Adult Attachment and Personality: Converging Evidence and a New Measure

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Study 1 presents the development of a measure of adult attachment qualities (the Measure of Attachment Qualities [MAQ]). Three further studies relate self-reports of adult attachment qualities to broader aspects of personality. Results indicate that avoidant attachment is inversely related to extraversion and agreeableness but relatively unrelated to manifest anxiety or neuroticism. Qualities of ambivalence (reflecting both worry and desire for merger) are related to both manifest anxiety and neuroticism but unrelated to extraversion. An affirmatively secure attachment quality that emerged in the MAQ (i.e., as a separate factor, rather than by default as low scores on avoidance or ambivalence factors) was related positively to extraversion and agreeableness but generally unrelated to anxiety or neuroticism. The final study also permitted comparison of the MAQ to a measure derived from a four-component model of attachment. Although there was considerable convergence, the data also provided challenges to both models.

A great deal of interest has been provoked in recent years by the idea that the character of adult social relationships parallels, and may even derive from, the attachment experiences of early childhood (e.g., Bartholomew & Perlman, 1994; Collins & Read, 1990; Feeney & Noller, 1990; Hazan & Shaver, 1987, 1990, 1994a; Simpson, 1990; Simpson, Rholes, & Nelligan, 1992). One facet of this interest among personality psychologists concerns the existence of individual differences in attachment. Conceptions of individual differences in adulthood are generally based very heavily on conceptions of individual differences in infancy.

Those who study infant attachment distinguish among several patterns (e.g., Ainsworth, 1989, 1989; Ainsworth, Blehar, Waters, & Wall, 1978; Sroufe & Fleeson, 1986). Secure attachment (reflected by normal distress at a parent’s departure and a happy, enthusiastic response upon return) is attachment in which the parent serves as a source of comfort and strength for the child. There are at least two kinds of insecure, or anxious, attachment. The ambivalent pattern (reflected in clinging and upset as the parent leaves and an angry, rejecting response upon return) is viewed as a last-ditch attempt to gain support from a person who gives it sometimes, but not reliably. The avoidant pattern (a calm response to the parent’s departure and an avoiding, rejecting response upon return) is usually viewed as one in which the infant seems to have learned that the parent cannot be relied on for support. These attachment patterns are believed to derive from parenting patterns—avoidance and ambivalence stemming from parents’ emotional unavailability and inconsistency, respectively (e.g., Bowlby, 1973; Crittenden & Ainsworth, 1989; Egeland & Farber, 1984).

Research on adult attachment is based in part on the idea that patterns similar to these can be seen in the ways that adults relate to important people in their lives. Some believe the pattern established in infancy tends to be maintained throughout life. The child builds a “working model” of the nature of relationships (Bowlby, 1973), which contains the seeds of its own reconfirmation (for a variety of views on this and other issues in attachment, see Parkes, Stevenson-Hinde, & Marris, 1991). As adults, then, people may tend to relate to others who are important to them in ways that resemble their earlier patterns.

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(for discussions on adult attachment, see Bartholomew & Perlman, 1994). Adults whose attachments in childhood were secure will relate securely to their romantic partners (and others); those with avoidant attachments in childhood will be more mistrustful and distant; and those with ambivalent attachments in childhood will display a mixture of clinging closeness and rejection.

Not everyone assumes that adult attachment style derives from this directly from the experiences of infancy. After all, the infant's working model of the nature of relationships is subject to revision, and it is unclear how much revision goes on between infancy and adulthood (Collins & Read, 1994). Even theorists who are inclined not to make assumptions about the role of early experience in determining adult behavior would argue, however, that the qualities of security, avoidance, and ambivalence represent a useful way to conceptualize adult relationships (Hazan & Shaver, 1994a, 1994b).

To put it differently, the functions played by these three ways of relating to other people are important in adulthood, as they are in infancy. That is, feeling a quality of security in relationships provides the comforting sense of a secure base from which exploration can take place and a safe haven to which one can return. The ambivalent quality can energize efforts to reestablish a relationship that feels shaky or unreliable, by acting in ways that will elicit reunion with and from the other. The avoidant quality provides a sense of distance that can provide psychological protection against unresponsiveness from others. Although the latter two qualities of response do confer certain benefits (they can maintain threatened relationships and blunt distress, respectively), they also have costs: Both of these qualities are associated with elevated rates of relationship dissolution (Hazan & Shaver, 1987).

Evidence from several studies indicates that people can characterize the tone of their adult relationships in terms of these patterns. Further, people who ascribe to themselves these three different ways of relating to other people differ in a variety of other ways, including how they conceptualize love relationships, how they experience their relationships, and how their behavior changes in response to stresses (Collins & Read, 1990; Hazan & Shaver, 1987; Mikulincer, Florian, & Weller, 1993; Simpson, 1990; Simpson et al., 1992).

ATTACHMENT AND PERSONALITY

Quite naturally, research in this area has tended to focus on aspects of relationships (and social behavior more broadly) that derive directly from the qualities of behavior that are assumed in theory to follow from the differing attachment patterns. Also of interest, however, is how adult attachment qualities relate to core aspects of personality (cf. Bowlby, 1973). For example, although the avoidant and the ambivalent patterns are often characterized as anxious attachments, relatively little evidence exists as to whether adults with these patterns have a broader sense of anxiety in their lives than those with the secure pattern. Another personality quality relevant to attachment styles is extraversion. It seems reasonable to suggest that persons with secure attachments should be people who are not just comfortable around others but actively drawn to them. In contrast, those with avoidant attachments should be intrinsically less likely to be drawn to involvement with others.

One study has been published on the relationships between attachment style and personality (Shaver & Brennan, 1992), which provides support for the reasoning just outlined. Subjects first classified themselves on a single forced-choice item that was used in earlier research by Hazan and Shaver (1987); separately, they rated the extent of their agreement with each of the three options of that item. Subjects who categorized themselves as secure were less neurotic and more extraverted on a measure of the five-factor model of personality (the NEO Personality Inventory [NEO-PI]; Costa & McCrae, 1985) than those who characterized themselves as ambivalent or avoidant. The latter two groups did not differ from one another on any factor of personality. When facets of the larger factors were examined separately, the anxiety reported by ambivalent subjects was higher than that reported by avoidant subjects (which was higher than that reported by secure subjects). Avoidants were also less warm and less open to feelings than the other two groups and more assertive than ambivalents.

When the (dimensional) extent of agreement with each of the attachment item's three options was correlated with the scales of the NEO-PI, neuroticism was related inversely to security and positively to anxiety and avoidance. Extraversion, agreeableness, and (weakly but significantly) conscientiousness all related positively to security and inversely to avoidance; agreeableness also related significantly but weakly to ambivalence.

LIMITATIONS

Although the information Shaver and Brennan (1992) provided is important, this study does have certain limitations regarding the assessment of adult attachment. Although the item developed by Hazan and Shaver (1987) has been used in a good deal of research on adult attachment patterns, it is not the only way adult attachment can be assessed, and there is some danger in relying too exclusively on a single measure. The dimensional version of this item, on which subjects report their agreement with each of the styles, constitutes only a single item for each attachment style. The "internal"
reliability of these single-item measures is unknown. Further, relying on these items means relying entirely on the depictions of adult attachment styles generated by Hazan and Shaver. Although those depictions are certainly reasonable, they are not the only ways in which adult attachment might be described.

