS: Social Phobia Scale; FNE: Fear of Negative Evaluation Scale.
$^{**}p < .001$.

2. Method

2.1. Participants

103 participants with SAD were recruited by newspaper advertisements asking for people aged from 18 to 60 with fear of social situations and offering cognitive-behavioral treatment for participating in the Social Phobia Intervention Study of Mannheim (SOPHISMA). Given the primary focus on the treatment study, only 23 HC were recruited randomly from a list served by the registration office of Mannheim, Germany, for purposes of comparison. There were no significant group differences with regard to age, gender and years of education (Table 1). Interested persons were contacted for a telephone screening and were then invited for a structured clinical interview (duration: approx. 2 h), conducted by three trained clinical psychologists. Axes I and II disorders according to DSM-IV were assessed using the German version of SCID-I interview (Wittchen, Wunderlich, Gruschwitz, & Zaudig, 1997) and the German version of SCID-II interview for personality disorders (Fydrich et al., 1997). Inter-rater reliability for SAD diagnosis resulted in a kappa coefficient of .7. Thirty-seven participants with SAD met DSM-IV criteria for Avoidant Personality Disorder (APD). Inclusion criterion for the SAD group was a primary diagnosis of current SAD according to DSM-IV (minimum duration one year). No current Axis I or lifetime Axis II disorder was allowed for HC. Further exclusion criteria for the SAD group were a lifetime diagnosis of schizophrenia, bipolar disorder, anorexia nervosa, current substance abuse or dependence, current suicidal crises or psychological intervention. Twenty-eight participants with SAD had a comorbid affective disorder (major depression or dysthymia; 27.2%), and 13.6% at least one additional anxiety disorder. The study was approved by the Research Ethics Board of the University of Heidelberg and each subject provided written informed consent after the procedures had been fully explained.