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Attachment, Social Competencies, Social Support, and Psychological Distress

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In this survey study of 430 undergraduates, elements of the social competencies and interpersonal processes model (B. Mallinckrodt, 2000) were tested. Two social competencies were hypothesized to mediate the direct effects of 2 independent variables, attachment anxiety and avoidance, on 2 outcomes, psychological distress and perceived social support. Social self-efficacy was expected to be a significant mediator only for attachment anxiety. Emotional awareness, construed as low levels of alexithymia, was expected to be a significant mediator only for attachment avoidance. A bootstrap method was used to estimate the significance of indirect effects. Structural equation analyses suggested that, instead of specialized significant parings of one mediator with one independent variable, both social self-efficacy and emotional awareness served as significant mediators for both attachment anxiety and attachment avoidance.

Keywords: attachment behavior, alexithymia, social self-efficacy, adult social competencies, causal mediation

Attachment theory has been proposed as a useful framework for understanding the development of the healthy and effective self (Lopez & Brennan, 2000) and the etiology of interpersonal problems that many clients bring to psychotherapy (Mallinckrodt, 2000, 2001). According to these complementary perspectives, secure attachment early in life facilitates development of coping skills that promote optimum adjustment, whereas insecure attachment interferes with development of these critical capacities. The social competencies and interpersonal processes (SCIP) model proposes that relatively secure childhood attachment to caregivers fosters development of critical social competencies that are needed to recruit and maintain close, supportive relationships in adulthood (Mallinckrodt, 2000). Insecure childhood attachment leads to attachment avoidance or anxiety in adults and also to deficits in social competencies. Thus, not only do adults with attachment insecurities tend to lack social support and coping resources, but the SCIP model also holds that the relationships they do experience often serve as sources of stress in themselves. Clients—perhaps especially those in interpersonal therapy—tend initially to replicate their insecure attachment patterns and manifest social competency deficits in the psychotherapy relationship. According to the SCIP model, ideally the client is able to gain social competencies through the difficult work of forging a more productive relationship with the therapist. Because this relationship can be considered a special form of attachment, the continuing struggle to build a more secure therapeutic attachment and productive working alliance results in a corrective emotional experience that the client, equipped with new social competencies, can generalize to other relationships. In addition, the therapist's own level of social competencies influences formation of an ideal therapy relationship. Finally, the SCIP model holds that therapists in training experience a form of attachment with their clinical supervisor that also influences the client–therapist relationship.

Because the present study surveyed adults instead of clients in counseling, it was not possible to test aspects of the full SCIP model involving, for example, the influence of a client's childhood experience, the psychotherapy relationship, or the therapist's capacity for secure attachment. Figure 1 shows the key elements of the SCIP model that were tested in this study. These elements apply to adults who are not necessarily in counseling. After a brief overview of this portion of the model, we present a more detailed review of theory and previous research to support each of the hypothesized links examined in this study.

The portion of the SCIP model shown in Figure 1 begins with adult attachment, which recent research suggests is characterized by the two relatively orthogonal dimensions of anxiety and avoidance (Brennan, Clark, & Shaver, 1998). Persons with secure attachments in adult close relationships tend to score low on measures of each dimension, whereas those with insecure attachments tend to score high on one or both dimensions. Attachment anxiety and attachment avoidance are each believed to contribute to a wide range of maladaptive functioning. In this study, global psychological distress and lower perceived social support were examined as outcomes of insecure attachment. The central elements of the SCIP model are the social competencies. These variables are hypothesized to mediate the direct effects of attachment insecurities on outcome variables. In causal terms, social competencies are believed to transmit the impact of insecure attachment to outcomes. Mallinckrodt (2000, 2001) argued that adults who lack the capacity for secure attachment frequently also lack component skills for adequate social functioning, for example, the ability to recruit supportive friendships, satisfactorily resolve interpersonal conflicts, clearly communicate needs, or effectively regulate affect. Of the many social competencies proposed in the SCIP model, social

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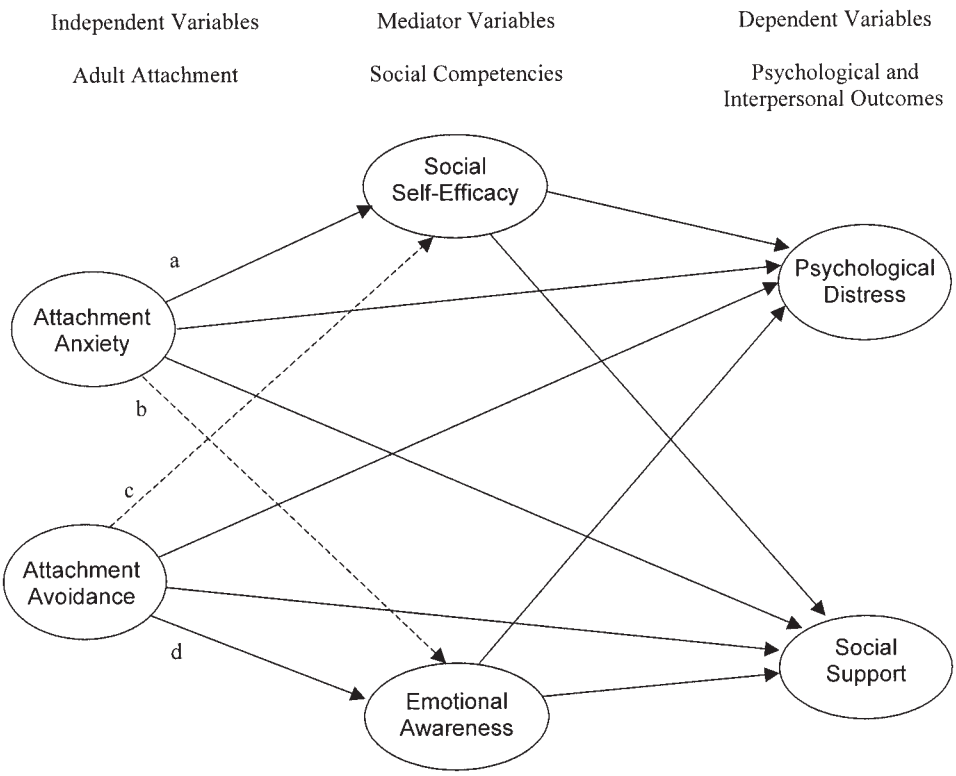

Figure 1. The social competencies and interpersonal processes (SCIP) model. Dashed lines indicate the paths that were not expected to be statistically significant.

self-efficacy and emotional awareness were selected for this study because theory and previous research have suggested that social self-efficacy may be especially helpful for persons with high attachment anxiety, whereas emotional awareness may be especially helpful to persons with high attachment avoidance. These two paths are labeled *a* and *d* in Figure 1. In contrast, we did not expect the two paths labeled *b* and *c* in Figure 1 to be statistically significant. (Paths tested but not expected to be statistically significant are shown as dashed lines.) Thus, we proposed a type of convergent–divergent mediation model in which, for each of the two forms of attachment insecurity, anxiety and avoidance, one social competency would serve as a significant mediator and the other social competency would not be a significant mediator. In the following sections, support for these hypotheses is presented.

