

## Personality and attachment to romantic partners

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Since Hazan and Shaver formulated their theory of adult romantic attachment in the late 1980's (Hazan & Shaver, 1987), attachment theory has become one of the principal theoretical frameworks for the study of intimate relationships in adulthood. It conceptualizes romantic love, or couple bonding, as an attachment process that reflects the same kinds of individual differences as infant-parent attachment. However, this idea is not a new one. Although attachment theory (Bowlby, 1969) was originally designed to explain the emotional bond between infants and their caregivers, Bowlby (1979) believed that attachment is an important component of human experience "from the cradle to the grave" (p. 129) and that attachment relationships play a powerful role in adults' emotional life.

*Key words:* personality, attachment, romantic partners

Individual differences in adult attachment behavior are presumed to be the reflections of the expectations and beliefs people have formed about themselves and others on the basis of their attachment histories. Over repeated interactions with the caregiver early in childhood, children develop a set of knowledge structures, or *internal working models*, representing those interactions and contributing to the regulation of the attachment behavioral system (Bowlby, 1969). According to Hazan and Shaver (1987), these internal working models continue to guide and shape close relationship behavior throughout life (for a review, see Pietromonaco & Feldman Barrett, 2000). They supported this theoretical presumption with findings on adult analogues of the three attachment types described by Mary Ainsworth and her colleagues: secure, anxious-ambivalent and avoidant (Ainsworth, Blehar, Waters, & Wall, 1978). Several years later, Kim Bartholomew (Bartholomew, 1990) directly addressed these representations of self and others and proposed a four-category model of individual differences in adult attachment. Based on the positive or negative representation of self and others, individuals can form a secure, preoccupied, fearful-avoidant or dismissive-avoidant types of attachment.

Over the past three decades, attachment theory has gained prominence in explaining the basic mechanisms of early personality development. Attachment theorists propose that early attachment patterns that are maintained through childhood have the power of influencing personality development and thus be among the potential forerunners of the basic personality dimensions. Secure or insecure attachment in infancy could be among the important factors influencing the development of many personality features such as sociability, emotionality, curiosity, trust and cooperation. Moreover, early attachment could affect not only isolated personality traits, but the personality organization as well (Thompson, 1999, 2000). Early secure attachment with the caregiver should enable adaptive functioning later in life, reflected in the higher levels of emotional stability and positive emotionality as well as in the quantity and quality of interpersonal relations later in life. On the other hand, insecure attachment patterns early in life could lead to higher levels of neuroticism, which refers to the level of negative emotionality. These presumptions about the consequences of attachment experiences for personality have led some theorists to promote attachment theory as a broad theory of personality and personality development (e.g. Shaver & Mikulincer, 2002).

The hypothesis that early attachment experiences may be predictive for later personality development has recently received some empirical support. In a study of the relations between infant attachment patterns and observer ratings of the five basic personality dimensions, Hagekull and Bohlin (2003) report that attachment security in infancy predicted

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higher extraversion and openness and lower neuroticism in middle childhood, confirming theoretically proposed expectations. The relation of early parenting experiences and normal adult personality was also demonstrated by Reti, Samuels, Eaton, Bienvenu, Costa, and Nestadt (2002). In their study with the American community sample, recollections of both maternal and paternal care were positively related to extraversion and conscientiousness and negatively to neuroticism, while maternal care was also positively related to agreeableness.

At least some of the personality dimensions thus could demonstrate theoretically meaningful relations with the attachment variables. A number of recent studies, using various personality and attachment measures, give empirical support to some of these theoretical expectations. These studies used the five-factor model as a common personality taxonomy that has been dominating the literature on personality structure over the past two decades (Ozer & Reise, 1994; Funder, 2001). Five broad traits - neuroticism, extraversion, openness to experience, agreeableness and conscientiousness, have been widely recognized as basic dimensions of normal personality (McCrae & John, 1992; McCrae & Costa, 1996).

