Standoffish Perhaps, but Successful as Well: Evidence That Avoidant Attachment Can Be Beneficial in Professional Tennis and Computer Science

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ABSTRACT  Attachment-related avoidance and anxiety have repeatedly been associated with poorer adjustment in various social, emotional, and behavioral domains. We examined 2 domains in which avoidant individuals might be better equipped than their less avoidant peers to succeed and be satisfied—professional singles tennis and computer science. These fields may reward self-reliance, independence, and the ability to work without proximal social support from loved ones. In Study 1, we followed 58 professional singles tennis players for 16 months and found that scores on attachment-related avoidance predicted a higher ranking, above and beyond the contributions of training and coping resources. In Study 2, we sampled 100 students and found that those who scored higher on avoidance were happier with their choice of computer science as a career than those who scored lower on avoidance. Results are discussed in relation to the possible adaptive functions of certain personality characteristics often viewed as undesirable.

Bowlby’s attachment theory (1973, 1980, 1982), one of the most influential theories in developmental, personality, and social psychology (Mikulincer & Shaver, 2007), posits that human beings are born with an innate psychobiological system (the attachment behavioral system) that motivates them to seek proximity to significant
others (attachment figures) in times of need as a way of protecting them from threats and dangers. When people experience their caregivers as responsive and supportive, they develop a sense of attachment security, along with constructive strategies (e.g., support seeking) for coping with threats and regulating emotions. Conversely, when caregivers are perceived as unavailable or unreliable, a person tends to develop an insecure attachment orientation marked by either attachment-system deactivating strategies for regulating emotions and social behavior (avoidant attachment) or attachment-system hyperactivating strategies (attachment anxiety). The different attachment orientations are measurable in infancy, childhood, and adulthood, and their causes and psychological consequences have been extensively studied (see Cassidy & Shaver, 2008, and Mikulincer & Shaver, 2007, for recent reviews).

Research indicates that people who score high on measures of anxious or avoidant attachment display poorer adjustment in various social, emotional, and behavioral domains than people who score relatively low (i.e., those who are relatively secure with respect to attachment). Over 2,500 attachment studies have been published during the past few decades, with none linking insecure attachment to adaptive outcomes. It is therefore somewhat surprising that almost half of living human beings, of all ages, are insecure with respect to attachment (Cassidy & Shaver, 2008). Given the documented advantages of attachment security, one may wonder how the insecure forms of attachment have survived evolutionary winnowing over the millennia (Belsky, 1997, 1999; Chisholm, 1996; Del-Giudice, 2009; Simpson, 1999; Simpson & Belsky, 2008).

Recently, however, Ein-Dor, Mikulincer, Doron, and Shaver (2010) proposed social defense theory (SDT), which posits that each of the three major attachment patterns (secure, anxious, and avoidant) confers unique adaptive advantages. In the present study, building on SDT, we examined whether people who score relatively high on avoidance are better adapted than their less avoidant peers to succeed in domains that require self-reliance, independence, and frequent temporal and spatial distance from significant others.

**Attachment Theory and Research**

Adult attachment patterns are often conceptualized as regions in a continuous two-dimensional space (Brennan, Clark, & Shaver, 1998;
Fraley & Waller, 1998). The first dimension, attachment-related *avoidance*, reflects the extent to which a person finds it difficult to trust others’ goodwill, strives to maintain independence, de-emphasizes distress and vulnerability, and attempts to cope with stress without seeking others’ support (e.g., Fraley & Shaver, 1997; Kobak, Cole, Ferenz-Gillies, & Fleming, 1993; Shaver & Mikulincer, 2002). The second dimension, attachment-related *anxiety*, reflects the extent to which a person worries that significant others will not be available in times of need, exaggerates his or her sense of vulnerability, and insistently calls on others for help and care, sometimes to the point of being intrusive (e.g., Cassidy & Kobak, 1988; Feeney & Noller, 1990; Lavy, Mikulincer, Shaver, & Gillath, 2009; Shaver & Mikulincer, 2002). Located in the region in which both anxiety and avoidance are low, attachment security reflects the degree to which people feel comfortable with closeness and have faith in others’ availability, responsiveness, and supportiveness. Secure individuals generally cope with threats by relying on internal resources developed with the help of security-enhancing attachment figures or by effectively seeking support (Mikulincer & Shaver, 2007). In times of need, they rely on effective support-seeking strategies, whereas anxiously attached individuals tend to rely on strident emotional expression and emotion-focused coping, and avoidant individuals tend to cope alone and to use distancing coping strategies (e.g., Mikulincer & Florian, 1995, 1998; Mikulincer, Florian & Weller, 1993).