Adult Attachment and Social Competencies

According to attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1979, 1988; Bretherton, 1985), the relative consistency with which caregivers respond to the needs of young children influences the development of working models of self and others. Relatively consistent responding leads to positive models of self and others and promotes secure attachment and a healthy capacity for intimacy in adults. Consistently with attachment theory, the SCIP model holds that inconsistent responsiveness of caregivers in childhood can lead to negative working models of self and fears of abandonment, which are components of the anxiety dimension of adult attachment. If caregivers are consistently unresponsive to a child's signals of distress, a negative working model of others tends to develop, together with fears of intimacy, which are components of the avoidant dimension of adult attachment.

Theoretical work (Kobak, 1999; Lopez & Brennan, 2000; Mallinckrodt, 2000, 2001; Mikulincer, Shaver, & Pereg, 2003) and research (Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993; Mallinckrodt, Porter, & Kivlighan, 2005) suggests that persons who cannot maintain a secure attachment in close relationships engage in two possible secondary attachment strategies. Persons with increasingly negative working models of self tend to experience attachment anxiety and engage in a *hyperactivated* attachment strategy characterized by fixing attention on distress-evoking stimuli, closely monitoring attachment figures for signs of impending abandonment, magnifying expressions of distress, and attempting to maintain proximity and solicit comfort from attachment figures. Persons with increasingly negative working models of others tend to experience attachment avoidance and engage in a *deactivated* attachment strategy characterized by cognitive and affect regulation patterns that divert attention from both the distress-evoking stimuli and attachment-related thoughts and feelings (Fraley, Davis, & Shaver, 1998).

The SCIP model defines social competencies as "skills needed to recruit and maintain satisfying and supportive relationships" together with "trait-like dispositions that govern use of these skills" (Mallinckrodt, 2000, p. 239). In the present study, we examined two specific social competencies, social self-efficacy

and emotional awareness. Social self-efficacy involves the belief that one can initiate social contact and develop new friendships from initial acquaintances. Persons who lack social self-efficacy believe that close personal relationships are a matter of luck or other factors outside their personal control (Sherer et al., 1982). Emotional awareness was operationalized as low scores on a measure of alexithymia. The term *alexithymia* captures the predominant feature of this disorder, that is, exhibiting "no words for feelings" (Lesser, 1981; Sifneos, 1972; Taylor, 1984). Recent studies suggest that alexithymia may be a common feature of a range of disorders involving poor affect regulation, including depression and compulsive, somatoform, anxiety, or eating disorders (Taylor, Bagby, & Parker, 1997). Alexithymia has been associated with retrospective reports of family dysfunction (King & Mallinckrodt, 2000). Persons who are relatively free of alexithymia can access their ongoing affective experience, identify what they are feeling, and readily describe their feelings to others. In this study, the construct of emotional awareness was operationalized as low levels of alexithymia. (This formulation allowed us to scale both social competencies in the same direction, i.e., so that higher levels of both constructs corresponded to greater levels of coping resources.)

Social self-efficacy and emotional awareness (i.e., low alexithymia) were examined in this study because theory and research suggest that these two social competencies each have special significance for adult attachment anxiety and avoidance. Persons with high attachment anxiety may be especially vulnerable to deficits in social self-efficacy because their experience of unpredictably responsive caregivers in childhood causes them to feel relatively powerless and unable to bring about desired outcomes in close relationships (Tronick, 1989). These adults may attribute any satisfaction they do experience in a relationship to factors external to themselves. Research suggests that adults' retrospective ratings of their parents' emotional responsiveness were positively associated with current social self-efficacy (Mallinckrodt, 1992). We did not expect problems with emotional awareness for persons with high attachment anxiety, because their hyperactivating secondary attachment strategy prompts an acute awareness of their feelings and a tendency to exaggerate how they communicate feelings to others—especially when distressed.

In contrast, persons with high attachment avoidance engage in deactivating strategies and have been shown to actively repress conscious awareness of attachment feelings (Fraley et al., 1998). Thus, we expected these adults to exhibit relatively low emotional awareness (i.e., high alexithymia), to have generalized problems with identifying how they feel, and to have problems communicating their affective experience to others. We did not advance a hypothesis regarding social self-efficacy in connection with attachment avoidance, because working models of self and others are believed to be orthogonal aspects of attachment (Bartholomew & Horowitz, 1991). Thus, persons with high attachment avoidance may or may not have positive working models of self and are likely to have a range of perceptions about their own social self-efficacy. In sum, social self-efficacy and emotional awareness were investigated because each was expected to be a unique social competency mediator for persons with high attachment avoidance and high attachment anxiety, respectively.

Adult Attachment, Social Support, and Psychological Distress

A growing body of research has begun to catalogue the interpersonal problems and psychological distress associated with insecure adult attachment. Many of the earlier studies used Bartholomew and Horowitz's (1991) four-category framework of secure, preoccupied, dismissing, and fearful attachment styles. A dismissing style involves high avoidance, a preoccupied style involves high anxiety, a fearful style involves high scores on both dimensions, and a secure style features low scores on both dimensions. A study of outpatient HMO clients found that a dismissing style was associated with problems in the dominant–hostile quadrant of the interpersonal circumplex, whereas a preoccupied attachment style was associated with clients' problems in the submissive–affiliative quadrant of the circumplex (Horowitz, Rosenberg, & Bartholomew, 1993). In contrast, a canonical correlation analysis of data from two large samples of undergraduates revealed that both attachment anxiety and avoidance were associated with hostile–submissive circumplex self-ratings (Gallo, Smith, & Ruiz, 2003). More recently, Mallinckrodt and Chen (2004) reported that attachment avoidance and anxiety were linked with somewhat specific patterns of interpersonal problems and tendencies to misperceive others in a group setting. The SCIP model holds that interpersonal problems like these are manifested in clients (and other adults) as low levels of perceived social support (Mallinckrodt, 2000).

