

Hypersensitivity to Social Rejection and Perceived Stress as Mediators between Attachment Anxiety and Future Burnout: A Prospective Analysis

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Drawing on Sociometer Theory, the current study examined whether the tendency to focus on and worry about social rejection at the workplace can predict stress and burnout. Data were collected at two time points from 231 hotel employees. Prospective-longitudinal design, structural equation modeling analyses revealed that participants' hypersensitivity to social rejection at the workplace predicted an increase in stress and in burnout across the 1 month of participation. Furthermore, the findings revealed that hypersensitivity to social rejection fully mediated the link between attachment anxiety and future stress and that hypersensitivity to social rejection and stress fully mediated the link between attachment anxiety and future burnout. Approximately 64 per cent of the variance in future burnout was explained by these variables. The results demonstrate the significant role social evaluative stressors play in the development of stress responses at the workplace.

S'appuyant sur la sociometer theory, la présente étude examine si la tendance à se préoccuper et s'inquiéter du rejet social sur le lieu de travail peut prédire le stress et l'épuisement. Les données ont été collectées par deux fois auprès de 231 employés d'hôtellerie. Le traitement des études longitudinales par des analyses de modélisation par équations structurelles révèle que l'hypersensibilité des sujets au rejet sur le lieu de travail contribue à une augmentation du stress et de l'épuisement au cours du mois de participation. Les conclusions soulignent que l'hypersensibilité au rejet social est totalement influencée par le lien entre anxiété, attachement et stress futur et que l'hypersensibilité au rejet social et au stress est totalement influencée par le lien entre anxiété, attachement et épuisement à venir. Environ 64% de la variance de l'épuisement à venir est expliqué par ces variables. Les résultats montrent le rôle significatif joué par des sources de stress liées au jugement social d'autrui dans le développement des réponses de stress sur le lieu de travail.

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INTRODUCTION

Workplace stress is a widespread phenomenon that has negative impact on both employees and organisations (Quick, Quick, Nelson, & Hurrell, 1997; Quick, Murphy, & Hurrell, 1992; Schabracq, Cooper, & Winnubst, 2003; Wong, Cheuk, & Rosen, 2000). For this reason, theoretical and empirical efforts have been directed toward identifying the psychological sources of stress at the workplace. In line with Sociometer Theory (Leary & Baumeister, 2000; Leary & Downs, 1995), recent evidence suggests that social evaluative threats such as social rejection, criticism, and exclusion are often the most powerful stressors in modern life, because they threaten to undermine people's social value, esteem, and status (e.g. Dickerson & Kemeny, 2004). However, there is surprisingly sparse empirical evidence on the relationship between social evaluative stressors and stress responses at the workplace (Dormann & Zapf, 2004). As knowledge about social evaluative threats at the workplace is quite limited, the present study intends to extend this knowledge by examining the association between hypersensitivity to social rejection and stress responses at work.

We argue that a cognitive process of focusing on and worrying about social rejection, characteristic of insecure and, in particular, anxiously attached individuals, can play a significant role in the development of workplace stress and burnout. Recently, in a study examining the role that attentional bias for rejection may play in stress, Dandeneau, Baldwin, Baccus, Sakellaropoulou, and Pruessner (2007, Study 1) found that attention to social rejection does predict stress reactions. This study was conducted in a lab setting and the researchers used standard stress-induction methods to demonstrate that stress responses are exacerbated by attention to social evaluative stressors. However, a naturalistic longitudinal observation of the association between sensitivity to social rejection in the workplace and perceived stress and burnout has never been tested before.

We draw on the broad theoretical framework provided by Sociometer Theory (Leary & Baumeister, 2000; Leary & Downs, 1995), which proposes that due to the survival value of establishing and preserving social ties, human beings have evolved a mechanism for monitoring the degree to which other people value and accept them. Through this psychological mechanism, which is called *the sociometer*, people continuously monitor their social environment for cues of acceptance or rejection. Whereas perceived acceptance following experiences associated with social approval or appreciation leads to positive emotions and a sense of self-worth, perceived rejection resulting from criticism, degradedness, or other events that have negative implications for social evaluation, leads to negative emotions and distress. These theoretical ideas have been supported in many studies, including research findings demonstrating the negative influences social rejection exert on individuals'

emotional status (e.g. Baumeister & Tice, 1990; Williams, 1997; Williams, Cheung, & Choi, 2000; Leary & Meadows, 1991).

Although the theory suggests that all human beings tend to automatically activate this sociometer mechanism in social evaluative contexts, there are also important individual differences in the “calibration” of the sociometer (Nezlek, Kowalski, Leary, Blevins, & Holgate, 1997; Rudich & Vallacher, 1999), such that people may vary immensely in the degree to which they pay attention and react to cues of social threat. For example, empirical studies have shown that sensitivity to rejection could be a central experience for people who feel that they are being judged for possessing undesirable traits or identities, as in the case of individuals from stigmatised social categories or low status groups (e.g. Chan & Mendoza-Denton, *in press*). Other studies have found that depressed individuals (e.g. Stafford, 2007), individuals suffering from posttraumatic stress disorder (e.g. Foa, Freske, Murdock, Kozak, & McCarthy, 1991), and individuals suffering from panic disorder (McNally, Reiman, & Kim, 1990) tend to be especially sensitive to rejection cues. Personality traits were also shown to be related to higher sensitivity to social threat: Traits like social phobia, low self-esteem, and attachment anxiety are among these traits (e.g. Gruenewald, Kemeny, & Aziz, 2006; Kirschbaum, Prussner, Stone, Federenko, Gaab, Lintz, Schommer, & Hellhammer, 1995; MacLeod, Mathews, & Tata, 1986; Mogg, Bradley, & Williams, 1995; Schmidt, Fox, Sternberg, Gold, Smith, & Schulkin, 1999).

