



Role of state and trait attachment dimensions on involvement in a close relationship

Ruolo dell'attaccamento di stato e di tratto nelle relazioni di coppia

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ABSTRACT

The aim of the study was to investigate the association between trait and state attachment features and involvement in a couple-relationship. Eighty-four participants of different nationalities completed Childhood Trauma Questionnaire (CTQ), Toronto Alexithymia Scale (TAS-20), Attachment Style Questionnaire (ASQ), Experiences in Close Relationships-Revised (ECR-R), State Adult Attachment Measure (SAAM) and a personal questionnaire focused on involvement and amount of time spent in a couple-relationship.

Results of the study showed that trait attachment features predicted involvement in a close relationship and the presence of a couple relationship predicted attachment state dimensions. Correlation analyses showed that the involvement in couple relationship was associated to CTQ Physical Neglect and SAAM Anxiety while participants without a partner had higher scores on CTQ Emotional Abuse, ECR-R Avoidance and SAAM Avoidance. Regression analyses showed that trait attachment features predicted time spent in a close relationship, while time spent in relationship predicted state attachment dimensions. Moreover, regression analysis showed that SAAM Security was predicted by ECR-R scales only in the sample of participants involved in a couple relationship.

Keywords: trait attachment; state attachment; couple relationship; childhood trauma.

RIASSUNTO

Lo studio ha l'obiettivo di indagare l'associazione tra dimensioni dell'attaccamento considerate di stato o di tratto ed il coinvolgimento in una relazione di coppia. Ottantaquattro partecipanti di nazionalità differenti rispondono ai questionari Childhood Trauma Questionnaire (CTQ), Toronto Alexithymia Scale (TAS-20), Attachment Style Questionnaire (ASQ), Experiences in Close Relationships-Revised (ECR-R), State Adult Attachment Measure (SAAM) e ad una scheda personale focalizzata sul coinvolgimento e la quantità di tempo che il soggetto ha trascorso in una relazione di coppia. Analisi correlazionali mostrano che il coinvolgimento in una relazione di coppia è associato a negligenza fisica (CTQ) ed ansia (SAAM), mentre i soggetti senza un partner hanno punteggi maggiori di abuso emotivo (CTQ) ed evitamento (ECR-R, SAAM). Analisi della regressione dimostrano che l'attaccamento di tratto predice la quantità di tempo trascorso in una relazione di coppia, mentre il tempo trascorso in una relazione predice le dimensioni di attaccamento di stato. Inoltre, l'analisi della regressione mostra che la scala di Sicurezza della SAAM è predetta dalle scale dell'ECR-R solo nel campione di partecipanti coinvolti in una relazione di coppia.

Parole chiave: attaccamento di tratto; attaccamento di stato; relazione di coppia; trauma infantile.

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RdP

Introduction

Attachment theory proposes a psychopathological model that provides guidance on the development of an individual's personality since early years of life (Bowlby, 1969/1982). Attachment system seems to be aimed at the formation of a specific bond between two people and at the maintenance of physical proximity between child and his primary caregiver.

Repeated relational experience at an early age, stored in implicit memory, seems to be a guideline for the internalisation of representative models (Internal Working Models -IWM) of him/her self and others, as well as self-with-others (Bowlby, 1969/1982/1988). Despite being relatively stable, IWMs (Bowlby, 1969/1982/1988) slowly change over time by incorporating and adapting new experiences (Fraley R., 2002).

Attachment representation is initially relationship-specific and then it is used during development as a filter of experience and behavioral guidance. Therefore, the attachment system connotes not only child-caregiver relationship but also adult-adult relationship (Weiss, 1982). In fact, some basic functions of the attachment bond can also be found in the specific adult-adult relationship, other than child-caregiver relationship, such as proximity seeking, secure base effect, separation protest (Weiss, 1982). However, unlike the child-caregiver attachment, the couple attachment bond shows more relational symmetry, reciprocity and complementarity between caregiving and care-seeking functions, in a "flexible reciprocity" (Hazan & Shaver, 1987; Crowell & Treboux, 1995). Another feature of couple relationship is the presence of a sexual motivational system (Mikulincer & Goodman, 2006). Moreover, in adult couples, the partners carry with them past experiences shaping their current representations in order to fit their partner's ones.

Some attachment characteristics may be affected by maladaptive emotional responses to stressors and interpersonal traumatic experiences (Grossmann, Grossmann, & Waters, 2005; Lewis, Feiring, & Rosenthal, 2000). Strategic responses to childhood traumas contribute to insecure attachment in adulthood. High levels of insecure attachment have been associated with experiences of childhood physical abuse and emotional neglect (Whiffen, Judd, & Aube, 1999). Insensitive parenting, parental separation, rejection, intrusiveness or inconsistency may lead to insecure-avoidant or insecure-ambivalent/resistant behavioural strategies (De Wolff & van Ijzendoorn, 1997). More extreme forms of parenting as severe neglect, emotional abuse, and sexual abuse are considered aetiological precursors of disorganized/disoriented attachment dysregulation (Bifulco, et al., 2002; Bifulco, et al., 2006).

