

Testing a Conceptual Model of Working Through Self-Defeating Patterns

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The present study developed and examined a conceptual model of working through self-defeating patterns. Participants were 390 college students at a large midwestern university. Results indicated that self-defeating patterns mediated the relations between attachment and distress. Also, self-esteem mediated the link between self-defeating patterns and depression, whereas social self-efficacy mediated the association between self-defeating patterns and interpersonal distress. A total of 33% of the variance in self-defeating patterns was explained by attachment anxiety and avoidance; 39% of the variance in self-esteem and 13% of the variance in social self-efficacy were explained by self-defeating patterns and/or attachment anxiety; 50% of the variance in depression was explained by attachment anxiety, self-defeating patterns, and self-esteem; 45% of the variance in interpersonal distress was explained by attachment anxiety and avoidance, self-defeating patterns, and social self-efficacy.

Keywords: adult attachment, self-defeating patterns, self-esteem, social self-efficacy, depression

In the counseling process, it is common practice for counseling psychologists to help clients identify their current repeated, maladaptive patterns (e.g., general self-defeating thoughts, feelings, and behaviors), increase awareness of their patterns, work through their patterns, and use resources from self (e.g., increasing self-esteem or social self-efficacy) to develop alternative strategies in order to decrease psychological or interpersonal distress. The development of this repeated, maladaptive pattern is often viewed to be associated with early childhood experiences involving interactions with caregivers or significant others, and these patterns are likely to continue into adulthood (e.g., Teyber, 2005). Given this common clinical practice in helping people to work through their repeated patterns, the purpose of the present study was to develop and examine a conceptual model (see Figure 1) from the above components (i.e., attachment, self-defeating patterns, resources from self, and distress). The conceptual model was developed on the basis of (a) a review of the theoretical conceptualization and empirical evidences for the associations among attachment, self-defeating patterns, and distress; and (b) a review of a few theoretical writings, empirical studies, and clinical wisdom for identifying resources from self as potential mediators between the links of self-defeating patterns and psychological or interpersonal distress.

Adult Attachment, Self-Defeating Patterns, and Distress

We first discussed the associations among attachment, self-defeating patterns, and distress. The *self-defeating pattern* can be defined as a set of enduring behaviors of inflexible and pervasive traits characterized primarily by paying long-term negative psychological costs for immediate, short-term benefits (for a review, see Baumeister & Scher, 1988). They are also associated with undeserving self-image and a self-sacrificing interpersonal style (Millon, 1987). Some theoretical writers have argued that the self-defeating patterns might be linked to parent-child relationships or adult attachment. For example, people who engage in self-defeating patterns are likely to report their parents either as inconsistent and rejecting (Zampelli, 2000) or as failing to provide the love, acceptance, and attention they needed (Glickhauf-Hughes & Wells, 1991).

In attachment theory, there is a consensus that adult attachment can be operationalized as two relatively orthogonal dimensions: attachment anxiety and attachment avoidance (Brennan, Clark, & Shaver, 1998; Mikulincer, Shaver, & Pereg, 2003). Individuals with a higher level of attachment anxiety may be vulnerable to fear of abandonment (Brennan et al.). They tend to hold a negative working model of self and use a *hyperactivation strategy*, defined as an overreaction to negative feelings in order to elicit support from others and to ensure caregivers' availability (e.g., Ainsworth, Blehar, Waters, & Wall, 1978; Cassidy, 1994, 2000; Cassidy & Kobak, 1988; Kobak & Sceery, 1988; Lopez & Brennan, 2000; Mikulincer et al., 2003; Pietromonaco & Feldman Barrett, 2000). This strategy can be viewed as an innate survival strategy for children when their caregivers are insensitive to their needs. However, this "survival" strategy becomes problematic when individuals constantly and rigidly use them across all interpersonal relationships in adulthood to reassure others' love, attention, and availability. This excessive need for reassurance may eventually make others feel fed up and thus react negatively to these individuals by distancing from them (Wei, Mallinckrodt, Larson, & Zakalik, 2005). Studies have revealed that this hyperactivation strategy was positively associated with depression and interper-

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This paper was presented at the 114th Annual Convention of the American Psychological Association, New Orleans, LA, August 2006. We thank Daniel W. Russell for statistical consultation and Kelly Yu-Hsin Liao and Amy Cantazaro for their assistance in the preparation of this article. We also thank Joni Etheredge, Kai-Kok Lim, Julia Keleher, Hima Reddy, Sara Loofbourrow, Daniel Utterback, Alison Ranker, and Eliza Fransen for their assistance with data collection.

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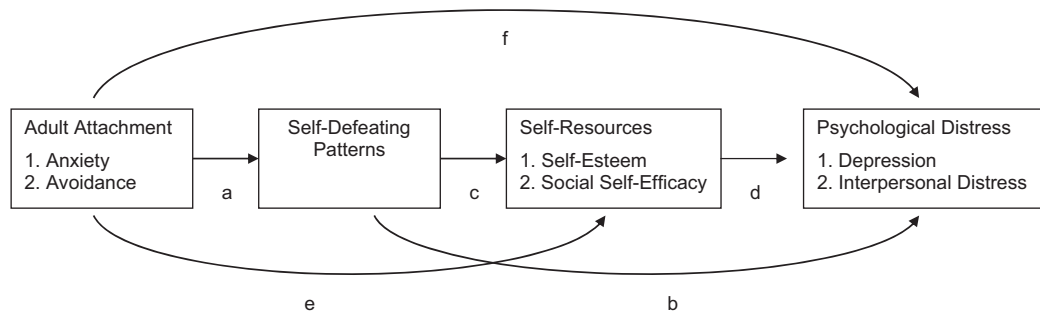


Figure 1. The conceptual model.

sonal distress (e.g., Fuendeling, 1998; Lopez, Mitchell, & Gormley, 2002; Wei, Vogel, Ku, & Zakalik, 2005). Therefore, this hyperactivation strategy used in adulthood may be considered as an example of a self-defeating pattern because it yields long-term negative psychological costs (e.g., depression and interpersonal distress) for immediate, short-term benefits (e.g., ensuring others' availability).