Other researchers have tried to develop scales that would yield dimensions of variability corresponding to each of Hazan and Shaver’s (1987) prototypes. Of the instruments available, however, none seems fully satisfactory. Instruments devised by Simpson (1990) and by Collins and Read (1990) have problems of their own. The Simpson measure yielded two factors rather than the expected three, with security and avoidance merging. Despite this, Simpson used the items according to their a priori designations, although in subsequent research (Simpson et al., 1992) he has shifted to the empirically derived factors. The Collins and Read measure did yield three factors, but only one of them—Anxiety (which reflects ambivalence)—took the anticipated form. The other two were blends of security and avoidance; indeed, they are most easily interpreted as reflecting two different aspects of avoidance (see Collins & Read, 1990). Thus, neither of those instruments yielded a factor structure that fit the aims behind the measures—that is, expanding each prototype of the Hazan and Shaver item into a dimension of variability.

Of particular interest to me was the relative difficulty that these measures had in assessing the sense of security in relationships in any way other than as low insecurity. It seemed to me that the conception of security as reflecting an appreciation of one’s relationship as a safe haven and a secure base for exploration had somehow been misplaced in the process of item generation. My dissatisfaction with the then-available scales led me to make an effort of my own to develop an item set that would more distinctly assess the qualities portrayed in the Hazan and Shaver (1987) measure and depicted in various descriptions of the attachment styles. In so doing, I used the measures of Simpson (1990) and of Collins and Read (1990) as starting points. This effort is reported here as Study 1.

STUDY 1: SCALE DEVELOPMENT

Method

The item set used in Study 1 was compiled from several items adapted from the lists reported by Simpson (1990) and Collins and Read (1990), supplemented by newly written items. Because the Collins and Read items that reflect ambivalent attachment formed a clear factor (with the inclusion of one unexpected item), I retained most of them. Items intended to reflect avoidance were taken from both instruments, with minor changes in wording. Several new items were written to create a distinct reflection of an affirmative sense of security in relationships (i.e., apart from the absence of insecurity). Some of the items were intended to convey the sense of appreciating a safe haven and secure base more than had been true of previous items. I hoped that creating a clearer focus for a positive sense of security would permit that quality to emerge as a factor in its own right, rather than merging with other qualities as in previous instruments. Subjects responded to the items in this set on a 4-point scale ranging from strongly agree to strongly disagree (with no neutral point).

After two iterations of testing and item revision, the final item set, hereafter called the Measure of Attachment Qualities (MAQ), was completed by 807 undergraduates (452 female, 355 male) from the University of Miami in group sessions. Some participants (346 female, 230 male) also completed the single item from Hazan and Shaver (1987), against which the lengthier item set was compared.

Results

Factor analysis. Principal components analysis of responses to the item set (using an oblique rotation to permit correlations between factors) yielded four factors with eigenvalues greater than 1 (the range was 3.30 to 1.19), accounting for a total of 61% of the variance in responses. The composition of the factors was not perfectly in line with the a priori designations of the items (see Table 1), but the factors are readily interpreted. Scale averages were used in subsequent analyses in this study to permit easy comparisons among scales. Alpha reliabilities for the scales, sample means and standard deviations, and 6-week test-retest reliabilities from 51 subjects are also in Table 1.

The first factor appears to be an Avoidance factor. It had strong loadings from three avoidance items, plus two security items that loaded negatively. The ambivalence items split, forming two distinct factors. The first factor, Ambivalence-Worry, pertained to the more overtly anxious aspect of the pattern, focusing on the sense of worry over potential abandonment and betrayal, and included one item originally intended as a security item. The other ambivalence factor, Ambivalence-Merger, was clearly focused on the approach or merger aspects of the ambivalent pattern. The fourth factor was a Security factor, made up of three (all new) security items.

The Security scale was related inversely to the Avoidance scale, $r = -0.39$, $p < .001$, but relatively unrelated to either of the ambivalence scales ($rs = .12$ and $.07$), as was also the case for avoidance ($rs = -0.02$ and $.14$). The two ambivalence scales were positively related to one an-
TABLE 1: Items of the Measure of Attachment Qualities (MAQ), A Priori Designations of Items, and Factor Loadings, Study 1

<table>
<thead>
<tr>
<th>Item (and A Priori Designation)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Avoidance ($\alpha = .76$, $M = 2.02$, $SD = .68$, test-retest $r = .80)$</td>
<td>76</td>
<td>72</td>
<td>70</td>
<td>65</td>
</tr>
<tr>
<td>I get uncomfortable when someone wants to be very close (Av)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I find it easy to be close to others (S)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I prefer not to be too close to others (Av)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am very comfortable being close to others (S)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others want me to be more intimate than I feel comfortable being (Av)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Ambivalence-Worry ($\alpha = .69$, $M = 2.14$, $SD = .79$, test-retest $r = .69)$</td>
<td>88</td>
<td>88</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>I often worry that my partner doesn’t really love me (Amb)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often worry my partner will not want to stay with me (Amb)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don’t worry about others abandoning me (S)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Ambivalence-Merger ($\alpha = .73$, $M = 1.89$, $SD = .70$, test-retest $r = .69$)</td>
<td>80</td>
<td>79</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>I have trouble getting others to be as close as I want them to be (Amb)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I find others often are reluctant to get as close as I would like (Amb)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My desire to merge sometimes scares people away (Amb)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Security ($\alpha = .72$, $M = 3.45$, $SD = .59$, test-retest $r = .61)$</td>
<td>79</td>
<td>79</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>When I’m close to someone it gives me a sense of comfort about life in general (S)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It feels relaxing and good to be close to someone (S)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being close to someone gives me a source of strength for other activities (S)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: $n = 807$. Loadings below .30 are omitted. Av = avoidance; S = security; Amb = ambivalence.

other, $r = .30$, $p < .001$. Given this pattern of associations, it will not be surprising that a second-order factor analysis, using scale totals as items, yielded two higher order factors—one incorporating avoidance and security (loading = .84 and .81, respectively) and the other incorporating the two ambivalence scales (loading = .82 and .78). These second-order factors were relatively uncorrelated ($r = .03$).

Convergent validity. The subsample of 576 that completed the Hazan and Shaver (1987) item was separated according to their responses to that item. These three groups were then compared with one another on each of the subscales of the MAQ.

ANOVA yields differences between groups (see Table 2) on all of the attachment scales just described (post hoc comparisons were by Duncan multiple range test). The self-portrayed avoidant group reported higher levels on the Avoidance scale than did either the secure or the ambivalent group, which did not differ from each other, $F(2, 573) = 128.73, p < .0001$. The avoidant group also reported lower levels on the Security scale than did either the secure or the ambivalent group, which again did not differ, $F(2, 573) = 27.88, p < .0001$. Significant group differences also emerged on the Ambivalence-Merger and the Ambivalence-Worry scales, $F(2, 573) = 23.57, p < .0001$, and $F(2, 573) = 24.55, p < .0001$, respectively. The ambivalent group had significantly higher scores than did either the secure or the avoidant group on each of these scales. Compared with the secure group, the avoidant group also had lower scores on the Ambivalence-Merger scale and higher scores on the Ambivalence-Worry scale.