The common view in the attachment literature is that the coping strategies used by secure individuals confer adaptive advantages, whereas those used by insecure individuals are generally maladaptive (Mikulincer & Shaver, 2007). Ein-Dor and colleagues (2010) challenged this view and argued that the tendency of secure individuals to remain emotionally stable and socially connected in the face of threats might sometimes be counterproductive, depending on circumstances.

For instance, when a serious danger arises, a secure person’s concern for staying close to significant others may reduce his or her ability to recognize the gravity of the threat or respond to it in time to facilitate a safe escape. In such cases, anxious individuals’ hyper-vigilance to threats may cause them to react quickly and emotionally, which alerts other group members to the danger, allowing more of them to survive or seek safety. Avoidant individuals’ concern with autonomy and self-preservation may motivate them to find an escape
route that others can use, even if others’ benefit was not a high priority. In other words, the common interpretation of attachment-related avoidance as maladaptive may, under some conditions, be misleading. Avoidance may be beneficial for survival of both the avoidant individual and members of his or her group.

This theoretical reasoning led us to consider circumstances under which adaptive coping requires self-reliance, independence, and an ability to function without close proximity to significant others. Under such circumstances, more avoidant individuals may be better able to cope well and be both more successful and more satisfied than their less avoidant counterparts.

The Present Research

In the studies described here, we explored two situations in which people who score high on attachment-related avoidance might be more successful and feel more satisfied than people who score low on avoidance. In Study 1, we examined young professional singles tennis players. Singles tennis requires quick, cool decisions without reliance on others’ help (at least not during actual games). Professional-level tennis also requires frequent travel away from home and significant others. We hypothesized that among young professional singles tennis players, those with higher scores on attachment-related avoidance would achieve higher rankings over a period of 16 months. Because other factors were also likely to influence a player’s ranking—for example, amount of training, emotional self-efficacy, and strategies for coping with stress (e.g., problem-focused coping; Folkman & Lazarus, 1980)—we introduced statistical controls for these variables.

In Study 2, we examined feelings of satisfaction among people in computer science a discipline characterized by long hours of work with few social interactions. Although success and satisfaction often covary (e.g., Bretz & Judge, 1994), the correspondence between success and satisfaction for people high in avoidance is not straightforward: although they score relatively high on measures of self-worth and self-assessed competence (e.g., Brennan & Morris, 1997), they often downplay the experience and expressions of feelings, at least in the context of close relationships. Feelings about one’s college major, however, may be something that avoidant individuals are willing to share. In Study 2, based on Holland’s (1997) theory of
vocational choice, which posits that vocational choices are expressions of personality, we hypothesized that among college seniors who were majoring in computer science, those who were more avoidant would also be more satisfied with their career choice. We did not expect this same relation to hold among students majoring in a very different field: social work.

**STUDY 1**

In Study 1, young professional tennis players completed a series of self-report questionnaires measuring attachment anxiety and avoidance, emotional self-efficacy, problem-focused coping, and amount of tennis training. We then monitored the players’ official rankings at six points across a period of 16 months. We hypothesized that attachment-related avoidance would predict better official tennis rankings over time, above and beyond the effects of other potentially relevant variables: emotional self-efficacy, problem-focused coping, and amount of training.

**Method**

**Participants**

Fifty-eight young Israeli professional singles tennis players from Ramat-HaSharon and Yad-Eliyahu tennis centers (40 men and 18 women), ranging in age from 9 to 16 years ($Mdn = 13$), volunteered to participate in the study. They had played professional tennis for 5.8 years on average ($SD = 1.8$), and they trained for an average of 5.1 days per week ($SD = 0.56$) and 2.9 hours per day ($SD = 1.2$).