Conversely, individuals with a higher level of attachment avoidance may have fear of intimacy and dependency. They tend to have a negative working model of others and use a *deactivating strategy*, which is defined as the act of suppressing negative feelings and distancing from others in order to avoid frustration caused by others' unavailability (e.g., Cassidy, 1994, 2000; Cassidy & Kobak, 1988; Lopez & Brennan, 2000; Mikulincer et al., 2003; Pietromonaco & Feldman Barrett, 2000; Shaver & Mikulincer, 2002). Children with high levels of attachment avoidance may minimize their need for relationships and choose not to rely on others in order to protect themselves (Cassidy & Kobak, 1988). This deactivation strategy can be viewed as a survival coping mechanism that allows children to respond to caregivers' rejection and neglect. Also, we need to honor children's innate capacity for using this strategy to protect themselves in the circumstance of being neglected by their caregivers. However, this survival strategy becomes problematic when individuals overgeneralize and continuously use it as a self-protection strategy across all interpersonal relationships in adulthood. Studies have shown that this deactivation strategy is positively associated with depression and interpersonal distress (e.g., Fuendeling, 1998; Lopez et al., 2002; Wei, Vogel, et al., 2005). Similar to the hyperactivation strategy, this deactivation strategy may be described as another example of a self-defeating pattern because it has short-term benefits (e.g., avoiding others' rejection) but potentially carries long-term negative psychological costs (e.g., depression or interpersonal distress).

Empirically, research studies have also provided support for the above theoretical conceptualization that parent-child relationship and adult attachment may play a role in the dynamic and development of self-defeating patterns in adulthood (see Path a in Figure 1). For instance, in terms of parent-child relationships, a self-defeating personality (i.e., a pervasive pattern of self-defeating thinking, feelings, or behaviors) is significantly and positively associated with memories of rejecting or nonsupportive parents (Pezzarossa, Della Rosa, & Rubino, 2002; Rubino, Pezzarossa, Della Rosa, & Siracusano, 2004), recollections of ambivalent and avoidant attachment history (Schill & Williams, 1993), or percep-

tions of one's family environment as lacking cohesiveness (Schill, Beyler, Morales, & Ekstrom, 1991). Regarding adult attachment, individuals with higher levels of adult attachment anxiety ($r = .43$ to $.22$) and avoidance ($r = .46$ to $.31$) were more likely than those with adult attachment security ($r = -.36$ to $-.14$) to show evidence of self-defeating personality patterns (McCutcheon, 1998; Williams & Schill, 1994; see path a in Figure 1). (It is important to note that in the present study, we focus on the general self-defeating patterns instead of specific self-defeating behavior.)

As we described above, individuals with a higher level of attachment anxiety and avoidance have a different motivation or underlying dynamic (e.g., the hyperactivation or deactivation strategies, respectively) for engaging in self-defeating patterns. However, the self-defeating pattern has consistently been connected with emotional distress (for a review, see Baumeister & Scher, 1988). Lester and Hoffman (1992) also found that the general self-defeating pattern was associated with depression (see Path b in Figure 1). From their clinical wisdom, Hartzler and Brownson (2001) argued that those who engage in self-defeating patterns might be vulnerable to psychological difficulties. For example, individuals may initially avoid social gatherings to protect themselves from possible rejection (an immediate benefit). Avoiding social interactions deprives them of the opportunity to learn how to build close relationships with others. As a result, they sacrifice the long-term satisfaction of friendship for the short-term protection against possible rejection. Therefore, from the above review, there were associations between attachment and a general self-defeating pattern (see Path a in Figure 1) and between a general self-defeating pattern and psychological distress (see Path b in Figure 1). It is likely that a self-defeating tendency may mediate the relation between adult attachment and distress.

Self-Defeating Patterns, Resources From Self, and Distress

Next, we discuss two resources from the self (i.e., self-esteem and social self-efficacy) as potential mediators between self-defeating patterns and distress on the basis of a review of theoretical writings, empirical studies, and clinical suggestions. With regard to the first resource, as we know, self-esteem is viewed as positive feelings about self-worth. Conceptually, Cudney and Hardy (1991) argued that people with a high level of self-defeating patterns tend to have negative beliefs about themselves. Baumeister and Scher (1988) also proposed the same idea that the desire to

defeat the self is associated with a negative attitude toward oneself. Empirically, Yelsma (1993) reported that individuals with a higher level of self-defeating tendencies were more likely to have a low level of self-esteem ($r = -.77$ to $-.50$). In addition to the positive association between self-defeating tendencies and self-esteem (see Path c in Figure 1), empirical evidence has shown that low self-esteem is positively related to depressive symptoms over time (Roberts, Gotlib, & Kassel, 1996) and interpersonal problems (Perez, Pettit, David, Kistner, & Joiner, 2001). In one longitudinal study, Kahle, Kulka, and Klingel (1980) reported that low self-esteem led to interpersonal problems (see path d in Figure 1). From the above theoretical argument and empirical evidence, self-esteem is likely to mediate the association between self-defeating tendencies and distress.

With regard to social self-efficacy as a possible mediator, Gecas (1989) indicated that social self-efficacy is individuals' belief that they are capable of forming new friendships and taking steps to build their social network. It is intuitive that individuals with higher levels of self-defeating patterns were more likely to have deficits in their social skills. Empirical studies have provided evidence showing that those with a higher level of self-defeating patterns tend to have difficulty in dating, remain in unhealthy relationships (Schill, 1991), or believe that others dislike or reject them (Schill, 1995). Moreover, research has also demonstrated that the lack of social self-efficacy was significantly related to a higher level of psychological distress (Mallinckrodt & Wei, 2005), depression (Hermann & Betz, 2004), and loneliness (Wei, Russell, & Zakalik, 2005). On the basis of these significant associations between self-defeating patterns and social self-efficacy (see path c in Figure 1) as well as between social self-efficacy and psychological distress (see path d in Figure 1), we propose that social self-efficacy might mediate the association between self-defeating patterns and distress.

In addition to the above conceptual or empirical support of the proposed conceptual model (Figure 1), Hartzler and Brownson's (2001) clinical perspective is consistent with the ideas from the proposal model. They designed a theme group, with a two-phase-of-change model, to systemically help college students work through their self-defeating patterns. The focus of the initial phase of the change process was to (a) identify self-defeating patterns, (b) gain an insight about the roots (e.g., attachment quality, unmet core needs, or core beliefs) of these patterns (see path a in Figure 1), and (c) recognize how these patterns negatively affect psychological consequences (see path b in Figure 1). The focus of the second phase of the change model was to develop and expand alternative strategies (e.g., increase positive self-attributions or self-efficacy) to replace self-defeating patterns in order to reduce distress (see paths c and d in Figure 1). As we can see, the conceptual model is supported not only by the above theoretical conceptualization and empirical evidence but also by clinical perspectives (see Figure 1).