Discussion

The results of this study were informative in several respects. The outcome of the factor analysis suggested that a positive sense of benefiting from closeness in relationships can be assessed separately from various qualities of insecurity. On the other hand, as has also been true in other attempts to assess adult attachment (Collins & Read, 1990; Simpson, 1990), the Avoidance factor that emerged here also drew in items originally intended to reflect security (loading in the opposite direction from the avoidance items). This reconfirms how difficult it is to distinguish between the quality of security and the quality of avoidance based solely on the feeling of comfort in being around other people. This point is also made by the patterns of association between these two scales and the self-categorizations from the Hazan and Shaver (1987) single item. That is, self-portrayed avoidants had both higher scores on the MAQ Avoidance scale and lower scores on the Security scale than did either of the other groups.

Contrary to expectation, the items intended to reflect ambivalence separated into two groups. One group of items focused on the desire to merge with others, along with the recognition that others do not always want that experience as much as does the respondent. This scale was quite clearly connected to ambivalence: The subjects who portrayed themselves as ambivalent on the Hazan and Shaver (1987) item had significantly higher scores on it than did the other groups.

The other set of ambivalence items focused on worry about being abandoned. Once again, the composition of this factor indicates the difficulty in separating the
TABLE 2: Means (and Standard Deviations) on Measure of Attachment Qualities (MAQ) Scales Among Subjects Who Categorized Themselves as Avoidant, Secure, or Ambivalent on a Forced-Choice Item, Study 1

<table>
<thead>
<tr>
<th>MAQ Scale</th>
<th>Avoidant n = 166</th>
<th>Secure n = 366</th>
<th>Ambivalent n = 44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance</td>
<td>2.68, (64)</td>
<td>1.76, (55)</td>
<td>1.99, (60)</td>
</tr>
<tr>
<td>Security</td>
<td>3.19, (71)</td>
<td>3.57, (66)</td>
<td>3.65, (66)</td>
</tr>
<tr>
<td>Ambivalence-Merger</td>
<td>1.73, (66)</td>
<td>1.86, (66)</td>
<td>2.52, (80)</td>
</tr>
<tr>
<td>Ambivalence-Worry</td>
<td>2.28, (80)</td>
<td>2.04, (67)</td>
<td>2.73, (73)</td>
</tr>
</tbody>
</table>

NOTE: Means could range from 1 to 4; higher numbers indicate stronger presence of this tendency. On each row of means, groups with a common subscript do not differ significantly.

sense of security from a particular sense of insecurity—in this case, the fear of abandonment. The self-portrayed ambivalent subjects in this sample had significantly higher scores on this scale than did either the avoidant or the secure subjects. This seems to suggest that this scale is reflecting a quality specific to ambivalence. On the other hand, the avoidant subjects also had higher scores than did the secure subjects, implying that this scale is also tapping a broader sense of insecurity.

STUDY 2: RELATIONS OF MAQ TO EXTRAVERSION AND ANXIETY

Study 1 created the MAQ, a measure of adult attachment qualities, and examined convergent validity with respect to another measure of adult attachment tendencies. Study 2 related the MAQ to measures of manifest anxiety and extraversion.

Method

Participants in Study 2 were 203 students at the University of Miami (100 men, 103 women), participating in partial fulfillment of a course requirement. They completed the measures described below, along with other questionnaires administered in group sessions at the beginning of the semester.

Measures. One measure in this study was a 20-item form of the Taylor (1953) Manifest Anxiety Scale (MAS), which was developed by Bendig (1956). This briefer version, which had an alpha reliability of .84 in this sample, correlates .93 with the full MAS (Bendig, 1956). The MAS assesses a range of symptoms of generalized anxiety (as opposed to focalized anxieties such as test anxiety or social anxiety) in day-to-day life. Examples of items are "Life is a strain for me much of the time" and "I sometimes feel that I am about to go to pieces." The response format is true-false (scored here as 1 and 2, with item reversals as appropriate).

A second measure used here was a brief (10-item) measure of extraversion, consisting of a set of items listed by Eysenck and Eysenck (1985, p. 84) as good indicators of extraversion. Extraversion is a broad trait that incorporates a sense of liveliness, spontaneity, energy, excitement, and enjoyment of new people and situations. Examples of items included in this set are "I am rather lively" and "I like mixing with other people." The response format used in this study was a scale ranging from 1 (very true of me) to 4 (very false for me). This brief measure of extraversion, which had an alpha reliability of .81 in this sample, was relatively uncorrelated with the MAS short form ($r = -.14$).

The third measure completed by participants was the MAQ. Scoring of the MAQ was done as scale totals. Alphas for the scales in this sample were .74 for Avoidance, .69 for Security, .74 for Ambivalence-Merger, and .71 for Ambivalence-Worry.

Results

Each MAQ scale was correlated with MAS and extraversion scores, yielding the pattern shown in Table 3 (separate analyses by gender revealed only one gender difference in the pattern of associations, noted below). The two ambivalence scales were positively related to manifest anxiety, but both were unrelated to extraversion. The Avoidance scale was strongly and inversely related to extraversion; its association with manifest anxiety was statistically significant (given the large sample size) but relatively small. The Security scale was weakly but positively related to extraversion; its association with manifest anxiety was also significant (given the sample size) but in a positive rather than negative direction, as might have been expected. The association of security with extraversion also provided the only gender difference among the simple correlations; this correlation was substantial among women, $r = .34$, but nonexistent among men, $r = -.05$.

Multiple regression analyses (with simultaneous entry) were used to further examine the MAQ scales as
predictors of extraversion and manifest anxiety. The gender difference in the association of security with extraversion had ramifications here as well. Among women, both the Security and Avoidance scales made significant contributions to prediction of extraversion, $\beta = .22, p < .03$, and $\beta = -.35, p < .001$, respectively. Among men, however, only the Avoidance scale contributed significantly, $\beta = -43, p < .001$.

In these analyses, a gender difference also emerged in the prediction of manifest anxiety. Among women, only the Ambivalence-Worry scale made a significant contribution, $\beta = .55, p < .0001$. Among men, both the Ambivalence-Worry scale and the Ambivalence-Merger scale made unique contributions, $\beta = .25, p < .02$, and $\beta = .30, p < .01$, respectively.

Discussion

Study 2 found that avoidance was inversely related to extraversion but relatively unrelated to anxiety (and made no unique contribution to the prediction of anxiety in the regression analyses). The MAQ scale assessing security related positively to extraversion, though only among women. Indeed, among women, this scale and the Avoidance scale made unique simultaneous contributions to prediction of extraversion. The findings suggest that differing levels of extraversion distinguish between persons whose relationships reflect the quality of avoidance and those whose relationships reflect security (cf. Shaver & Brennan, 1992) but that anxiety plays much less a role.

This study also yielded evidence that ambivalence is associated with elevated anxiety but not with extraversion. It is worth noting that the association with anxiety occurred both for the Ambivalence-Worry scale and for the Ambivalence-Merger scale, which has no item content reflecting anxiety over the possibility of loss of the relationship. Among men, the contribution of this scale to the prediction of manifest anxiety was independent of the prediction afforded by the Ambivalence-Worry scale. The association of anxiety with the Ambivalence-Worry scale is somewhat less noteworthy, of course, given that the content of the latter scale explicitly expresses worry over abandonment.

STUDY 3: MAQ AND NEO-FFI

Study 3 was intended to provide convergence with the findings of Study 2 and with those of Shaver and Brennan (1992) by using another personality measure, the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992). The NEO-FFI, the short form of the NEO-PI, is a self-report measure of five factors of personality that some theorists argue capture the important dimensions of personality structure. Two factors are directly relevant to the findings reported thus far. Extraversion is explicitly one of the five factors measured by the NEO-FFI; thus, the use of this measure is a direct extension of the reasoning tested in Study 2. Neuroticism, another factor in the five-factor model, is closely related to manifest anxiety, thus representing only a slight extrapolation away from the reasoning tested in Study 2.