In examining the role of hypersensitivity to rejection we chose to focus on attachment anxiety as a personality variable relating to the experience of social stress. Attachment anxiety is viewed as a systematic pattern of relational expectations, cognitions, emotions, and behaviors originating from past experiences with caregivers who were unpredictable and highly variable in supportiveness (Griffin & Bartholomew, 1994). As a result of these experiences, anxiously attached individuals are hypothesised to have developed a chronic sense of low security, extreme need to be accepted and liked by significant others, and strong worries that they may not be available or willing to respond to those needs. According to attachment researchers, this combination of needs and worries is said to motivate anxiously attached persons to monitor others closely for signs of deficient proximity (Cassidy & Berlin, 1994; Simpson, Ickes, & Grich, 1999). Indeed, consistent with the attachment principle linking early experiences of rejection with later hypervigilance for signs of rejection, recent studies have found that anxiously attached individuals have difficulty restraining rejection-related thoughts (Baldwin & Kay, 2003; Baldwin & Meunier, 1999). According to Fraley and Shaver (2000), monitoring and appraising the extent to which significant others are maintaining adequate proximity, availability, and responsiveness are among the important components describing this trait. In other words,

being anxiously attached involves high awareness of possible threats to the important goal of social acceptance.

Several lines of research point to important links among anxious attachment, hypervigilance to rejection, and stress. Attachment anxiety is related to pessimistic and helpless attitudes toward life, to a perception of hardships as uncontrollable, and to negative expectations about being able to resist or control stress and cope with it effectively (Creasey, Kershaw, & Boston, 1999; Gamble & Roberts, 2005; Greenberger & McLaughlin, 1998; Mikulincer & Florian, 1998; Williams & Riskind, 2004). In a study of close relationships, Downey and Feldman (1996) found that the cognitive-affective process of sensitivity to rejection could add a great amount of stress to romantic relationships and undermine them. In another study, Nezlek et al. (1997) found that people with high vulnerability to social rejection reacted to laboratory-based exclusion with more dysphoria and self-devaluation than people with low vulnerability to rejection. Mikulincer and Shaver (2007) argue that focusing attention on disruptive rather than positive aspects of emotional experience leads to stressful perceptions of oneself as helpless to control the accelerating flow of distressful thoughts and feelings.

A sociometer that is calibrated to chronically focus on social threats should, over time, increase the risk of burnout. In the general literature on workplace stress, a growing body of research confirms a positive relation between perceived stress and burnout (for a review, see Cooper, Dewe, & O'Driscoll, 2001). This research indicates that burnout is a reaction to emotional and interpersonal stressors on the job and that when people are more stressed they are more susceptible to burnout. Recent studies support this direction and indicate that personality (e.g. hardiness) is an additional significant predictor of stress and burnout (e.g. Garrosa, Moreno-Jimenez, Liang, & Gonzalez, 2008). Since burnout is viewed mainly as a reaction to stress, it is logical to anticipate that stress mediates an association between certain personality variables that are associated with stress, like attachment anxiety, and job burnout.

According to Maslach and Schaufeli (1993), the three key dimensions of burnout are an overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment. The burnout syndrome is considered more prevalent in several professions with strong social interaction, as in the case of hotel employees (e.g. Zapf, Seifert, Schmutte, & Mertini, 2001).

Recently, insecurely attached individuals have been found to experience higher levels of work burnout compared to secure individuals (Pines, 2004; see also Ronen & Mikulincer, in press). Although these important studies suggest some potential links between attachment anxiety and burnout, given their cross-sectional nature and the fact that they are the only studies that link attachment to burnout, additional studies are needed to confirm these

results as well as their implied causal direction. Moreover, the next critical question involves identifying the psychological mechanisms by which attachment anxiety may interfere with work functioning and lead to burnout. In their pioneering cross-sectional study of “love and work” viewed from an attachment-theoretical perspective, Hazan and Shaver (1990) pointed at such a potential mechanism. They found that anxiously attached individuals’ impaired work functioning was related to their tendency to be highly preoccupied with social-related concerns. However, no study heretofore has examined longitudinally the possible mediational role of hypersensitivity to social rejection as a critical link between attachment anxiety and work burnout.

We examined the associations between attachment anxiety, stress, and burnout and asked whether hypersensitivity to social rejection at the workplace plays an important role in linking attachment anxiety to stress and burnout. Participants in this longitudinal study were hotel employees. The primary reason to choose this population was that hotel employees, including waiters, barmen, valets, and receptionists, work in a highly social evaluative environment that may be especially costly to people who are hypersensitive to social rejection. Based on the theoretical and empirical background presented above, our predictions are as follows:

1. Attachment anxiety would predict future perceptions of stress.
2. Attachment anxiety would predict future burnout.
3. Hypersensitivity to social rejection would predict future perceptions of stress.
4. Hypersensitivity to social rejection would predict future burnout.
5. Hypersensitivity to social rejection would mediate the association between attachment anxiety and perceived stress.
6. Hypersensitivity to social rejection and perceived stress would mediate the association between attachment anxiety and burnout.

METHOD

Participants

The sample employed in the two-wave longitudinal study consisted of 231 hotel employees (31% waiters, 6% barmen, 37% valets, and 26% receptionists) who volunteered to participate in the study without any payment. Thirty-seven per cent were men and 63 per cent women. Average age was 24.34 years ($SD = 3.5$ years; range = 21 to 34 years), and average education level was 12.69 years ($SD = 1.46$ years; range = 11 to 16). They were employed in five different hotels that are part of one hotel network in Israel. All the hotels are located in one city and the employees in this hotel network occa-

sionally move from one hotel to another, therefore they are all exposed to similar environmental factors at work.