**Materials and Procedure**

We randomly drew potential participants from a large pool of professional tennis players from Ramat-HaSharon and Yad-Eliyahu tennis centers. Each participant was tested individually, following parental consent. At the beginning of the study, each participant completed three randomly ordered self-report measures. Attachment orientation was

1. Feeney, Cassidy, and Ramos-Marcuse (2008) showed that adolescents complete self-report measures of attachment orientations in the same way as adults, and that these measures have high concordance with more traditional interview-based methods used for children. Also, studies indicate that children around the
assessed with a Hebrew-language questionnaire developed by Mikulincer and colleagues (Mikulincer & Erev, 1991; Mikulincer, Florian, & Tolmacz, 1990). In completing this questionnaire, participants rated the extent to which each item was descriptive of their experiences in close relationships on a 7-point scale ranging from 1 (not at all) to 7 (very much). Eight items assessed avoidant attachment (e.g., I am uncomfortable when other people get too close to me) and seven assessed anxious attachment (e.g., I worry about being abandoned). In the present study, Cronbach’s alphas were .65 for the anxiety items and .77 for the avoidance items. Previous research has shown high concordance between this brief measure and the 36-item Experiences in Close Relationships measure (Brennan et al., 1998), which is less appropriate than Mikulincer and colleagues’ (1990) measure for young adolescents who have relatively little experience in romantic relationships (Mikulincer & Florian, 2000).

Emotional self-efficacy was assessed with a six-item Hebrew version of the Self-Efficacy Questionnaire for Children (SEQ-C; Muris, 2001). Participants rated the extent to which they could handle negative emotions (e.g., How well can you control your feelings?) on a 5-point scale ranging from 1 (not at all) to 5 (very well). In the present study, this scale had an alpha of .81.

Problem-focused coping with stressful events was assessed with a Hebrew version of the Ways of Coping Checklist (Folkman & Lazarus, 1980). Participants read seven statements regarding problem-focused coping (e.g., made a plan of action and followed it) and were asked to state, on a 4-point scale ranging from 1 (not at all) to 4 (very much), the extent to which each statement applied to them (α = .74).

Finally, participants reported the average number of days they typically trained per week and the average number of hours they typically trained per day. Based on a maximum likelihood factor analysis, we combined these variables into a single measure of training. (The factor had an eigenvalue of 1.30. Average number of training days per week loaded .56 on the factor, and average number of training hours per day loaded .49.)

In the second part of the study, we monitored participants’ official rankings as published by the Israeli Tennis Association at six time points: when the self-report measures were collected (T1), 1 month later (T2), 2 months later (T3), 8 months later (T4), 1 year later (T5), and 16 months later (T6). The attrition rate was 15.15% (N = 9): two players had quit playing professional tennis by T4, a third player quit between T4 and T5, age of 10 complete self-report measures of social and cognitive abilities as well as stress-related measures in the same way as adults (e.g., Steele, Forehand, & Devine, 1996; Wagner, Abela, & Brozina, 2006).
and another six players quit between T5 and T6. Correlations among the measures used in the study are presented in Table 1.²

Results and Discussion

Players’ official tennis rankings were examined using a three-step hierarchical linear model (HLM; Raudenbush, Bryk, & Congdon, 2004). At the lower level of the model (the repeated measures level), we introduced a time matrix measure as a predictor of players’ official tennis rankings (with months as the unit of analysis; coded as 0, 1, 2, 8, 12, and 16) to examine whether players’ rankings changed over time. At the upper level of the model (the person level), we introduced predictors in four steps. In the first step, we introduced the factor-based training score. In the second step, we introduced scores on the measures of emotional self-efficacy and problem-focused coping. In the third step, we introduced players’ attachment anxiety and avoidance scores. This step enabled us to examine whether players high on avoidance achieved better rankings overall than players low on avoidance, above and beyond the effects of training, emotional self-efficacy, and problem-focused coping. Finally, in the fourth step, we added product terms representing the interactions between the attachment scores (anxiety and avoidance) and the time matrix measure. This step revealed whether players who scored relatively high on avoidance advanced faster in the official rankings than players who scored relatively low.³ To determine whether each step added to the explained variance in players’ official tennis rankings, deviance tests were performed. Unstandardized coefficients, their levels of significance, and the corresponding amounts of explained variance are shown in Table 2.⁴

2. In our sample of young adolescents, age was significantly associated with lower self-reported emotional self-efficacy. Although unexpected, this result is consistent with research (e.g., Richardson, 2002) showing that emotional self-efficacy is low during puberty, especially for girls.

