

BRIEF REPORT

Spousal Support and Cardiac Patients' Distress: The Moderating Role of Attachment Orientation

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Based on the Person–Environment Fit Model, the current prospective study explored the contribution of the interaction between spouses' ways of providing support and patients' attachment orientations to the patients' levels of psychological distress 6 months after experiencing a first Acute Coronary Syndrome (ACS). One hundred and eleven patients completed a measure of attachment orientations during hospitalization, while their spouses completed a measure of ways of providing support 1 month later. The outcome measures were patients' depressive and anxiety symptoms 6 months after their ACS. Whereas active engagement was associated with lower levels of anxiety symptoms among patients high in attachment anxiety, it was also associated with higher levels of anxiety symptoms among patients low on this orientation. In addition, none of the ways of providing support moderated the association between avoidance and distress. These results shed light on the possible interplay between providers' support and recipients' personalities.

Keywords: dyadic coping, ways of providing support, attachment orientations, myocardial infarction

According to the Person–Environment Fit Model (French, Rodgers, & Cobb, 1974), psychological adjustment is a function of the degree of fit between aspects of the social or physical environment and an individual's traits. This model proposes that reactions to demonstrations of support are determined, at least in part, by the fit between the kind of support received and the recipients' personal characteristics (Martire, Druley, Stephens, & Wojno, 2002).

Coyne and Smith (1994) distinguished among three ways in which healthy partners may provide support for their ill partners: active engagement, which involves constructive problem-solving; protective buffering, which consists of hiding concerns and denying worries; and overprotection, which refers to an underestimation of the patients' capabilities. However, studies show that even the most constructive

way of providing support is not consistently beneficial for every patient (e.g., Buunk, Berkhuysen, Sanderman, Nieuwland, & Ranchor, 1996).

Applying the Person–Environment Fit Model, the current study examined the contribution of the interaction between spouses' ways of providing support (social environment) and cardiac patients' attachment orientations (individual traits) to the level of distress (anxiety and depression) experienced by the patients 6 months after their first Acute Coronary Syndrome (ACS).

Social cognition approaches hold that the ability to benefit from support demonstrates a sense of being accepted by others. This sense is rooted, in part, in the history of parent–child attachment (Reinhardt, Boerner, & Horowitz, 2006). According to Bowlby (1969), perceptions and memories of the type or quality of care that individuals received from early attachment figures shape the way they respond to care offered by their attachment figures in adulthood. Brennan, Clark, and Shaver (1998) have suggested that attachment reflects two basic orientations: avoidance and anxiety. People low on these dimensions are characterized by a sense that one can rely on others and therefore one can securely explore the environment and engage effectively with other people (Mikulincer & Shaver, 2007); these individuals rely on support-seeking and other constructive means to cope with stress. When people who are high in attachment anxiety have to deal with stress, they present with an excessive need for reassurance and become emotionally over-dependent. Individuals who are high in avoidance are less

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likely to seek any sort of support at all from their partners when they are confronted with strong anxiety; because these individuals have learned to cope by being self-sufficient, they place a premium on independence and self-reliance (Mikulincer & Shaver, 2007).

Applying Bowlby's attachment theory, we hypothesized that patients high in attachment anxiety might benefit from active engagement in terms of fewer depressive and anxiety symptoms at follow-up. An alternative hypothesis was that patients high in attachment anxiety would profit even from overprotection, because of their excessive need for reassurance and their emotional dependency. We also predicted that none of the ways of providing support would moderate the association between avoidance and depression and anxiety.