However, no study has examined the associations among attachment, self-defeating patterns, and distress. There is only one published study in which the intermediate variables between self-defeating patterns and distress were examined empirically. Petrocelli, Glaser, Calhoun, and Campbell (2001) attempted to examine cognitive schemas as mediating variables in the relationship between the self-defeating patterns and depression. They found that abandonment/instability (i.e., the belief of others' in-

stability can lead to abandonment) and defectiveness/shame (i.e., the belief that one is fundamentally unlovable to significant others) fully mediated the relationship between the self-defeating patterns and depression. Although there is theoretical, empirical, and clinical support for the conceptual model, the lack of empirical research to examine the complex associations implies a need to conduct research to examine this proposed model (see Figure 1).

Moreover, in the attachment literature, Roberts et al. (1996) found that the relation between adult attachment insecurity and future depression was mediated by low self-esteem, even after statistically controlling for initial depressive symptoms and/or neuroticism. Similarly, the lack of social self-efficacy was found to be a mediator between attachment anxiety and loneliness (Wei, Russell, & Zakalik, 2005) and psychological distress (Mallinckrodt & Wei, 2005). However, it was unknown whether self-esteem and social self-efficacy would still be significant mediators between attachment and distress when self-defeating patterns also acted as a mediator in the model (see path e in Figures 1). Finally, the direct positive associations between attachment anxiety or avoidance and depression (e.g., Roberts et al., 1996; Wei, Mallinckrodt, Russell, & Abraham, 2004) or interpersonal distress (e.g., Bartholomew & Horowitz, 1991; Horowitz, Rosenberg, & Bartholomew, 1993) (see path f in Figure 1) are well documented. However, we still do not know whether these direct associations would still be significant when self-defeating patterns, self-esteem, and social self-efficacy were analyzed as mediating variables between these direct associations.

The Present Study

Following the above conceptual model (see Figure 1), based on theoretical conceptualization, empirical evidence, and clinical wisdoms, there are two main sets of hypotheses in the present study. First, we propose that attachment anxiety and avoidance might be related to the dynamic and development of self-defeating patterns. The increased level of self-defeating patterns will increase the vulnerability to depression and interpersonal distress. Thus, we hypothesize that self-defeating patterns might partially mediate the relation between attachment (i.e., anxiety and avoidance) and distress (i.e., depression and interpersonal distress). Second, we propose that individuals with higher levels of self-defeating patterns are likely to experience lower levels of self-esteem and social self-efficacy, and individuals with lower levels of self-esteem and social self-efficacy will experience increased levels of depression and interpersonal distress. So, we hypothesize that self-esteem and social self-efficacy might partially mediate the relation between self-defeating patterns and distress. In addition to the above two main hypotheses, we examine whether self-esteem and social self-efficacy would still be significant mediators between attachment and distress when the self-defeating patterns variable was included in the model. Also, we examine whether self-defeating patterns and resources from self (i.e., self-esteem and social self-efficacy) would partially mediate the relations between attachment (i.e., anxiety and avoidance) and depression or interpersonal distress (see Figure 2 for the proposed hypothetical model).

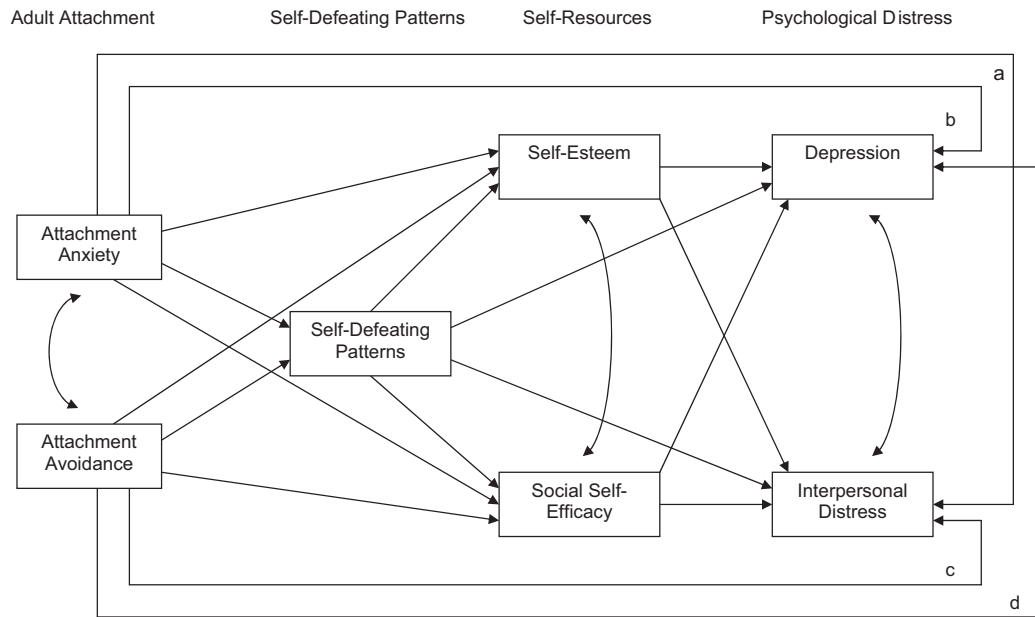


Figure 2. The proposed hypothetical model.

Method

Participants

Participants were 390 undergraduate students, 244 (63%) women and 145 (37%) men, enrolled in psychology courses at a large midwestern university. Approximately half the participants were freshmen (45.9%), followed by sophomores (31.0%), juniors (14.6%), seniors (8.2%), and others (0.3%). Age ranged from 18 to 28 years, with a mean age of 19.38 years ($SD = 1.54$). The majority of the sample (82.6%) self-identified as Caucasian, with the remaining sample identifying as Asian American (6.4%), African American (3.3%), multiracial American (2.6%), Latino/a American (2.6%), international student (1.5%), Native American (0.5%), and "other" (0.3%; 1 person did not report his or her ethnic background). With regard to the relationship status, 216 (55.4%) were single, 156 (40%) were in a committed relationship, 6 (1.5%) were married, and 12 (3.1%) indicated their relationship status as "other."

Measures

Attachment. Attachment anxiety and avoidance were assessed by the Experiences in Close Relationships Scale (ECR; Brennan et al., 1998). The ECR is a 36-item self-report measure of adult attachment containing two subscales: Anxiety (18 items) and Avoidance (18 items). The Anxiety subscale assesses fear of rejection and preoccupation with abandonment, whereas the Avoidance subscale measures fear of intimacy and discomfort with getting close to others or dependence. Participants were asked to rate "how you generally experience relationships, not just in what is happening in a current relationship" for each item (Brennan et al., pp. 69–70). Specifically, they rated each item on a 7-point Likert-type scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). Scores ranged from 18 to 126 on each subscale, with

higher scores indicating higher attachment anxiety and attachment avoidance, respectively. For a college student sample, coefficient alphas were .91 and .94 for the Anxiety and Avoidance subscales, respectively (Brennan et al.). In this study, coefficient alphas were .92 and .90 for Anxiety and Avoidance, respectively. Supporting the construct validity of the measure, scores on the ECR were positively correlated with psychological distress (e.g., Lopez, Mauricio, Gormley, Simko, & Berger, 2001; Lopez et al., 2002) and depression (e.g., Wei et al., 2004) among samples of college students.