Other lines of research have reported significant associations between adult attachment anxiety or avoidance and ineffective problem solving, depression, trait anxiety, hopelessness, and trait anger (Wei, Heppner, & Mallinckrodt, 2003), maladaptive perfectionism and depressive mood (Wei, Mallinckrodt, Russell, & Abraham, 2004), hostility (Simpson, Rholes, & Phillips, 1996), greater affective intensity and emotionality (Pietromonaco & Barrett, 1997), depressive symptoms (Roberts, Gotlib, & Kassel, 1996), and generalized emotional distress (Collins, 1996). Adults' retrospective ratings of emotional bonds with parents as cold, aloof, and unresponsive have also been associated with lower levels of perceived social support (Mallinckrodt, 1992).

On the basis of this growing body of research, we expected that adult attachment anxiety and avoidance would both be significantly negatively associated with perceived social support and positively associated with psychological distress. These direct effects are represented by four arrows in Figure 1 that directly link attachment avoidance and anxiety with social support and psychological distress. Our review of the literature led us to expect that each of these paths would be statistically significant, although the literature also suggests different reasons as to why attachment anxiety and avoidance may be associated with psychological distress and social support. In other words, although we did not expect differences at the level of direct effects represented by these four paths, we did expect differences in the indirect effects (i.e., mediators), as explained above. We further hypothesized that each form of attachment insecurity would be significantly mediated by one, and only one, of the two mediators. Specifically, we expected only social self-efficacy to serve as a significant mediator for the effects of attachment anxiety, and only emotional awareness to serve as a significant mediator for the effects of attachment avoidance. Identifying mediators of the link between attachment insecurities and psychological or interpersonal outcomes is especially

important for brief counseling interventions. Given the constraints of time-limited therapy, it may be difficult to significantly improve clients' adult attachment security. However, a more achievable short-term goal might be to help clients gain the social competencies that research suggests may mediate the link between attachment insecurities and presenting problems.

Method

Participants

Participants were solicited from sections of a course in General Psychology taught at a large public Midwestern university. Participants received partial credit toward their course grades as an incentive. The project was described as a survey about romantic relationships, social support, memories of childhood relationships with parents, and current psychological adjustment. (Ratings of relationships with parents were not used in this study.) Usable survey data were collected from 435 students. In addition, following data screening procedures recommended by Tabachnick and Fidell (2001), we conducted an analysis of Mahalanobis distance that indicated that 5 cases were significant multivariate outliers ($p < .001$). Of the remaining 430 students retained for analyses, 258 (60%) were women, 164 (38%) were men, and 8 did not report their sex. The students' mean age was 19.72 years ($SD = 1.90$, range = 18–42). With regard to marital status, 401 (93%) were single and never married, 15 (4%) lived unmarried with a partner, 5 (1.2%) were married, 1 (0.2%) was divorced, and 8 did not indicate their marital status. With regard to ethnicity, 369 (86%) identified themselves as "White/Caucasian," 27 (6%) as "African American/Black," 12 (2.8%) as "Asian American or Pacific Islander," and 3 (0.7%) as "Hispanic/Latino/Latina"; 13 (3.1%) indicated "other" or a mixture of more than one race or ethnicity; and 6 did not answer this item.

Measures

Adult attachment. The Experiences in Close Relationships Scale (ECRS; Brennan et al., 1998) was developed from the responses of over 1,000 undergraduate students to more than 300 items taken from the most frequently used self-report adult attachment instruments. Factor analysis identified two orthogonal factors, labeled attachment Anxiety and Avoidance. Each subscale contains 18 items, which respondents rate using a 7-point, partly anchored Likert-type scale (1 = *disagree strongly*, 4 = *neutral/mixed*, 7 = *agree strongly*). Brennan et al. reported internal consistency reliabilities (coefficient alphas) of .94 and .91 for the Avoidance and Anxiety subscales, respectively. Retest reliabilities (over a 3-week interval) were .70 for each subscale (Brennan, Shaver, & Clark, 2000). Evidence of validity is provided by correlations with other measures of adult attachment and sexual feelings in expected directions (Brennan et al., 1998, 2000). For the current sample, internal reliabilities (coefficient alphas) were .94 and .92 for the Avoidance and Anxiety subscales, respectively.

Social self-efficacy. One of the two subscales of the Self-Efficacy Scale (SES; Sherer et al., 1982) measures social self-efficacy. Only this 6-item subscale was used in the current study. Participants respond to the original SES using a 14-point scale, but in the current study a 5-point response format was used (1 = *strongly disagree*, 5 = *strongly agree)*. The authors reported an internal consistency (coefficient alpha) of .71 for the SES and evidence of construct validity in significant correlations with internal locus of control, interpersonal competency, assertiveness, and the Minnesota Multiphasic Personality Inventory's Social Introversion scale, or Scale 0 (Sherer & Adams, 1983; Sherer et al., 1982). Internal consistency (coefficient alpha) in the current study was .73.

Emotional awareness. The Toronto Alexithymia Scale–20 (TAS-20; Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994) is a 20-item self-report measure widely used in studies of alexithymia. Items are rated on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*). The TAS-20 contains three subscales to measure (a) difficulty identifying feelings, (b) difficulty describing feelings, and (c) an external orientation in which one avoids thinking about and reflecting upon internal experience. The authors reported internal consistencies for the three factors of .78, .75, and .66, respectively, a retest reliability (over a 3-week interval) of .77 for the total scale score (Bagby, Parker, & Taylor, 1994), and correlations in the expected direction with results of independent clinical interviews and self-report measures of personality (Bagby, Taylor, & Parker, 1994). After preliminary analyses in the current study, we decided not to use the eight-item External Orientation subscale because of its low internal reliability ($\alpha = .66$) and relatively low correlations with the other two scales in this study and previous research (Bagby, Parker, & Taylor, 1994) and because items from the remaining two scales, measuring difficulty identifying feelings and communicating about feelings, provided much better indicators for the latent variable of emotional awareness.

Social support. The Social Provisions Scale (SPS; Cutrona & Russell, 1987, 1990) is a 24-item measure of perceived social support. Clients respond using a 4-point Likert-type scale (1 = *strongly disagree*, 4 = *strongly agree*). Six subscales, composed of four items each, are used to assess a different aspect of social support: (a) Attachment, or feelings of safety and security in a close emotional bond; (b) Social Integration, or having one's interests and concerns shared by others; (c) Reassurance of Worth, or having one's skills and abilities acknowledged; (d) Reliable Alliance, or assurance that one can count on assistance being available if needed; (e) Guidance, or the availability of confidants or authoritative others to provide advice; and (f) Opportunity for Nurturance, or the sense of contributing to the well-being of another person. The authors reported adequate retest reliability, concurrent validity, and a stable factor structure for the six subscales, as well as significant differences in the particular type of social support most helpful to persons experiencing qualitatively different life stresses (Cutrona & Russell, 1990). Internal consistency in the present study ranged from .65 (Opportunity for Nurturance) to .83 (Guidance).