Method

Participants and Procedure

The target population was defined as married Jewish men with the diagnosis of their first ACS, whose wives also agreed to participate in the study. Israel comprises a majority (75.4%) of Jewish citizens; the remainder consists of Muslims and other minorities (Israel Central Bureau of Statistics, 2009). In the current study we focused on the majority to be better able to generalize from the findings. The rationale behind solely targeting men was because of the fact that the average female cardiac patient is older and therefore more likely to be widowed and not have the social support provided by marriage (Lemos, Suls, Jenson, Lounsbury, & Gordon, 2003). These patients were admitted between March 2005 and July 2007 to the Cardiac Care Unit (CCU) of Meir Medical Center, located in the central region of Israel. During this period, 2,060 patients were hospitalized in the CCU. The individuals excluded from the study included patients with a history of a previous cardiac event, patients over 75 years of age, patients with a diagnosis other than ACS, and patients who had co-morbid conditions. The study was approved by the Meir Medical Center Review Board.

Of the 306 patients (15%) who were potentially eligible for the study, 80 (26%) were discharged or transferred to other departments; 110 (36%) did not participate as a result of either their or their spouses' refusal to take part in the study; and 5 (2%) were excluded because of their spouses' life-threatening illnesses. Overall, 111 (36%) patients and spouses completed the study questionnaires at baseline, during hospitalization, and 101 completed the questionnaires at follow-up, 6 months after hospitalization. Spouses were also interviewed 1 month post patient hospitalization. Reasons for the 9% attrition rate included loss of contact with the patients and refusal to continue to participate because of lack of time or interest. No significant differences were found between the ten patients who dropped out of the study and the rest of the sample with regard to age, illness severity, and socioeconomic status.

Patients ranged in age from 39 to 74 years ($M = 55.84$, $SD = 7.54$). Half (50.9%) had more than 12 years of formal

education ($M = 13.85$ years, $SD = 3.30$) and the majority of patients (63%) described themselves as having a good to very good economic status. The wives ranged in age from 39 to 74 years ($M = 54.89$, $SD = 7.57$). More than half (59.8%) had more than 12 years of formal education ($M = 14.36$ years, $SD = 3.08$) and the same percentage of spouses as patients described themselves as having a good to very good economic status (62.5%). Most of the wives (80%) declared being in good to very good health. The couples had been married or living together for an average of 27.6 years ($SD = 11.28$) and had on average 2.92 children ($SD = 1.10$). The majority of patients (85.6%) had experienced an acute myocardial infarction (MI) without severe damage to the heart and without significant obstruction of the arteries. Six months after their first ACS, they had experienced very few repeat acute coronary events (2.7%) or coronary angioplasty (12.6%), and only one patient had died.

Measures

Attachment orientation. Patients' attachment orientations were measured at baseline using the *Experiences in Close Relationships Scale* (ECR; Brennan et al., 1998). The ECR is a self-report scale measuring the dimensions of attachment anxiety (ANX) and avoidance (AVO). Participants rated the extent to which each item of the questionnaire was descriptive of their feelings in close relationships on a 7-point scale, ranging from *not at all* (1) to *very much* (7). The current study used a shortened version of this scale, consisting of 24 items, because of time limitations. The items chosen were those with the highest loadings, as reported by Brennan et al.

Twelve items measured attachment-related anxiety and 12 measured attachment-related avoidance. The ECR has been used extensively with Israeli populations (Mikulincer & Florian, 2000). Scores were computed for each of the subscales by averaging the responses on the relevant items. In the current study, Cronbach's α were = .76 and .78 for anxiety and avoidance, respectively.

Spouses' ways of providing support. Spouses' ways of providing support were measured 1 month after hospitalization using the *Ways of Giving Support Questionnaire* (WOGS; Buunk et al., 1996). The questionnaire contained 19 items that were measured on a 5-point scale, ranging from (1) *never* to (5) *very often*. Five items measured active engagement (e.g., "I ask my partner how he feels"). Eight items measured protective buffering (e.g., "I try to hide my worries about my partner"). The subscale for overprotection consisted of six items (e.g., "I think my partner doesn't know what's right for him"). Cronbach's α were .61, .74, and .70 for active engagement, protective buffering, and overprotection, respectively. The internal consistency of the active engagement scale was found to be low; however, one should note the small number of items in this scale, which reduces the reliability. In addition, the mean of inter-item correlations for this scale ($r = .30$) fell within the acceptable range as suggested by Nunnally (1978).