Self-defeating patterns. The Self-Defeating Personality Scale (SDPS; Schill, 1990) was used to measure self-defeating patterns or tendencies. The SDPS has 48 items that reflect the *Diagnostic and Statistical Manual of Mental Disorders*, 3rd edition, revised (*DSM-III-R*; American Psychiatric Association, 1987) criteria (e.g., incites anger or rejecting response from others and then feels hurt, defeated, or humiliated) for diagnosing a self-defeating personality. However, it is important to note that self-defeating personality disorder was removed from the *DSM-III-R*. That is, self-defeating personality is not a disorder. Caplan and Cans (1991) also reminded researchers to consider external factors that may contribute to the development of self-defeating patterns. A sample item is "I find that people who generally show interest and seem to care about me are often rather boring." The original response format of the scale is true–false. When we communicated with the developer of the SDPS (Schill), he noticed that researchers could use another response format of scaling. Wei, Liao, and Ku (2006) used a 7-point Likert-type scale for each item instead of the original true–false format. In the present study, we adapted the 7-point Likert-type scale ranging from 1 (*not at all true*) to 7 (*very true*) for each item as well. The total scores range from 48 to 336, with higher scores reflecting greater levels of the self-defeating personality tendency. Wei et al. reported a coefficient alpha of .86 among a sample of college students. The coefficient alpha in the

present study was .84. Evidence of construct validity was provided by a negative association between self-defeating patterns and perceived wellness among a sample of college students (Wei et al.).

Self-esteem. Self-esteem was measured using the Rosenberg (1965) Self-Esteem Scale (RSES), a well-validated measure of global self-esteem. The scale consists of 10 items, with a 5-point Likert-type scale response format ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Total scores ranged from 10 to 50, with higher scores indicating greater personal self-esteem. For college student samples, coefficient alphas for RSES were .87–.89 (Lightsey, Burke, Ervin, Henderson, & Yee, 2006; Roberts et al., 1996) in the previous research and .88 in the present study. Construct validity evidence was supported by the negative association between self-esteem and negative affect (Lightsey et al.).

Social self-efficacy. Social self-efficacy was measured with the Social Self-Efficacy subscale (SSE) from the Self-Efficacy Scale (Sherer et al., 1982). The SSE is a 6-item instrument that measures beliefs in one's social competence. Participants responded using a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores can range between 6 and 30, with higher scores indicating higher levels of social competence. For a sample of college students, Mallinckrodt and Wei (2005) reported a coefficient alpha of .73 for the SSE. The coefficient alpha in the present study was .71. Construct validity for the SSE was supported by significant correlations with ego strength, interpersonal competency, and self-esteem (Sherer et al., 1982) and perceived social support (Mallinckrodt & Wei) among college students.

Depression. The Depression Anxiety Stress Scales-Depression subscale-short form (DASS-D-short form; Lovibond & Lovibond, 1995) is a 7-item self-report measure used to assess primarily depressive symptoms. Respondents were asked to rate the severity of each symptom during the previous week on a 4-point response scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much or most of the time*). Scores can range between 0 and 21, with higher scores indicating higher levels of depression. Wei, Shaffer, Young, and Zakalik (2005) reported a coefficient alpha of .91 for the short version of DASS-D in a college student sample. The coefficient alpha was .87 in the present study. Lovibond and Lovibond reported test-retest reliability of .71 over a 2-week period. Criteria validity evidence for the short version of the DASS-D was supported by the positive associations with depression from other depression scales among college students (Wei, Shaffer, et al.).

Interpersonal distress. Interpersonal distress was measured by the Inventory of Interpersonal Problems-Short Circumplex Form (IIP-SC; Soldz, Budman, Demby, & Merry, 1995). The IIP-SC is a 32-item measure designed to assess the individuals' interpersonal distress. Each item uses a 5-point Likert-type scale, where 0 = *not at all*, 1 = *a little bit*, 2 = *moderately*, 3 = *quite a bit*, and 4 = *extremely*. The IIP-SC total scores range from 0 to 128, with higher scores reflecting greater distress related to interpersonal problems. Soldz et al. reported that the coefficient alpha for the IIP-SC ranged from .88 to .89. In the present study, the coefficient alpha for the IIP-SC was .90. The construct validity evidence of IIP-SC was provided by positive correlations with indices of psychological distress such as depression and anxiety among a sample of college students (Wei, Heppner, & Mallinckrodt, 2003).

Procedures

After approval was obtained from the Human Subjects Review Committee, we recruited college students who were at the time enrolled in psychology courses. Individual packets containing each questionnaire were administered to small groups of 5–40 students who had signed up for one of several data collection times. Participants were informed that the purpose of this research was to learn about factors related to college students' relationship styles, mood, and issues pertaining to interpersonal relationships. Participants would take approximately 30–50 min to complete the questionnaires. No personal identifying information was collected, and participants were assured of the anonymity of their responses. All participants were volunteers and received research credits toward a course grade for participating in the study.

Results

Means, standard deviations, and zero-order correlations for the seven measured variables are shown in Table 1. The multivariate normality test was used to examine whether the data met the normality assumptions underlying the maximum likelihood procedure used to test the models in the present study. The results of the multivariate normality test developed by Mardia (see Bollen, 1989) indicated that the data were not multivariate normal, $\chi^2(2, N = 390) = 101.13, p < .01$. Therefore, the scaled chi-square statistic developed by Satorra and Bentler (1988) was used for adjusting the impact of nonnormality on the results.

Table 1
Intercorrelations and Descriptive Statistics for Measured Variables

| Variable | M | SD | Possible Range | Sample Range | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------------------------|--------|-------|----------------|--------------|---|------|-------|--------|--------|--------|--------|
| 1. Attachment anxiety | 64.70 | 17.44 | 18–126 | 21–116 | — | .11* | .43** | -.38** | -.13** | .40** | .41** |
| 2. Attachment avoidance | 51.52 | 17.78 | 18–126 | 18–116 | | — | .43** | -.28** | -.10* | .20** | .31** |
| 3. Self-defeating patterns | 153.82 | 25.03 | 48–336 | 72–252 | | | — | -.62** | -.35** | .58** | .60** |
| 4. Self-esteem | 38.73 | 6.88 | 10–50 | 16–50 | | | | — | .36** | -.66** | -.48** |
| 5. Social self-efficacy | 20.03 | 3.95 | 6–30 | 7–30 | | | | | — | -.30** | -.42** |
| 6. Depression | 4.52 | 3.89 | 0–21 | 0–20 | | | | | | — | .51** |
| 7. Interpersonal distress | 38.53 | 16.83 | 0–128 | 0–98 | | | | | | | — |

Note. $N = 390$. The summed scores were calculated for all measured variables in the model.
* $p < .05$. ** $p < .01$.