The other personality traits measured by the NEO-FFI were investigated with respect to the MAQ in a more exploratory fashion. Shaver and Brennan (1992) found that agreeableness was higher among people who identified themselves (on the single item used in that research) as securely attached than people who identified themselves as avoidants but that there was no between-group difference in conscientiousness or openness. In the dimensional attachment ratings, they found that agreeableness related positively to security, inversely to avoidance, and (more weakly) inversely to ambivalence. Dimensional analyses also yielded a weak positive relation between conscientiousness and security and a weak negative relation between conscientiousness and avoidance. Comparable associations were explored here with regard to the MAQ.

Method

In Study 3, 169 students (81 men, 88 women) at the University of Miami participated in partial fulfillment of a course requirement, completing the measures in group sessions. They completed the MAQ scales, which in this sample had alphas of .78 for Avoidance, .70 for Security, .75 for Ambivalence-Merger, and .69 for Ambivalence-Worry. They also completed the NEO-FFI (Costa & McCrae, 1992), a 60-item inventory yielding five scales (alphas from this sample are in parentheses): Neuroticism (.86), Extraversion (.78), Openness to Experience (.72), Agreeableness (.71), and Conscientiousness (.84). Each NEO-FFI scale is composed of responses to 12 items. The items were answered on the same 4-point response scale as was used for the attachment measure (owing to a clerical error, the neutral response was omitted from the NEO-FFI option set).

Results

Each MAQ scale was correlated with scale scores on the NEO-FFI, yielding the pattern in Table 4 (separate analyses by gender revealed no gender difference in pattern of associations). The Avoidance scale was inversely related to Extraversion, it was unrelated to Neuroticism, and it displayed an inverse association with Agreeableness. The Security scale displayed a positive association with Extraversion, a weak positive relation to Neuroticism, and a weak positive relation to Agreeableness. The ambivalence scales were both related to Neuroticism but to no other personality factor. Two of
the five personality factors—Openness and Conscientiousness—were unrelated to any MAQ scale.

Regression analyses explored these associations further, yielding a very clear pattern. Both the Security and Avoidance scales made independent contributions to the prediction of extraversion, $\beta = 22, p < .01$, and $\beta = -28, p < .01$, respectively, with an overall adjusted $R^2$ of .17, $p < .0001$. With respect to the prediction of neuroticism, both the Ambivalence-Worry and the Ambivalence-Merger scales made unique contributions, $\beta = .50, p < .0001$, and $\beta = .19, p < .01$, respectively. Only one of the MAQ scales made a significant unique contribution to the prediction of agreeableness: the Avoidance scale, $\beta = -28, p < .01$.

**Discussion**

These findings complement and supplement those of Study 2. As before, extraversion was related inversely to the Avoidance scale and positively to the Security scale. Indeed, in this sample, both of these MAQ scales made significant independent contributions to the prediction of extraversion. As was the case for manifest anxiety in Study 2, neuroticism was not strongly related to either of these attachment qualities. What association did emerge was with security, rather than avoidance, and in the direction contrary to what might be expected.

The data from this study add information about associations between agreeableness and these two attachment qualities—an inverse association with avoidance and a positive association for security. Only the association with avoidance proved to be unique, however. These findings are quite intelligible and replicate and extend the findings of Shaver and Brennan (1992). Avoidants are not terribly sensitive to others’ feelings, and they are inclined to be skeptical of others’ intentions (which contribute to the agreeableness trait as measured by the NEO-FFI).

Also consistent with the previous results was the fact that both ambivalence scales were related to neuroticism and unrelated to extraversion. The association with neuroticism complements the earlier finding that ambivalence was associated with manifest anxiety, extending the association to a more general dimension of vulnerability to emotional distress. Once again, the association held both for the worry-driven aspect of ambivalence and for the merger-driven aspect, even when the two were entered simultaneously into a regression equation.

It is also of some interest that the remaining two traits measured by the NEO-FFI were totally unrelated to attachment qualities as measured by the MAQ. One might have expected a link between security of attachment and openness to experience (or an inverse association between avoidance and openness). Such, however, was not the case.

One difference between the pattern emerging from this study and that reported by Shaver and Brennan (1992) concerns the relation between avoidance and neuroticism, which was present in their data but absent here. Another difference concerns the relation between security and neuroticism. This relation was positive here but inverse in the Shaver and Brennan study. This difference may relate to differences in the measures used to assess security. The security items in the MAQ were written to reflect good feelings about closeness but do not explicitly mention insecurity or worry. In contrast, previous measures—including the secure option of the Hazan and Shaver (1987) item—tend to bring up the issue of worry over abandonment in the context of assessing the sense of security. One possibility is that previous measures unintentionally assess security as equivalent to relative freedom from worry, rather than security as a separable positive quality. This reasoning would account for the inverse relation to neuroticism in the previous study. It does not, however, account for the fact that Study 3 yielded a small, although significant, positive association between these variables.

The fact that both security and avoidance made separate contributions to the prediction of extraversion and that both ambivalence-worry and ambivalence-merger made separate contributions to the prediction of
neuroticism deserves some further comment. Some might be inclined to assume that security is simply the opposite of avoidance and that the two ambivalence scales are simply parallel indicators of a single quality. However, the fact that two separate qualities in each case are related to the NEO-FFI dimensions to which they were predicted to relate tends to refute such an interpretation. The pattern of multiple independent associations suggests that the MAQ may have greater utility than other instruments in assessing the qualities it was intended to assess.

STUDY 4: MAQ, THE FOUR-CATEGORY MODEL, AND PERSONALITY

Thus far, I have discussed only a three-category model of attachment qualities. However, this is not the only way to think about attachment. Bartholomew and Horowitz (1991), emphasizing a different aspect of attachment theory, have argued that individual differences in attachment styles reflect differences in two distinct kinds of working models: models of self and models of others. People's views of themselves can range from positive to negative. Views of relevant others can also range—indepen- dently—from positive to negative (see also Griffin & Bartholomew, 1994a, 1994b). This approach thus assumes the existence of two bipolar dimensions that underlie four attachment styles. The experiential qualities associated with the two bipolar dimensions are anxiety (derived from positive vs. negative view of self) and avoidance (derived from positive vs. negative view of others).

The four prototypic attachment qualities in this model and their bases are as follows. Secure attachment reflects a positive view of both self and others. Preoccupied attachment (closest to the ambivalent pattern) reflects a negative view of self combined with a positive view of others. Fearful attachment (which resembles some instances of avoidant attachment) reflects a negative view of both self and others. Dismissing attachment (which resembles other instances of avoidance) reflects a positive view of self and a negative view of others.

Bartholomew and colleagues have developed several methods of assessing these four qualities of attachment, both by interview and by self-report (Griffin & Bartholomew, 1994a, 1994b). Two self-report devices are associated with this approach. The Relationship Styles Questionnaire (RSQ) is a series of statements to which respondents indicate their relative agreement or disagreement. Responses to statements pertaining to each attachment quality are averaged, yielding scores for the four attachment qualities. The Relationship Questionnaire (RQ) consists of four descriptive paragraphs, one oriented to each of the attachment patterns in this model. Respondents indicate the extent to which they resemble each of these prototypes. In effect, this latter measure parallels the dimensionalized version of the Hazan and Shaver (1987) single item from the three-category model.