Depression and anxiety. Patients' depressive and anxiety symptoms were measured using the Brief Symptom Inven-

tory (BSI; Derogatis & Melisaratos, 1983). Each participant was asked to rate the degree to which he had suffered from each symptom during the previous month on a scale ranging from 0 (*not at all*) to 4 (*very much*). We used the Hebrew translation of the subscales of depressive and anxiety symptoms (Gilbar & Ben-Zur, 2002). In the current study, the Cronbach's α at baseline were .73 and .74 for depressive symptoms and anxiety symptoms, respectively, and at the 6-month follow-up were .88 and .83 for depressive symptoms and anxiety symptoms, respectively. In comparison with the Israeli community norms of the BSI for men (Gilbar & Ben-Zur, 2002), the current sample reported higher levels of both depressive symptoms and anxiety symptoms, and these high levels were stable over 6 months (see Table 1). In accordance with Piersma, Reaume, and Boes (1994) definition for the BSI clinical cutoff (+2 *SD* the normative mean), 6.3% of the patients were above the normal range for depression and 7.2% were above the normal range for anxiety.

At the time of the initial examination, the severity of the patient's illness was estimated by a senior cardiologist using two sets of criteria: an echocardiography score, which assesses cardiac damage, and an angiography score (status of obstructed arteries), which assesses the risk of future damage. No associations were found between the two measures of illness severity with regard to the study variables.

Data Analysis

To examine the interactive effects of attachment anxiety, avoidance, and the ways of providing support in predicting depressive and anxiety symptoms at the 6-month follow-up, two 4-step hierarchical regression analyses were conducted. Step 1 of each regression consisted of the baseline data of the dependent variable (either depressive or anxiety symptoms) predicted in the regression to control for it. Step 2 consisted of the centered scores of the two attachment orientations. Step 3 consisted of the centered scores of the three ways of providing support. The 2-way interactions were entered in Step 4, which consisted of the product of the centered scores among each of the three ways of providing support and the two attachment orientations (see Table 2).

Results

Means and *SDs* of the study's main measures are presented in Table 1. Table 2 presents the results of the regres-

Table 1
Means and SDs of the Study's Main Measures

Study measures	<i>M (SD)</i>
Attachment-related anxiety	2.52 (.95)
Attachment-related avoidance	2.85 (.91)
Wives' active engagement	4.18 (.56)
Wives' protective buffering	2.28 (.80)
Wives' overprotection	1.87 (.73)
Depression at baseline	1.27 (.36)
Anxiety at baseline	1.51 (.50)
Depression at follow-up	1.30 (.36)
Anxiety at follow-up	1.512 (.57)

sion analysis for anxiety symptoms at the 6 month follow-up. As can be seen in Table 2, a main effect for attachment anxiety was found, indicating that attachment anxiety was associated with an increase in anxiety symptoms. In addition, the interaction between attachment anxiety and active engagement significantly contributed to the variance of anxiety symptoms at the 6 month follow-up. Using Aiken and West's (1991) procedure for examining simple slopes, we found that wives' active engagement was associated with lower levels of anxiety symptoms among patients high in attachment anxiety (1 *SD* above the mean), $\beta = -.39$, $p < .001$. However, wives' active engagement was also associated with higher levels of anxiety symptoms among patients low in attachment anxiety (1 *SD* below the mean), $\beta = .38$, $p < .01$. The set of interaction terms was not significantly associated with depressive symptoms, $\Delta R^2 = .04$, $F(12, 74) = 15.62$, $p > .05$. As predicted, no significant interaction was found between avoidance and any of the ways of providing support in predicting depressive or anxiety symptoms.