Procedure

In wave 1, a total of 600 questionnaires were distributed and collected the same day or the next day. People were asked to participate in this study only if they could fill out questionnaires twice during a 1-month period. Of these 600 questionnaires, 240 were returned, giving a response rate of 40 per cent. The participants were asked to write their email address and phone number on the forms so they could be traced 1 month later and complete the second questionnaire. After 1 month, questionnaires were sent by email to all respondents of wave 1, and all questionnaires were filled and returned by email or collected from a mailbox that was located in each hotel. Confidentiality was promised and carefully kept. Nine questionnaires were taken out of the sample due to missing data.

The hotel business in Israel is characterised by seasonality that affects important environmental job attributes, like work overload, that have been found relevant to job stress and burnout in previous studies. Being aware of that, and as means of controlling for these changing features of the job, we decided to collect our data during one season (summer) and to keep a gap of only 1 month between the two measures.

Materials

Attachment anxiety (Time 1) was assessed with the 18-item attachment anxiety subscale of the Hebrew version of the Experience in Close Relationships scale (ECR; Brennan, Clark, & Shaver, 1998). The original scale was translated and then back-translated into English to determine whether the items were properly transformed into Hebrew. Participants rated the extent to which each item described their feelings in close relationships on a 7-point scale ranging from “not at all” (1) to “very much” (7). All 18 items tapped attachment anxiety (e.g. “I worry a fair amount about losing my close relationship partners”). The reliability and validity of the scale have been repeatedly demonstrated (e.g. Brennan et al., 1998, Mikulincer & Florian, 2000). In the current sample, the Cronbach’s alpha coefficient was high for the anxiety scale (.90). On this basis, one score was computed by averaging the items on the scale. A principal components analysis yielded a single factor with eigenvalue greater than 1.0 which accounted for 42 per cent of the variance in the items.

Burnout (Time 1 and Time 2) was assessed with the Hebrew version (see Schaufeli, Salanova, González-Romá, & Bakker, 2002) of the Maslach Burnout Inventory-General Survey (MBI-GS; Schaufeli, Leiter, Maslach, &

Jackson, 1996). The original scale was translated and then back-translated into English to determine that the items were properly transformed into Hebrew. The scale consisted of 15 items classified into three scales: emotional exhaustion (e.g. "At the end of the day I feel tired"), cynicism (e.g. "I have become less enthusiastic about my work"), and reduced efficacy (e.g. "I can effectively solve the problems that arise in my work"). Participants were asked to rate on a 7-point scale ranging from 1 (*never*) to 7 (*always*) how they felt in the past month with regard to each item. The efficacy measure was reversed. Thus, high scores on exhaustion, cynicism, and reduced efficacy were indicative of a high level of burnout. The alpha values were high (exhaustion Time 1 = .86, Time 2 = .85; cynicism Time 1 = .84, Time 2 = .84; and efficacy Time 1 = .89, Time 2 = .87). A principal components analysis followed by varimax rotation yielded three factors with eigenvalues greater than 1.0 which together accounted for 66 per cent of the variance in the items at Time 1 and 67 per cent of the variance in the items at Time 2. The first factor (accounting for 21% of the explained variance at Time 1 and 22% of the explained variance at Time 2) included five items (all with loadings > .40) concerning emotional exhaustion. The second factor (24% of the explained variance at both Time 1 and 2) included six items tapping reduced efficacy. The third factor (21% of the explained variance at Time 1 and 20% of the explained variance at Time 2) included four items tapping cynicism.

Perceived stress (Time 1 and Time 2) was assessed with the Hebrew version of the 10-item self-report form of the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). The original scale was translated and then back-translated into English to determine the proper transformation of the items into Hebrew. The reliability and validity of the scale have been demonstrated (Cohen & Williamson, 1988). Six of the items are negative (e.g. "How often have you felt nervous or stressed?"), and the remaining four are positive (e.g. "How often have you felt that things were going your way?"). Each item is rated for the past month on a 7-point scale ranging from 1 (*never*) to 7 (*always*). In scoring the measure, the four positive items were reverse scored, and then all the items were averaged. Thus, a high score on the PSS was indicative of high levels of stress. Reliability coefficients, using Cronbach's alpha, were satisfactory in this sample—.89 at Time 1, and .88 at Time 2. Test-retest reliability was .71 for the 1-month interval between the two measures. A principal component analysis performed on the perceived stress scale revealed one factor in both Time 1 and Time 2. This factor accounted for 52 per cent of the variance at Time 1 and 49 per cent at Time 2.

Hypersensitivity to social rejection (Time 1 and Time 2) was assessed with a six-item scale that was developed especially for this study. At the beginning, we developed an initial nine-item scale that was designed to assess the individual's tendency to focus on and worry about social rejection in situations that involve interactions with other people. Three criteria were used for

inclusion of an item in the final scale: (a) the item had to have a significant correlation of at least .30 with the average score of the final scale with that item removed, (b) a retest correlation of at least .30 in a 1-month period, and (c) a larger correlation with the average score of the final scale than with the average score of the attachment anxiety scale. The third criterion was employed in recognition that although hypersensitivity to rejection and attachment anxiety are related, they are hypothesised as being distinct constructs. Three items were removed because of failure to meet these criteria. Participants in the study were instructed to think about social interactions at work while answering the questions. The items in this scale are: "If anyone doesn't seem to like me I think about it for the rest of the day"; "When I walk into a crowded room I tend to notice anyone who looks like they don't like me"; "When interacting with other people, I pay close attention to any signs that they might dislike me"; "When I feel that someone is not nice to me, I find it hard to ignore that and move on"; "If someone is unfriendly to me, I often assume it is because of something about me, and it keeps bothering me for a long time"; and "When I think that other people don't like me, I get concerned and preoccupied with negative thoughts". All the items were scored on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Then we computed a score for each participant by averaging the six items. Reliability coefficients, using Cronbach's alpha, were satisfactory in this sample—.84 at Time 1 and Time 2. Test-retest reliability was .75 for the 1-month interval between the two measures.¹ A principal component analysis performed on the hypersensitivity to social rejection scale revealed one factor at both Time 1 and Time 2. This factor accounted for 57 per cent of the variance at Time 1, and 51 per cent at Time 2.