Table 2
Comparisons Among Different Alternative Models

| Model | χ^2 | df | CFI | RMSEA | CI for RMSEA | SRMR | Figure 1 paths constrained to zero in this model | $\Delta\chi^2$ (df) between two models |
|------------------|-------------|----------|------------|------------|-----------------|-------------|--|--|
| Proposed Model A | 0.0 | 0 | 1.0 | .00 | .00, .00 | .000 | none | |
| Model B | 19.79*** | 1 | .99 | .20 | .12, .29 | .029 | a | A vs. B: 19.79 (1) |
| Model C | 8.35** | 1 | .99 | .13 | .06, .22 | .018 | b | A vs. C: 8.35 (1) |
| Model D | 5.10* | 1 | 1.0 | .11 | .04, .21 | .015 | c | A vs. D: 5.10 (1) |
| Model E | 1.73 | 1 | 1.0 | .05 | .00, .16 | .008 | d | A vs. E: 1.73 (1) |

Note. $N = 390$. CFI = comparative fit index; RMSEA = root-mean-square error of approximation; CI = confidence interval; SRMR = standardized root-mean-square residual; Model A = the proposed hypothetical model (see Figure 1); Model B = the direct path from attachment anxiety to interpersonal distress was constrained to zero; Model C = the direct path from attachment anxiety to depression was constrained to zero; Model D = the direct path from attachment avoidance to interpersonal distress was constrained to zero; Model E = the direct path from attachment avoidance to depression was constrained to zero. Boldface type represents the best model.

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

Path Analysis

The maximum likelihood method in the LISREL 8.54 program (Jöreskog & Sörbom, 2003) was used to conduct the path analysis. As suggested by Hu and Bentler (1999), three fit indices were used to assess goodness of fit of the models: the comparative fit index (CFI; values of .95 or greater indicate that the model provides an adequate fit to the data), the root-mean-square error of approximation (RMSEA; values of .06 or less indicate an adequate fit), and the standardized root-mean-square residual (SRMR; values of .08 or less indicate an adequate fit). As noted above, the scaled chi-square was used to adjust for the impact of nonnormality on the results (Satorra & Bentler, 1988). Thus, we planned to use the corrected scaled chi-square difference test (Satorra & Bentler, 2001) for the comparison of nested models.¹

The proposed hypothesized model tested was identical to that depicted in Figure 2. The result was an excellent fit to the model, $\chi^2(0, N = 390) = 0.00, p = 1.00$; scaled $\chi^2(0, N = 390) = 0.00, p = 1.00$, CFI = 1.00, RMSEA = .00, SRMR = .00 (see Model A in Table 2). However, it is important to note that our path model is saturated, and such a model would have a perfect fit in the fit index values. Thus, reporting the magnitude of parameter estimates is more important to evaluate the model than reporting the fit index values. After the alternative models were compared with each other, the magnitude of parameter estimates for the best model would be reported.

Next, we examined whether the model was fully (completely) or partially mediated by proposed mediators through four alternative models. These four alternative models were conducted by constraining each of four direct paths (i.e., from attachment [anxiety and avoidance] to distress [interpersonal distress and depression]) to zero separately. If the direct effects from attachment (i.e., anxiety and avoidance) to distress (i.e., interpersonal distress and depression) are significant, then a partial mediation can be concluded. Conversely, if the direct effects are not significant in the model, then it implies a complete mediation. Model B was to constrain the direct path from attachment anxiety to interpersonal distress to zero and then compared with Model A (the proposed model, see Figure 2). The difference in chi-square between Model A and Model B was significant, $\Delta\chi^2(1, N = 390) = 19.79, p < .001$ (see Table 2), indicating this direct path contributed significantly to the model, and this path needed to be kept in the model.

Therefore, Model A is a better model. The same procedure was used to compare Model A and Model C (i.e., constraining the path from attachment anxiety to depression to zero) as well as Model A and Model D (i.e., constraining the path from attachment avoidance to interpersonal distress to zero). Both results suggested that Model A is a better model (see Table 2). However, when Model A and Model E (i.e., constraining the path from attachment avoidance to depression to zero) were compared, the difference in chi-square between these two models was not significant, $\Delta\chi^2(1, N = 390) = 1.73, p = .19$ (see Table 2). This implies that these two models (i.e., Models A and E) were not significantly different from each other. On the basis of the parsimony principle, Model E was selected as the final model (see Figure 3). The results indicated that the three proposed mediators (i.e., self-defeating pattern, self-esteem, and/or social self-efficacy) only partially mediated the associations between attachment (i.e., anxiety and avoidance) and distress (i.e., depression and interpersonal distress), with the exception that these mediators fully mediated the association between attachment avoidance and depression.

In the final model, as we can see in Figure 3, path coefficients from attachment (anxiety and avoidance) to self-defeating patterns ($\beta_s = .39$ and $.38$, respectively), from self-defeating patterns to self-esteem and social self-efficacy ($\beta_s = -.54$ and $-.39$, respectively) and to depression and interpersonal distress ($\beta_s = .22$ and $.33$, respectively), from self-esteem to depression ($\beta = -.47$), and from social self-efficacy to interpersonal distress ($\beta = -.24$) were almost moderate in magnitude. Moreover, about 33% of the variance in self-defeating patterns was explained by attachment anxiety and attachment avoidance; 39% of the variance in self-esteem

¹ Originally, we planned to use the Satorra-Bentler (SB) scaled chi-square difference test (Satorra & Bentler, 2001), which adjusts for the impact of nonnormality, to test the nested models. However, when we attempted to calculate the scaled chi-square difference, the result from the computer program (see <http://www.abdn.ac.uk/~psy086/dept/psychom.htm>) indicated that the value of the SB scaled chi-square for the less constrained model (i.e., our proposed hypothetical model) must be positive (i.e., greater than zero). But, as our proposed hypothetical model is a perfect fit model, the value of scaled chi-square is zero. Therefore, we were unable to compute the scaled chi-square difference test. Instead, we reported the normal (or standard) chi-square difference test result for the nested model comparison.