3. Introducing players’ age and gender (0 = women; 1 = men) as covariates did not change the pattern of the results.

4. We also conducted a series of hierarchical regression analyses predicting players’ official rankings at all six time points. These analysis revealed that attachment-related avoidance significantly predicted better rankings at all time points (βs of −.40, −.37, −.35, −.31, −.30, and −.43; all ps < .05), above and beyond the effects of training, emotional self-efficacy, problem-focused coping, and attachment anxiety (ΔR² > .08).
Table 1
Correlations Among Study 1 Measures

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<tr>
<td>1. Training days per week</td>
<td>—</td>
<td>—</td>
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<td>—</td>
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<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. Training hours per day</td>
<td>.28*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Emotional self-efficacy</td>
<td>.16</td>
<td>.31*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Problem-focused coping</td>
<td>.17</td>
<td>.09</td>
<td>.36**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. Attachment-related anxiety</td>
<td>-.01</td>
<td>.01</td>
<td>.04</td>
<td>.14</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>6. Attachment-related avoidance</td>
<td>.04</td>
<td>-.03</td>
<td>.04</td>
<td>.17</td>
<td>.50***</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7. Average official rankings</td>
<td>-.38**</td>
<td>-.02</td>
<td>-.19</td>
<td>-.06</td>
<td>.01</td>
<td>-.22*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8. Age</td>
<td>-.14</td>
<td>-.30*</td>
<td>-.48**</td>
<td>-.19</td>
<td>-.11</td>
<td>-.12</td>
<td>.09</td>
<td>—</td>
</tr>
<tr>
<td>9. Gender (0 = female; 1 = male)</td>
<td>-.28*</td>
<td>.03</td>
<td>-.09</td>
<td>.03</td>
<td>.07</td>
<td>-.00</td>
<td>.36**</td>
<td>.02</td>
</tr>
</tbody>
</table>

Note. Lower official rankings reflect better performance (because a ranking of 1 is better than a ranking of 2, etc.). A negative association with gender means that female players had higher scores on the measure than male players.

*p < .05. **p < .01. ***p < .001.
Table 2
Unstandardized Hierarchical Linear Model Coefficients Predicting Official Tennis Ranking Over Time From Participants’ Amount of Training, Emotional Self-Efficacy, Problem-Focused Coping, and Attachment Anxiety and Avoidance

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Time</th>
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<tr>
<td></td>
<td>Amount of training</td>
<td>$-11.43_{\sim}$</td>
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<td></td>
<td>$[R^2 = .03^{**}]$</td>
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<th>Step 2</th>
<th>Time</th>
<th>.44</th>
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<tr>
<td></td>
<td>Amount of training</td>
<td>$-11.42^*$</td>
</tr>
<tr>
<td></td>
<td>Emotional self-efficacy</td>
<td>$-16.63_{\sim}$</td>
</tr>
<tr>
<td></td>
<td>Problem-focused coping</td>
<td>9.57</td>
</tr>
<tr>
<td></td>
<td>$[\Delta R^2 = .006]$</td>
<td></td>
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<table>
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<tr>
<th>Step 3</th>
<th>Time</th>
<th>.44</th>
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<tbody>
<tr>
<td></td>
<td>Amount of training</td>
<td>$-10.32$</td>
</tr>
<tr>
<td></td>
<td>Emotional self-efficacy</td>
<td>$-12.74$</td>
</tr>
<tr>
<td></td>
<td>Problem-focused coping</td>
<td>$-4.88$</td>
</tr>
<tr>
<td></td>
<td>Attachment-related anxiety</td>
<td>6.40</td>
</tr>
<tr>
<td></td>
<td>Attachment-related avoidance</td>
<td>$-14.98^*$</td>
</tr>
<tr>
<td></td>
<td>$[\Delta R^2 = .10^{**}]$</td>
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<table>
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<tr>
<th>Step 4</th>
<th>Time</th>
<th>.58</th>
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<tbody>
<tr>
<td></td>
<td>Amount of training</td>
<td>$-10.33$</td>
</tr>
<tr>
<td></td>
<td>Emotional self-efficacy</td>
<td>$-12.70$</td>
</tr>
<tr>
<td></td>
<td>Problem-focused coping</td>
<td>$-4.93$</td>
</tr>
<tr>
<td></td>
<td>Attachment-related anxiety</td>
<td>6.96</td>
</tr>
<tr>
<td></td>
<td>Attachment-related avoidance</td>
<td>$-14.95^*$</td>
</tr>
<tr>
<td></td>
<td>Attachment-Related Anxiety $\times$ Time</td>
<td>$-0.46$</td>
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<tr>
<td></td>
<td>Attachment-Related Avoidance $\times$ Time</td>
<td>$-0.03$</td>
</tr>
<tr>
<td></td>
<td>$[\Delta R^2 = .001]$</td>
<td></td>
</tr>
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</table>