A previous study underlined the link between dysfunctional family environments and inability to regulate negative affect, especially during critical periods of emotional developments in childhood (Crittenden, 1994). Dysfunctional family structures, involving fear of separation, marital conflicts, parent-child over-involvement and parent-child role-reversal, may lead to impaired self-regulation and emotional development (Mallinckrodt, King, & Colbe, 1998).

Deficits in affect regulation, assessed through the alexithymia construct, have been associated with insecure attachment styles (Taylor, 1997). Alexithymia is defined as the inability to identify and describe emotions, poor imagination, difficulty in differentiating between emotions and bodily sensations and concrete externally oriented thinking style (Sifneos, 1996). Alexithymia has a mediator role between the relationship of family dysfunction with childhood traumas and adult insecure attachment (Senkas & Isikli, 2015). Emotional responses to stressors and coping strategies to traumatic events may be influenced by both emotional and cognitive impairments persistently and severely impacting on the levels of psychological distress, anxiety, and depression (Gonda et al., 2015; Besharat & Shahidi, 2014). Ineffective coping responses and maladaptive interpersonal schemas may function as a mediator between childhood emotional abuse and romantic relationship functioning (Riggs, et al., 2007; Riggs S., 2010). Adult romantic attachment varies along anxiety and avoidance dimensions, respectively reflecting IWM of self and other (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998). Avoidant adult attachment is characterized by independence from partners and discomfort with closeness. Importance of emotions and close relationships are minimized on behalf of autonomy and enhancement of strategies based on deactivation of emotional

states. High levels of attachment anxiety are associated with subjects' concern for their own needs for care and dependence on partners. Regulation strategies include emotion-focused coping and help-seeking behaviors, leading to an excessive search for proximity which does not seem to be satisfied (Mikulincer & Shaver, 2003).

Moreover, in adult close relationships, insecure attachment style, alexithymic and depressive traits have been associated with intimate partner violence and poor relationship adjustment (Craparo, Gori, Petrucci, Cannella, & Simonelli, 2014). Riggs and colleagues (2010) suggested that the link between childhood traumatic experiences and adulthood close relationships could be explained by a developmental trajectory: an experience of early emotional abuse contributes to the development of anxious/avoidant strategies which negatively affect adjustment in a romantic relationship.

Two theoretical perspectives on stability and change of attachment representations throughout life are currently discussed: the first line of research, known as "prototype hypothesis", supports continuity of attachment styles from childhood to adulthood (Bowlby 1987; Treboux, Crowel, & Waters, 2004). Although IWMs could change over time, this perspective recognizes the security level as stable factor able to predict a nonzero causal effect on later attachment patterns. This model is relatively straightforward and implies the influence of contextual factors as marginal in adult attachment styles (Fraley, 2002).

The second line of research supports a revisionist-contextual perspective and sustains the hypothesis of discontinuity between attachment styles. The model predicts a correlation between childhood and adult security levels progressively tending to zero value. Relationships with significant figures throughout life play a moderating role in the continuous IWM review process, leading to a discrepancy between childhood attachment style and the adult one (Fraley, 2002; Lewis 2000). As Jones and colleagues declared discussing the revisionist contextual perspective, "changes in attachment representations have the potential to dilute or even override early representations" (Jones, et al., 2017, p. 2). Feeney and colleagues defined as dyadic nature of the relationship the reprocessing of internal working models, the deconstruction and reconstruction of expectations within an intimate relationship in adulthood (Feeney, 2004). According to this model, intimate relationships in adulthood continuously modulate attachment patterns, making the models sufficiently accurate and promoting adaptive behavior in relationships (Bowlby, 1980).

Several studies have also investigated whether the marital outcome is the result of initial differences that characterize partners or incremental change in the marital process over time (Lavner, Bradbury, & Karney, 2012; Kamp Dush, Taylor, & Kroeger, 2008). Relationship quality and marital problems seem to be strongly influenced by personal variables already present before marriage (Lavner, Karney, & Bradbury, 2014). Moreover, the experience of childhood traumas, with longitudinal effects on social mistrust, self-esteem, mood-related changes and heightened sensitivity to threat, seems to be a variable influent on the development of attachment style and interpersonal relationships (Di Lillo, et al., 2009). Jones and colleagues (2017), investigating moderators of prototype-like stability on an adolescent group, found that the experience of conflict at home (parent-adolescent and inter-parent conflict) had an effect on avoidance dimension, while parental divorce or separation decreased stability in adolescent anxiety dimension.