Shaver and Brennan (1992) were the first to report the relations between five factors as defined by the NEO Personality Inventory and three attachment types proposed by Hazan and Shaver (1987). Using the early version of NEO Personality Inventory (Costa & McCrae, 1985), this study confirmed theoretically meaningful overlap between attachment styles and five personality dimensions. Security was best predicted by low neuroticism and high extraversion, while anxiety-ambivalence was predicted only by high neuroticism, particularly depression, and low openness to values. The third style, avoidance, was predicted by low agreeableness and high neuroticism as well as with low openness to feelings. Low neuroticism and high extraversion were therefore the main personality features differentiating secure attachment style from the two insecure ones in this study. However, Shaver and Brennan (1992) emphasize that the magnitude of relations between attachment styles and personality dimensions was limited by their use of single-item attachment style rating scales with relatively low reliabilities.

In an effort to improve the measurement of adult attachment, Carver (1997) used scale measures of attachment styles, lending further support to the theoretical predictions and Shaver and Brennan's (1992) findings. The two ambivalence scales were thus moderately related to neuroticism, security was moderately related to extraversion while avoidance showed strongest relations with low extraversion and low agreeableness. The study also reported correlations of personality dimensions with the Bartholomew's four-category attachment model (Bartholomew & Horowitz, 1991). Dismissive type is thus low in neuroticism and agreeableness, while fearful type is more neurotic and less extra-

verted and agreeable. Secure attachment was related to all five personality dimensions - negatively with neuroticism and positively with extraversion, openness, conscientiousness and agreeableness. Preoccupied attachment type was related only to higher neuroticism. In general, both types of attachment data in this study suggest that ambivalent types of attachment are related to higher neuroticism, while secure attachment is primarily related to higher extraversion and dismissive attachment to low agreeableness.

A latent variables analysis by Griffin and Bartholomew (1994), using the same four-category attachment model, revealed a similar pattern of personality - attachment relations. The positive self model (low anxiety) was strongly related to low neuroticism, while the positive model of others (low avoidance) was moderately related to higher extraversion and to a lesser extent, higher agreeableness.

Research with European samples also confirmed the main findings on the relation between attachment and normal personality. Bakker, van Oudenhoven and van der Zee (2004) report expected positive relations of secure attachment with extraversion and, to a lesser extent, agreeableness in a study of Dutch immigrants. Ambivalent attachment was negatively related to extraversion and positively to neuroticism, while dismissive attachment was also negatively correlated to extraversion and, unexpectedly, to neuroticism as well. In another Dutch study, participants with secure attachment showed lower neuroticism and higher extraversion compared to groups with insecure attachment styles (Buunk, 1997). Research carried out with NEO - PI in Sweden reveals positive model of self being strongly related to low neuroticism and modestly to extraversion and agreeableness. Positive model of others was related primarily to extraversion and agreeableness and modestly to openness and low neuroticism (Bäckström & Holmes, 2001). Recent research with an Italian five-factor measure revealed moderate negative correlations of both attachment anxiety and avoidance with extraversion and emotional stability, where anxiety showed stronger correlations with these personality dimensions than avoidance. Anxiety avoidance was also negatively correlated to openness (Picardi, Caroppo, Toni, Bitetti, & DiMaria, 2005).

The studies described above used a variety of personality measures, predominantly measures of five factors. However, just a few of them report data collected with NEO Personality Inventory, the most widely used measure of five factors. Those studies used either an earlier version of NEO - PI (Shaver & Brennan, 1992; Griffin & Bartholomew, 1994; Bäckström & Holmes, 2001) or a short version of the questionnaire, NEO-FFI (Carver, 1997). Both versions of the instrument have their shortcomings. An earlier version of the NEO questionnaire, NEO - PI (Costa & McCrae, 1985) offers measures of the lower level traits or facets only for the first three domains - neuroticism, extraversion and openness to experience, while agreeableness and conscientiousness remained unelaborated at the facet level. This early version

of NEO was subsequently followed by the revised version of the questionnaire, NEO PI-R, which includes facet scales for the agreeableness and conscientiousness as well (Costa & McCrae, 1992). On the other hand, NEO-FFI used by Carver (1997) is a short version of the NEO PI-R, offering global information only at the level of five domains (Costa & McCrae, 1992).