Psychological distress. The Outcome Questionnaire (OQ; Lambert et al., 1996) is a 45-item instrument designed to provide a standardized measure of symptom severity and overall functioning appropriate for university counseling center clients. The OQ is a brief self-report instrument sensitive to changes in psychological distress over short periods of time. Items address commonly occurring problems across a wide variety of disorders. The 5-point response scale (0 = *never*, 1 = *rarely*, 2 = *sometimes*, 3 = *frequently*, 4 = *almost always*) yields a range of scores for the total scale from 0 to 180. Higher values indicate more reported symptoms. A cutoff score of 63 has been suggested as the boundary between relatively higher and lower functioning respondents. An internal consistency (coefficient alpha) of .93 has been reported, with retest reliability over 3-week intervals ranging from .78 to .84 (Lambert et al., 1996). In the current study, coefficient alpha was .91 for the 45 items.

Procedure

Participants learned about this study in a sign-up area where information about a number of other studies available to psychology students was posted. Those interested completed survey packets in small groups of 10–40 students monitored by a member of the research team. Students required 35–45 min to complete the surveys using machine-readable answer sheets, which were returned to the researchers without any identifying information. Signed informed consent documents, returned separately from surveys, were used to award course credit.

Results

Structural Equation Modeling Measurement Model

Analysis of the proposed mediation model shown in Figure 1 followed the two-step procedure recommended by Anderson and

Table 1
Means, Standard Deviations, and Correlations of Composite Variables

Variable	*M*	*SD*	1	2	3	4	5	6
1. Attachment anxiety	3.72	1.16	—	.30**	−.29**	−.45**	.53**	−.35**
2. Attachment avoidance	2.87	1.17		—	−.26**	−.45**	.48**	−.44**
3. Social self-efficacy	3.38	0.69			—	.46**	−.41**	.46**
4. Emotional awareness	2.34	0.71				—	−.65**	.49**
5. Psychological distress	52.84	21.50					—	−.65**
6. Social support	3.47	0.49						—

Note. $N = 430$. The 20×20 correlation matrix of the variables that served as indicators of these six latent variables may be obtained by requesting them from Brent Mallinckrodt. All means are item-level means, not sums of the items, except for psychological distress.
** $p < .01$.

Gerbing (1988). The first step is to use confirmatory factor analyses to develop a measurement model with an acceptable fit to the data. Only after an acceptable measurement model is developed can the structural model be tested. The measurement model in this study was estimated using the maximum-likelihood method in the LISREL 8.54 program (Jöreskog & Sörbom, 2003). For constructs represented by only a single measured variable (e.g., attachment anxiety and avoidance), we followed the recommendations of Russell, Kahn, Spoth, and Altmaier (1998) to create item parcels so that there would be at least three indicators of each latent variable. Corrected item–total scale correlations produced by the SPSS 10.0 Reliability procedure were used to assign individual items to parcels. We rank ordered items on the basis of the magnitude of the corrected item–total correlations and then successively assigned pairs of the highest and lowest correlating items to each parcel. This procedure was used to equalize the loadings of each resulting parcel on its respective latent variable. For the ECRS Anxiety and Avoidance subscales, two sets of three 6-item parcels were created. For the SES, three 2-item parcels were created as indicators of social self-efficacy. Little, Cunningham, Shahar, and Widaman (2002) described conditions in which researchers are not interested in preserving the underlying multidimensional structure of a latent construct. In these cases, parcels should sample across construct domains. At least three parcels (containing equal numbers of items if possible) are recommended because three indicators provide a "just-identified" measurement of the construct. Therefore, for the OQ, three 15-item parcels were created as indicators of psychological distress. For the TAS-20, three 4-item parcels were created from the 12 items that remained after deleting the External Orientation subscale. To create indicators of emotional awareness, the valence of these three TAS-20 item parcels was reversed by subtracting each value from 6 (the highest possible value + 1). Thus, both social competencies latent variables (social self-efficacy and emotional awareness) were scaled in the same direction, that is, with increasing scores indicating higher levels of competencies.

Initial attempts to create the best-fitting model suggested that one or more indicators with low factor loadings should be dropped. For the social support latent variable, the Opportunity for Nurturance subscale had a low loading relative to the other five SPS subscales. This subscale assesses support supplied to others rather than perceptions of support received. We reasoned that dropping this subscale was justified because this sample of relatively young adults may have had few of their own children or others who "depended on them for their well being." Means, standard deviations, and correlations of the composite variables in this study are shown in Table 1. The final measurement model retained 20 indicators. As suggested by Hu and Bentler (1999), several fit indices were used. For the comparative fit index (CFI), values of .95 or greater indicate that the model adequately fits the data. For the root-mean-square error of approximation (RMSEA), values of .06 or less indicate that the model adequately fits the data. It is also customary to report the 90% confidence interval (CI) for RMSEA. Similarly, for the standardized root-mean-square residual (SRMR), values of .08 or less indicate that the model adequately fits the data. Finally, the chi-square difference test was used to compare nested models.

A final test of the measurement model[1] indicated a relatively good fit: $\chi^2(155, N = 430) = 417.55$, $p < .01$; CFI = .98; RMSEA = .056 (90% CI: lower bound = .048, upper bound = .063); and SRMR = .046. The model included no correlated error terms. Table 2 shows that all loadings of the measured variables on the latent variables were statistically significant. Therefore, all of the latent variables appear to have been adequately measured by their respective indicators. Table 3 also shows that the correlations among the independent latent variables, mediator latent variables, and dependent latent variables were all statistically significant. Therefore, the measurement model was used to test the structural models described next.