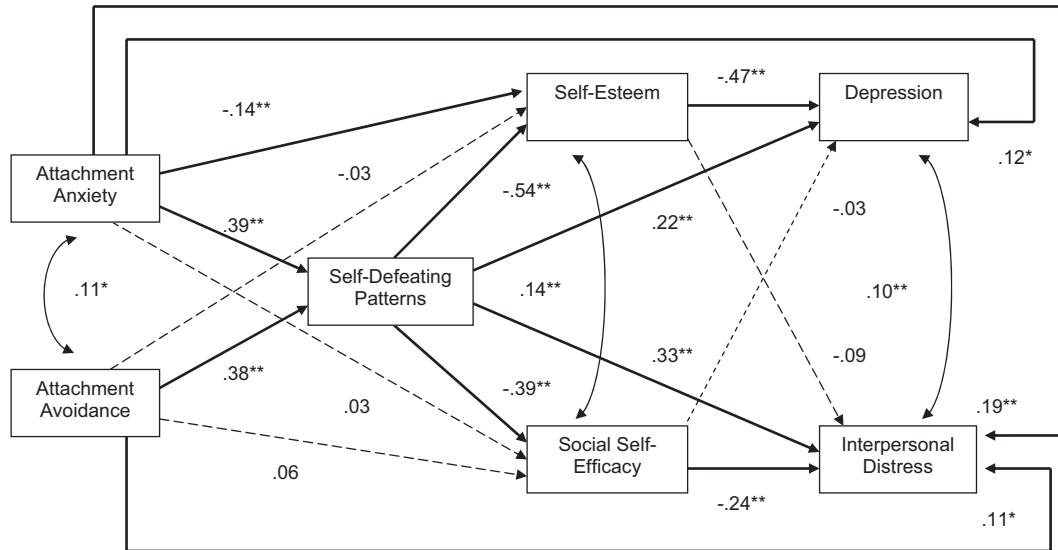


Figure 3. The final model. Note. $N = 390$. The total score of each measure was used for each of the manifest variables. * $p < .05$. ** $p < .01$.

and 13% of the variance in social self-efficacy were explained by self-defeating patterns and/or attachment anxiety; 50% of the variance in depression was explained by attachment anxiety, self-defeating patterns, and self-esteem; and 45% of the variance in interpersonal distress was explained by attachment anxiety and avoidance, self-defeating patterns, and social self-efficacy. Finally, the final model (see Figure 3) was used to test the significance of the indirect (mediation) effects.

Testing the Significance of the Indirect Effects

The bootstrap procedure was used to test the significance of the indirect effects (for a discussion, see MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Shrout & Bolger, 2002). In general, a bootstrapping method is an empirical method (i.e., repeated a large number of times) to examine the variability of estimates (Efron & Tibshirani, 1993). In the bootstrap procedure (see Shrout & Bolger, 1993), 1,000 bootstrap samples (each sample with $n = 390$) were first created from the original data set by random sampling with replacement. Second, the final model (see Figure 3) was tested with these 1,000 bootstrap samples, yielding 1,000 estimates of each path coefficient. Third, the output from these 1,000 estimates of each path coefficient was used to calculate estimates of indirect effects for the first main set of hypotheses (i.e., attachment [i.e., anxiety and avoidance] \rightarrow self-defeating patterns \rightarrow distress [i.e., depression and interpersonal distress]). This was done by multiplying the 1,000 pairs of path coefficients (a) from attachment (i.e., anxiety or avoidance) to the mediator variable (self-defeating patterns) and (b) from the mediator variable (i.e., self-defeating patterns) to the dependent variables (i.e., depression and interpersonal distress). Finally, as discussed by Shrout and Bolger, if the 95% confidence interval (CI) for the estimates of the indirect effects based on these 1,000 indirect effect estimates does not include zero, then it can be concluded that the indirect effect is statistically significant at the .05 level. Results displayed in Table 3 for the first four rows of results show that the 95% CI for the four indirect effects did not include zero, indicating that all four indirect

effects for the first set of hypotheses (i.e., attachment [i.e., anxiety and avoidance] \rightarrow self-defeating patterns \rightarrow distress [i.e., depression and interpersonal distress]) were statistically significant.

An identical procedure was used to test the significance of the second main set of hypotheses. The summary results indicated that two out of the four indirect effects were significant (see the second four rows of results in Table 3 and Figure 3). That is, the result partially supported that self-esteem (but not social self-efficacy) would be a significant mediator of the association between self-defeating patterns and depression. Also, social self-efficacy (but not self-esteem) functioned as a significant mediator between self-defeating patterns and interpersonal distress.

Moreover, the last eight rows of the results in Table 3 indicate that self-esteem and social self-efficacy were not significant mediators between attachment (i.e., anxiety and avoidance) and distress (i.e., depression and interpersonal distress), with one exception. The exception is that only self-esteem was the significant mediator between attachment anxiety and depression when self-defeating pattern was included in the model.

Discussion

The main purpose of the present study was to develop and examine a conceptual model of working through self-defeating patterns on the basis of theoretical, empirical, and clinical perspectives. In therapy, some counseling theorists argue that early dysfunctional parent-child relationship and later adult attachment have contributed to the development of maladaptive relationship patterns (e.g., self-defeating patterns), which then increase people's psychological and interpersonal distress in adulthood (e.g., Teyber, 2005). The present results provide empirical evidence to support this theoretical conceptualization that adult attachment (i.e., anxiety and avoidance) is related to distress (i.e., depression and interpersonal distress) through self-defeating patterns. Our results are in accordance with clinical perspectives and thus can be used to help individuals with high levels of self-defeating patterns

Table 3
Bootstrap Analysis of Magnitude and Statistical Significance of Indirect Effects

