Attachment Styles and Patterns of Self-Disclosure

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Attachment theory (Bowlby, 1969, 1973, 1980) explains individual differences in the way infants regulate inner distress and relate to others. Recently, Hazan and Shaver (1987) extended attachment theory from research on parent-child interaction to the study of adult interpersonal relationships. In the current study, we continue Hazan and Shaver's line of research and examine the role that attachment styles play in the way adults disclose themselves to others. In adults, self-disclosure is critical in determining the outcome of interpersonal relationships (i.e., Berg & Derlega, 1987) and may be associated with a person's attachment style.

Attachment Theory and Research

Bowlby's theory (1973) claims that the responsiveness of parents to their infants' attachment signals and their availability in stressful situations provide infants with a "secure base" on which to organize expectations about the world and to handle distress. Infants of responsive parents react to separation with less fear, hostility, and avoidance than those of nonresponsive parents (Ainsworth, Blehar, Waters, & Wall, 1978) and show more exploratory behavior (Ainsworth, Bell, & Stayton, 1971), better problem solving in toddler age (Matas, Arend, & Sroufe, 1978), and more ego resiliency in preschool age (Arend, Gove, & Sroufe, 1979).

Ainsworth et al. (1978) hypothesized that experiences in the infant-caregiver relationship are reflected in the infant's attachment style. In observing infants' behaviors in the "strange situation" paradigm, Ainsworth et al. (1978) found three styles of attachment: secure, ambivalent, and avoidant. Infants exhibiting the secure style are more confident in the availability of their mother and more likely to use her as a secure base than insecurely attached infants (either avoidant or ambivalent). When reunited with their mothers after a short separation, secure infants seek contact or interaction with her, ambivalent infants react with heightened ambivalent expressions of attachment and anger, and avoidant infants react with detachment.

Ainsworth et al. (1978) suggested that attachment styles are linked to infants' expectations about whether the caregiver is emotionally available and responsive and whether the self is worthy of love and care. Bowlby (1973) argued that these expectations, labeled "working models," are generalized to new relationships, where they organize cognitions, affects, and behaviors and guide reactions to distress. Bowlby also suggested that working models are the main sources of continuity between infants' attachment experiences and later feelings and behaviors.

In a germinial study, Hazan and Shaver (1987) extended Bowlby's attachment theory to examine how adult love is related to attachment working models. They found that the relative frequencies of the three attachment styles in adulthood are similar to those found in infancy and that people's adult styles of love are related to their attachment working models. Caring, intimacy, supportiveness, and understanding were characteristic of secure people's love experiences. Fear of intimacy characterized avoidant people's love. And obsession, emotional instability, strong physical attraction, and the desire for union characterized ambivalent people's love. Hazan and Shaver's findings were generally replicated in studies that focused on the quality of adult romantic relationships (Collins & Read, 1990; Feeney & Noller, 1990; Levy & Davis, 1988).

Attachment working models have also been found to be related to interpersonal processes in adulthood. Avoidant and ambivalent people were found to be more anxious and more hostile than secure people (Kobak & Scerrey, 1988) and to have more negative and mistrusting views of the social world and human nature in general (Collins & Read, 1990). Ambivalent people were also found to have a more negative view of themselves than secure people (Collins & Read, 1990).

Kobak and Scerrey (1988) also found that attachment working models are related to the strategies people use for dealing with...
distress. Secure people deal with distress by acknowledging it and turning to others for instrumental and emotional support. Ambivalent people deal with negative memories and affects by directing attention toward distress in a hypervigilant way and by forming dependent and clinging relationships that exacerbate their anxiety. Avoidant people modulate distress by dismissing the importance of relationships, maintaining distance from others, and inhibiting emotional display (Kobak & Scerey, 1988; Main, Kaplan, & Cassidy, 1985; Mikulincer, Florian, & Tolmacz, 1990).

In our study, we focused on the interpersonal manifestations of attachment styles. Specifically, we examined the association between attachment and self-disclosure. Both variables have been found to play a central role in the formation of close relationships (Berg & Derlega, 1987; Chelune, 1979; Hazan & Shaver, 1987) and to reflect individual differences in interaction goals (Berg, 1987; Shaver & Hazan, 1988).

Self-Disclosure

Self-disclosure refers to the process by which persons let themselves be known to others. Derlega and Grzelak (1979) define self-disclosure as including “any information exchange that refers to the self, including personal states, dispositions, events in the past, and plans for the future” (p. 152). Research on self-disclosure has found that the ability to reveal one's feelings and thoughts to another is a basic skill for developing close relationships (Altman & Taylor, 1973; Berscheid & Walster, 1978). Self-disclosure has been found to facilitate the development of caring and mutual understanding (i.e., Berg & Derlega, 1987; Chelune, 1979). Lack of self-disclosure has often been related to dissatisfaction with one's social network and feelings of loneliness (i.e., Stokes, 1987).

In considering individual differences in self-disclosure, research generally assesses the ability or willingness for self-disclosure (the extent to which people are likely to self-disclose). However, self-disclosure is a multidimensional concept (Berg & Derlega, 1987). The ability or willingness for self-disclosure, for example, can be either a trait (i.e., Archer, 1979) or a particular behavior in interpersonal situations (i.e., Solano, Batten, & Parish, 1982). Individual variations in self-disclosure can be variously manifested in the amount, intimacy level, and content of disclosed information and in the target of the self-disclosure (Cozby, 1972, 1973).