The personality – attachment research also used a variety of attachment measures, from the well known three-category self-report measure of Hazan and Shaver (1987), which was used in the pioneering study of the relations between personality and attachment (Shaver & Brennan, 1992), to the scales derived by Bartholomew and colleagues (Griffin & Bartholomew, 1994; Bäckstrom & Holmes, 2001) or some less frequently used measures (Carver, 1997; Bakker et al., 2004). However, the measurement of adult romantic attachment has also witnessed substantial improvements over the recent years. Brennan, Clark and Shaver (1998) factor analyzed data collected on a large sample with almost all of the then existing self-report attachment measures. Their analysis revealed that individual differences in attachment can be located along two broad orthogonal dimensions. These dimensions, labeled anxiety and avoidance, closely correspond to the Bartholomew's four-category model of adult attachment. On the basis of their findings, Brennan et al. developed a self-report measure of the anxiety and avoidance dimensions, The Experiences in Close Relationships Inventory (ECR; Brennan et al., 1998).

Recently, Nofhle and Shaver (2006) reported the most comprehensive study to date of relations between personality and attachment. Their study offers a detailed summary of previous empirical findings on the relations between attachment and five personality dimensions. The main findings of this summary are that, in the majority of studies, attachment anxiety is moderately to strongly related to neuroticism, while attachment avoidance is negatively related to extraversion. Furthermore, both attachment dimensions were generally unrelated to openness to experience. Their own empirical study includes both domain-level and facet-level personality traits of the five-factor model as defined by the NEO PI-R (Costa & McCrae, 1992) and the dimensional measure of adult attachment proposed by Brennan et al. (1998). For the dimension of attachment anxiety, Nofhle and Shaver (2006) found moderate positive relations with neuroticism and weak negative relations with conscientiousness. At the facet level, attachment anxiety was related to all facets of neuroticism, but particularly to depression, vulnerability and anxiety. Furthermore, attachment anxiety is negatively related to the assertiveness facet of extraversion and with all six facets of conscientiousness. Attachment avoidance has also demonstrated positive relations with neuroticism domain, but to a much lesser extent than attachment anxiety. In particular, avoidance was positively related to depression, self-consciousness and vulnerability. Avoidance was negatively related to the other three do-

main, particularly to extraversion and conscientiousness, and, modestly, to openness. These relations are due to the negative correlations of avoidance with most facets of extraversion and conscientiousness. In the case of openness, the relation is primarily due to the negative correlation with openness to feelings.

The research of Nofhle and Shaver (2006) has thus provided a number of theoretically meaningful relations of personality and attachment, but has some limitations, primarily the gender imbalance of the sample, which consisted predominantly of females. Furthermore, there is a need to extend and validate those findings in a different cultural context, using the validated translations of the same measures. Research undertaken with European samples has corroborated main findings of the American studies, primarily supporting the relations of extraversion and neuroticism with two attachment dimensions. However, due to the inconsistency of attachment concepts and a variety of both personality and attachment measures, the relations of personality as defined by five-factor model and attachment still remain largely inconclusive.

The aim of the present study is primarily to extend the research on personality and attachment into a different cultural context, and to further explore the relations between attachment dimensions and personality on both domain and facet levels. The comparability of the findings is enabled by the existence of validated translations of the most common measures of five personality dimensions and two attachment dimensions. A Croatian version of the NEO PI-R has proven to be a measure of the five factors comparable to the original (Marušić, Bratko, & Eterović, 1996; McCrae et al., 1999). There is also a validated Croatian version of the Experience in Close Relationships scale (Kamenov & Jelić, 2003, 2005).

## METHOD

### *Participants*

The sample consisted of 352 students from the University of Zagreb. We included in this study students from different study groups - Psychology, Law, English language, Engineering and Police Academy. Participants were 216 females and 136 males whose age ranged from 18 to 33 years, with a mean of 21.1 years. Most of the participants live in urban settings and are heterogeneous with respect to social class and parental educational background. Only three of them reported not having a romantic relationship yet, while others reported from 1 to 33 relationships, with a median of 3 relationships. At the time of the study, 49.1% of participants were dating and 50.9% were not in a relationship.

### Measures and procedure

Respondents completed a questionnaire package including background variables about their previous relationship experience and information regarding their family of origin. After completing the background questions, the Modified Brennan's Experiences in Close Relationship Inventory (Kamenov & Jelić, 2003) was administered to participants, followed by the NEO PI-R (Costa & McCrae, 1992/2005).