Structural Model for Testing Mediated Variables

A series of nested structural models was used to systematically test elements of the SCIP model shown in Figure 1. Model A was the fully recursive baseline model with all structural paths shown

[1] To check the stability of the final modified measurement model, we created two random subsets of data. The correlations among the latent variables from the first subset ($n = 215$) were used in a multiple group comparison with those from the second subset of data ($n = 215$) to cross-validate the measurement model. Results indicated that the correlations among the latent variables obtained from the first subset of data were equivalent to those in the second subset of data, $\Delta\chi^2(15, N = 430) = 17.2$, $p = .31$, based on the standard chi-square difference test. In addition, we also examined the equivalence of structural path coefficients in the structural model (Model A) from the first and second subsets of data. No differences in path coefficients were found between these two subsets of data, $\Delta\chi^2(12, N = 430) = 14.8$, $p = .25$.

in Figure 1 free to be estimated, including both paths that we expected to be significant (solid lines) and paths not expected to be significant (dashed lines) Each of the alternative Models B through E tested one of the paths *a*, *b*, *c*, and *d*, from Figure 1 by constraining that path to zero. Recall that a specific hypothesis had been developed concerning each of these paths—including two paths (*b* and *c*) that were not expected to be statistically significant. Table 4 shows the results of these comparisons. We begin by systematically examining the four paths from the independent variables (attachment anxiety and avoidance) to the mediators (social self-efficacy and emotional awareness).[2] Model B constrained path *a* to zero. The comparison of Model B and Model A (path *a* freely estimated), shown in Table 4, revealed that Model A was a better fit to the data, $\Delta\chi^2(1, N = 430) = 22.34$, $p < .01$. This result supported our hypothesis that attachment anxiety is significantly associated with social self-efficacy. Similarly, Model C constrained path *b* to zero. Comparison of Model C with Model A (path *b* freely estimated) revealed that Model A provided a better fit to the data, $\Delta\chi^2(1, N = 430) = 59.58$, $p < .01$. Recall that path *b* was not expected to be statistically significant. However, our results failed to support this hypothesis. Instead, path *b* contributed significantly to the model. For our next comparison, Model D constrained path *c* to zero. Comparison of Model D with Model A (path *c* freely estimated) revealed that Model A, once again, provided a better fit to the data, $\Delta\chi^2(1, N = 430) = 14.58$, $p < .01$. Recall that path *c* was not expected to be statistically significant, whereas the results indicated that path *c* contributed significantly to the model. Finally, Model E constrained path *d* to zero. The comparison of Model E with Model A (path *d* freely estimated), shown in Table 4, again revealed that Model A provided a better fit to the data, $\Delta\chi^2(1, N = 430) = 61.67$, $p < .01$. In summary, it appeared that Model A was the best-fitting model among the five models compared. Therefore, Model A was used for testing the significance of indirect effects.

Table 2
Factor Loadings for the Measurement Model

Latent variable and indicator	Unstandardized factor loading	*SE*	*Z*	Standardized factor loading
Attachment anxiety				
Parcel 1	1.13	.04	26.65**	.89
Parcel 2	1.12	.04	28.26**	.92
Parcel 3	1.11	.04	26.80**	.90
Attachment avoidance				
Parcel 1	1.13	.04	29.97**	.92
Parcel 2	1.15	.04	27.85**	.92
Parcel 3	1.17	.04	29.05**	.93
Social self-efficacy				
Parcel 1	0.69	.04	17.28**	.77
Parcel 2	0.61	.04	17.21**	.73
Parcel 3	0.56	.04	15.06**	.72
Emotional awareness				
Parcel 1	0.71	.03	25.43**	.89
Parcel 2	0.65	.03	21.45**	.80
Parcel 3	0.65	.03	20.71**	.80
Psychological distress				
Parcel 1	0.51	.02	25.80**	.92
Parcel 2	0.38	.02	21.54**	.85
Parcel 3	0.51	.02	23.58**	.93
Social support				
Reliable alliance	0.41	.02	16.85**	.79
Attachment	0.55	.03	20.16**	.85
Guidance	0.51	.02	21.74**	.89
Social integration	0.41	.02	17.27**	.76
Reassurance of worth	0.43	.02	17.78**	.74

Note. $N = 430$.
** $p < .01$.

Table 3
Correlations Among Latent Variables in the Measurement Model

Variable	1	2	3	4	5	6
1. Attachment anxiety	—	.32**	−.34**	−.50**	.57**	−.36**
2. Attachment avoidance		—	−.30**	−.50**	.50**	−.49**
3. Social self-efficacy			—	.56**	−.49**	.53**
4. Emotional awareness				—	−.71**	.56**
5. Psychological distress					—	−.68**
6. Social support						—

Note. $N = 430$.
** $p < .01$.

Testing the Significance of Indirect Effects

The path coefficients for Model A are shown in Figure 2. A number of methods have been suggested for testing the magnitude and statistical significance of mediation effects. Recently, many of these methods were compared with regard to Type I error and statistical power (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). The commonly used method recommended by Baron and Kenny (1986) was among the lowest in statistical power of the methods examined. To address this shortcoming, Shrout and Bolger (2002) suggested a bootstrap procedure to estimate indirect effects. In general, bootstrap methods offer an empirical method of determining the significance of statistical estimates (Efron & Tibshirani, 1993). Following the recommendations of Shrout and Bolger, we began by forming 1,000 bootstrap samples ($N = 430$) from the original data set through random sampling with replacement. We then used the LISREL 8.54 program to reestimate 1,000 times the path coefficients of Model A shown in Figure 2. The estimates of each path coefficient were used to calculate mean indirect effects across the 1,000 samples, together with the corresponding estimates of standard errors for the distribution of these means. Shrout and Bolger (2002) recommended that researchers report the 95% CI for the mean indirect effect. If the CI does not include zero, the indirect effect is considered statistically significant at the .05 level. The last column of Table 5 shows that six indirect effects were statistically significant and two were not. The relative strength of mediation effects is given in the fourth column of Table 5, which shows the product of the two standardized path coefficients.

[2] For the nested model comparisons, we computed the corrected scaled chi-square difference tests (Satorra & Bentler, 2001) based on the results from the LISREL output. However, some values of the corrected scaled chi-square difference tests were negative. Therefore, we report the standard chi-square difference tests for the nested model comparisons. We also computed the corrected scaled chi-square difference tests based on the results from the EQS 6.1 program, and the essential results of these tests regarding conclusions about the model comparisons were identical to the results from the standard chi-square different tests. We have not reported the EQS results because this software package does not implement bootstrap analysis.

Table 4
Fit Indices for Nested Structural Baseline Models

Model	CFI	SRMR	RMSEA	90% CI for RMSEA	χ^2	*df*	Models compared	Figure 1 paths constrained to zero in this model	$\Delta\ \chi^2(1)$
A	.98	.046	.056	.048–.063	417.55	155		none	
B	.98	.065	.059	.051–.060	439.89	156	B vs. A	*a*	22.34**
C	.98	.083	.063	.056–.070	477.13	156	C vs. A	*b*	59.58**
D	.98	.060	.056	.049–.064	432.13	156	D vs. A	*c*	14.58**
E	.98	.085	.062	.054–.069	479.22	156	E vs. A	*d*	61.67**

Note. $N = 430$. CFI = comparative fit index; SRMR = standardized root-mean-square residual; RMSEA = root-mean-square error of approximation; CI = confidence interval.
** $p < .01$.