In Study 4, I examined the relationships between MAQ dimensions and measures of the four-category model. I also measured personality again by the NEO-FFI to permit a replication of Study 3. It was anticipated that MAQ scales that directly paralleled the attachment qualities of the four-category model would relate positively to the corresponding four-category measures (Security scale with security, Ambivalence-Merger scale with preoccupied). On the basis of discussions by Bartholomew and Horowitz (1991) and by Griffin and Bartholomew (1994a, 1994b), I expected the MAQ Ambivalence-Worry scale to be related positively to the fearful quality of the four-category model and inversely to the dismissing quality of the four-category model. The MAQ Avoidance scale was expected to relate inversely to four-category security and positively to four-category fearful and dismissing (if avoidance is in fact an expression of two different underlying dynamics, as postulated in the four-category model).

Method

Participants in Study 4 were 256 students (110 men, 146 women) at the University of Miami, participating in partial fulfillment of a course requirement, who completed the measures in group sessions. They completed the MAQ scales, which in this sample had alphas of .68 for Avoidance, .68 for Security, .71 for Ambivalence-Merger, and .65 for Ambivalence-Worry. They also completed the NEO-FFI (Costa & McCrae, 1992), using a five-option response format. Alphas from this sample were .84 for Neuroticism, .77 for Extraversion, .68 for Openness to Experience, .71 for Agreeableness, and .85 for Conscientiousness.

Finally, participants completed two measures reflecting the four-category model: the RQ and the RSQ (Griffin & Bartholomew, 1994a). The RQ consists of a single self-rating of similarity to each of four descriptive paragraphs. In this sample, the ratings were made on a 5-point scale rather than the 7-point scale presented by Griffin and Bartholomew (1994a). The RSQ is a series of statements to which subjects indicate their degree of agreement or disagreement on a 5-point scale. When the RSQ scales were scored as specified by Griffin and Bartholomew, alphas were .70 for Fearful and .69 for Dismissing, but only .49 for Preoccupied and .35 for Secure. These internal reliabilities are adequate for the Fearful and Dismissing scales but not for the other two scales.
Results

To explore the reason for the low reliabilities of the a priori RSQ scales, I submitted the RSQ data to a factor analysis (using only the 17 items that are actually used in creating scale scores according to Griffin & Bartholomew, 1994a, p. 52). The initial analysis yielded five factors with eigenvalues greater than 1. Four of these factors incorporated at least one item from the Secure scale (one factor had two such items). Three of the five factors loaded only two items each in total. When I constrained the analysis to yield four factors (as should emerge according to the scoring specified by Griffin & Bartholomew, 1994a), it failed to converge in 50 iterations. When I specified two factors, the a priori security items split almost evenly (three and two) across the two factors. Apart from the security items, one factor was defined largely by items from the preoccupied set; the other factor was defined by a mixture of fearful and dismissing items (which theoretically should not have been in the same factor at all; Griffin & Bartholomew, 1994a, p. 31).

It seems apparent from these analyses that the empirical performance of the RSQ in this sample was not in accord with theory. I was unable to obtain four factors that would reflect the four postulated attachment qualities, nor was I able to obtain two factors that would reflect the self-model and other-model dimensions that are presumed to underlie the four attachment qualities. The low reliability of the Security scale was confirmed by its items’ distributing themselves relatively evenly across two factors. The low reliability of the Preoccupied scale is harder to attribute, because its items loaded on one factor once the criterion of a two-factor solution was instituted.

In contrast to this muddled picture for the RSQ, a factor analysis of the four-item RQ yielded the two-dimensional picture that Griffin and Bartholomew (1994a, 1994b) argued underlies four attachment qualities. The secure and fearful items loaded on one factor (−.67 and .83, respectively); dismissing and preoccupied items loaded on a second factor (.81 and −.68, although the latter item also had a substantial secondary loading on the first factor, .46). These two factors were orthogonal (r = −.03). Simple correlations between items were less supportive of the two-dimensional model, however. As would be expected, the fearful item was inversely related to the secure item, r = −.29, but the relationship between preoccupied and dismissing items was weak, r = −.14. Unexpectedly, the fearful item was positively related to the preoccupied item, r = .30. It is of interest that although this association would not be predicted by the four-category model, it is quite consistent with the picture of the anxious-ambivalent attachment style of the three-category model.

<table>
<thead>
<tr>
<th>MAQ Scale</th>
<th>Secure</th>
<th>Fearful</th>
<th>Preoccupied</th>
<th>Dismissing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance</td>
<td>−.45***</td>
<td>.31***</td>
<td>−.06</td>
<td>.22**</td>
</tr>
<tr>
<td>Security</td>
<td>.25***</td>
<td>−.08</td>
<td>.13</td>
<td>−.30***</td>
</tr>
<tr>
<td>Ambivalence-Merger</td>
<td>−.06</td>
<td>.18*</td>
<td>.48***</td>
<td>−.02</td>
</tr>
<tr>
<td>Ambivalence-Worry</td>
<td>−.19*</td>
<td>.24**</td>
<td>.23***</td>
<td>−.21**</td>
</tr>
</tbody>
</table>

NOTE: n = 256
*p < .01, **p < .001, ***p < .0001.

A second-order factor analysis of the MAQ scales, conducted for comparison purposes, yielded a pattern similar to that found in Study 1. One second-order factor loaded the Avoidance and Security scales (.85, −.82), another loaded the two ambivalence scales (.84, .79), and the two factors were unrelated (r = −.06). This pattern, which thus was replicable across two samples, differs substantially from the two-dimensional result emerging from the RQ items. On the other hand, it is relatively consistent with the correlation between the fearful and preoccupied items of the RQ. Gender comparisons on the MAQ yielded only one difference: Females reported slightly higher security scores than males (p < .05). 5

MAQ related to RQ. Correlations between MAQ scales and RQ items are shown in Table 5 (due to its poor factor structure, the RSQ is not considered further). The MAQ Avoidance scale related positively to both avoidance-related items of the RQ (fearful and dismissive) and inversely to the security item (partial correlations confirmed that these were independent associations). The MAQ Security scale related positively to the RQ secure item and inversely to the dismissing item (but was unrelated to the fearful item). The strongest correlation of the group was between the MAQ Ambivalence-Merger scale and the preoccupied item of the RQ, the only RQ item to which it related at better than .20. This is the RQ item that portrays the anxious-ambivalent style to which this MAQ scale pertains. The other MAQ scale pertaining to the ambivalent pattern (Ambivalence-Worry) was also related to the RQ preoccupied item (though more weakly), and it also related positively to the fearful item (as would be expected) and inversely to the dismissing and security items.