Due to the high correlation between hypersensitivity to rejection and attachment anxiety, we conducted a confirmatory factor analysis to check the factorial validity of the scales. We were interested in whether a single-factor model is more appropriate to describe hypersensitivity to rejection and attachment anxiety than a two-factor model. We first estimated a single-

¹ In an attempt to test the psychometric qualities of the hypersensitivity to rejection scale before using it in the current study, it was first administered to 490 full-time employees from the private sector in Israel who did not hold managerial positions (59% women, 41% men; average age 31.53 years, $SD = 11.10$). Findings revealed that the reliability coefficient of the scale was satisfactory in this sample: $\alpha = .80$. A regression analysis revealed that the scale was positively associated with each of the three dimensions of the burnout construct: emotional exhaustion (.30, $p < .01$), cynicism (.18, $p < .01$), and reduced efficacy (.20, $p < .01$), and with attachment anxiety (.54, $p < .01$). The scale was negatively associated with job satisfaction (-.14, $p < .01$) and perceived fairness (-.09, $p < .05$). No significant differences were observed between men and women and the scale scores did not correlate with age, familial status, and tenure. The correlation between the hypersensitivity to rejection scale and education level was found to be negative (-.09, $p < .05$).

factor model where we allowed all the attachment anxiety and hypersensitivity to rejection items to load on a single common factor. The χ^2 statistic for the model fit was high and significant ($\chi^2(5, N = 231) = 133.2, p < .001$), suggesting that the hypothesis of a good fit to the data can be rejected. The RMSEA (.334), NFI (.865), and the CFI (.863) likewise suggested that the model does not fit the data. Then we estimated a two-factor model of hypersensitivity to rejection and attachment anxiety. The χ^2 statistic for this model fit was significantly lower ($\chi^2(4, N = 231) = 12.9, p = .012$), and the NFI (.986) and the CFI (.990) indicated that the model fits the data very well. The RMSEA (.098) exceeded the recommended .08 threshold for indication of acceptable model fit. However, some researchers have suggested that 0.1 is a RMSEA cut-off value for accepting a model fit (e.g. Browne & Cudeck, 1993). Furthermore, a chi-square difference test yielded a significant difference between the single-factor and the two-factor models, $\Delta\chi^2(1, N = 231) = 120.3, p < .001$. Therefore, we concluded that the two-factor model appears to fit the data substantially better than the single-factor model.

Creation of Measurement Variables

To construct manifest indicators of latent attachment anxiety, hypersensitivity to social rejection, and perceived stress factors, we followed the recommendations of Russell, Kahn, Spoth, and Altmaier (1998) and their colleagues (Kishton & Widaman, 1994; Little, Cunningham, Shahar, & Widaman, 2002). Namely, we created parcels as indicators of each latent variable (i.e. attachment anxiety Time 1, hypersensitivity to social rejection Time 1, and perceived stress Time 1 and Time 2). First, we conducted, separately for each scale, exploratory factor analysis using the maximum likelihood method of extraction, with a single factor extracted for each measure. We then rank ordered items on the basis of the absolute magnitude of the factor loading and successively assigned triads of items going from the highest to the lowest loading, to each of the three or two parcels to equalise the average loading of each parcel on the respective factor. Subsequently, we created scores on the parcels by computing the average score for each set of items. To ensure that the nature of the measure that we assessed repeatedly in Time 1 and 2 (i.e. perceived stress) was not allowed to change over time, we included the same items in the two or three parcels at Time 1 and Time 2 for this measure.

RESULTS

Preliminary Analysis and Descriptive Statistics

To check for normality of distribution, the mean, skew, and kurtosis of the 10 observed variables were examined (see Table 1). All the skew and kurtosis

TABLE 1
Zero-Order Intercorrelations, Means, Standard Deviations, Skews, Kurtosis, and Cronbach's Alpha for 10 Observed Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Anxiety T1	—									
2. HSR T1	.68**	—								
3. PSS T1	.48**	.34**	—							
4. Exhaustion T1	.28**	.17*	.43**	—						
5. Cynicism T1	.39**	.19*	.37**	.63**	—					
6. R-Efficacy-s T1	.30**	.10	.41**	.54**	.57**	—				
7. PSS T2	.44**	.40**	.61**	.36**	.29**	.29**	—			
8. Exhaustion T2	.35**	.29**	.39**	.72**	.46**	.33**	.45**	—		
9. Cynicism T2	.38**	.24**	.32**	.45**	.66**	.35**	.41**	.59**	—	
10. R-Efficacy T2	.37**	.26**	.36**	.40**	.43**	.50**	.49**	.49**	.59**	—
N	231	231	231	231	231	231	231	231	231	231
M	3.33	3.51	3.25	3.67	2.89	1.49	3.24	3.60	2.94	2.43
SD	1.07	1.29	1.07	1.30	1.33	0.29	1.00	1.22	1.29	0.86
Skew	0.21	0.44	0.23	0.12	0.37	.50	0.33	0.18	0.47	0.63
Kurtosis	-0.66	-0.20	-0.65	-0.28	-0.66	.55	-0.39	-0.40	-0.57	0.16
Cronbach's alpha	.91	.84	.90	.85	.83	.86	.89	.86	.85	.87

Note: T1 = Time 1; T2 = Time 2; Anxiety = attachment anxiety; HSR = hypersensitivity to social rejection; PSS = perceived stress scale. Exhaustion, Cynicism, and R-Efficacy are subscales from Burnout Measure Inventory. R-Efficacy-s = reduced efficacy after a square-root transformation.