#### Modified Brennan's Experiences in Close Relationship Inventory

The Modified Brennan's Experiences in Close Relationship Inventory (Kamenov & Jelić, 2003) is a shortened version of Brennan's inventory retaining the same psychometric properties as the full scale. The scale consists of 18 statements describing one's feelings, thoughts and behavior in romantic relationships. Participants assess the extent to which each item represents their own feelings, thoughts and behavior in relation to their romantic partners in general. Their assessments are given on a 7-point scale, ranging from "strongly disagree" to "strongly agree". The inventory consists of two subscales, measuring two attachment dimensions - anxiety and avoidance. Each subscale consists of 9 items, strongly correlating with the underlying factor. The two subscales are orthogonal ( $r = .08$ ) and highly reliable (Cronbach alpha is .86 for Avoidance and .83 for Anxiety). According to their results on the two dimensions, participants can be categorized into one of the four attachment styles as defined by Bartholomew.

#### NEO PI-R

The *NEO Personality Inventory* (NEO-PI) by Costa and McCrae is the most widely used phrase-based inventory developed for the assessment of the five-factor model. The 240-item inventory consists of the following five scales measuring five broad personality domains: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A) and Conscientiousness (C). Each domain scale consists of 48 statements assigned to the six eight-item facet scales. These facets measure more specific traits defining each of the domains. Subjects respond to each statement on a five-point scale, ranging from "strongly disagree" to "strongly agree".

The Cronbach alpha reliability coefficients for the N, E, O, A and C scales obtained in the validation study of the Croatian translation of the instrument are .91, .88, .85, .88, and .90 respectively, and thus are highly comparable to those reported for the original instrument (Marušić, Bratko, & Eterović, 1996; Costa & McCrae, 1992; Caruso, 2000). The alpha reliabilities obtained in this sample are .91, .88, .90, .83 and .89 for N, E, O A and C domain scales respec-

tively. Our study thus produced scores with adequate reliability for the NEO domain scales.

## RESULTS

Means and standard deviations for the total sample and for both genders are presented in Table 1.

Compared to the data obtained on high-school seniors and midlife adults in a validation study of the Croatian NEO-PI (Marušić et al., 1996) our student sample shows mean levels of extraversion, openness and agreeableness that closely resemble those of high school seniors. Their results on neuroticism and conscientiousness are intermediate between those of high school and adult samples, thus replicating the universally found age differences in personality, where neuroticism declines and conscientiousness increases with age (McCrae et al., 1999).

The pattern of gender differences is mainly in line with the previous findings both for attachment and personality dimensions. Females scored higher than males on anxiety dimension of the Brennan's inventory, a finding that has only limited support in the literature (e.g. Picardi et al, 2005). Recent studies both on Croatian students (Kamenov & Jelić, 2003) and American student samples (Nofle & Shaver, 2006) have not revealed such gender differences in attachment anxiety, although they are in line with the cross-culturally supported finding that females score higher on general anxiety (Feingold, 1994). Female students also scored higher on neuroticism and openness dimensions of personality, thus supporting findings from both cross-cul-

Table 1

Means and standard deviations on anxiety and avoidance scales and on personality domain scales for the whole sample and for males and females separately, as well as gender differences

	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>	<i>t</i>
Anxiety	30.53	11.15	M	28.16	10.90	-3.16*
			F	32.03	11.11	
Avoidance	23.72	10.44	M	23.62	9.81	-0.08
			F	23.71	10.84	
Neuroticism	89.42	21.84	M	80.62	17.69	-5.53**
			F	94.28	22.43	
Extraversion	114.54	19.51	M	112.79	17.58	-1.22
			F	115.63	20.52	
Openness	118.84	21.16	M	112.16	20.93	-4.08**
			F	122.37	20.48	
Agreeableness	108.40	16.87	M	107.27	16.16	-0.85
			F	109.02	17.25	
Conscientiousness	121.74	21.70	M	123.06	21.53	0.76
			F	121.07	21.80	

Note. Degrees of freedom are ranging from 294 to 340.  
\*\* $p < .001$ ; \* $p < .01$ .