Note. Negative values reflect an improvement in players’ official rankings. Degree of person-level explained variance at each step and its level of significance is presented in brackets.

$p < .1$. $^*p < .05$. $^{**}p < .01$. 

Avoidant Attachment and Success
As can be seen in Table 2, amount of training significantly predicted a player’s official ranking. The inclusion of the attachment scores in the third step, however, substantially reduced the association between amount of training and players’ official rankings, and in that step, amount of training was no longer significant.

The variables entered in the second step of the analysis (emotional self-efficacy and problem-focused coping) did not add significantly to the prediction of players’ rankings. In contrast, in the third step of the analysis, attachment-related avoidance was significantly related to rankings. Consistent with our hypothesis, avoidance, but not anxiety, predicted a better overall ranking (an average of approximately 15 ranks per 1 scale unit increase on the avoidance scale), and this effect occurred beyond those of the previously entered variables. Neither attachment score interacted with time. Thus, although avoidance predicted ranking, it did not predict a different slope of improvement. The full model explained 13.5% of the variance in participants’ official tennis rankings.

This study suggests that attachment-related avoidance is a substantial predictor of success in tennis, at least over a period of 16 months. It is worth noting, however, that other research has suggested that avoidance is associated with job burnout (Pines, 2004; Ronen & Mikulincer, 2009). Thus, there was a possibility that avoidance might predict not only success in singles tennis, but also earlier retirement from the profession. To examine this possibility, we conducted a logistic regression analysis with retirement as the outcome variable (1 = yes; 0 = no). The predictors were amount of training, emotional self-efficacy, problem-focused coping, and attachment-related anxiety and avoidance. As it turned out, none of these measures predicted the probability of retiring from the game, $Exp(B) = 1.80$, $p = .33$ for avoidance.

In line with our prediction, young professional tennis players who scored higher on avoidant attachment were more successful than less avoidant peers over a period of 16 months. And at least within that time period, there was no effect on burning out and deciding to leave the profession.

**STUDY 2**

In Study 2, we examined the possibility that avoidant college seniors majoring in computer science would be happier with that field than
their less avoidant fellow majors. We did not expect this same pattern among seniors majoring in a field that emphasizes emotions and relationships: social work. According to both Holland’s (1997) theorizing and findings from previous studies (e.g., Feldman, Smart, & Ethington, 1999), people’s vocational choices are expressions of their personality, and satisfaction in a particular line of work is based, in part, on the congruence or “fit” between personality and professional environment. We therefore expected that relatively avoidant senior majors in computer science—a mechanical, abstract, and somewhat individualistic field of endeavor—would be happier with their field than fellow majors who were less avoidant (and thus more secure in at least this one sense). We did not expect the same relationship to hold among majors in a field like social work that involves emotions, caring, and compassionate interpersonal relationships.

Seniors majoring in either computer science or social work completed a series of self-report scales assessing attachment anxiety and avoidance, satisfaction with one’s field of study, and sociodemographic variables. We predicted that attachment-related avoidance would be associated with satisfaction in one’s major field among students in computer science, but not among students majoring in social work.