* $p < .01$; ** $p < .001$.

values of the 10 observed variables were less than 1.0, except for reduced-efficacy at Time 1. In general, the scores from this sample can be characterised as having a normal distribution. However, a square-root transformation was conducted for the reduced-efficacy variable. One variable was created and called R-Efficacy-s. The skew and kurtosis for the R-Efficacy-s (.05 and .55) indicate a normal distribution. The R-Efficacy and the R-Efficacy-s are highly correlated ($r = .99$). Thus, the R-Efficacy-s was used in subsequent analysis. Means, standard deviations, skews, kurtosis, Cronbach's alphas, and zero-order correlations for the 10 observed variables are presented in Table 1.

Measurement Model

As advocated by Baron and Kenny (1986), structural equation modeling (SEM) is the most efficient and least problematic method of testing mediation. By controlling for measurement error, SEM avoids problems of over- and underestimation of mediated effects. It also permits estimation of models that include multiple mediators (e.g. Shadish & Sweeney, 1991). Our SEM analyses were conducted using the AMOS 7.0 program, on the basis of the maximum likelihood estimation procedure. The analysis of the proposed mediation model followed the two-step approach recommended by Anderson and Gerbing (1988). In the first step, we examined the measurement model of the variables by using confirmatory factor analysis (CFA) to estimate the loadings of the manifest indicators on their respective latent variables. We allowed all latent variables to correlate with each other in the model. In addition, we allowed measurement errors associated with each indicator of perceived stress and burnout at Time 1 to correlate with the same indicator of the same variable at Time 2. Those paths account for the relations between identical indicators on the two occasions that are not attributable to the relation between the substantive latent variables. According to Hoyle and Smith (1994), this procedure improves the evaluation of the stability effects.

Establishment of a measurement model is achieved by statistically significant loadings, as well as an acceptable model fit. Once an acceptable measurement model is established, the structural model can be tested in the second step. We used three indexes to assess the goodness of fit of the measurement and structural models: the Bentler-Bonett's normed fit index (NFI; Bentler & Bonett, 1980; values higher than .90 represent acceptable model fit), the comparative fit index (CFI; Bentler, 1990; values higher than .90 represent acceptable model fit), and the root-mean-square error of approximation (RMSEA; Steiger, 1980; values of .08 and lower represent acceptable model fit). The commonly used chi-square index that was developed by Satorra and Bentler (1988) is reported for reasons of completeness but was not consulted for low- n analyses because of its extreme sensitivity

TABLE 2
Loading of the Manifest Indicators on their Respective Latent Variables

Factor	Anxiety T1	HSR T1	PSS T1	Burnout T1	PSS T2	Burnout T2
Anxiety1 T1 (.78)	.89					
Anxiety2 T1 (.79)	.90					
Anxiety3 T1 (.78)	.91					
HSR 1 T1 (.73)		.88				
HSR 2 T1 (.74)		.92				
PSS1 T1 (.76)			.91			
PSS2 T1 (.73)			.88			
PSS3 T1 (.74)			.79			
Exhustion1 T1 (.85)				.76		
Cynicism1 T1 (.83)				.80		
R-Efficacy-s T1 (.86)				.73		
PSS1 T2 (.73)					.85	
PSS2 T2 (.72)					.91	
PSS3 T2 (.72)					.82	
Exhustion1 T2 (.82)						.71
Cynicism1 T2 (.83)						.77
R-Efficacy T2 (.86)						.75

Note: T1 = Time 1; T2 = Time 2; Anxiety = attachment anxiety; HSR = hypersensitivity to social rejection; PSS = perceived stress scale; R-Efficacy-s = reduced efficacy after a square-root transformation. All loadings (standardised regression weights) are statistically significant at $p < .001$. Cronbach's alpha coefficients of the variables appear in parentheses.

to sample sizes. However, we used the chi-square difference test (CSDT; Brown, 1990) in comparing competing models.

In Table 2, we present the loadings of the manifest indicators on their respective latent variables, and in Table 3, we present the correlations between the latent variables. These loadings and correlations were highly statistically significant ($p < .001$). A test of the measurement model resulted in good fit indices, $X^2(98, N = 231) = 126.12$, $p = .029$; NFI = .959; CFI = .990; RMSEA = .007 (90% lower confidence limit = .003, and 90% upper confidence limit = .011). It therefore appears that all of the latent variables have been well measured by their respective indicators (observed variables). Thus, this measurement model was used to test the hypothetical structural model.

Structural Model for Tests of Mediation

In order to examine Hypothesis 1, that is, whether attachment anxiety at Time 1 predicts perceived stress at Time 2, a structural model was estimated and labeled *attachment anxiety–stress direct effect model*. It specified a path between the predictor (i.e. attachment anxiety) and the criterion (i.e. per-

TABLE 3
Correlations between the Latent Variables

Variable	Anxiety T1	HRS T1	PSS T1	Burnout T1	PSS T2	Burnout T2
Anxiety T1	—					
HSR T1	.74**					
PSS T1	.52**	.38**				
Burnout T1	.44**	.22*	.56**			
PSS T2	.48**	.45**	.63**	.44**		
Burnout T2	.51**	.37**	.51**	.72**	.64**	—

Note: T1 = Time 1; T2 = Time 2; Anxiety = attachment anxiety; HSR = hypersensitivity to social rejection; PSS = perceived stress scale.

* $p < .01$; ** $p < .001$.