Another basic dimension of self-disclosure is its flexibility (Chelune, 1977, 1979), which reflects the ability to adequately attend to situational cues and adapt one's disclosing behavior accordingly. Disclosure flexibility has been related to social adjustment and mental health (Chaikin & Derlega, 1974; Chelune, 1979; Goodstein & Reinecker, 1974). In Chelune's (1977) terms, "The individual who is able to modulate his or her disclosures across a wider range of social situations in response to situational and interpersonal demands will function interpersonally more adequately than the less flexible individual who has not learned the discriminant cues that signal whether disclosure is appropriate or inappropriate" (pp. 1139–1140).

Individual differences have been found also in people's responses to another's self-disclosure. The most frequently cited response is disclosure reciprocity, i.e., the tendency of recipients of disclosure to respond by disclosing about themselves at a comparable level of intimacy (e.g., Berg, 1987; Derlega, Harris, & Chaikin, 1973; Rubin, 1975). Reciprocity has been attributed to heightened trust of the discloser (Worthy, Gary, & Kahn, 1969) and modeling (Rubin, 1975). Recently, Berg (1987) claimed that disclosure reciprocity depends on the extent to which people are responsive to other's disclosing behavior. In Berg's (1987) terms, only persons who show high responsiveness can match the intimacy of the information they receive from others.

Another response to the disclosure of others is liking for the discloser (Archer, Berg, & Runge, 1980; Worthy et al., 1969). However, evidence is far from consistent. Whereas some studies found that people are more attracted to high intimate disclosure than to low intimate disclosers (Archer et al., 1980), other studies have failed to find the liking effect (Derlega et al., 1973; Ehrlich & Graeven, 1971). Berg (1987) claims that persons are attracted to a high intimate discloser only if they tend to value the goals of "becoming intimate with people and finding out more about and being liked by the people with whom he or she is interacting" (Berg, 1987, p. 109). People who prefer to maintain distance from others might not show the liking effect.

Attachment Styles and Self-Disclosure

Our hypothesis was that attachment styles are related to self-disclosure. This hypothesis was based on a path going from attachment experiences to self-disclosure through inner working models and interaction goals. We suggested that attachment experiences create inner working models consisting of (a) expectations as to how available and responsive are attachment figures in stressful situations and (b) rules that guide individuals' responses to distress (Bowlby, 1977; Kobak & Scerey, 1988; Mikulincer et al., 1990). These working models foster particular attitudes toward the people with whom one interacts (Shaver & Hazan, 1988) and shape one's goals in social interaction; these goals and attitudes in turn may influence patterns of self-disclosure (Berg, 1987; Miller & Read, 1987). That is, differences in self-disclosure of the various attachment groups may result from differences in the goals they want to attain in social interactions.

With regard to secure persons, we predicted that they would be the most likely to use self-disclosure when appropriate and that they would be the most sensitive to other's self-disclosure. Secure persons expect others to be responsive in stressful situations (Hazan & Shaver, 1987; Main et al., 1985) and feel loved, cared for, and supported by intimate partners (Shaver & Hazan, 1988). These positive expectations and warm feelings might lead to the conviction that intimate relations are rewarding and thereby help foster the desire to become intimate with people. This interaction goal would promote self-disclosure, for self-disclosure has been found to be a strategy used in forming intimate relations (Berg, 1987; Miller & Read, 1987). The intimacy goal would also lead to high disclosure flexibility, in which self-disclosure is directed toward the appropriate target under the most suitable conditions and would thereby be most effective. The same goal of intimacy would lead secure people to be highly attentive to a partner's disclosure as a means of...
fulfilling the partner's needs and creating an atmosphere of closeness and bondedness (Berg, 1987).

With regard to avoidant persons, we predicted that they would avoid self-disclosure. Avoidant persons have been found to suffer from lack of security in attachment figures (Bowlby, 1982; Shaver & Hazan, 1988) and to deal with attachment distress by maintaining distance from others. According to Shaver and Hazan (1988), "The avoidant infant or child has learned that interaction with significant others is painful; therefore, intimate interaction, whether in the form of care seeking or care giving, tends to be avoided" (p. 487). The goal of avoidant persons of maintaining distance from others would thus lead to a lack of self-disclosure behavior, a lack of responsiveness to a partner's disclosure, and a lack of attraction to a high discloser.

With regard to ambivalent people, the current state of attachment theory and research render it difficult to make specific ad hoc predictions. On the one hand, the strong demand of ambivalent persons for compulsive attachment and their desire for merging with others (Bowlby, 1982; Shaver & Hazan, 1988) would lead them to disclose themselves to others. In addition, their insecurity in others' responses would lead them to be particularly attuned to others' reactions to them and hence to display strong reciprocity in self-disclosure. On the other hand, their low self-esteem (Collins & Read, 1990) might lead ambivalent persons to avoid intimate self-disclosure. On this basis, we cannot make strong predictions concerning the pattern of self-disclosure of ambivalent persons.

To examine the above hypotheses, we conducted three studies in which we classified subjects in secure, ambivalent, and avoidant attachment groups. Then, we assessed differences in measures of self-disclosure willingness and flexibility (Study 1) and in disclosure reciprocity and liking of hypothetical or real partners (Studies 2 and 3).