Method

Participants

One hundred Israeli undergraduate seniors (50 men and 50 women, ranging in age from 20 to 40, $M = 25.27$, $SD = 3.41$) volunteered to participate in the study. Fifty-three participants were majoring in computer science (27 men and 26 women), and 47 were majoring in social work (23 men and 24 women). Independent-samples $t$ tests indicated that the groups did not differ in age, $t(91) = .31$, $p = .76$, or in the number of children they had, $t(98) = -1.13$, $p = .26$. A series of $\chi^2$ tests for independence of measures indicated that the groups did not differ in the distributions of men and women, $\chi^2(1) = .04$, $p = .84$; religion, $\chi^2(2) = 2.51$, $p = .28$; or marital status, $\chi^2(2) = 1.15$, $p = .56$.

Materials and Procedure

The participants were recruited from departments of computer science and social work at various universities in Israel. Each participant received
the questionnaire measures in a randomly determined order and completed them individually in the presence of a research assistant. Attachment anxiety and avoidance were assessed with a Hebrew version of the Experiences in Close Relationships scales (ECR; Brennan et al., 1998). Participants rated the extent to which each item was descriptive of their feelings in close relationships on a 7-point scale ranging from 1 (not at all) to 7 (very much). Eighteen items assessed attachment anxiety (e.g., “I worry about being abandoned”) and 18 assessed avoidance (e.g., “I prefer not to show a partner how I feel deep down”). The reliability and validity of these scales have been repeatedly demonstrated (beginning with Brennan et al., 1998; see Mikulincer & Shaver, 2007, for a more recent review). In the present study, Cronbach’s alphas were .78 for the anxiety items and .83 for the avoidance items. Mean scores were computed for each scale, and the two scores were not significantly correlated, as intended by the scale designers, $r(97) = .07, p = .47$.

Satisfaction with one’s field of study was assessed with a single question (in Hebrew): “Are you happy with your choice of major? (yes / no).” Finally, participants reported their age, gender, marital status, number of children, and religious orientation (secular, traditional, or religious) and then were debriefed and thanked.

**Results and Discussion**

Participants’ satisfaction with their choice of field was examined in a two-step hierarchical logistic regression analysis. In the first step, the main-effect variables were introduced, including major ($0 =$ social work; $1 =$ computer science), attachment anxiety, and avoidance. In the second step, the products representing the possible two-way interactions were introduced. To ease the interpretation of the results and to avoid multicollinearity among the predictors, each attachment score was centered with respect to its grand mean. Participants’ satisfaction with their major field (yes $= 1$; no $= 0$) was the dependent measure. Regression coefficients, their level of significance, and the amount of variance they accounted for are presented in Table 3.

As can be seen in the table, the analysis yielded the expected significant interaction between participants’ attachment-related avoidance and major field. Using Hayes and Matthes’s (2009) method for probing interactions in logistic regression analyses, we found that computer science majors who scored relatively high on avoidance were more likely to be satisfied with their choice than majors who scored relatively low on avoidance (see Figure 1),
In contrast, attachment-related avoidance was not related to the probability of being satisfied with social work as a field of study, $Wald z = .02, b = -.11, SE = .70, Exp(B) = .90, Z = -.15, p = .88$. No other effects were statistically significant.

In line with our reasoning, independent-samples $t$ tests with major as the independent variable (computer science, social work) and attachment insecurities (avoidance, anxiety) as the dependent variables (using a separate analysis for each measure and correcting the significance level with a Bonferroni adjustment) revealed that, as expected, computer science students were more avoidant ($M = 3.52, SD = 0.99$) with respect to attachment than social work students ($M = 2.77, SD = 0.94$), $t(97) = 3.88, p < .001$, Cohen’s $d = .79$. Computer science and social work students, however, did not differ in attachment anxiety, $t(97) = -1.06, p = .29$, Cohen’s $d = .22$.

The findings supported our prediction: the higher a student’s avoidance score, the greater was his or her satisfaction with the decision to major in computer science, a relationship that did not occur among social work majors.