Table 2

Correlation coefficients between two attachment dimensions (Anxiety and Avoidance) and personality dimensions for male and female students ( $N = 352$ )

	ANX	AV	N	E	O	A	C
ANX	-	.11	.60**	-.08	.02	-.18*	-.15*
AV	.04	-	.14	-.15*	-.20**	-.13	-.12
N	.43**	.11	-	-.32**	.08	-.06	-.34**
E	-.07	-.20*	-.30**	-	.45**	.03	.06
O	.09	-.22*	.06	.29**	-	.04	-.24**
A	-.04	-.20*	-.02	.03	.08	-	-.02
C	.03	.06	-.34**	.16	-.15	-.12	-

Note. Females – above the main diagonal; Males – below the main diagonal.

\*\* $p < .001$ ; \* $p < .01$ .

tural research (Costa, Terraciano, & McCrae, 2001) and the study of Croatian high school seniors (Marušić & Bratko, 1998).

Due to the observed gender differences in both the attachment and personality dimensions, we decided to conduct further data analyses for two genders separately. Correlations of attachment dimensions and personality domains are thus presented for female and male sample separately in Table 2.

The most notable correlation between personality and attachment in both samples is the one between attachment anxiety and neuroticism. In females this correlation reaches .60, while it is somewhat lower in males, but still in the range of moderate values. In the female sample attachment anxiety is also weakly negatively correlated with agreeableness and conscientiousness.

Avoidance is negatively correlated with extraversion and openness in male and female sample. These correlations are low and similar in magnitude for both genders. Avoidance also has a low negative correlation with agreeableness, but only in males.

The correlations of anxiety and avoidance with facet scales of the NEO PI-R are presented for both subsamples in Table 3, showing several commonalities in the pattern of correlations between the two attachment dimensions and specific personality traits for the male and female subsample. The most notable consistency is the relation between attachment anxiety and traits of the neuroticism domain, where anxiety correlates positively with all six neuroticism facet scales in both genders. In line with the magnitude of correlation on a domain level, the correlations are somewhat greater in magnitude in the female sample. Attachment anxiety also has a low positive correlation with openness to feelings in both genders. Pattern of correlations for the males and females reveals several differences as well. In males, anxiety is correlated only with low assertiveness, while for

females there is a number of other significant correlations on a facet level. Females higher in attachment anxiety have a lower level of positive emotions. They are more open to fantasy, but at the same time less open to actions and values. Furthermore, they are less trusting and straightforward, less competent and have lower self-discipline.

Compared to anxiety, avoidance is significantly related to a fewer number of facets in both genders. For males, there is no significant relation between avoidance and any of the

Table 3

Correlations of Anxiety and Avoidance scales with facet scales of the NEO PI-R for males and females

NEO-PI-R scale	Anxiety		Avoidance	
	Males	Females	Males	Females
<b>Neuroticism</b>				
N1: Anxiety	.31**	.53**	.07	.09
N2: Angry Hostility	.21**	.39**	.11	.14*
N3: Depression	.35**	.49**	.07	.20**
N4: Self-Consciousness	.40**	.46**	.11	.14*
N5: Impulsiveness	.18*	.36**	-.00	.04
N6: Vulnerability	.32**	.45**	.08	.15*
<b>Extraversion</b>				
E1: Warmth	.07	-.06	-.20*	-.28**
E2: Gregariousness	-.09	-.09	-.21*	-.14*
E3: Assertiveness	-.20*	-.05	-.07	-.10
E4: Activity	.08	-.06	.05	-.12
E5: Excitement-Seeking	-.02	.07	.07	.04
E6: Positive Emotion	-.13	-.18**	-.35**	-.29**
<b>Openness</b>				
O1: Fantasy	.12	.16*	-.21*	-.13
O2: Aesthetics	.14	.03	-.12	-.12
O3: Feelings	.23*	.22**	-.27**	-.23**
O4: Actions	-.16	-.17*	-.05	-.16*
O5: Ideas	.10	.00	-.10	-.14*
O6: Values	-.01	-.17*	-.15	-.13
<b>Agreeableness</b>				
A1: Trust	-.03	-.18*	-.20*	-.28**
A2: Straightforwardness	-.00	-.20**	-.17	-.08
A3: Altruism	.01	-.08	-.29**	-.27**
A4: Compliance	.04	-.13	.07	-.03
A5: Modesty	-.16	-.06	-.01	.17*
A6: Tender-Mindedness	.17	-.03	-.15	-.19**
<b>Conscientiousness</b>				
C1: Competence	-.04	-.21**	-.15	-.20**
C2: Order	.06	-.04	.08	-.06
C3: Dutifulness	.00	-.10	-.02	-.10
C4: Achievement striving	.12	-.04	-.02	-.11
C5: Self-discipline	-.11	-.26**	.00	-.11
C6: Deliberation	.02	-.13	.19*	.01