Study 1

In Study 1, we examined the association of attachment style and the self-perceived level of disclosure to others. As researchers have suggested that the target of disclosure may affect the expectations for appropriate self-disclosure level (Balswick & Balkwell, 1977; Rubin & Schenker, 1978), subjects were asked to rate the extent to which they disclose themselves to different types of persons: specifically, mothers, fathers, same-sex friends, opposite-sex friends, and lovers.

Method

Subjects. One hundred twenty-seven undergraduate students (78 women and 49 men ranging in age from 21 to 34 years) from Bar-Ilan University, Ramat Gan, Israel, volunteered to participate in the study without monetary reward. All subjects were involved in a heterosexual romantic relationship.

Materials and procedure. We invited subjects to participate in a study on social relations. They answered questions on scales tapping levels of attachment and self-disclosure in random order.

We assessed attachment styles using two instruments that were based on Hazan and Shaver's (1987) descriptions of how people typically feel in close relationships. Those instruments were previously used by Mikulincer et al. (1990). First, we gave subjects the three Hazan and Shaver descriptions of feelings and cognitions regarding attachment styles and asked them to endorse the description that best described their own feelings. Second, we presented subjects with 15 statements (5 items per attachment style) that were constructed by separating the items of Hazan and Shaver's descriptions (for more details, see Mikulincer et al., 1990).

A factor analysis with varimax rotation of the 15 attachment items yielded three factors (eigenvalue > 1) that explained 48% of the variance. The 5 avoidant items loaded high (loading > .40) on the first factor (22% of explained variance), the 5 avoidant items loaded high on the second factor (17%), and the 5 secure items loaded high on the third factor (9%). Cronbach alphas for the factors were acceptable (from .74 to .79). On this basis, we averaged items corresponding to each factor. Pearson product-moment correlations indicated that secure and avoidant styles were inversely correlated (r = -.44). We compared the values of these scores and assigned each subject to the attachment style that had the maximal value of the three alternatives.

Only nine mismatches resulted from comparing the results of the two techniques. No clear pattern was detected in the failures to coincide. To avoid classification ambiguities, we decided to drop these cases from statistical analyses. The frequencies of attachment styles in the current sample were similar to those found by Hazan and Shaver (1987) in an American sample. Sixty-three percent of the subjects (n = 74) classified themselves as secure in relation to attachment, 22% as avoidant (n = 26), and 15% as ambivalent (n = 18).

To examine whether the classification of attachment styles indeed reflects differences in the perception of attachment figures, subjects completed a 12-item questionnaire based on Hazan and Shaver's (1987) scale on attachment history and previously used by Mikulincer et al. (1990). A principal-components factor analysis with varimax rotation for the current sample yielded three main factors (eigenvalue > 1), explaining 65% of the variance. The first factor explained 40% of the variance and included 4 items (loading > .40) about father's perceived features: caring, loving, affectionate, and responsive. Factor 2 added 17% to the explained variance and included 5 items regarding mother's perceived features: responsive, confident, respected, accepting, and likable. The third factor explained 8% of the variance and included 3 items about the characteristics of the parental relationship: affectionate, happy, and caring. Cronbach alphas for each factor were acceptable (from .69 to .78). We computed three scores by averaging items on each factor. Higher scores reflect more positive perception of attachment figures.

Although the order and magnitude of the factors in the two attachment instruments changed from the Mikulincer et al. (1990) sample, the content of the factors was fully replicated. These differences may be due to the larger number of subjects used in the current study and to the administration of different scales (i.e., fear of death and self-disclosure) together with the attachment scales.

Self-disclosure was measured using the Self-Disclosure Index (SDI; Miller, Berg, & Archer, 1983) and the Self-Disclosure Situations Survey (SDSS; Chelune, 1976). The SDI asks subjects to rate the degree to which they had in the past disclosed on 10 fairly intimate topics (e.g., "what is most important to me in life") to a particular target person. Responses were given using a 5-point scale from disclosed not at all (1) to disclosed fully and completely (5). In our study, subjects completed five versions of the SDI, each for a different target person: mother, father, same-sex friend, opposite-sex friend, and lover. The order of the versions was randomized across subjects. Cronbach alphas for the 10 items in each SDI version were high and indicated appropriate internal consistency (from .87 to .93). A total score for each SDI version was thus computed by averaging the 10 items.

The Chelune's (1976) SDSS consists of 20 social situations sampling the willingness to disclose in social interactions. The 20 situations were equally divided into four groups of five items according to one of four target persons and one of five levels of settings scaled for intimacy. We
Instructed subjects to imagine themselves in each situation (e.g., "you are sitting next to a stranger on an airplane") and to rate, on a 6-point scale from disclose no information (1) to disclose very much information (6), how much personal information they would disclose. In our sample, the Cronbach alpha coefficient for the 20 SDSS items was high (93). On this basis, we computed a total score by averaging the 20 items.

Pearson correlations yielded significant associations between the five SDI scores and the SDSS score (ranging from .24 to .41). Significant positive correlations were also found for disclosure toward mother and father (.49) and for disclosure toward same-sex friend, opposite-sex friend, and lover (r from .22 to .39). That is, people distinguished between intrafamilial and extrafamilial disclosure.