Discussion

Consistent with the Person-Environment Fit Model, we found that whereas increasing scores on active engagement were associated with a decrease in anxiety symptoms for patients high in attachment anxiety, they were also associated with an increase in anxiety symptoms for patients low in attachment anxiety. As could be expected regarding patients high in anxiety, support from the spouse was probably beneficial because it fulfilled their dependency needs. However, the latter finding presents an apparent enigma, given that patients low in attachment anxiety are thought to enjoy and make use of social support to a greater extent than patients high on this orientation (Mikulincer & Shaver, 2007).

A possible explanation for this unexpected finding may be derived from Brown's (1978) assertion that the people with the best social and personal resources (such as the less anxious participants in the present study) are the least likely to report seeking support when they are under stress. Similarly, Wethington and Kessler (1986) argue that this perception of the availability of support may provide the kind of psychological safety net that helps motivate self-reliant coping mechanisms. Thus, it would be important in future research to measure patients' reports of perceived availability of support as well as spouses' reports of providing support to tease apart the importance of perceived versus provided support for people low in attachment anxiety.

The current study did not support our hypothesis that overprotection would benefit patients high in attachment anxiety. Our findings in this regard add to the vast body of evidence that regards overprotection as a nonhelpful manner of providing support (e.g., Cimarolli, 2006), even for dependent individuals. As expected, none of the ways of providing support moderated the association between avoidance and distress.

This study has a number of limitations. First, the 36% participation rate may have resulted in a nonrepresentative

Table 2
Husbands' Attachment Orientations as Moderators of the Association Between Wives' Ways of Providing Support and Husbands' Anxiety Symptoms 6 Months Post-ACS

Variables	Anxiety at follow-up			
	ΔR^2	<i>B</i>	<i>SE B</i>	β
Step 1: Anxiety at baseline	.24***	.69	.14	.49***
<i>F</i> for step		$F(1, 85) = 26.11^{***}$		
Step 2: Attachment-related avoidance (AVO)	.07*	.04	.08	.05
Attachment-related anxiety (ANX)		.20	.07	.27**
<i>F</i> for step		$F(3, 83) = 12.06^*$		
Step 3: Active engagement (AE)	.05	-.08	.11	-.07
Protective buffering (PB)		.12	.08	.15
Overprotection (OP)		.11	.09	.12
<i>F</i> for step		$F(6, 80) = 7.30$		
Step 4: AVO \times AE	.13**	-.02	.11	-.02
AVO \times PB		.07	.08	.08
AVO \times OP		.10	.10	.10
ANX \times AE		-.43	.11	-.33***
ANX \times PB		.13	.10	.13
ANX \times OP		-.09	.11	-.09
<i>F</i> for step		$F(12, 74) = 5.88^{**}$		

* $p < .05$. ** $p < .01$. *** $p < .001$.

sample of couples and may therefore limit the possibility of generalizing from these findings. Second, as we lacked any objective way of confirming accuracy, we have relied on the spouses' subjective accounts of the support provided. Third, all patients in this study were male and their partners female; thus, it is difficult to determine which findings may be attributable to gender differences and which to patient versus partner role differences. Fourth, the internal consistency of the active engagement way of providing support was relatively low, thus limiting the validity and reliability of this scale. Fifth, the majority of patients were found to be within the normal range for both depression and anxiety, therefore limiting the clinical value of the current results. Finally, given that the studied patients were Israeli Jews, any generalization to other cultures must be made cautiously.

Despite these limitations, the results of this study have some important clinical implications. Clinicians working with patients who have experienced a recent MI may wish to assess both patients' attachment orientations as well as their partners' ways of providing support. Equipped with this information, they may be better prepared to help patients accept the support provided by their spouses. In addition, they may be better able to facilitate the spouses' awareness of patients' difficulties in accepting their support, therefore contributing to a better patient-spouse fit in which to cope with major stressors, such as a sudden ACS.

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