\*\* $p < .001$ ; \* $p < .01$ .

neuroticism facets. For females, there are low positive correlations between avoidance and angry hostility, depression and vulnerability. Avoidant males and females have in common some extraversion traits such as lower warmth, gregariousness and, particularly, less positive emotion. They are also less trusting and altruistic. Avoidant males are less open to fantasy and feelings and less deliberate in their acting. Avoidant females are less open to feelings, actions and ideas and less competent.

In order to determine how well each of the attachment dimensions could be predicted by the NEO domain and facet scales, we carried out multiple regression analyses for both genders. The results of a multiple regression for the NEO domain scales are summarized in Table 4.

Multiple correlations between personality domains and both attachment dimensions are significant both in male and female sample. Attachment anxiety is better predicted by five personality domains than avoidance for both genders, primarily due to the substantial predictive power of neuroticism reflected in a moderately high  $\beta$  coefficient. The primary predictor of avoidance in both genders is low openness. Low agreeableness significantly contributes to the prediction of both anxiety and avoidance, but only in the female sample. The contribution of conscientiousness to the prediction of two attachment dimensions is differentiated with respect to gender – conscientiousness has a significant positive contribution to attachment anxiety in males, but significant negative contribution to the attachment avoidance in females.

The regressions of the two attachment dimensions on the NEO facets for both genders, presented in Table 5, reveal three significant multiple correlations. Personality facets significantly account for the variance in attachment anxiety in both the male and female samples. Avoidance is significantly predicted by personality facets only in female sample. However, only a few facet scales contributed to the

Table 4

Multiple regressions of the attachment dimensions on the five personality domains for males and females (multiple correlations and  $\beta$  coefficients for five personality domains)

	Anxiety		Avoidance	
	Males $\beta$	Females $\beta$	Males $\beta$	Females $\beta$
Neuroticism	.57**	.68**	.16	.10
Extraversion	.07	.12	-.16	-.01
Openness	-.04	-.04	-.24*	-.27**
Agreeableness	-.03	-.17**	-.19	-.17*
Conscientiousness	.28**	.06	.14	-.18*
R <sup>2</sup>	.28**	.43**	.20**	.14**

\*\* $p < .001$ ; \* $p < .01$ .

Table 5

Multiple regressions of the attachment dimensions on the 30 personality facets for males and females (multiple correlations and  $\beta$  coefficients for personality facets)

NEO-PI-R scale	Anxiety		Avoidance	
	Males $\beta$	Females $\beta$	Males $\beta$	Females $\beta$
<b>Neuroticism</b>				
N1: Anxiety	-.20	.29**	.20	.00
N2: Angry Hostility	.27	-.05	-.05	.06
N3: Depression	.39	.15	-.47	.10
N4: Self-Consciousness	-.21	.26**	.06	-.01
N5: Impulsiveness	.13	.01	.15	.64
N6: Vulnerability	.34	.12	.07	.35
<b>Extraversion</b>				
E1: Warmth	.80**	.10	-.15	-.08
E2: Gregariousness	-.15	.03	-.37	-.06
E3: Assertiveness	-.16	.15	.01	.32
E4: Activity	.01	-.03	.31	-.10
E5: Excitement-Seeking	-.14	.02	.32*	.29**
E6: Positive Emotion	-.28	-.01	-.59**	-.10
<b>Openness</b>				
O1: Fantasy	-.06	.03	-.08	-.07
O2: Aesthetics	-.18	-.06	-.06	-.01
O3: Feelings	.31	.18*	-.18	-.07
O4: Actions	-.07	-.06	.19	-.01
O5: Ideas	.36	.10	-.21	.01
O6: Values	-.36	-.17	.07	-.08
<b>Agreeableness</b>				
A1: Trust	-.04	-.05	.34	-.14
A2: Straightforwardness	.22	-.10	-.05	-.02
A3: Altruism	-.28	-.02	-.07	-.03
A4: Compliance	.11	-.08	.02	.08
A5: Modesty	-.15	.01	-.04	.21
A6: Tender-Mindedness	.07	-.15	.10	-.11
<b>Conscientiousness</b>				
C1: Competence	.32	-.07	.13	-.13
C2: Order	-.02	.01	.12	-.03
C3: Dutifulness	-.23	-.08	-.09	-.20
C4: Achievement striving	.23	.12	-.09	-.08
C5: Self-discipline	-.08	-.05	-.19	.19
C6: Deliberation	.09	.00	.31	.14
R <sup>2</sup>	.62**	.56**	.49	.31**