On the basis of Chelune's (1979) criteria, we computed an index of disclosure flexibility for the 20 SDSS items. Because the SDSS presents the subject with 20 different social situations, we can obtain a gross measure of the variability (flexibility) that a subject demonstrated in responding to the situations by computing the intrasubject standard deviation for each subject's responses. On this basis, we computed the standard deviation of a subject's responses to the 20 SDSS situations. Higher scores reflect the use of a wider range of scale values in responding to the various situations. Chelune (1976) found that flexibility was related to alertness to situational cues.

Results and Discussion

To assess the effects of attachment style on the dependent variables, a one-way multivariate analysis of variance (MANOVA) was performed. The MANOVA yielded that the effect of attachment was significant (Wilks's $\lambda$F approximation (20, 210) = 3.31, $p < .01$). Means and standard deviations relevant for this analysis are in Table 1.

Perception of attachment figures. Univariate analyses of variance (ANOVA) yielded that the effect of attachment style was significant only for mother perception, $F(2, 115) = 4.20, p < .05$. A Duncan test ($\alpha = .05$) yielded that secure persons perceived their mothers in more positive terms than avoidant and ambivalent persons (see Table 1).

Table 1

<table>
<thead>
<tr>
<th>Measure</th>
<th>Secure</th>
<th>Avoidant</th>
<th>Ambivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>Perception of attachment figures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>5.90</td>
<td>0.97</td>
<td>5.48</td>
</tr>
<tr>
<td>Father</td>
<td>5.36</td>
<td>1.30</td>
<td>5.06</td>
</tr>
<tr>
<td>Parental relation</td>
<td>5.41</td>
<td>1.38</td>
<td>5.10</td>
</tr>
<tr>
<td>Level of self-disclosure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDSS total score</td>
<td>3.01</td>
<td>0.60</td>
<td>2.56</td>
</tr>
<tr>
<td>SDI mother</td>
<td>3.77</td>
<td>1.09</td>
<td>3.47</td>
</tr>
<tr>
<td>SDI father</td>
<td>3.11</td>
<td>1.12</td>
<td>2.46</td>
</tr>
<tr>
<td>SDI same-sex friend</td>
<td>4.63</td>
<td>0.95</td>
<td>4.18</td>
</tr>
<tr>
<td>SDI opposite-sex friend</td>
<td>4.14</td>
<td>1.05</td>
<td>4.45</td>
</tr>
<tr>
<td>SDI lover</td>
<td>4.94</td>
<td>0.88</td>
<td>4.36</td>
</tr>
<tr>
<td>Disclosure flexibility</td>
<td>1.36</td>
<td>0.41</td>
<td>1.01a</td>
</tr>
</tbody>
</table>

Note. Higher scores represent more positive perceptions of mother, father, and parental relations, more self-disclosure, and higher flexibility. Subscript a = significantly different from secure persons. Subscript b = significantly different from ambivalent persons. SDSS = Self-Disclosure Situations Survey; SDI = Self-Disclosure Index.
than to the other targets, $F(1, 460) = 119.16, p < .01$. Ambivalent people showed more disclosure to same-sex friends than to opposite-sex friends and lovers, and more to the above targets than to parents, $F(1, 460) = 35.30, p < .01$. Avoidant persons disclosed more information to opposite-sex friends than to lovers and same-sex friends, and more to the above targets than to parents, $F(1, 460) = 74.37, p < .01$.

The association of attachment and self-disclosure depended on the target of disclosure. As compared with avoidant persons, secure persons reported more disclosure to fathers, mothers, same-sex friends, and lovers. As compared with ambivalent people, secure persons reported more disclosure only to fathers and lovers. Ambivalent people reported more disclosure than avoidant persons only to mothers and same-sex friends. Attachment was not related to disclosure to opposite-sex friends.

**Disclosure flexibility.** The ANOVA performed on flexibility across the 20 SSQ situations yielded a significant effect for attachment style, $F(2, 115) = 8.17, p < .01$. A Duncan test yielded that secure persons showed higher disclosure flexibility across situations than either avoidant or ambivalent persons (See Table 1). This finding implies that attachment style was related to disclosure flexibility.

**Study 2**

In Study 2, we examined the association of attachment styles and a person's responses (disclosure reciprocity and liking) to the disclosure of others. Subjects completed the attachment questionnaire and answered questions tapping their expectations of how they would interact with either a low or a high self-disclosing partner. We asked subjects to rate how much personal information they would reveal to the partner as well as their affective reactions to him or her.

**Method.**

Subjects. One hundred sixty-five undergraduate students (97 women and 68 men ranging in age from 21 to 34 years) from Bar-Ilan University volunteered to participate in the study.

Materials and procedure. The study consisted of two sessions. In the first session, attachment was assessed by the two techniques described in Study 1. Cronbach alpha for the SDI items was high (.91), allowing the computation of an SDI score by averaging the 10 items.