Therefore, the first line of research supports the idea that attachment style, as a stable factor developed in childhood, affects later involvement in a couple relationship. On the other hand, the second perspective implies that a close relationship is able to modulate the attachment style later in life, especially on flexibility aspects. A hypothesis that may be coherent with both models is that attachment dimensions may have both trait and state features, as recently discussed by Gillath and colleagues. The authors hypothesized temporary changes and fluctuations of attachment styles in response to relational or situational contingent stimuli and designed the State Adult Attachment Measure (SAAM) to capture these variations (Gillath, Hart, Nofle, & Stockdale, 2009). Unlike other assessments, SAAM analyses subject's thinking or feeling right now about attachment relationships, instead of investigating general dispositions or aspects of the past.

Hypotheses

Based on the previous literature, which investigated modulation of attachment style through involvement in a couple relationship (Treboux, Crowell and Waters 2004; Feeney 2004), the aims of the present study were:

1. exploring the correlation between the attachment styles, emotional regulation ability and childhood traumatic experiences. Moreover, the study evaluated the difference of these psychological variables between two groups (presence *vs.* absence of a close relationship).
2. investigating the correlation between trait attachment styles, childhood traumatic experiences and being involved in a close relationship.
3. the study aimed to investigate whether the *trait* attachment dimensions would predict the involvement in couple relationship, and the amount of time spent in a close relationship would predict *state* attachment dimensions.

The hypotheses were that higher emotional regulation ability and lower levels of childhood traumatic experiences were associated with a secure attachment style and that participants with higher levels of secure attachment were involved in a longer relationship. Moreover, we hypothesized that trait attachment dimensions, with a main effect of childhood traumatic experiences, would be associated with involvement in a couple relationship, and that the involvement in a relationship would predict state attachment dimensions.

Method

Participants of the study

The sample of the study consisted of 84 subjects (32 men and 52 women), over the age of eighteen, with a mean age of 28.9 ± 12 years. Subjects having psychiatric disorders or those who were unable to read and understand the research procedures were excluded. The subjects were recruited in the cities of Rome and Leiden and with a good knowledge of Italian or English language, respectively for the subjects recruited in the Italian or Dutch city. Participants of the study were from different nationalities: 39 subjects had Italian nationality and 45 subjects had other nationalities, divided as follows: 6 US, 6 Dutch, 5 German, 5 French, 5 Spanish, 3 Hungarian, 3 British, 2 Portuguese, 2 Swiss, 2 Greek, 1 Croatian, 1 Australian, 1 Romanian, 1 Egyptian, 1 Argentinian, 1 Chinese. Participants' instruction was distributed as follows: 2 subjects had primary education, 44 secondary education, 38 subjects had a degree. Regarding participants' marital status, 66 subjects declared to be unmarried, 12 subjects declared to be married, 3 subjects were divorced, 2 subjects were separated and 1 was widower. The sample of subjects was subsequently divided between those who had a couple relationship at the time of the study and those who had not. Out of 84 subjects included in the study, 45 were involved in a romantic relationship and 39 declared to have no sentimental partner at the time of the study. The sample involved in a romantic relationship ($n= 45$) was composed of 16 men and 29 women with a mean age of 30.78 ± 12.70 years. The sample not involved in a relationship ($n= 39$) was composed of 16 men and 23 women, with a mean age of 26.64 ± 10.89 years.

Procedure

The study was approved by the Ethics Committee of the Department of Dynamic and Clinical Psychology at Sapienza University of Rome (Italy) and by the Ethics Committee of Psychology Faculty at Leiden University in Leiden (The Netherlands). Participants were recruited at both University centres by direct contact during university courses. Questionnaires were administered in English or Italian depending on the recruitment site, Leiden and Rome respectively. All subjects participated in the study on a voluntary basis after having read and signed the informed consent.

Measures

Each participant had to complete the following questionnaires. The *Background Information Questionnaire* provided basic demographic information, such as sex, age, profession, marital status, age and marital status of parents, number of siblings and children. In addition, involvement in a couple relationship was investigated: the participant was asked if he/she was currently involved in a romantic relationship and for how long. In case of a negative response it was asked how long the subject had no relationship. Participants had to indicate the number of significant/non-significant sentimental relationships.

The Attachment Measures were collected using the *State Adult Attachment Measure* (SAAM), the Attachment Style Questionnaire (ASQ) and the *Experiences in Close Relationships-Revised* (ECR-R).