\*\* $p < .001$ ; \* $p < .01$ .

three significant equations and their coefficients  $\beta$  are presented in Table 5.

Anxiety in females is predicted by two neuroticism facets – anxiety and self-consciousness, and by openness to feelings from the openness domain. However, the warmth facet of extraversion appeared as the only significant predictor of attachment anxiety in males, with a very high  $\beta$  coefficient. The lack of bivariate correlations between warmth

and attachment anxiety and the lack of other significant predictors indicated that warmth acted as a suppressor variable in this analysis, suppressing the irrelevant variance in other NEO facets. Only the excitement seeking facet of extraversion significantly contributed to the prediction of avoidance in females, which is another example of the suppressor effect. This assumption was confirmed by the non-significant multiple correlations for anxiety in males and avoidance in females when these two predictor variables were omitted from the analysis.

## DISCUSSION

The major finding of our study is that both attachment anxiety and avoidance are significantly related to the five core dimensions of personality and their facets, although only part of the variance in attachment dimensions could be accounted for by personality variables.

Our results are mainly in line with the majority of previous international studies, thus lending further support to the relations between personality and attachment. However, some of our findings do not have empirical support in previous studies.

The most common finding in the studies on personality and attachment is a moderate to strong relation of attachment anxiety and neuroticism, and this is clearly supported by our results. As in both studies by Shaver (Shaver & Brennan, 1992; Nofle & Shaver 2006), our results show that attachment anxiety was moderately correlated to both the neuroticism dimension and to all the neuroticism facets in both genders. These correlations indicate a significant conceptual overlap between two constructs, which is not surprising given the content of the neuroticism domain scale, where anxiety represents one of the facets defining the higher order trait. The core of the neuroticism domain is negative emotionality, with generalized anxiety playing an important role. This generalized proneness to experiencing negative emotionality should thus be reflected across a variety of situations and relations with others, where situations of intimate relationships should be no exception. The conceptual overlap is particularly evident in the structure of correlations in the female sample, where attachment anxiety expectedly has the highest correlation with the anxiety facet of the neuroticism dimension.

Although the openness domain was not correlated with attachment anxiety in females or in males, several facet-level correlations were observed. The most notable is the positive correlation with openness to feelings in both genders, indicating that individuals who report more anxiety in their attachment to partners experience more intensely a variety of their own feelings, both positive and negative ones. Furthermore, anxious females are slightly more open to fantasy and slightly less open to novelty in actions and values.

Furthermore, attachment anxiety in the female sample has low negative correlations with agreeableness and con-

scientiousness, which is not the case in males. The relation of attachment anxiety with agreeableness in the female sample is conceptually meaningful, bearing in mind the theoretical description of agreeableness as the interpersonal dimension determining quality of one's relations with others (Costa, McCrae, & Dye, 1991). In our study, this correlation is primarily due to the low negative correlations with the trust and straightforwardness facets of agreeableness, thus supporting findings reported by Nofle and Shaver (2006). It should be no surprise that females who experience more anxiety in their attachment with partners are less trusting and straightforward in their interpersonal relations in general. These females also rate themselves as less competent and self-disciplined, as reflected by domain level and facet level correlations of attachment anxiety and Conscientiousness. It appears that, at least for females in our study, more anxiety in intimate relationships is related to lower competence and self-discipline.