| Indirect effect | β (standardized path coefficient and product) | Mean indirect effect (h) ^a | SE of mean ^a | 95% CI for mean indirect effect ^a (Lower, Upper) |
|--|---|---|-------------------------|---|
| 1. Attachment anxiety \rightarrow SDP \rightarrow Depression | $(.39) \times (.22) = .086$ | .0197 | .00015 | .0105, .0292* |
| 2. Attachment avoidance \rightarrow SDP \rightarrow Depression | $(.38) \times (.22) = .084$ | .0189 | .00015 | .0106, .0285* |
| 3. Attachment anxiety \rightarrow SDP \rightarrow Interpersonal distress | $(.39) \times (.33) = .129$ | .1250 | .00090 | .0730, .1836* |
| 4. Attachment avoidance \rightarrow SDP \rightarrow Interpersonal distress | $(.38) \times (.33) = .125$ | .1197 | .00086 | .0698, .1742* |
| 1. SDP \rightarrow SE \rightarrow Depression | $(-.54) \times (-.47) = .254$ | .0392 | .00019 | .0280, .0519* |
| 2. SDP \rightarrow SSE \rightarrow Depression | $(-.39) \times (-.03) = .012$ | .0020 | .00008 | -.0029, .0076 |
| 3. SDP \rightarrow SE \rightarrow Interpersonal distress | $(-.54) \times (-.09) = .049$ | .0303 | .00065 | -.0118, .0693 |
| 4. SDP \rightarrow SSE \rightarrow Interpersonal distress | $(-.39) \times (-.24) = .094$ | .0615 | .00044 | .0354, .0909* |
| 1. Attachment anxiety \rightarrow SE \rightarrow Depression | $(-.14) \times (-.47) = .066$ | .0144 | .00016 | .0054, .0246* |
| 2. Attachment avoidance \rightarrow SE \rightarrow Depression | $(-.03) \times (-.47) = .014$ | .0030 | .00016 | -.0069, .0133 |
| 3. Attachment anxiety \rightarrow SSE \rightarrow Depression | $(.03) \times (-.03) = -.001$ | -.0002 | .00002 | -.0018, .0012 |
| 4. Attachment avoidance \rightarrow SSE \rightarrow Depression | $(.06) \times (-.03) = -.002$ | -.0005 | .00003 | -.0026, .0007 |
| 5. Attachment anxiety \rightarrow SE \rightarrow Interpersonal distress | $(-.14) \times (-.09) = .013$ | .0112 | .00028 | -.0036, .0317 |
| 6. Attachment avoidance \rightarrow SE \rightarrow Interpersonal distress | $(-.03) \times (-.09) = .003$ | .0024 | .00016 | -.0065, .0148 |
| 7. Attachment anxiety \rightarrow SSE \rightarrow Interpersonal distress | $(.03) \times (-.24) = -.007$ | -.0071 | .00044 | -.0371, .0196 |
| 8. Attachment avoidance \rightarrow SSE \rightarrow Interpersonal distress | $(.06) \times (-.24) = -.014$ | -.0129 | .00041 | -.0391, .0122 |

Note. $N = 390$. CI = Confidence interval; SDP = Self-defeating patterns; SE = Self-esteem; SSE = Social self-efficacy.

^a These values are based on the unstandardized path coefficients.

* $p < .05$ (excluding zero).

understand the roots and the negative psychological impact of their patterns (e.g., Hartzler & Brownson, 2001). In addition to supporting these theoretical and clinical conceptualizations, the present results are in line with previous empirical evidence regarding the positive associations between adult attachment and self-defeating patterns (McCutcheon, 1998; Williams & Schill, 1994) and between poor parent-child relationship and self-defeating patterns (Pezzarossa et al., 2002; Rubino et al., 2004; Schill et al., 1991). Similarly, the present results are consistent with previous findings that a self-defeating tendency was associated with depression (Lester & Hoffman, 1992) and emotional distress (Baumeister & Scher, 1988). More important, the present results were the first in the literature to demonstrate empirically that a self-defeating pattern is a mediator between adult attachment (i.e., anxiety and avoidance) and distress (i.e., depression and interpersonal distress). Therefore, the present results generally supported the first set of hypotheses.

The second set of hypotheses was partially supported by the results. We expected that self-esteem and social self-efficacy would be two mediators between self-defeating patterns and distress (i.e., depression and interpersonal distress). The results indicated that self-esteem (but not social self-efficacy) was a mediator between self-defeating patterns and depression. The direct path from self-defeating patterns to depression decreased from .58 to .22 after mediators were added to the model (see Table 1 and Figure 3). Also, the associations between self-defeating patterns and self-esteem ($\beta = -.54$) and between self-esteem and depression ($\beta = -.47$) were moderate to large in magnitude and the indirect effect ($\beta = [-.54] \times [-.47] = .25$) was close to moderate in magnitude (see Table 3). The results are consistent with the previous research findings that demonstrated a negative link between self-defeating patterns and self-esteem (Yelsma, 1993), and

a negative link between self-esteem and depression over time (Roberts et al., 1996).

Similarly, the results showed that social self-efficacy (but not self-esteem) was a mediator between self-defeating patterns and interpersonal distress. The magnitude of associations between self-defeating patterns and social self-efficacy ($\beta = -.39$) and between social self-efficacy and interpersonal distress ($\beta = -.24$) was moderate. The magnitude of the indirect effect ($\beta = [-.39] \times [-.24] = .09$) was small (see Table 3); however, the direct path coefficient from self-defeating patterns to depression substantially decreased from .60 to .33 after mediators were added to the model (see Table 1 and Figure 3). These results are consistent with the previous findings with respect to the negative association between self-defeating patterns and competence in social skills (e.g., Schill, 1991, 1995) and the positive relation between social self-efficacy and perceived social support from others (Mallinckrodt & Wei, 2005).

Moreover, the above findings of self-esteem (but not social self-efficacy) as a mediator between self-defeating patterns and depression as well as social self-efficacy (but not self-esteem) as a mediator between self-defeating and interpersonal distress are interesting. Perhaps, one possible interpretation for these findings is that an increase in positive feelings about oneself *internally* (e.g., self-esteem) may be more effective in decreasing *intrapersonal* distress (i.e., depression) for people with higher levels of self-defeating patterns. Moreover, an increase in one's capacity to build *external* relationships with others (e.g., social self-efficacy) may be more effective in decreasing *interpersonal* distress for those with higher levels of self-defeating patterns. This tentative speculation needs to be validated by future research.

As we indicated above, only one published article (Petrocelli et al., 2001) attempted to examine the mediators (i.e., abandonment/instability and defectiveness/shame) between self-defeating pat-

terns and distress. The present results add to the present self-defeating literature by providing additional mediator variables (i.e., self-esteem or social self-efficacy) to the associations between self-defeating patterns and distress (i.e., depression or interpersonal distress). Our results might imply that people with higher levels of self-defeating patterns could decrease their depression and interpersonal distress through increased self-esteem and social self-efficacy, respectively.

In previous attachment literature, it was shown that self-esteem was a mediator between insecure attachment and future depression even after the initial depression and/or neuroticism were controlled for statistically (Roberts et al., 1996). The present results revealed that self-esteem was a mediator between attachment anxiety and depression even when self-defeating patterns were controlled for statistically. In addition, the previous attachment literature indicated that social self-efficacy was a mediator between attachment anxiety and loneliness (Wei, Russell, & Zakalik, 2005) and psychological distress (Mallinckrodt & Wei, 2005). However, the present results failed to support the idea that social self-efficacy was a mediator between attachment (i.e., anxiety and avoidance) and distress (i.e., depression and interpersonal distress) when self-defeating patterns were controlled for statistically (see Figure 3).