Another questionnaire was designed to assess the emotions subjects expected to feel during the current interaction. Subjects were asked to imagine the interaction with the described partner and to rate, on a 6-point scale from not at all to very much, the extent to which they expected to feel each of six positive (i.e., happiness and joy) and six negative emotions (i.e., anxiety and tension). Emotions were presented in random order. A factor analysis with varimax rotation yielded two main factors (eigenvalue > 1) that explained 56% of the variance. Factor 1 (29% of explained variance) included the six negative emotions (loading > .40), and the second factor (27%) included the six positive emotions. On this basis, we computed two total scores by averaging items that loaded high in a factor.

A third questionnaire was designed to assess subjects' liking of the described partner. Subjects rated the extent to which they thought they would (a) like the partner, (b) like the conversation with him or her, (c) like to continue the interaction in other settings, and (d) want to know more about him or her. Questions were answered on 6-point scales from not at all to very much. Pearson correlations among the four questions were significant (from .57 to .79; $M = .63$). On this basis, we computed a total score by averaging the four items.

The order of presentation of the questionnaires was randomized across subjects. On completing the questionnaires, we debriefed subjects and informed them that no interaction would take place.

**Results and Discussion**

Data were analyzed using a two-way MANOVA and univariate ANOVAs for attachment style and partner's disclosure. Means and standard deviations relevant to these analyses are presented in Table 2.

The two-way MANOVA for unbalanced design yielded a significant main effect for partner disclosure, Wilks's $\eta^2$ approximation $(4, 134) = 7.31, p < .01$. The MANOVA also indicated that the two-way interaction reached significance, Wilks's $\eta^2$ approximation $(8, 268) = 2.56, p < .05$.

**Self-disclosure.** The ANOVA revealed a significant main effect for partner's disclosure, $F(1, 141) = 20.91, p < .01$, such that subjects were more prone to disclose themselves to a high-discloser partner ($M = 2.67$) than to a low-discloser partner ($M = 1.86$). The interaction was also significant, $F(2, 141) = 4.13, p < .05$. Post hoc contrasts using the error term of the overall analysis revealed that a high-discloser partner produced more self-disclosure than did a low-discloser partner among ambivalent and secure persons, $F(1, 141) = 14.02, p < .01; F(1, 141) = 19.13,$
Table 2
Means and Standard Deviations of Dependent Measures in Each Attachment Group and Partner's Disclosure Condition (Study 2)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Secure</th>
<th>Ambivalent</th>
<th>Avoidant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Self-disclosure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>1.90</td>
<td>2.76</td>
<td>1.61</td>
</tr>
<tr>
<td>SD</td>
<td>0.81</td>
<td>1.04</td>
<td>0.54</td>
</tr>
<tr>
<td>Negative emotions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.26</td>
<td>2.05</td>
<td>2.73</td>
</tr>
<tr>
<td>SD</td>
<td>0.86</td>
<td>0.71</td>
<td>1.05</td>
</tr>
<tr>
<td>Positive emotions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>2.62</td>
<td>3.07</td>
<td>2.63</td>
</tr>
<tr>
<td>SD</td>
<td>0.81</td>
<td>1.08</td>
<td>0.74</td>
</tr>
<tr>
<td>Liking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.24</td>
<td>3.93</td>
<td>2.67</td>
</tr>
<tr>
<td>SD</td>
<td>0.80</td>
<td>0.86</td>
<td>1.01</td>
</tr>
<tr>
<td>n</td>
<td>45</td>
<td>45</td>
<td>10</td>
</tr>
</tbody>
</table>

Note. Low = low discloser. High = high discloser.

*p < .01, but not among avoidant subjects. Secure and ambivalent persons expected more disclosure to a high-discloser partner than avoidant persons, F(1, 141) = 8.39, p < .01.

Disclosure-related feelings. The ANOVA performed on positive emotions yielded a significant main effect for partner's disclosure, F(1, 141) = 15.41, p < .01, such that subjects expected to feel more positive emotions in an interaction with a high-discloser partner (M = 3.31) than in an interaction with a low-discloser partner (M = 2.59). The ANOVA for negative emotions yielded a significant interaction, F(2, 141) = 3.06, p < .05. Post hoc contrasts using the error term of the overall analysis revealed that a high-discloser partner produced more negative emotions among avoidant subjects than among secure or ambivalent subjects, F(1, 141) = 5.56, p < .05.

Liking. The ANOVA revealed significant main effects for partner's disclosure, F(1, 141) = 15.73, p < .01, and attachment, F(2, 141) = 3.77, p < .05, and a significant interaction, F(2, 141) = 3.51, p < .05. Post hoc contrasts using the error term of the overall analysis yielded that a high-discloser partner was more liked than a low-discloser partner by secure and ambivalent people, F(1, 141) = 9.32, p < .01; F(1, 141) = 11.01, p < .01, but not by avoidant people. Secure and ambivalent people were more attracted to a high discloser than were avoidant people, F(1, 141) = 12.90, p < .01.

Summary. Findings supported our predictions for secure and avoidant persons, but were at odds with our predictions for ambivalent persons. Reciprocity disclosure and liking for high disclosers were found among secure and ambivalent persons. Avoidant people did not show disclosure reciprocity and were not attracted to a high discloser. However, one should note that disclosure reciprocity was not assessed in real dyadic conversation. Study 3 solved these problems by assessing self-disclosure in a dyadic verbal interaction with a real partner.