Attachment avoidance is moderately negatively correlated with extraversion, particularly with warmth, gregariousness and positive emotions in both genders. This is again a conceptually meaningful finding receiving empirical support in previous studies (Shaver & Brennan, 1992; Shaver & Nofle, 2006). It could be expected that people who avoid intimacy and are more distant in their romantic relations generally seek less interpersonal contacts, show less warmth in these contacts and are less temperamentally prone to positive emotions. The developmental precursors of these relations could be in the early attachment experiences. There is some evidence that secure attachment in young children is related to more competence in close relationships such as with friends and school staff, although the evidence for longer-term associations is modest (Thompson, 1999; Thompson et al., 2005).

Attachment avoidance was also related to lower openness in both genders, particularly to lower openness to feelings. In males, low openness to experience is the only significant predictor of avoidance. Developmental research has reported evidence that secure attachment is related to more emotionally open conversation between mother and child, with more frequent verbal references to feelings (Laihle & Thompson, 2000), and that such discourse in secure attachments fosters advanced understanding of emotions in preschool children (Ontai & Thompson, 2002). It could be therefore hypothesized that developmental history of securely attached individuals could promote more openness to one's feelings, because feelings were more frequently elaborated in their communication with mother during infancy. The opposite could be predicted for insecurely attached individuals, whose developmental history of less elaborated maternal discourse related to emotions should result in lower openness to feelings in adulthood. This hypothesis was only partially supported by our study, where only insecure avoidant attachment was related to lower openness to feelings, while insecure individuals with anxious attachment are more open to feelings.

Avoidant males generally have lower domain agreeableness, although it did not appear as a significant predictor of avoidance in males. On a facet level, avoidant males and females are less trusting and less altruistic, indicating that individuals who prefer less intimacy in partner relations also tend to show more distance and less involvement in other interpersonal relations, which is further supported by recent behavioral studies in various settings. Summarizing these studies, Gillath, Shaver and Mikulincer (2005) report that avoidant attachment was consistently and strongly related to less altruism and helping behavior in various settings. Avoidant females also appear to be slightly more modest, again a finding supported by Nofle and Shaver (2006).

In females, avoidance is furthermore predicted by lower conscientiousness. This relation is primarily reflected in lower competence, a correlation similar in magnitude and direction to one between anxiety and competence. Insecure attachment of females in intimate relations thus appears to be related to lower competence, or a feeling that one is not very able and effective in dealing with life's demands in general. We have thus replicated the relations of lower competence to both attachment anxiety and avoidance reported by Nofle and Shaver (2006). This finding is not supported in males, where avoidance is related with somewhat higher deliberation, indicating that avoidant males are generally more cautious in their actions. This cautiousness is obviously reflected in their more avoidant style in intimate relations.

In sum, our study offers theoretically meaningful evidence on the relations between attachment dimensions and personality as defined by five-factor model. Furthermore, the main theoretical expectations and findings of the previous studies were replicated here, primarily the most consistent evidence of the positive relations between Anxiety and Neuroticism and negative relations between avoidance and extraversion. Many facet-level relations between attachment and personality reported by Nofle and Shaver (2006) were further supported by our study, particularly the positive relations between anxiety and neuroticism facets. Furthermore we replicated findings on lower warmth, gregariousness, positive emotions, openness to feelings, trust and altruism and higher modesty in avoidant individuals and lower competence related to insecure attachment. However, there are some notable differences in comparison to previous research. Our study revealed significant negative relations of avoidance and domain openness, while earlier studies report either no relations between openness and attachment dimensions (Shaver & Brennan, 1992) or a low negative correlation with anxiety (Nofle & Shaver, 2006). Furthermore, conscientiousness was weakly related only to attachment anxiety in the female sample and had few facet level correlations, while Nofle and Shaver (2006) report significant negative correlations of both domain and facet level personality scales with attachment dimensions.

However, similarity of our research findings with those from previous studies provides further support on the main relations between personality and attachment. Although those two sets of personality domains grew from different conceptual traditions, their shared variance points to substantial overlap. However, the degree of overlap found in our study lends further support to the conclusion that style of adult romantic attachment is not merely a reflection of general personality. Dimensions of adult attachment evidently explain a unique portion of variance in interpersonal functioning, beyond the one explained by five basic personality factors. Future studies could provide further evidence on the developmental dynamics of the two domains within broader personality system.

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