Another important finding that deserves researchers' attention is these proposed mediators (i.e., self-defeating patterns, self-esteem, and social self-efficacy) only partially mediated the relations between attachment (i.e., anxiety and avoidance) and distress (i.e., depression and interpersonal distress) with one exception. The exception is that these proposed mediators fully mediated the relation between attachment avoidance and depression. In other words, the direct effect from attachment avoidance to depression was not significant (see Figure 3). Perhaps this suggests that the relation between attachment avoidance and depression could only be described exclusively in terms of indirect effects through self-defeating patterns and/or self-esteem.

Limitations

Several limitations in the present study should be mentioned. The first is that although the path analysis approach was used to test a "causal" model, data were collected only at one time point in the present study. The results could not be taken as evidence that certain variables causally influence other variables. In addition, although we have considered prior theoretical writings, empirical evidence, and clinical conceptualizations to build a logical conceptual model, there could always be alternative models that include different causal assumptions that fit our data equally well and therefore provide different explanations of the associations among the variables. For example, self-esteem might predict the development of handicapping a self-defeating tendency, which might be associated with the increased levels of the distress.² The second limitation is that only 17.4% of participants were from ethnically or racially diverse populations. However, the proportion of ethnic minorities in the present study is greater than those of ethnic minorities in this midwestern state university. The third limitation is that the sample consisted of college students. It is unknown whether the present model would be replicated in a clinical population sample. However, we attempted to analyze data that only included the top one third of students in their distress levels (i.e., high levels of depression and interpersonal distress). The significant pattern of results ($n = 136$) is still the same as

that from the whole group except the path from attachment anxiety to self-esteem (i.e., $\beta = -.09, p > .05$ vs. $\beta = -.14, p < .01$, for the high-distress group and the whole group, respectively). The final limitation is that the depression measure used in the present study assessed depressed mood in the past week and is thus unlike the other measured variables used in the study, which assessed general tendency. This may potentially introduce measurement error due to the different time frames of the measures used. However, the depression inventory we used has been validated in previous studies. If we change the instruction of the scale to measure general depressed mood, then it will be a trait depression scale. Thus, it may pose another problem if we change the instruction from "in the past week" to "in general." How people generally experience depressive symptoms can be different from how people experience depressive symptoms within a short period of time.

Future Research Directions

There are some directions for future research. First, the results indicated that self-esteem was a partial mediator between self-defeating patterns and depression and that social self-efficacy was a partial mediator between self-defeating patterns and interpersonal distress. These results suggest that there may be other mediators to be found between self-defeating patterns and depression or interpersonal distress in addition to these two mediators. Schill and Beyler (1992) found that people who scored higher on a measure of self-defeating personality tend to use less effective coping strategies. It is well documented that effective coping strategies are associated with reduced psychological distress (Hepner, Witty, & Dixon, 2004). Therefore, effective coping might be a potential mediator between self-defeating patterns and distress. Second, the final model is consistent with the clinical recommendations from Hartzler and Brownson (2001). It is likely that the final model may be replicated with a clinical sample. Future studies might examine this possibility. Third, future studies should be longitudinal in order to examine the cause-effect relationships among the main variables used in this study. For example, Allen, McElhaney, Kuperminc, and Jodl (2004) found that depressive symptoms over the course of adolescence led to actual alterations in attachment representations. A cross-lagged panel analyses with multiple waves of data could be used to explore the possibility of

² We empirically examined a possible counter model of attachment anxiety and avoidance \rightarrow poor self-esteem and poor social efficacy \rightarrow self-defeating patterns \rightarrow depression and interpersonal distress. It is important to note that our hypothetical model (see Figure 2) and this counter model are actually identical from the statistical perspective. Therefore, there is no way that we can verify what model is a better model from the statistical perspective in terms of the model fit. However, we conducted this counter model and looked at the path coefficients. In this counter model, the results indicated that the path from attachment anxiety to social self-efficacy was significant but very weak ($\beta = -.12, p < .05$), and the path from attachment avoidance to social self-efficacy was not significant ($\beta = -.09, p > .05$). In other words, the argument for supporting the counter model is weaker relative to the hypothetical model, at least when we look at the paths from attachment anxiety and avoidance to social self-efficacy. However, the results indicated that the paths from attachment anxiety and avoidance to self-esteem were significant ($\beta_s = -.35$ and $-.24, ps < .01$) in the counter model. Therefore, the argument supporting the counter model is possible for self-esteem.

a causal relationship between these variables. Finally, the present study focuses only on general self-defeating patterns instead of specific self-defeating behaviors (e.g., procrastination or antisocial behavior). Therefore, examining specific self-defeating behaviors that link to attachment anxiety and avoidance would be a future research recommendation.

Clinical Implications

If the present study's results are replicated in future studies, then there are several possible clinical implications for college students with high levels of attachment anxiety and avoidance and/or self-defeating patterns. First, as we know, most college students are away from home for the first time. According to Ainsworth and colleagues (Ainsworth et al., 1978), this life transition is likely to activate an attachment system and trigger attachment insecurity, which might be associated with a self-defeating tendency. Therefore, when practitioners help college students, it might be important to help these students identify their self-defeating patterns and help them see the connection between these patterns and attachment insecurity. Besides this connection, Caplan and Cans (1991) reminded practitioners to pay attention to the possible external factors that may contribute to the development of self-defeating patterns. For example, when researchers work with female students in an abusive situation, it is important to consider the external factors rather than of assume that female students seek out people and situations that make them miserable (Caplan & Cans). Second, Brownson and Hartzler (2000) developed a protocol for a theme group of "defeating your self-defeating behaviors" for college students. Even though they did not conduct empirical studies to evaluate the effectiveness of this theme group, participants from 20 of such groups at a university counseling center generally responded very positively (Hartzler & Brownson, 2001). Clinicians at university student counseling centers can implement this "defeating your self-defeating behaviors" theme group for college students. In this theme group, the first phase is to identify the self-defeating patterns and cultivate greater understanding of their roots (e.g., the quality of attachment or unmet core needs) and consequences (e.g., depression or interpersonal distress). The second phase is to develop and test new, alternative strategies. Hartzler and Brownson stressed that an essential component of adaptive strategies in this theme group is to enhance students' self-efficacy levels, a significant task for college students to work on. Finally, as we described above, those with attachment anxiety tend to hold a negative working model of self (Brennan et al., 1998). Therefore, elevating the self-esteem for those with attachment anxiety might be particularly important to decrease their depression. The present results supported the implication that those with attachment anxiety (but not with attachment avoidance) can decrease their depression through the enhancement of their self-esteem.

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Received May 16, 2006

Revision received February 23, 2007

Accepted March 6, 2007 ■