TABLE 4
Summary Statistics of the Structural Equation Modeling Models

Model	$\chi^2(231)$	df	p	NFI	CFI	RMSEA
Attachment Anxiety–Stress Direct Effect	23.05	21	.34	.986	.999	.021
Attachment Anxiety–Burnout Direct Effect	21.03	21	.46	.985	1.00	.002
Hypersensitivity to Social Rejection–Stress	12.60	14	.56	.991	1.00	.000
Hypersensitivity to Social Rejection–Burnout	16.12	14	.31	.984	.998	.026
Attachment Anxiety–Stress–Burnout Partially Mediated	135.82	103	.02	.955	.989	.037
Attachment Anxiety–Stress–Burnout Fully Mediated	139.55	105	.01	.954	.988	.038

Note: NFI = normed fit index; CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

ceived stress). In this analysis, we controlled for perceived stress at Time 1. The path coefficient from attachment anxiety at Time 1 and perceived stress at Time 2 was found to be significant ($.21, p < .01$). In order to examine Hypothesis 2, that is, whether attachment anxiety at Time 1 predicts burnout at Time 2, a structural model was estimated and labeled *attachment anxiety–burnout direct effect model*. It specified a path between the predictor (i.e. attachment anxiety) and the criterion (i.e. burnout). In this analysis, we controlled for burnout at Time 1. The path coefficient from attachment anxiety at Time 1 and burnout at Time 2 was found to be significant ($.23, p < .001$). In both cases, the models fit very well to the data. Statistics for the model fit are presented in Table 4.

In order to examine Hypothesis 3, that is, whether hypersensitivity to social rejection at Time 1 predicts perceived stress at Time 2, a structural

model was estimated and labeled *hypersensitivity to social rejection–stress*. It specified a path between the predictor (i.e. hypersensitivity to social rejection) and the criterion (i.e. perceived stress). In this analysis, we controlled for perceived stress at Time 1. The path coefficient from hypersensitivity to social rejection at Time 1 and perceived stress at Time 2 was found to be significant (.25, $p < .001$). In order to examine Hypothesis 4, that is, whether hypersensitivity to social rejection at Time 1 predicts burnout at Time 2, a structural model was estimated and labeled *hypersensitivity to social rejection–burnout*. It specified a path between the predictor (i.e. hypersensitivity to social rejection) and the criterion (i.e. burnout). In this analysis, we controlled for burnout at Time 1. The path coefficient from hypersensitivity to social rejection at Time 1 and burnout at Time 2 was found to be significant (.22, $p < .001$). In both cases, the models fit very well to the data. Statistics for the model fit are presented in Table 4.

In order to examine Hypotheses 5 and 6, that is, whether hypersensitivity to social rejection at Time 1 serves as a mediator of the relation between attachment anxiety and future perceptions of stress, and whether hypersensitivity to social rejection at Time 1 and perceived stress at Time 2 serves as a mediator of the relation between attachment anxiety and future burnout, four structural models were estimated following Holmbeck's (1997) recommendations. The first two structural models are the models labeled *attachment anxiety–burnout direct effect model* and *attachment anxiety–stress direct effect model* (see the results of the first and second hypotheses above). In each of these two models, a path was specified between the predictor (i.e. attachment anxiety) and the criterion (i.e. stress in the first model and burnout in the second model) in the absence of the mediators (i.e. hypersensitivity to social rejection and perceived stress). The significance of these path coefficients serves as a prerequisite for testing the mediation effects (Hoyle & Smith, 1994).

The third model was labeled an *attachment anxiety–stress–burnout partially mediated model* (see Figure 1) and it specified direct and indirect paths from the predictor (i.e. attachment anxiety) to the criteria (i.e. perceived stress and burnout at Time 2). The indirect path from attachment anxiety to perceived stress at Time 2 was set from (a) attachment anxiety at Time 1 to hypersensitivity to social rejection at Time 1, (b) hypersensitivity to social rejection at Time 1 to perceived stress at Time 2. The indirect path from attachment anxiety to burnout at Time 2 was set from (a) attachment anxiety at Time 1 to hypersensitivity to social rejection at Time 1, (b) hypersensitivity to social rejection at Time 1 to perceived stress at Time 2, (c) perceived stress at Time 2 to burnout at Time 2. Our findings indicated that approximately 64 per cent of the variance in future burnout was explained by these variables. After entering the mediators into the model, the previously significant path coefficients from attachment anxiety at Time 1 and perceived stress at Time

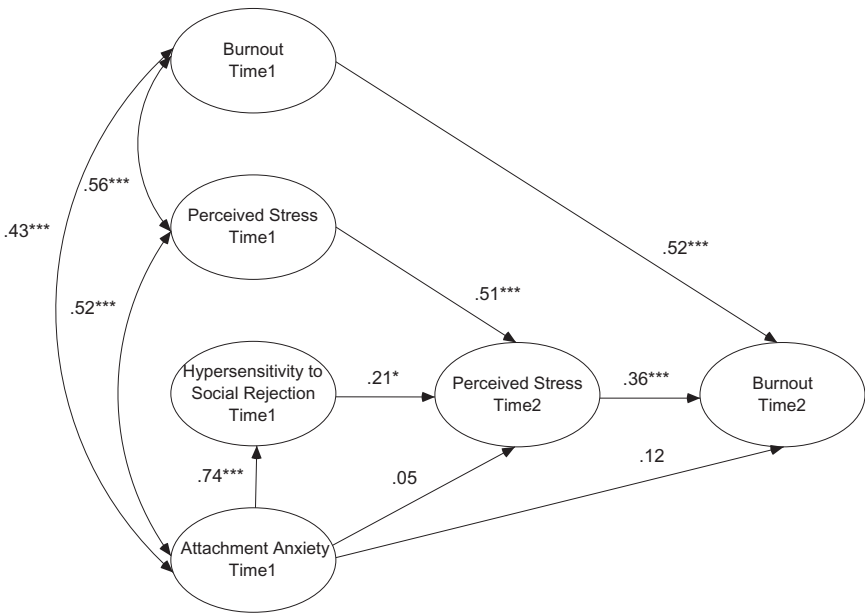


FIGURE 1. The structural model. $N = 231$; * $p < .05$; ** $p < .01$; *** $p < .001$.