The first four rows of results in Table 5 show that three of the four mediation effects we expected to find were statistically significant. Thus, our hypotheses that emotional awareness would be a significant mediator of the relationship between attachment avoidance and (a) psychological distress and (b) social support were supported. Our hypothesis that social self-efficacy would be a significant mediator of the association between attachment anxiety and social support was also supported, but social self-efficacy was not a significant mediator of the association between attachment anxiety and psychological distress.

However, the last four rows of Table 5 show three statistically significant indirect effects where we had *not* expected to find mediation. Contrary to expectation, emotional awareness was a significant mediator for the association between attachment anxiety and both psychological distress and social support. Social self-efficacy also was a significant mediator of the association between attachment avoidance and social support. Thus, in general, our hypothesis that one, and only one, variable would serve as a mediator for each type of attachment insecurity was not supported. Together, attachment anxiety and avoidance accounted for 16% of the variance in social self-efficacy and 38% of the variance in emotional awareness. Collectively, the attachment anxiety and/or avoidance latent variable and the two social competencies latent variables accounted for 59% of the variance in psychological distress and 44% of the variance in social support.

Discussion

At the level of considering direct effects, this study established that attachment anxiety and avoidance were both positively associated with psychological distress and negatively associated with

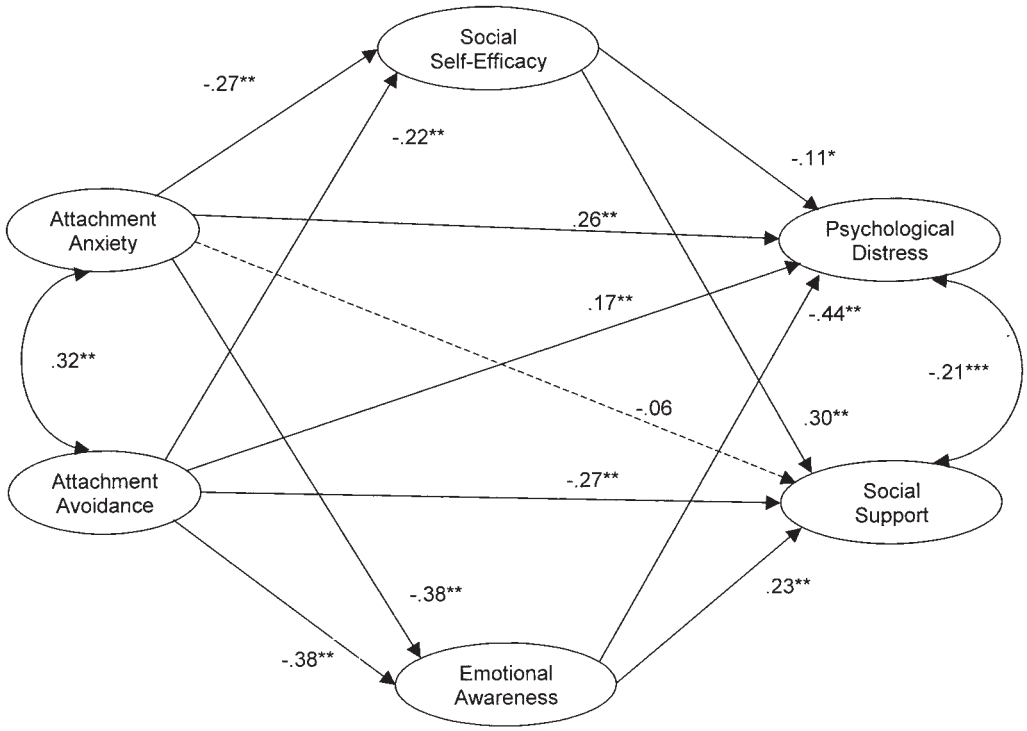

Figure 2. Structural model for social competencies' mediation of attachment effects on psychological distress and social support. Dashed lines indicate nonsignificant paths. *$p < .05$. **$p < .01$.

Table 5
Bootstrap Analysis of Magnitude and Statistical Significance of Indirect Effects

Independent variable	Mediator variable	Dependent variable	β (standardized path coefficient and product)	Mean indirect effect (B)[a]	*SE* of mean[a]	95% confidence interval for mean indirect effect[a]
Indirect effects hypothesized to be statistically significant						
Anxiety →	SSE →	psychological distress	(−.27) × (−.11) = .03	.0131	.00022	−.0004 to .0274
Anxiety →	SSE →	social support	(−.27) × (.30) = −.08	−.0290	.00029	−.0501 to −.0139*
Avoidance →	Aware →	psychological distress	(−.38) × (−.44) = .17	.0743	.00046	.0484 to .1049*
Avoidance →	Aware →	social support	(−.38) × (.23) = −.09	−.0320	.00036	−.0562 to −.0111*
Indirect effects not expected to be statistically significant						
Anxiety →	Aware →	psychological distress	(−.38) × (−.44) = .17	.0743	.00046	.0478 to .1041*
Anxiety →	Aware →	social support	(−.38) × (.23) = −.09	−.0320	.00035	−.0542 to −.0117*
Avoidance →	SSE →	psychological distress	(−.22) × (−.11) = .02	.0106	.00020	−.0003 to .0247
Avoidance →	SSE →	social support	(−.22) × (.30) = −.07	−.0230	.00025	−.0406 to −.0092*

Note. $N = 430$. SSE = social self-efficacy; Aware = emotional awareness.
[a] These values are based on unstandardized path coefficients.
* This 95% confidence interval excludes zero and therefore is significant at $p < .05$.

perceived social support. These findings are consistent with the growing body of research that has implicated problems in adult attachment security in the manifestation of psychological distress and a wide range of difficulties in interpersonal functioning (Collins, 1996; Gallo et al., 2003; Pietromonaco & Barrett, 1997; Roberts et al., 1996; Simpson et al., 1996; Wei et al., 2003; Wei, Mallinckrodt, et al., 2004). However the purpose of this study was to move beyond simply adding to this catalogue of problems. Instead, we hoped to identify mediating variables that could potentially serve as the basis for counseling interventions. We were especially interested in examining the mediating effects of two social competencies, each of which was expected to be beneficial for a specific type of adult attachment insecurity. Social self-efficacy, but not emotional awareness, was expected to mediate the effects of attachment anxiety, whereas emotional awareness, but not social self-efficacy, was expected to mediate the effects of attachment avoidance.