**Table 3**

Logistic Regression Coefficients Predicting Happiness With One’s Field of Study From Attachment Anxiety and Avoidance Scores

<table>
<thead>
<tr>
<th></th>
<th>Wald</th>
<th>$b$</th>
<th>SE</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment-related anxiety</td>
<td>2.18</td>
<td>-.62</td>
<td>.42</td>
<td>.54</td>
</tr>
<tr>
<td>Attachment-related avoidance</td>
<td>2.39</td>
<td>1.08</td>
<td>.70</td>
<td>2.93</td>
</tr>
<tr>
<td>Major field</td>
<td>2.18</td>
<td>-1.65</td>
<td>1.12</td>
<td>.19</td>
</tr>
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[Cox & Snell’s $R^2 = .06$]

<table>
<thead>
<tr>
<th></th>
<th>$b$</th>
<th>SE</th>
<th>Exp(B)</th>
</tr>
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<tbody>
<tr>
<td>Attachment-Related Anxiety $\times$ Field of Choice</td>
<td>.26</td>
<td>-.48</td>
<td>.94</td>
</tr>
<tr>
<td>Attachment-Related Avoidance $\times$ Field of Choice</td>
<td>3.85</td>
<td>3.41*</td>
<td>1.74</td>
</tr>
</tbody>
</table>

[Cox & Snell’s $\Delta R^2 = .05$]

*p < .05.*

$Wald z = 4.31, b = 3.07, SE = 1.48, Exp(B) = 21.49, Z = 2.08, p = .037$. In contrast, attachment-related avoidance was not related to the probability of being satisfied with social work as a field of study, $Wald z = .02, b = -.11, SE = .70, Exp(B) = .90, Z = -.15, p = .88$. No other effects were statistically significant.
GENERAL DISCUSSION

For more than 30 years, beginning with the pioneering studies of infant-mother attachment by Ainsworth and her colleagues (Ainsworth, Blehar, Waters, & Wall, 1978), researchers have emphasized associations between measures of attachment insecurities and measures of psychological and social maladjustment. For instance, insecure adults (whether anxious or avoidant) experience higher rates of relationship dissolution (e.g., Hazan & Shaver, 1987; Kirkpatrick & Hazan, 1994; Shaver & Brennan, 1992) and more psychological problems (e.g., Mikulincer et al., 1993; Mickelson, Kessler, & Shaver, 1997) than secure adults. Contemporary reviewers of attachment research have attributed these and related findings to secure individuals’ constructive coping strategies in times of need and to insecure individuals’ deficient or dysfunctional coping strategies.

One possible reason for failing to find evidence of benefits associated with insecure attachment patterns is that the outcomes of interest have usually been in the domain of social adjustment or subjective well-being (Ein-Dor et al., 2010; see also Belsky, 1997, Figure 1

The probability of being happy with one’s chosen field as a function of attachment-related avoidance and field of study (computer science or social work). The higher a student’s avoidance, the more likely he or she is to be happy with the choice of computer science, but this is not the case among social work majors.

Figure 1

The probability of being happy with one’s chosen field as a function of attachment-related avoidance and field of study (computer science or social work). The higher a student’s avoidance, the more likely he or she is to be happy with the choice of computer science, but this is not the case among social work majors.
1999; Simpson & Belsky, 2008). This emphasis may have deflected attention from possible adaptive advantages of insecure attachment patterns. In the present study, based on social defense theory (Ein-Dor et al., 2010), we considered the possibility that avoidant individuals are better suited than their less avoidant peers for two individualistic careers—professional singles tennis and computer science. The former domain requires independent, cool decisions under pressure in a competitive arena where one operates alone. The latter domain involves intensive concentration on mechanical procedures and often involves, at least at the student level, working alone rather than in teams. We reasoned that avoidant individuals’ ability to ignore or downplay psychological threats and the need for proximity to and assistance from close relationship partners (e.g., Shaver & Mikulincer, 2002), and their valuing of autonomy and self-reliance (Fraley & Shaver, 1997; Kobak et al., 1993; Mikulincer & Orbach, 1995), might suit them for individualistic, relatively nonsocial fields such as singles tennis and computer science.