Taken as a whole, this pattern suggests considerable convergence between instruments with regard to the existence of a preoccupied, merger-desiring style. It also suggests some basis for the belief that there are two
TABLE 6: Correlations of Avoidance, Security, Ambivalence-Merger, and Ambivalence-Worry Scales From the Measure of Attachment Qualities (MAQ) and the Items of the Relationship Questionnaire (RQ) With Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness Scales From the NEO Five-Factor Inventory (NEO-FFI), Study 4

<table>
<thead>
<tr>
<th>MAQ Scale</th>
<th>Neuroticism</th>
<th>Extraversion</th>
<th>Openness</th>
<th>Agreeableness</th>
<th>Conscientiousness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance</td>
<td>0.15**</td>
<td>-0.47****</td>
<td>-0.14*</td>
<td>-0.25***</td>
<td>-0.21**</td>
</tr>
<tr>
<td>Security</td>
<td>0.14*</td>
<td>0.95***</td>
<td>0.07</td>
<td>0.15*</td>
<td>0.13*</td>
</tr>
<tr>
<td>Ambivalence-Merger</td>
<td>0.29***</td>
<td>-0.02</td>
<td>0.01</td>
<td>-0.17**</td>
<td>-0.08</td>
</tr>
<tr>
<td>Ambivalence-Worry</td>
<td>0.47***</td>
<td>-0.03</td>
<td>-0.05</td>
<td>-0.09</td>
<td>-0.22***</td>
</tr>
<tr>
<td>RQ Item</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dismissing</td>
<td>-0.22***</td>
<td>-0.05</td>
<td>-0.04</td>
<td>-0.29***</td>
<td>0.03</td>
</tr>
<tr>
<td>Fearful</td>
<td>0.33***</td>
<td>-0.23***</td>
<td>0.05</td>
<td>-0.26***</td>
<td>-0.10</td>
</tr>
<tr>
<td>Secure</td>
<td>-0.30***</td>
<td>0.38***</td>
<td>0.21**</td>
<td>0.17**</td>
<td>0.21**</td>
</tr>
<tr>
<td>Preoccupied</td>
<td>0.29***</td>
<td>0.02</td>
<td>0.08</td>
<td>-0.10</td>
<td>-0.08</td>
</tr>
</tbody>
</table>

NOTE: n = 256
* p < .05  ** p < .01  *** p < .001

Different kinds of avoidance, which the MAQ does not differentiate directly. One is reflected in the RQ dismissing item, which relates (in MAQ terms) to an absence of appreciation of closeness, a tendency to be avoidant, and a tendency not to be worried about it. The other type of avoidance (which is not directly revealed by the MAQ taken alone) is the fearful style, which shows (in MAQ terms) avoidance, some worry, and a wish that the situation were otherwise (i.e., desire for merger). The pattern as a whole also suggests that the MAQ Security scale assesses an aspect of felt security that does not have fearfulnes at its root, as it does not correlate with RQ fearfulness.

**MAQ and personality** Each MAQ scale then was correlated with scores from the NEO-FFI, yielding the pattern in Table 6 (separate analyses revealed no gender difference in the pattern of associations). The MAQ Avoidance scale was substantially and inversely related to extraversion, it was weakly related to neuroticism and openness, and it displayed stronger inverse associations with agreeableness and conscientiousness. The Security scale displayed a substantial positive relation to extraversion and weak positive relations to neuroticism, agreeableness, and conscientiousness. The two ambivalence scales were both related to neuroticism. Unlike Study 3, the Ambivalence-Merger scale also was inversely related to agreeableness, and the Ambivalence-Worry scale was inversely related to conscientiousness.

As in Study 3, regression analyses with simultaneous entry explored these associations further. Both the Security and Avoidance scales made independent contributions to the prediction of extraversion, \( \beta = 0.21, p < 0.001 \), and \( \beta = -0.39, p < 0.001 \), respectively, with an overall adjusted \( R^2 \) of 0.25, \( p < 0.0001 \). With respect to the prediction of neuroticism, both the Ambivalence-Worry and Ambivalence-Merger scales made unique contributions, \( \beta = 0.40, p < 0.0001 \), and \( \beta = 0.14, p < 0.02 \), respectively; the Avoidance scale also contributed to prediction in this sample, \( \beta = 0.14, p < 0.02 \) (overall adjusted \( R^2 \) of 0.25, \( p < 0.0001 \)). Unique prediction of agreeableness came from both the Avoidance scale, \( \beta = -0.21, p < 0.002 \), and the Ambivalence-Merger scale, \( \beta = -0.17, p < 0.01 \) (overall adjusted \( R^2 \) of 0.08, \( p < 0.0001 \)). In this sample, conscientiousness was also predicted by three MAQ scales: Ambivalence-Worry, \( \beta = -0.24, p < 0.001 \), Avoidance, \( \beta = 0.14, p < 0.05 \) (overall adjusted \( R^2 \) of 0.09, \( p < 0.0001 \)).

**RQ and personality** Although the RQ was not the primary focus of this study, correlations of the RQ items with the NEO-FFI scales are shown in the lower portion of Table 6 for comparison purposes. Neither the dismissing nor the fearful RQ style displayed a pattern of associations that was entirely comparable to MAQ avoidance, although the fearful item came fairly close. Consistent with its label, however, it was more strongly related to neuroticism and less related to extraversion. RQ security was related to all the FFI scales, differing from MAQ security in its positive association with openness and its inverse association with neuroticism. As expected, the preoccupied item displayed a pattern similar to that of the MAQ ambivalence scales.

**Explorations of three- and four-component models of attachment** In an effort to examine further the ability of the MAQ and RQ to identify sets of people who display specific patterns of attachment qualities, I conducted a series of cluster analyses. These analyses aggregate persons into groups on the basis of similarities in their responses to items or scales. In effect, cluster analysis treats the person rather than the measure as the unit
analysis, while looking for commonalities across observations. Conducting these analyses also permitted me to seek information on the question of whether a three-component or four-component model of attachment provides a better picture of the types of people represented in this sample. The cluster analyses were done on SPSS using Ward’s method.

I began by clustering subjects on the basis of their scores on the MAQ scales. I then compared the groups on their MAQ scores (transformed into z scores for comparability across scale). Because these analyses were exploratory, I examined clusters at several levels, from two groups to five groups.

With only two groups, clustering seemed to reflect primarily a general neuroticism or unease. With larger numbers of groups, however, a clearer picture emerged. With three groups, the data suggested a fairly close fit to the three-component model of attachment (see Figure 1).

Group 1 appears to be a secure group; Group 2 appears to be an avoidant group (without appreciable worry, which also fits the dismissing style of the four-component model). Group 3 appears to be an anxious-ambivalent group, with only an elevated score on security seeming at odds with this view. However, the nature of the Security scale of the MAQ is such that this elevation is not as anomalous as it might seem. That is, this scale addresses good feelings about the use of an attachment object as a safe haven and secure base. People with ambivalent patterns presumably have this experience when their attachment objects are available to them; the problem is that the objects seem to be available to them only some of the time.

At the level of four groups, the anxious ambivalents split. One subset (Group 4, Figure 1B) retained the anxious-ambivalent quality; the other (Group 3) displayed only an elevation in worry. The latter group would

Figure 1  Mean scores on the scales of the Measure of Attachment Qualities, in (A) three-group and (B) four-group clusters of participants, Study 4. NOTE: GP = group.
resemble the fearful pattern of the four-component model except for its lack of avoidance.

In general, the content of the patterns emerging from these analyses appears to suggest support for the three-component model. Although there is clear evidence of a dismissing type of avoidant, there is no evidence of a fearful type of avoidant. The presence of worry seems tied only to elevations in the desire for merger. On the other hand, the desire for merger does appear to exist in a restricted subset of subjects without concomitant worry, which is more consistent with the four-category model. One feature of the groupings—especially the three-group configuration—that does not fit the three-category model well is the numbers in the categories. The largest of the groups appears by content to be anxious ambivalents, but anxious ambivalents are inevitably the smallest group in studies using the Hazan and Shaver (1987) forced-choice item.