Study 3

In Study 3, we examined the association between attachment styles and a person's actual responses (disclosure reciprocity and liking) to a real other's disclosure. For this purpose, subjects completed the attachment scales and verbally interacted with a partner who was either a low discloser or a high discloser. The intimacy of the information subjects disclosed and their affective reactions to the partner were assessed.

Method

Subjects. Sixty undergraduate students (39 women and 21 men ranging in age from 20 to 31 years) from Bar-Ilan University volunteered to participate in the study. Subjects were randomly divided into two experimental conditions, each consisting of 30 subjects. One male and one female undergraduate served as experimental confederates.

Materials and procedure. In the first part of the study, the two attachment scales described in Study 1 were completed by about 200 subjects. Between the two instruments, 12 subjects were mismatched who did not show any clear pattern and were dropped from the sample. The frequencies of the three attachment styles in the current sample were similar to those of Study 1. Fifty-four percent of the subjects classified themselves as secure, 31% as avoidant, and 15% as ambivalent. On this basis, we randomly invited 60 subjects (20 secure, 20 avoidant, and 20 ambivalent subjects) to participate in the study.

On arrival at the experimental room, we introduced subjects to a confederate partner who was instructed to manipulate the disclosure variable. The experimenter seated both the subject and the confederate around a table and explained that the study would explore how people become acquainted through conversation. The subject was told that the partner had been chosen by chance to speak first about two topics he or she would select from a list of 25 topics. Then the subject and the partner were given the 25-topic list, and the partner ostensibly chose two topics on which he or she wished to speak. Subjects were also told that it was up to them which topic they chose and what they said about them when their turn to speak came. The instructions, the topics the partner chose, the content of the partner's talk, and the manipulation of the partner's intimacy were identical to those used by Berg and Archer (1982).

Following Berg and Archer's (1982) procedure, the experimenter turned on a tape recorder and asked the confederate to speak for 2 min on the topics he or she selected. The confederate's talk randomly divided subjects into two conditions: high and low partner's intimacy. In both conditions, the confederate spoke about the best friendship he or she had ever had and about his or her moods.

Half of the subjects in each attachment group were given the high-intimacy disclosure: The confederates revealed that their best friend had been their brother or sister who had died recently in an automobile accident. The confederates went on to describe what had happened and their feelings when they found out about the accident, as well as how they and their families were dealing with the loss. They next described their ups and downs in mood, noting that their brother's or sister's death was the biggest down in mood they had ever had. They described how music and the times they spent with their families affected their moods, and they characterized themselves as moody persons. The remaining subjects were given the low-intimacy disclosure: The confederates revealed that both they and their brother or sister were attending the university and sharing an apartment. They next described the things they did together and their relative strengths and weaknesses in school. When they spoke of their ups and downs in mood, they spoke of the way music, dancing, and the weather could affect them, but they said they did not consider themselves moody persons.

After the confederate finished talking, the experimenter told the subjects they would have 2 min to speak with the confederate. At the end of these 2 min, the experimenter told subjects that the conversation was over and gave them scales on their mood after the conversation and their liking of the partner. Scales were identical to those described in...
Study 2. Cronbach alphas for positive emotions, negative emotions, and liking of the confederate were acceptable (.72, .81, and .75) and allowed the computation of total scores by averaging items belonging to each scale. To evaluate the effectiveness of the manipulation of partner’s intimacy, subjects answered a question on perceived intimacy (“How intimate or personal were the things your partner told you?”) on a 6-point scale from very low in intimacy (1) to very high in intimacy (6). On completing the scales, subjects were fully debriefed.

To examine subjects’ disclosure behavior in their 2 min speaking, the recordings of subjects’ talk were independently content analyzed by two judges who were blind to experimental hypotheses and conditions. Each subject’s sentence was analyzed in terms of descriptive intimacy (the extent to which intimate facts are revealed), evaluative intimacy (the extent to which emotions or judgments are expressed), and topical reciprocity (whether the statement refers to something that had been mentioned in the confederate’s talk).

We performed content analysis on the basis of Archer and Berg’s (1978), Berg and Archer’s (1982), and Morton’s (1978) criteria for descriptive and evaluative intimacy. Judges were given these criteria and told to rate each statement as low or high on the dimensions of descriptive and evaluative intimacy. In keeping with Morton’s technique, judges rated a statement first for descriptive intimacy and only after this for evaluative intimacy, and, when in doubt, rated the statement as nonintimate. After making these ratings, judges were provided with scripts used by the confederates and asked to indicate whether or not each subject’s statement reflected topical reciprocity.

The proportions of statements classified as high in descriptive intimacy, high in evaluative intimacy, and as referring to something the confederate had talked about were computed for each subject. Interjudge correlations were acceptable (r = .56, .64, and .71), and thus the average proportions (across judges) of statements so classified were our measures of descriptive intimacy, evaluative intimacy, and topical reciprocity. This scoring procedure was identical to that used by Berg and Archer (1982).

Results and Discussion

The data were analyzed by a two-way MANOVA and univariate ANOVAs for attachment style and partner’s disclosure. Means and standard deviations relevant for these analyses are presented in Table 3.

The two-way MANOVA for unbalanced design performed on the set of dependent measures yielded significant main effects for attachment style, Wilks’s $\lambda$ approximation ($14, 96$) = 5.23, $p < .01$, and partner disclosure, Wilks’s $\lambda$ approximation ($7, 48$) = 17.23, $p < .01$. The MANOVA also yielded a significant interaction, Wilks’s $\lambda$ approximation ($14, 96$) = 2.48, $p < .01$.