Attachment avoidance has been associated with a tendency to deactivate attachment-related thoughts and feelings (Fraley et al., 1998) but is also based on a positive working model of self that led us to expect respondents would not report problems with social self-efficacy. In contrast, we expected that the relative sense of powerlessness and negative models of self experienced by persons high in attachment anxiety would lead to deficits in social self-efficacy but not to problems in emotional awareness—because of the tendency to hyperactivate the attachment system reported in previous studies of attachment anxiety (Kobak et al., 1993; Mikulincer et al., 2003).

The findings of the present study generally supported the mediation effects we expected to find but not the sharp level of differentiation between the two social competencies that we expected. From the standpoint of convergent and divergent tests of adult attachment mediators, relatively strong support was found for the convergent hypotheses of this study, but the divergent expectations did not receive support. In other words, the mediation effects we expected to be significant were significant, but so also were most of the mediation effects we did not expect to be significant. For example, contrary to our initial expectations that there would be no significant link, it appears that attachment anxiety was significantly negatively associated with emotional awareness (i.e., positively associated with alexithymia). Alexithymia does not involve an absence of emotional experience; rather, it involves the inability to differentiate generalized emotional arousal into shades of affective meaning, together with difficulties communicating these meanings to others. Our findings appear to suggest that persons high in attachment anxiety tend not to have a nuanced awareness of their own feelings. These results can be reconciled with findings from previous studies (see Mikulincer et al., 2003, for a review) if one assumes that the intensified expression of distress, fears of abandonment, and attempts to solicit comfort that are part of attachment hyperactivation do not require a differentiated awareness of feelings and that persons high in attachment anxiety tend to rate themselves low in both the ability to differentiate strong negative affect and the ability to effectively communicate these feelings to others.

Figure 2 also shows that the path from attachment avoidance to emotional awareness was significant, as expected. We had advanced no particular hypothesis regarding avoidance and social self-efficacy, but the findings show that this path was also significant and negative. Persons with high avoidance, like those high in anxiety, also appear to experience themselves as relatively helpless to form new friendships or to take affirmative steps to improve their social networks. These findings are consistent with patterns of attachment deactivation, in which persons who experience threat repress attachment-related affect and shun interpersonal intimacy. Our findings also suggest that although these persons may have a generally positive working model of self, they tend to evaluate their social self-efficacy as poor. In sum, social self-efficacy and emotional awareness were significant mediators of the direct effects of both attachment anxiety and avoidance. These findings suggest that interventions targeted at increasing levels of either of these social competencies might be helpful for increasing

social support and reducing symptoms of distress commonly reported by counseling clients.

Low emotional awareness (i.e., high alexithymia) has been shown to be associated with retrospective ratings of dysfunction in the families of both adult clients and nonclients and has tended to be higher among clients (King & Mallinckrodt, 2000). Taken together, these findings suggest that persons who experience childhood family dysfunction or adult attachment insecurities tend to manifest fewer psychological symptoms and problems in interpersonal functioning if they can achieve a reasonably high level of emotional awareness and a sense of social self-efficacy. Overall, we interpret these findings as providing considerable support for the central assumption of the SCIP model—namely, that deficits in social competencies explain a significant portion of the link between adult attachment insecurity and interpersonal problems. However, the findings of this study do not support the conclusion that one of the particular social competencies that we studied is significantly more beneficial than the other in connection with attachment anxiety or attachment avoidance.

A number of important limitations in this study should be acknowledged. Its generalizability is limited because this sample contained relatively young (mean age $<$ 20 years), predominantly White (86%) undergraduate students. Recent studies suggest that adult attachment constructs differ significantly among U.S. ethnic minorities (Wei, Russell, Mallinckrodt, & Zakalik, 2004) and differ between the individualistic culture that predominates in the United States and the more collectivistic culture of Taiwan (Wang & Mallinckrodt, 2004). Another limitation was that all of the study measures were self-report and were therefore susceptible to common method bias and inflation of correlations owing to spurious variables such as momentary moods or test-taking attitudes. Although structural equation methods were used to test "causal" models, the data were collected at one point in time and thus cannot provide proof of actual causal relationships.

If these results are replicated in future studies, confidence could be built in conclusions that must remain very tentative for the present. Thus far, research has not shed much light on the question of how amenable to change adult attachment patterns may be, but writers have speculated that it is probably very difficult to make significant improvements in attachment anxiety or attachment avoidance in brief therapy (Mallinckrodt, 2000). Nevertheless, it may be possible to help clients with high levels of avoidance or anxiety to mitigate the most maladaptive aspects of their adult attachment insecurity. The findings of our study suggest that a focus on helping clients gain social self-efficacy and emotional awareness may prove to be a useful counseling strategy. We did not find strong support for the type of targeted benefits that we had hypothesized. Instead, our findings suggest that increasing social self-efficacy and emotional awareness may help clients no matter what their specific adult attachment insecurities may be. Writers (e.g., Slade, 1999) have speculated that the key to helping clients with adult attachment difficulties is to systematically manage the emotional intimacy of the psychotherapy relationship. Specifically, this approach involves establishing more distance than clients with attachment anxiety seek, while carefully monitoring their frustration, and pushing for less emotional distance than clients with attachment avoidance may find comfortable, while carefully monitoring their anxiety (Mallinckrodt, 2000). This systematic regulation of the psychotherapy relationship may provide a corrective experience in which clients with either form of attachment insecurity gain social self-efficacy and emotional awareness. This may be an especially promising area for further study.

References

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation.* Hillsdale, NJ: Erlbaum.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103,* 411–423.

Bagby, R. M., Parker, J. D. A., & Taylor, J. G. (1994). The twenty-item Toronto Alexithymia Scale-I: Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research, 38,* 23–32.

Bagby, R. M., Taylor, J. G., & Parker, J. D. A. (1994). The twenty-item Toronto Alexithymia Scale-II: Convergent, discriminant, and concurrent validity. *Journal of Psychosomatic Research, 38,* 33–40.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173–1182.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61,* 226–244.

Bowlby, J. (1979). *The making and breaking of affectional bonds.* London: Tavistock.

Bowlby, J. (1988). *A secure base: Parent–child attachment and healthy human development.* New York: Basic Books.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.

Brennan, K. A., Shaver, P. R., & Clark, C. A. (2000). *Specifying some mediators of attachment-related anxiety and avoidance.* Unpublished manuscript, State University of New York at Brockport.

Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. *Monographs of the Society for Research in Child Development, 50*(1–2, Serial No. 209), 3–35.