These clusters were also compared with each other on the RQ items (again as z scores). At the level of two groups, the split appeared to be on the approach-avoidance dimension. At three groups (Figure 2), Group 1 was secure, Group 3 was anxious ambivalent (i.e., there were elevations on both fearful and preoccupied items), and Group 2 had overtones of both fearful and dismissing categories. This is the same group that on the MAQ had appeared avoidant without appreciable worry. At four groups, the anxious-ambivalent group split into a fearful group and a preoccupied group (Figure 2B). This split is similar to what was seen in the MAQ scales, except that the preoccupied group had also had an elevated MAQ worry score, whereas there was no similar elevation on the RQ fearfulness item.

The patterns in Figure 2B appear supportive of the four-component model. That is, at the level of four groups, each was identifiable by an elevation in one and
only one RQ item. Despite this, it might be argued that this test is biased against the four-component model, as the clustering was done on the basis of the MAQ scales, which derived from the three-category model. For this reason, I conducted further analyses in which the RQ responses were used as the basis for clustering.

At the level of three groups (Figure 3), Group 1 was anxious ambivalent, defined by elevations in both fearfulness and preoccupation. Group 2 had a dismissing or avoidant pattern, with no appreciable anxiety. The third appears to be a secure group, although the elevation in the security item was not great (it did not differ significantly from the other groups). At the level of four groups (Figure 3B), this last group split into a clearly secure subgroup and a set that was hard to place in the framework of either model (Group 4).

Oddly enough (given that the pattern stems entirely from an instrument derived from the four-component model), this pattern of results appears most readily interpreted in terms of the three-component model. Of greatest interest, elevations on the preoccupied item were always accompanied by similar elevations on the fearful item, consistent with the idea that this is really an anxious-ambivalent pattern. At the level of four groups, three were fully consistent with the three-component model; the fourth was hard to place in either model. No purely fearful group emerged at any level examined.

When MAQ scores were analyzed according to the same clustering, they also appeared to fit the three-category model (Figure 4), particularly with three groups. With four clusters, the picture again fit the three-category model, but with the addition of a fourth group that.
was more difficult to interpret. It had an elevation on the worry aspect of anxious ambivalence but not on desire for merger. This added some clarification to the picture that had emerged from the RQ data, in which only the preoccupied item was elevated.

To further examine the nature of these clusters, I conducted one more set of analyses, exploring the patterns of scores of the NEO-FFI that were present in these clusters. In the groupings formed on the basis of the MAQ scales, the FFI (as z scores) yielded patterns that were quite easily interpreted (Figure 5A). The secure cluster had elevations in extraversion, agreeableness, and conscientiousness and a low score on neuroticism (openness did not differ across clusters). The avoidant cluster displayed low scores on extraversion and agreeableness and, to a lesser extent, on conscientiousness. The anxious-ambivalent cluster had an elevation on neuroticism. Shown here is the four-cluster grouping, in which the ambivalent group split into two groups equivalently high on neuroticism, one of which was elevated on extraversion as well.

Patterns were harder to identify in the groupings derived from RQ responses (Figure 5B), with the exception of the secure cluster. As was true in the other clustering, the secure group had low neuroticism, high extraversion, and high agreeableness. They also had high levels of openness (conscientiousness did not differ across this set of clusters). The other three groups were
more nondescript and more difficult to relate back to the attachment qualities that they displayed in previous analyses.

Discussion

The results of this study make several points. With respect to self-report measures derived from the four-category model, the data raise serious questions about the usefulness of the RSQ. Two of the four a priori scales had internal reliabilities that were unacceptably low. Factor analysis determined that the instrument does not have either of two potential factor structures that would be consistent with the four-category model. I am unaware of any published factor analysis of the RSQ, which seems to have made its way into the literature without sufficient scrutiny. Griffin and Bartholomew (1994a) noted that the alpha reliabilities for the RSQ scales in their own data were quite variable, acknowledging an alpha of .41 for the Secure scale. They asserted that this does not reflect "some accidental psychometric flaw in the construction of the scales" (p. 27), but the results of Study 4 cast considerable doubt on that assertion. I
suggest to other investigators that the RSQ not be used further until its psychometric properties have been examined more fully.

The RQ items came closer to fitting their designers' intent, although as single items with multiple internal contents (i.e., each item is a descriptive paragraph with many specific bits of information), they are vulnerable to concern about reliability. Analysis of these four items yielded a factor structure that was consistent with the two-dimensional logic behind the four-category model. On the other hand, the RQ data did not fit the four-category model perfectly. Specifically, there was a correlation between the fearful item and the preoccupied item that is not predicted by the four-category model, although the correlation is quite consistent with the three-category model.

Relations between attachment measures. The pattern of associations between the RQ single items and the MAQ was generally as expected. The MAQ Ambivalence-Merger scale was strongly related to the RQ preoccupied item; the Ambivalence-Worry scale was related to preoccupied and fearful items and (inversely) to the dismissing item. The MAQ Avoidance scale was strongly and inversely related to RQ security, and positively related to both RQ items that pertain to aspects of avoidance—fearful and dismissing.

The MAQ Security scale was related to RQ security and (inversely) to RQ dismissing but not to RQ fearful. These correlations seem to confirm that the MAQ Security scale is assessing a quality that is not rooted simply in the absence of anxiety. The inverse relation of MAQ security with RQ dismissing is in line with theory, suggesting a bipolarity between anticipating others as a safe haven and secure base versus a lack of desire for such a connection. The correlation of the MAQ Security scale with the RQ security item was smaller than might have been expected. This may be because the RQ item addresses both comfort in depending on others and comfort in having others depend on the self (a very different issue), which may diffuse the meaning of the item. Alternatively, it may simply be that the two security measures are aimed at different aspects of security.

Relations to the five-factor model. With respect to associations with the five-factor model of personality, the findings were relatively straightforward, although there were some differences in comparison with the pattern found in Study 3. As before, MAQ scales accounted for substantial proportions of the variance in extraversion and neuroticism (25% each). The contributors to extraversion once again were security and avoidance (independently). The primary contributor to neuroticism once again was ambivalence-worry, with smaller contributions made by ambivalence-merger and avoidance. Unlike Study 3, security did not make any independent contribution to predicting neuroticism.

As in Study 3, the MAQ scales predicted much less of the variance in other personality dimensions (8%, 9%, and 1% for agreeableness, conscientiousness, and openness, respectively). The pattern for agreeableness was similar to that of Study 3, in that the greatest contribution to prediction was made by avoidance. The pattern for conscientiousness departed from that of Study 3 more than did the pattern for any other of the five personality factors, with inverse associations emerging for both ambivalence-worry and avoidance and with a positive association for security. The reason for this difference is unknown.

Conceptual models of attachment. These data also bear on the relative merits of the three-component and four-component models of individual differences in attachment. Each model seemed to fit better with certain aspects of the data, both in correlational analyses and in the cluster analyses. The correlation between the preoccupied and fearful RQ items suggests a fit to the three-component model, because it implies a joining of fearfulness with the desire for merger. On the other hand, the fact that the MAQ Avoidance scale was independently related to both the RQ fearful and dismissing items suggests a divergence among persons with an avoidant style, which fits the four-component model. Factor analysis of the RQ yielded the two dimensions that should underlie the four proposed styles, whereas second-order factor analysis of the MAQ yielded a pattern in which anxious ambivalence was reflected in one factor and a secure to avoidant dimension in the other.