2, and from attachment anxiety at Time 1 and burnout at Time 2 became non-significant ($.05, .12, p > .05$, respectively).

The fourth model was labeled an *attachment anxiety–stress–burnout fully mediated model*. The only difference between this model and the partially mediated model is that in the fully mediated model the direct paths from attachment anxiety to perceived stress at Time 2 and from attachment anxiety to burnout at Time 2 were constrained to zero. In both models, we controlled for perceived stress and burnout at Time 1 (the results are presented in Table 4).

The final step in our analyses was to compare the partially and fully mediated models, to assess the plausibility of a model where the effects of attachment anxiety are fully mediated by hypersensitivity to rejection. Estimating the fit of the partially and fully mediated models, we expected that (a) both the partially and fully mediated models would fit the data, and (b) the fit of the fully and partially mediated models would be comparable, which would justify the constraint placed on the direct path between the predictor and the criterion. The results indicate that the partially mediated model and the fully mediated model fit the data very well (see Table 4). A test of the chi-square differences yielded no significant difference between the fully and the partially mediated models, $\Delta X^2(2, N = 231) = 3.73, p > .10$. This result

indicates that the fit of the partially mediated models was comparable to the fit of the fully mediated models, suggesting that fixing to zero the direct cross-lagged effects of attachment anxiety on burnout and of attachment anxiety on stress was plausible, because it did not reduce model fit.

Consistent with recommendations for examining the statistical significance of a mediation test (Holmbeck, 2002), we then conducted Sobel tests (Sobel, 1988) that indexed the significance of hypersensitivity to rejection as a mediator of the relation between attachment anxiety and perceived stress and job burnout. The Sobel test is a conservative (MacKinnon, Warsi, & Dwyer, 1995) and recommended test of the statistical significance of a mediator (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Specifically, this test utilises standard errors and raw coefficients to calculate a ratio that indexes if the indirect effect of the predictor variable on the criterion variable through the mediator is significantly different from zero. The first Sobel test (Sobel, 1988) we conducted suggested that the inclusion of hypersensitivity to rejection significantly decreased the strength of the association between attachment anxiety and perceived stress (attachment anxiety–stress; $z = 2.27$, $p < .05$), such that the associated beta weight decreased from .21 to .05. Thus, it is possible to conclude that hypersensitivity to rejection fully mediates this association. The second Sobel test we conducted suggested that the inclusion of hypersensitivity to rejection at Time 1 and perceived stress at Time 2 significantly decreased the strength of the association between attachment anxiety and burnout (attachment anxiety–burnout; $z = 4.95$, $p < .001$), such that the associated beta weight decreased from .23 to .12. Thus, it is possible to conclude that hypersensitivity to rejection fully mediated this association.

Additional Analyses

After examining our hypotheses, we were also interested in examining whether stress predicts elevation in future hypersensitivity to social rejection. Therefore, we estimated a new structural model that specified a path between the predictor (i.e. perceived stress at Time 1) and the criterion (i.e. hypersensitivity to social rejection at Time 2). In this analysis, we controlled for hypersensitivity to social rejection at Time 1. Although the model fit very well to the data ($X^2(9, N = 231) = 4.56$, $p = .87$; NFI = .996; CFI = 1.00; RMSEA = .001), the path coefficient from perceived stress at Time 1 to hypersensitivity to social rejection at Time 2 was found to be non-significant (.06, $p > .05$). The path coefficient from hypersensitivity to social rejection at Time 1 to hypersensitivity to social rejection at Time 2 was found to be highly significant (.77, $p < .001$). When we removed hypersensitivity to social rejection at Time 1 from the model, the path coefficient from perceived stress at Time 1 and hypersensitivity to social rejection at Time 2 was found to be significant (.41, $p < .01$).

DISCUSSION

Focusing on and worrying about social rejection at the workplace may be an important contributor to stress. Drawing on the theoretical framework provided by Sociometer Theory (Leary & Baumeister, 2000; Leary & Downs, 1995), the findings of our study suggest that individuals' work-related stress responses may be affected by concerns about how others at their work environment feel about them. Our findings highlight the significant role played by hypersensitivity to social rejection at the workplace in predicting future stress and burnout and they extend previous research in several important ways. First, a recent study using an experimental research design has indicated that perception of social threat that is influenced by attention process modifies individuals' stress responses (Dandeneau et al., 2007). While this study was lab based and experimental, our study focused on individuals' tendency to focus on and worry about social rejection in the context of their stressful work environments. In the present study, we assessed hypersensitivity to social rejection using a novel self-report measure. According to Fraley and Shaver (2000), although the mechanism that activates the appraisal-monitoring system is theorised to be beyond an individual's awareness, people may be aware of how much or how frequently they worry about the behavior of other people towards them. We found that individuals' report of hypersensitivity to social rejection at the workplace predicted elevation in perceived stress and in burnout 1 month later.