Perceived intimacy. The ANOVA for perceived intimacy yielded a significant main effect for partner’s intimacy, $F(1, 54) = 12.56$, $p < .01$, such that high-intimacy partners were rated as disclosing more personal information ($M = 4.33$) than low-intimacy partners ($M = 3.10$). The effects for attachment style did not reach significance. This finding validated the effectiveness of the manipulation of partner’s intimacy.

Self-disclosure behavior. The ANOVA for descriptive intimacy revealed significant main effects for partner’s disclosure, $F(1, 54) = 3.17$, $p < .05$, and attachment style, $F(2, 54) = 16.24$, $p < .01$, and a significant interaction between the two, $F(2, 54) = 7.82$, $p < .01$. Post hoc contrasts (with the overall error term) yielded that a high-intimacy partner produced more descriptive intimacy than a low-intimacy partner only among secure and ambivalent persons, $F(1, 54) = 24.07$, $p < .01$; $F(1, 54) = 7.39$, $p < .01$, but not among avoidant persons. In addition, secure and ambivalent persons showed more descriptive intimacy than avoidant persons in response to a high-intimacy partner, $F(1, 54) = 18.96$, $p < .01$.

The ANOVA for evaluative intimacy revealed a significant main effect for partner’s disclosure, $F(1, 54) = 13.40$, $p < .01$, with subjects showing more evaluative intimacy in response to a high-intimacy partner ($M = 14.70$) than to a low-intimacy partner ($M = 24.73$). The main effect of attachment style was also significant, $F(2, 54) = 28.91$, $p < .01$. Duncan tests yielded that secure and ambivalent people showed more evaluative intimacy ($M = 22$, $M = 24.15$, respectively) than avoidant subjects ($M = 13$). The interaction was not significant.

The ANOVA for topical reciprocity revealed a significant main effect for partner’s disclosure, $F(1, 54) = 11.44$, $p < .01$, with subjects showing more topical reciprocity in response to a high-intimacy partner ($M = 22.03$) than to a low-intimacy partner ($M = 13.20$). The main effect for attachment style was also significant, $F(2, 54) = 20.57$, $p < .01$. Duncan tests yielded that secure subjects showed more topical reciprocity ($M = 24.20$) than avoidant and ambivalent subjects ($M = 14.53$, $M = 14.50$, respectively). The interaction did not reach significance.

Disclosure-related feelings. The ANOVA for positive emotions did not yield any significant effect. However, the ANOVA for negative emotions yielded a significant interaction, $F(2, 54) = 5.83$, $p < .01$. Post hoc contrasts using the error term of the overall analysis revealed that avoidant persons felt more negative emotions than secure and ambivalent persons when interacting with a high-intimacy partner, $F(1, 54) = 13.92$, $p < .01$.

Liking. The ANOVA revealed a significant main effect for partner’s disclosure, $F(1, 54) = 12.01$, $p < .01$, such that the high-intimacy partner was more liked ($M = 4.08$) than the low-intimacy partner ($M = 2.95$). The interaction was also significant, $F(2, 54) = 4.62$, $p < .05$. Post hoc contrasts using the error term of the overall analysis yielded that a high-intimacy partner was more liked than a low-intimacy partner only by secure and ambivalent persons, $F(1, 54) = 9.57$, $p < .01$; $F(1, 54) = 11.66$, $p < .01$, but not by avoidant persons. In addition, a high-intimacy partner was less liked by avoidant persons than by secure or ambivalent persons, $F(1, 54) = 12.49$, $p < .01$.

Sex differences. No sex differences were obtained in the three studies for attachment style distributions. In addition, attachment effects in the three studies were reproduced in men and women.

Summary. As in Study 2, results of Study 3 indicated that reciprocity disclosure and liking for a high discloser existed among secure and ambivalent persons, but not among avoidant persons. In addition, secure persons were more responsive to partner’s conversation than both avoidant and ambivalent subjects. However, it is important to note some methodological limitations of the current study. The use of only one female and one male confederate confounds the effect of gender of the confederate for a specific individual. In addition, self-disclosure behavior was assessed in the early stages of a social interaction. Further researchers should assess how attachment styles are related to self-disclosure behavior in highly intimate relationships.

General Discussion

Our findings indicated that attachment styles are related to patterns of self-disclosure. Specifically, they indicated that both
secure and ambivalent people showed more self-disclosure than avoidant people. The findings also indicated that secure and ambivalent people disclosed more personal information, felt better interacting with, and were more attracted to a high discloser partner than a low discloser partner. In contrast, avoidant people's self-disclosure and effects were not affected by the partner's disclosure. Finally, secure people showed more disclosure flexibility and topical reciprocity than ambivalent and avoidant persons.

The pattern of self-disclosure shown by secure persons was in line with our predictions and can be explained by the emphasis secure persons put on intimacy and closeness in interpersonal relationships (Shaver & Hazan, 1988). Because their interaction goals are becoming intimate and emotionally close to others (Shaver & Hazan, 1988), secure persons are prone to reveal self-information to others and are responsive to others' disclosures. The attraction secure persons showed toward high disclosers might derive from the belief that the partner's high disclosure signals that the partner shares their own goals of creating intimacy and indicates that the partner likes them.