Cluster analyses also were somewhat ambiguous on this issue. In general, most of the results from these analyses seemed to fit the three-component model. In particular, elevations in preoccupation or desire for merger were usually accompanied by elevations in worry or fearfulness, which does not fit the four-component model. On the other hand, in the four-cluster grouping derived from MAQ scores, each cluster was identifiable by an elevation on a single RQ item. This pattern is consistent with the four-category model.

The safest conclusion from these analyses may be that it remains too early to be certain which model is the more accurate. It does seem clear that certain packages of qualities are more rare than others. It is easier to spot people who are both anxious about rejection and preoccupied with merger than people who are preoccupied alone. It is also easier to spot people who are dismissing or avoidant without fearfulness than it is to find the combination of fearfulness and avoidance. These aspects of the data tend to support the three-category
model. On the other hand, specific sets of people predicted by the four-category model do appear to exist, if not in large numbers. This tends to support the four-category model.

Attachment clusters and personality. One other aspect of the data deserves mention: the patterns of personality qualities from the five-factor model that were displayed by clusters of participants that were created on the basis of responses to attachment scales. The MAQ-derived clusters had clear and distinct patterns of FFI scores. Secures were low in neuroticism and high in extraversion, agreeableness, and conscientiousness. Avoidants were low in extraversion and agreeableness. Ambivalents were high in neuroticism, although they could be split into a subgroup that was also high on extraversion and one that was not. The picture from the RQ-derived clusters was less clear. One would be hard pressed to derive attachment styles working backward from the FFI profiles in Figure 5B.

The clarity of the MAQ-derived pattern suggests that the MAQ has more in common with the five-factor model than does the RQ. This does not make it a better reflection of attachment qualities per se, of course. It is noteworthy, however, that as a measure of attachment qualities, it converges quite a lot with a measure that derives from a very different conceptual heritage. This raises interesting questions about which set of dimensions has developmental primacy: the attachment qualities or the personality qualities of the five-factor model. These, of course, are questions that go far beyond the scope of this article.

GENERAL DISCUSSION

This article presents a new measure of adult attachment qualities—the MAQ—and describes a convergent set of relationships between the scales of this measure and other personality measures. Convergence came both on the attachment side and on the personality side: The MAQ has good associations with other measures of attachment, and its relations with personality—particularly anxiety (or neuroticism) and extraversion—resemble those found in earlier research for other measures of attachment (Shaver & Brennan, 1992). The MAQ differs from other measures in several ways. It has an affirmative measure of the appreciation of having a sense of safe haven and secure base, and it has distinct measures of two facets of ambivalence—worry and merger desires. Data from the studies reported here suggest that all these scales measure meaningful aspects of adult attachment (cf. Brennan & Shaver, 1995). Although there were some gender differences in the data, these differences were inconsistent, which tends to characterize the attachment literature as a whole.

Attachment and Personality

The results reported here join with those of Shaver and Brennan (1992) in providing convergent support for the overall picture of adult attachment styles that characterizes the research literature in this area. The findings also suggest that the overt experience of anxiety is less a part of the avoidant style than is often (although not inevitably) assumed. Securely attached people are extraverted and they are agreeable. Those with avoidant tendencies are more disagreeable and introverted, but they seem from the data reported here not to be more anxious. People who are ambivalent in their adult attachments, as expressed either by worry over abandonment or by the unrequited desire for merger, are people who experience more anxiety in their day-to-day lives than do others.

At the same time, as the findings flesh out the picture of how adult attachment qualities relate to more fundamental aspects of personality, they also develop a complementary picture of interpersonal manifestations of those basic personality qualities. That is, introversion is tied to a tendency to feel uncomfortable when others desire closeness. Agreeableness is related to pleasure from this sort of closeness. Extraversion is tied to the sense of enjoying a secure base in relationships. Anxiety and neuroticism are related to worries about the security of one’s social relations, as one might expect. Neuroticism is also linked to a belief that important others in one’s life do not share the extent of one’s own desire to be close, an association that is less obvious from a traditional view of the nature of neuroticism. As I noted in the discussion to Study 4, these relationships suggest a good deal of convergence between constructs, opening the door to many more interesting questions.

Closing Comment: A Broader View of Attachment Theory

In closing this article, I would like to note briefly an issue that goes beyond the scope of what I have said thus far. My focus has been on individual differences in several qualities that have been postulated as deriving from three kinds of experiences with others. These qualities have been referred to by many researchers as adult attachment styles. In general, researchers in personality and social psychology who are interested in adult attachment have attended primarily to the existence of these differences and how they relate to meaningful aspects of people’s social worlds. It is important to recognize, however, that the existence of differences between people does not represent the full scope of attachment theory. The theory was developed to describe a dynamic set of normative functions. As such, it represents a broad model for the broader understanding of the nature of human relationships, their evolution, and their dynam-
ics (Hazan & Shaver, 1994a, 1994b). My focus on the differences that exist among people should not obscure the fact that there is much more to attachment theory than this.

Nevertheless, personality and social psychologists have been interested in these differences among people, how to think about them, and how to measure them. A number of measures have been created, with somewhat different underlying assumptions. Hazan and Shaver (1987) started simply, asking subjects to classify themselves into a typology. Several projects have since tried to turn each of Hazan and Shaver’s prototypes into a dimension of variability (Collins & Read, 1990; Shaver & Brennan, 1992; Simpson, 1990). Others researchers have taken approaches based on other theoretical assumptions (e.g., Bartholomew & Horowitz, 1991; Brennan & Shaver, 1995; Griffin & Bartholomew, 1994a, 1994b). At this stage it would be premature to conclude that any particular approach is right or best (cf. Hazan & Shaver, 1994b). I hope, however, that the MAQ will be regarded as a useful tool in the effort to understand how qualities of adult attachment relate to other aspects of the human experience.

NOTES

1. My own explorations with the Simpson measure in a pilot study not included this article similarly led to a blending of security and avoidance.

2. Only one gender difference emerged in exploring these data: Men reported higher levels on the Ambivalence-Merger factor (M = 2.02, SD = .70) than did women (M = 1.79, SD = .70), t = 2.95, p < .009.

3. A pilot study relating the MAS and this measure of extraversion to the Hazan and Shaver’s (1987) single item yielded a picture similar to this, although necessarily being somewhat more restricted. Those who reported a secure attachment were relatively high in extraversion and low in maner insecurity. Avoidants were slightly higher in anxiety and considerably lower in extraversion. Ambivales were nearly as high in extraversion as secures, but they reported the highest levels of manifest anxiety.

4. Another measure that takes this model into account has been reported by Feeney, Noller, and Hannahman (1994). I was unaware of this measure until after this study had been conducted, however.

5. Further evidence of the difference in structure of these two instruments comes from analyses of the second-order factors identified just earlier, on the suggestion of Kelly Brennan. The anticipated correlation between the RQ Dismissing-Prefeeiopocured factor and the MAQ Ambivalence factor emerged, r = .31, as did that between the RQ Fearful-Secure factor and the MAQ Avoidance-Security factor, r = .40 (all correlations here are between factor scores). However, just as strong were relations between RQ Dismissing-Prefeeiopocured and MAQ Avoidance-Security, r = .32, and betweeen RQ Fearful-Secure and MAQ Ambivalence, r = .34.

REFERENCES


Shaver, P. R., & Brennan, K. A. (1992). Attachment styles and the “Big Five” personality traits: Their connections with each other and with.


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