Second, in support of the sociometer theory, previous studies have demonstrated the capacity of perceived social rejection to produce emotional distress (e.g. Baumeister & Tice, 1990; Williams, 1997; Williams et al., 2000; Leary & Meadows, 1991). To the best of our knowledge, the present study is the first to demonstrate the capacity of perceived social rejection to produce stress responses at the workplace. Third, our findings conceptually replicated Pines' (2004) seminal findings and extended them by indicating that burnout can be predicted longitudinally by attachment insecurity. Unlike Pines' (2004) study that treated burnout as a one-dimensional construct, in the present study we treated it as a three-dimensional construct that includes emotional exhaustion, cynicism, and reduced professional efficacy. In line with our hypothesis, the results of our study confirm that initial levels of attachment anxiety predicted a future elevation in stress and in burnout.² Fourth, this is the first study to explore one of the most important implications of attachment anxiety, that is, hypersensitivity to rejection, in a non-

² In our questionnaire we also assessed attachment avoidance as a matter of course. Preliminary analyses did not support a link between attachment avoidance and burnout. That is, attachment avoidance was not related to burnout at Time 1 or Time 2. Therefore, we chose to focus our analyses and discussion on attachment anxiety.

attachment work context. In support of our hypothesis, the findings of this study indicate a strong link between attachment anxiety and hypersensitivity to rejection from non-attachment figures. This suggests that negative working models of attachment anxiety bias the appraisal of non-attachment figures' behavior. Mikulincer and Shaver's (2007) theoretical analysis of group dynamics points to a similar process in which people project their most accessible working models of self and others onto the group. They argue that this process is more likely to occur during threatening, challenging, or demanding situations.

Fifth, based on accumulated knowledge regarding the important links between attachment anxiety, hypersensitivity to social rejection, stress, and burnout, we examined whether hypersensitivity to social rejection would mediate the relationships between attachment anxiety and perceived stress and burnout. Consistent with our hypotheses, the results suggest that initial levels of attachment anxiety influenced the development of future stress through hypersensitivity to social rejection, and that initial levels of attachment anxiety influenced the development of future burnout through hypersensitivity to social rejection and perceived stress, even after controlling for initial levels of perceived stress and burnout. These results provide strong evidence for the mediating role of rejection sensitivity in the association between attachment anxiety and future stress and burnout.

A number of limitations of our study deserve discussion. One could claim that the items of the attachment scale and the hypersensitivity to rejection scale bear content resemblance that may have enforced a similar pattern of responses on the two scales. The fact that the attachment scale referred to experiences within close relationships and the hypersensitivity to social rejection scale referred to social interactions at work, argues against this simple explanation (as do the results of the CFA showing these constructs to reflect two factors rather than just one). In fact, we think that the association between attachment anxiety and hypersensitivity to rejection from non-attachment figures indicates that mental representations of attachment figures and the self (i.e. attachment working models) are carried over to non-attachment as well as attachment figures (see also Hazan & Shaver, 1990). Another limitation of our study is that it was based entirely on self-reports rather than, for example, health records or third-party reports. While we agree that future research should include such variables to increase validity, self-report measures are appropriate when assessing subjective states such as feelings of stress and burnout (Diener, 1994). Also, the fact that we found predictable differences in emotional states across time sidesteps the simple notion that correlations among self-reports are suspect because people may strive for consistency from one measure to the next. Finally, earlier in this work we suggested that by collecting the data during the annual peak of tourism we might have controlled for changing features of the job such as

work overload that are influenced by seasonality. Despite existing knowledge on the high concentration of tourist flows during a few weeks or months in the year (when we collected our data) and its implications for environmental job attributes (Allock, 1994), in order to control for contextual job attributes, future studies should measure these variables directly.

Our findings are open to a range of explanations that can be tested in future studies. For example, we have argued that by focusing their attention on disruptive aspects of emotional experience, people expose themselves to hopeless cognitive styles that may lead to the development of stress. This stress may be due to the perception of and rumination about criticisms and slights from co-workers, supervisors, and customers. Alternatively, hypersensitivity to rejection may undermine feelings of social support, rendering workers less equipped to cope with stressors of many kinds, including nonsocial stressors. Another research direction is that hypersensitivity to rejection and stress are reciprocally related. It is possible that a kind of self-amplifying cycle exists whereby an exaggerated perception of rejection leads to a stress response, which may then reinforce the individual to be more sensitive to rejection cues in his or her social environment and so on. In the present study this direction was not supported, that is, after controlling for hypersensitivity to rejection at Time 1, perceived stress did not predict future hypersensitivity to rejection (see Additional Analyses in the Results section), suggesting that the relationships between hypersensitivity to rejection and stress were not reciprocal in our sample. We think that it is likely that hypersensitivity to rejection would more readily lead to experiences of stress, across a 1-month time period, than that stress would lead to the development of a broad hypersensitivity to rejection. Sensitivity to rejection is depicted in the literature as stemming mainly from a personal vulnerability or a specific set of stressors such as criticism, disapproval, or particular occurrences that have negative implications for social evaluation. In the present study we used a global measure of perceived stress, rather than one focused on specific social threats. This may help explain why stress did not predict future elevation in hypersensitivity to rejection.

It is also possible that people with hypersensitivity to social rejection experience higher levels of stress because of real rather than misconstrued or overinterpreted rejection experiences. Indeed, previous research has indicated that rejection expectations could operate like a self-fulfilling prophecy and lead people to behave in ways that elicit rejection from others (e.g. Downey, Freitas, Michaelis, & Khouri, 1998). These possibilities for exactly how hypersensitivity to social rejection has a causal impact on long-term stress and burnout await further investigation.

The results of the current study have clear implications for the design of organisational intervention procedures, which should be aimed at the modification of social stressors in order to alleviate stress and burnout among

hotel employees. One of these implications follows directly from Dandeneau et al. (2007) who found that cognitive training can modify attention or vigilance to social threat, leading to reduced stress responses over the workday among employees who experience social evaluative threat and potential rejection as part of their job. Another way to modify social stressors has to do with the provision of social support at the workplace. There is evidence that being accepted and socially supported by other people reduces emotional distress (Leary & MacDonald, 2003). Therefore, policy-makers who are interested in reducing the level of burnout in their organisations should strive to create a positive, accepting, and supportive work environment that may reduce the level of employees' social evaluative threat.

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