As expected, Study 1 showed that scores on a simple measure of attachment-related avoidance, which contained no content of obvious relevance to individualistic athletic performances or intense competition, predicted young players’ official tennis rankings over a period of 16 months, and did so above and beyond such important variables as intensity of training, perceived emotional self-efficacy, and coping strategies. Also, although avoidance has been associated with early burnout in other domains (e.g., Pines, 2004; Ronen & Mikulincer, 2009), we found no effect of avoidance on burning out and deciding to leave the profession of professional tennis, at least over the period of the study. We also found, however, that players who scored high on avoidance had better rankings than their less avoidant peers, but they did not advance faster than their peers over the time of the study. It is possible that avoidant individuals are better in tennis early on in their professional carriers, and thus, because we sampled players who had already competed for an average of 6 years, we could not assess their career development, only its maintenance. Future studies should sample novice players to see how they develop and progress in the rankings over time.

In Study 2, we found that students who scored relatively high on avoidance were happier with their choice of computer science as a field of specialization, but that avoidance and satisfaction were not
related among students specializing in social work. Study 2 further supports our hypothesis that more avoidant individuals may be not only more successful in certain fields but also more satisfied than their less avoidant counterparts. The fields are likely to be ones in which adaptive coping requires self-reliance, independence, and an ability to function without close proximity to significant others.

The results of this research add to a growing body of evidence for the adaptive nature of individual differences (i.e., variation) in personality. For instance, Nettle (2006) argued that such variability can be understood in terms of trade-offs among fitness costs and benefits: “Behavioral alternatives can be considered as tradeoffs, with a particular trait producing not unalloyed advantage but a mixture of costs and benefits such that the optimal value for fitness may depend on very specific local circumstances” (p. 625). Here we have shown that attachment-related avoidance, as predicted by SDT, offers certain advantages in two cool, competitive, somewhat mechanical and individualistic lines of endeavor, professional tennis and computer science, which in many other respects do not seem similar at all.

There are, of course, some limitations to our studies. In Study 1, we examined only an activity that rewards independence and self-reliance; we did not include a comparison activity that requires close coordination or sustained cooperation with other people. This limitation is addressed to some extent by recent research showing that secure individuals are better able than insecure ones to form significant, positive, and reciprocal relationships with sports team members (Carr, 2009). Carr’s findings complement ours and suggest that secure individuals may be better suited for team sports than their insecure peers. However, because Carr’s (2009) research did not examine an objective measure of success, as we did, we cannot reject the possibility that more avoidant individuals are better equipped than secure or anxious ones to succeed in any competitive sport. This limitation is addressed, at least to some extent, by Study 2, in which avoidant college seniors were happier than nonavoidant seniors when majoring in computer science, but not when majoring in social work. Still, future research should include a comparison of the contribution of attachment orientations to performance in different kinds of sports.

It is also important to note that the correlational nature of our studies precludes confident conclusions about the direction of
causality in the link between avoidance and objective success in professional tennis (Study 1), and the one between avoidance and vocational satisfaction in computer science (Study 2). Theory and research on attachment, however, indicate that attachment orientations are formed in early childhood and are moderately stable over periods of years (see Mikulincer & Shaver, 2007, for a review). Thus, we believe that it is more likely that avoidance helps professional tennis players be more successful than their less avoidant peers rather than that success in tennis causes people to become avoidant. It also seems more likely that people who score higher on avoidance choose and enjoy computer science than that people who major in computer science then become more avoidant. But these possibilities should be addressed in future studies. Finally, it would be valuable in these future studies to include other personality measures to rule out the possibility that our findings regarding avoidance are attributable to other traits. Many attachment studies have, however, included measures of the Big Five personality traits, and the attachment measures continued to predict theoretically expected variables when the Big Five traits were statistically controlled (see Mikulincer & Shaver, 2007, for a review).

Despite the limitations, our findings add to the literature suggesting that variations in attachment orientations in particular, and in personality differences more generally, have important implications for adaptation in different life domains—a possibility that attachment researchers have generally neglected. Studies like the ones reported here, which were suggested by social defense theory, offer a new perspective on the strengths of individuals who have long been viewed as deficient and poorly adapted.

REFERENCES


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