The working models and interaction goals of secure persons lead to what we call "responsive self-disclosure," which includes not only self-disclosure, but also responsiveness to partner's disclosure. As implied in self-disclosure literature (i.e., Berg, 1987), disclosure of intimate information is a necessary but not a sufficient behavior for creating intimacy. Persons must also be responsive to a partner's communication to reinforce the partner's confidence in their intentions and to promote more intimate disclosure. The "responsive self-disclosure" of secure persons is the best strategy for developing the intimate relationships that the secure person desires.

The responsive self-disclosure of secure persons emphasizes the association between confidence in others' responsiveness and responsiveness to others. Our findings show that subjects who expect that others will be responsive to their attachment signals are those who are most responsive to others' communication. This association can be explained in various ways. First, it may derive from the fact that infants learn from their primary attachment figures both to receive and to give attention and care (Sroufe & Fleeson, 1986). Second, secure persons' responsiveness might be a way of reciprocating others' responsiveness. Third, the high self-esteem associated with secure attachment (Bowlby, 1973) might lead people to be less worried with the satisfaction of their own needs and to adopt more selfless and generous attitudes toward others. From a psychodynamic perspective, security in the satisfaction of attachment needs might enable persons to perceive and relate to others as "whole objects" (Mahler, Pine, & Bergman, 1975) who have their own needs for attachment and caring.

Unfortunately, our findings did not provide evidence supporting or refuting any of the above interpretations. Our research found only that responsiveness is one feature of secure persons' interactions. Further research should systematically examine the associations between attachment styles and self- and other-representations, on one hand, and responsiveness and self-disclosure, on the other.

The pattern of self-disclosure shown by avoidant persons was also in line with our predictions and can be explained by the emphasis they put on distance and detachment in social relationships (Bowlby, 1982; Shaver & Hazan, 1988). Because their interaction goal is maintaining distance from others, avoidant persons are unwilling to make intimate self-disclosures, to re-
The pattern of disclosure reciprocity of ambivalent persons is also complex and hard to explain. On one hand, ambivalent persons appeared to be attuned to others' responses, as they showed strong reciprocity of descriptive and evaluative disclosures. On the other hand, they appeared to be unresponsive to others' disclosed matters, as their disclosure included little reference to matters that had been mentioned in the other's talk. This complex pattern of reciprocity might also be explained by ambivalent persons' compulsive demand for attachment and security. This need might lead ambivalent persons to disclose self-information to a person who signals the potential breaking of boundaries (i.e., a high-discloser). At the same time, the need for security might lead ambivalent persons to search for approval and understanding, focusing their disclosure on presenting themselves and revealing self-information rather than on dealing with other's own disclosed matters.

However, one should recall that the above interpretation is post hoc. Additional data should be collected about the extent to which ambivalent people mistrust their attachment figures as well as how interested they really are in satisfying their egocentric needs. In addition, further research should document their reactions (i.e., attribution about the other's intentions, attentional focus) to interacting with a real or hypothetical partner. Research should also be conducted on whether and how the low self-esteem reported by ambivalent persons (Collins & Read, 1990) is related to their pattern of self-disclosure.

Interestingly, group differences were also found in the preferred target for disclosure. Secure subjects were more prone to disclose themselves to lovers than to friends, who in turn received more disclosure than parents. This is the most adequate pattern of young adults' disclosure, whose main developmental task is the creation of intimate extramilial relationships (Erikson, 1968). Ambivalent people were more prone to disclose themselves to mothers and friends than to lovers. Ambivalent persons' high disclosure to mothers might reflect their compulsive need for union with that attachment figure who was perceived more disclosure than parents. This is the most adequate pattern of working models in the specific partner and relationship (Bowlby, 1973), reducing the impact of general attachment working models.

The above accounts of the association between attachment
style and self-disclosure require further research. Cultural and personality factors that affect self-disclosure must be systematically examined before our findings can be fully interpreted. In addition, interaction goals need to be studied directly to understand their role in the association of attachment and self-disclosure.

Before ending this discussion, we want to address two problems that would be the main issues in future attachment research. The first problem concerns the conceptualization of attachment working models as personality traits. On one hand, attachment working models might act as personality traits, influencing a wide range of social behaviors and guiding expectations and interpretations of the social world. On the other hand, attachment working models "are dynamic representations that may be altered in response to new information" (Collins & Read, 1990, p. 661) and may be adapted to specific partners and relationships. A more profound discussion of this issue is beyond the scope of our study, and it requires further research on the content and structure of working models, their continuity through the life span, their cross-consistency, and the factors that may alter them.

The second problem concerns the measurement of adult attachment styles. To date, the measurement of adult attachment style is in a state of transition. There are numerous psychometric problems with the original forced choice, self-classification device used by Hazan and Shaver (1987). One alternative is to develop a multi-item scale for each style and make the classification on the basis of the predominant preference. A third alternative is to focus on the underlying dimensions involved in the three styles (Collins & Read, 1990). In the current study, we decided to combine the first and second approaches, because our aim was to assess differences in self-disclosure among the three attachment groups. However, more research is needed comparing the various techniques and combining them with in-depth interviews, projective techniques, and simulated interactions.

References

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