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Impression formation and revision in social anxiety disorder

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ABSTRACT

Interpersonal relations are markedly impaired in social anxiety. Yet, little is known about the ways social anxiety affects social cognition. We examined impression formation and impression revision among individuals with social anxiety disorder (SAD, $n = 26$) and non-anxious individuals ($n = 29$). Participants read initial descriptions of protagonists depicted as dominant, neutral or submissive and rated them on social rank and affiliation dimensions. Next, participants were presented with behavioral acts that were either congruent, incongruent or irrelevant to the initial descriptions, and re-rated the protagonists. Individuals with SAD (a) rated others as more extreme on social rank dimension, (b) rated others as lower on the affiliation dimension, and (c) revised their impressions of others to a greater extent than did the non-anxious individuals. Understanding the ways social anxiety affects the formation and revision of perceptions of others can improve our understanding of maintaining processes in SAD.

1. Introduction

Social anxiety disorder (SAD) is a common disorder with prevalence rates of 7–13% in Western countries (Furmark, 2002). SAD is defined by fear and avoidance of social interactions and performance situations and is related to difficulties in interpersonal relationships (Alden & Taylor, 2010). Specifically, individuals with SAD report low intimacy and closeness across diverse interpersonal domains including peer relations, friendships and romantic relations (Sparrevohn & Rapee, 2009; Weisman, Aderka, Marom, Hermesh, & Gilboa-Schechtman, 2011).

Considering the salience of impaired interpersonal relations in SAD, it is of key importance to understand the basic processes underlying interpersonal difficulties in this condition. So far studies have concentrated on self-perceptions and interpersonal behaviors of individuals with SAD. However, individuals' perceptions of others are also important in guiding their social actions (Horowitz, 2004). For instance, in the context of SAD, impressions of others as critical and rejecting can lead to protective behaviors such as low self-disclosure, or submissive behaviors such as avoiding eye-contact. Such behaviors may negatively affect the way individuals with SAD are perceived, and may reduce acceptance by their interlocutors (Alden & Bieling, 1998). Thus, biased impression formation can spark an interpersonal process leading to the reaffirmation of negative beliefs about others and consequently to the maintenance of SAD.

Forming impressions of others is a difficult task, as people often behave in complex and inconsistent ways. Moreover, impression formation is not circumscribed to the initial stages of interactions with others (e.g., Ybarra, 2001). Rather, in interpersonal interactions we constantly receive new information which may or may not be relevant to the impression we have already formed, and we use this information to adjust our impressions (Denrell, 2005).

Certain types of information may be especially relevant for impression formation. Both interpersonal and evolutionary theories suggest that two systems are fundamental for construing the interpersonal world: a system of social rank (agency, power, status, dominance) and of affiliation (communion, warmth, intimacy) (Gilbert & Trower, 2001; Horowitz, 2004; Trower & Gilbert, 1989). Thus, information regarding social rank and affiliation is considered pivotal for impression formation as well as for other interpersonal processes. For instance, information in the social rank domain (e.g., that a person we just met has an ability to affect our future) informs and guides our social behavior (e.g., increasing the likelihood of deferent and decreasing the likelihood of aggressive behaviors).

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Table 1
Demographic and clinical measures of sample characteristics.

	Individuals with SAD ($n = 26$)	Non-anxious individuals ($n = 29$)	Statistic	p
Age (*SD*)	28.69 (5.58)	27.76 (4.49)	$F(1, 53) = 0.47$	0.50
% Female (n)	61.54 (16)	55.20 (16)	$\chi^2(1) = 0.23$	0.63
LSAS	84.88 (18.43)	9.52 (12.39)	$F(1, 53) = 322.44$	<0.001
BDI	16.73 (10.15)	2.24 (2.61)	$F(1, 53) = 55.10$	<0.001
STAI-S	49.81 (13.89)	30.66 (6.55)	$F(1, 53) = 44.27$	<0.001
STAI-T	52.69 (9.19)	33.38 (6.75)	$F(1, 53) = 79.98$	<0.001

Note: SAD, Social Anxiety Disorder; LSAS, Liebowitz Social Anxiety Scale; BDI, Beck Depression Inventory; STAI-S, State-Trait Anxiety Inventory, State Subscale; STAI-T, State-Trait Anxiety Inventory, Trait Subscale.

Information in the affiliation domain (e.g., that an acquaintance is warm and friendly) is also important for guiding social behavior (e.g., we can confide in that person and disclose personal information).