Collins, N. L. (1996). Working models of attachment: Implications for explanation, emotion, and behavior. *Journal of Personality and Social Psychology, 71,* 810–832.

Cutrona, C. E., & Russell, D. (1987). The provisions of social relationships and adaptation to stress. In W. H. Jones & D. Perlman (Eds.), *Advances in personal relationships* (Vol. 1, pp. 37–67). Greenwich, CT: JAI Press.

Cutrona, C. E., & Russell, D. W. (1990). Type of social support and specific stress: Toward a theory of optimal matching. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactive view* (pp. 319–366). New York: Wiley.

Efron, B., & Tibshirani, R. (1993). *An introduction to the bootstrap.* New York: Chapman & Hall/CRC.

Fraley, R. C., Davis, K. E., & Shaver, P. R. (1998). Dismissing-avoidance and the defensive organization of emotion, cognition, and behavior. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 249–279). New York: Guilford Press.

Gallo, L. C., Smith, T. W., & Ruiz, J. M. (2003). An interpersonal analysis of adult attachment style: Circumplex descriptions, recalled developmental experiences, self-representations, and interpersonal functioning in adulthood. *Journal of Personality, 71,* 141–181.

Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. *Journal of Consulting and Clinical Psychology, 61,* 549–560.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1–55.

Jöreskog, K. G., & Sörbom, D. (2003). *LISREL 8.54.* Lincolnwood, IL: Scientific Software International, Inc.

King, J. L., & Mallinckrodt, B. (2000). Family environment and alexithymia in clients and non-clients. *Psychotherapy Research, 10,* 78–86.

Kobak, R. (1999). The emotional dynamics of disruptions in attachment relationships: Implications for theory, research, and clinical intervention. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 21–43). New York: Guilford Press.

Kobak, R. R., Cole, H. E., Ferenz-Gillies, R., Fleming, W. S., & Gamble, W. (1993). Attachment and emotion regulation during mother–teen problem solving: A control theory analysis. *Child Development, 64,* 231–245.

Lambert, M. J., Hansen, N. B., Umphress, V., Lunnen, K., Okiishi, J., Burlingame, G. M., & Reisinger, C. W. (1996). *Administration and scoring manual for the Dependent Questionnaire (OQ-45.2*). Stevenson, MD: American Professional Credentialing Services.

Lesser, I. M. (1981). A review of the alexithymia concept. *Psychosomatic Medicine, 43,* 531–543.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9,* 151–173.

Lopez, F. G., & Brennan, K. A. (2000). Dynamic processes underlying adult attachment organization: Toward an attachment theoretical perspective on the healthy and effective self. *Journal of Counseling Psychology, 47,* 283–301.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7,* 83–104.

Mallinckrodt, B. (1992). Childhood emotional bonds with parents, development of adult social competencies, and the availability of social support. *Journal of Counseling Psychology, 39,* 453–461.

Mallinckrodt, B. (2000). Attachment, social competencies, social support and interpersonal process in psychotherapy. *Psychotherapy Research, 10,* 239–266.

Mallinckrodt, B. (2001). Interpersonal processes, attachment, and development of social competencies in individual and group psychotherapy. In B. Sarason & S. Duck (Eds.), *Personal relationships: Implications for clinical and community psychology* (pp. 69–118). New York: Wiley.

Mallinckrodt, B., & Chen, E. C. (2004). Attachment and interpersonal impact perceptions of group members: A social relations model analysis of transference. *Psychotherapy Research, 14,* 210–230.

Mallinckrodt, B., Porter, M. J., & Kivlighan, D. M., Jr. (2005). Client attachment to therapist, depth of in-session exploration, and object relations in brief psychotherapy. *Psychotherapy: Theory, Research, Practice, and Training, 42,* 85–100.

Mikulincer, M., Shaver, P. R., & Pereg, D. (2003). Attachment theory and affect regulation: The dynamics, development, and cognitive consequences of attachment-related strategies. *Motivation & Emotion, 27,* 77–102.

Pietromonaco, P. R., & Barrett, L. F. (1997). Working models of attachment and daily social interactions. *Journal of Personality and Social Psychology, 73,* 1409–1423.

Roberts, J. E., Gotlib, I. J., & Kassel, J. D. (1996). Adult attachment security and symptoms of depression: The mediating roles of dysfunctional attitudes and low self-esteem. *Journal of Personality and Social Psychology, 70,* 310–320.

Russell, D. W., Kahn, J. H., Spoth, R., & Altmaier, E. M. (1998). Analyzing data from experimental studies: A latent variable structural equation modeling approach. *Journal of Counseling Psychology, 45,* 18–29.

Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika, 66,* 507–514.

Sherer, M., & Adams, C. H. (1983). Construct validation of the Self-Efficacy Scale. *Psychological Reports, 53,* 899–902.

Sherer, M., Maddux, J. E., Mercadante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The Self-Efficacy Scale: Construction and validation. *Psychological Reports, 51,* 663–671.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7,* 422–445.

Sifneos, P. E. (1972). *Short-term psychotherapy and emotional crisis.* Cambridge, MA: Harvard University Press.

Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology, 71,* 899–914.

Slade, A. (1999). Attachment theory and research: Implications for the theory and practice of individual psychotherapy with adults. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 497–519). New York: Guilford Press.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.

Taylor, G. J. (1984). Alexithymia: Concept, measurement, and implications for treatment. *American Journal of Psychiatry, 141,* 725–732.

Taylor, G. J., Bagby, R. M., & Parker, J. D. A. (1997). *Disorders of affect regulation: Alexithymia in medical and psychiatric illness.* New York: Cambridge University Press.

Tronick, E. Z. (1989). Emotions and emotional communication in infants. *American Psychologist, 44,* 112–119.

Wang, C. C., & Mallinckrodt, B. (2004). *Differences between Taiwanese and U. S. cultural beliefs about ideal adult attachment.* Manuscript submitted for publication.

Wei, M., Heppner, P. P., & Mallinckrodt, B. (2003). Perceived coping as a mediator between attachment and psychological distress: A structural equation modeling approach. *Journal of Counseling Psychology, 50,* 438–447.

Wei, M., Mallinckrodt, B., Russell, D. W., & Abraham, W. T. (2004). Maladaptive perfectionism as a mediator and moderator between adult attachment and psychological distress. *Journal of Counseling Psychology, 51,* 201–212.

Wei, M., Russell, D. W., Mallinckrodt, B., & Zakalik, R. A. (2004). Cultural equivalence of adult attachment across four ethnic groups: Factor structure, structured means, and associations with negative mood. *Journal of Counseling Psychology, 51,* 408–417.

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