According to evolutionary theories, individuals with SAD over-utilize the social rank system and under-utilize the affiliation system (Gilbert & Trower, 2001; Trower & Gilbert, 1989). Thus, individuals with SAD tend to focus on hierarchical aspects of relationships and interactions, and to have difficulties identifying opportunities for forming friendships and collaborations (Aderka, Weisman, Shahar, & Gilboa-Schechtman, 2009; Weisman et al., 2011). Over-utilizing the social rank system at the expense of the affiliation system is theorized to have adaptive features that include being vigilant for power relations and engaging in submissive behavior in order to reduce potential harm from others and increase chances of survival. Recently, we (Aderka, Haker, Marom, Hermesh, & Gilboa-Schechtman, 2013) found that compared to non-anxious individuals, individuals with SAD were biased in their impression formation process when provided social rank information. Specifically, they rated dominant individuals as more dominant compared to non-anxious individuals.

In the present study, we sought to replicate and extend these findings to examine how individuals with SAD form and revise impressions when complex and/or inconsistent information is presented. This examination is extremely important as interpersonal perception is a central process in many theories of psychopathology (e.g., Beck, Freeman, & Davis, 2004; Sullivan, 1953). However, interpersonal perception is relatively understudied in several disorders with prominent problems in interpersonal behavior, and specifically in SAD.

In the present study, individuals with SAD and non-anxious individuals read descriptions of dominant, neutral or submissive protagonists. Participants were requested to initially rate protagonists on social rank and affiliation dimensions. Then, participants read descriptions of behavioral acts preformed by the protagonists. These behavioral acts were consistent, inconsistent or irrelevant to the protagonists' initial social rank. Finally, participants were requested to re-rate the protagonists on social rank and affiliation dimensions in light of this new information.

Based on the over-utilization of the social rank system (Gilbert & Trower, 2001) as well as on a previous study of impression formation in SAD (Aderka et al., 2013), we expected that, compared to non-anxious individuals, individuals with SAD would be more sensitive to social rank information. Specifically, our first hypothesis, the enhanced social rank sensitivity hypothesis, was that individuals with SAD would rate protagonists more extremely on social rank (i.e., dominant protagonists as more dominant and submissive protagonists as more submissive). Previous research has indicated that individuals with SAD view others as critical and competitive (Hope, Sigler, Penn, & Meier, 1998; Leary, Kowalski, & Campbell, 1988). Thus, our second hypothesis, the diminished affiliation hypothesis, was that compared to non-anxious individuals, individuals with SAD would view others as less friendly or affiliative. Finally, individuals with SAD have been found to be hyper-vigilant for potential threats from others and to be preoccupied with social rank (Gilbert & Trower, 2001; Schultz & Heimberg, 2008). Thus, our third hypothesis, the enhanced social rank reactivity hypothesis, was that individuals with SAD would revise their impressions of others to a greater extent in response to new information, compared to non-anxious individuals.

2. Method

2.1. Participants

The sample included 55 participants, encompassing individuals with SAD ($n = 26$) and non-anxious individuals ($n = 29$). Mean age was 28.20 ($SD = 5.01$, range = 19–41) and 58.2% of participants were female. Individuals with SAD sought treatment at a large mental health center in Israel, where they were diagnosed using the Structured Clinical Interview for DSM-IV (SCID; First & Gibbon, 2004). Interviewers were graduate students in clinical psychology who received training prior to the study. All diagnoses were supervised and reviewed by a senior clinical psychologist (the third author, SM). Inclusion criteria for the SAD group included (a) a primary diagnosis of SAD according to DSM-IV criteria, and (b) age between 18 and 45. Exclusion criteria included (a) past or current psychosis, and (b) current diagnosis of substance dependence. In the SAD group, 8 individuals did not have any comorbid diagnoses (30.77%), 15 had one comorbid diagnosis (57.69%), and 3 had two comorbid diagnoses (11.54%). In addition to the primary diagnosis of SAD, individuals received diagnoses of major depressive disorder ($n = 10$), generalized anxiety disorder ($n = 4$), obsessive-compulsive disorder ($n = 4$), and panic disorder ($n = 3$).

Non-anxious individuals ($n = 29$) were recruited from the community, diagnosed using the SCID, and did not have any Axis I disorders. Recruitment was done using the snowball technique beginning with volunteers in our laboratory who were uninvolved in the present study. Inclusion criteria for the non-anxious individuals included (a) no diagnoses of Axis I disorders, and (b) age between 18 and 45. Table 1 presents demographic and self-report measures for the two groups.

2.2. Procedure

Participants in the SAD group were interviewed using the SCID as part of a routine diagnostic assessment of the clinic. Following the SCID, participants were approached by a research assistant who invited them to take part in a study on impression formation. If participants agreed, they filled out informed consent forms, completed self-report measures and performed the computerized impression revision task. A total of 30 individuals were approached at the clinic and of these, 26 (86.67%) agreed to participate. The study was conducted in a single session and required approximately 45 min.

Non-anxious individuals completed informed consent measures and were interviewed by a graduate student in clinical psychology using the SCID. If the participant did not receive any Axis I diagnoses, self-report measures and the computerized task were