The *State Adult Attachment Measure* (SAAM) (Gillath et al., 2009), was used to evaluate the attachment dimensions as a *state* condition. Its Italian Translation IT-SAAM (Trentini, Foschi, Lauriola, & Tambelli, 2015) is a 21 items self-report instrument, that investigates variations in state attachment. Items are rated on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The questionnaire consists of three scales assessing attachment security, avoidance and anxiety.

The ASQ and ECR-R were used to evaluate the attachment dimensions as a *trait* feature. The *Attachment Style Questionnaire* (ASQ) (Feeney et al., 1994), with its Italian Translation (Fossati, et al., 2003), is a self-report questionnaire designed to measure adult attachment. The questionnaire consists of 40 items rated on a six-point Likert scale, ranging from 1 (totally disagree) to 6 (totally agree). Validation of the Italian version confirmed the five-factor structure of the original: Confidence, Discomfort with Closeness, Need for Approval, Preoccupation with relationships and Relationships as Secondary. Discomfort with closeness and Relationships as secondary scales can be considered subdivisions of attachment avoidance, while need for approval and preoccupation with relationships can be considered subdivisions of attachment anxiety. Confidence can be considered secure attachment index (Fossati et al., 2003).

The *Experiences in Close Relationships-Revised* (ECR-R) (Fraley, Waller, & Brennan, 2000), with its Italian Translation (Buonasera, San Martini, Zavattini, & Santona, 2014), is a 36-item self-report instrument for measuring adult romantic attachment. The questionnaire consists of two 18-item scales assessing attachment-related anxiety and attachment-related avoidance. Each item is rated on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) and total scores are obtained by computing the mean for each dimension.

The *Childhood Trauma Questionnaire -Short Form* (CTQ) (Bernstein & Fink, 1998) is a 28-item retrospective self-report measure. The questionnaire was designed to evaluate five types of traumatic childhood experiences of adults and adolescents: sexual abuse, physical abuse, emotional abuse, physical neglect and emotional neglect. Items are rated on a 5-point scale ranging from 1 (never true) to 5 (very often true). Items are summed to produce scaled scores ranging from 5 to 25 to quantify the severity of each type of maltreatment.

The *Toronto Alexithymia Scale* (TAS-20) (Bagby, Parker, & Taylor, 1994), with its Italian version (Bressi, et al., 1996) is a 20-item questionnaire aimed at assessing participants' emotional competence. The measure has a three-factor structure divided in the subscales Difficulty with identifying feelings, Difficulty in describing feelings to others and externally oriented thinking. Items are rated on a 5-points Likert scale and subject's scores can range from 20 to 100, with higher scores representing greater degree of alexithymia. TAS-20 has good internal consistency (Cronbach's $\alpha=0.81$) and test-retest reliability over a period of three weeks ($r=0.77$) (Bressi et al., 1996; Taylor et al., 1997).

Data analyses

Statistical analyses were performed with Statistica 10.0 for Windows program and included first of all correlational analysis among all psychological variables (Pearson r). Analysis of variance (ANOVA) were also performed assuming the presence vs. absence of a couple relationship as

between factor on psychological variables. Finally, multiple linear regressions were performed *on psychological variables as predictors of time (months) spent in a relationship or without a relationship; on time spent in a relationship or without a relationship as possible predictors of SAAM scales; and on possible predictors of SAAM Security in subjects with/without a close relationship.*

A p value $<.05$ was considered a critical value for the significance of the effects. Regression analyses were performed considering only the variables related to the indicated significance level.

Results

Descriptive analysis of measures

Descriptive analysis of Attachment Style Questionnaire, Experiences in Close Relationships-Revised, State Adult Attachment Measure, Toronto Alexithymia Scale and Childhood Trauma Questionnaire are shown in Table 1.

Table 1. Descriptive analysis of Attachment Style Questionnaire (ASQ), Experiences in Close Relationships-Revised (ECR-R), State Adult Attachment Measure (SAAM), Toronto Alexithymia Scale – 20 (TAS-20) and Childhood Trauma Questionnaire (CTQ)

	M	SD	Cronbach's α	Standardized α	Inter-item correlation average
ASQ-Confidence	33.9	4.8	.73	.74	.27
ASQ-Need for approval	21.2	5.3	.72	.72	.28
ASQ-Preoccupation with relationships	26.6	5.6	.69	.69	.22
ASQ-Discomfort with closeness	34.8	6.6	.75	.75	.24
ASQ-Relationships as secondary	16.7	4.5	.65	.65	.22
ECR-R-Anxiety	55.5	12.2	.74	.76	.16
ECR-R-Avoidance	54.3	15.2	.86	.86	.26
SAAM-Security	39.7	6.9	.88	.88	.53
SAAM-Anxiety	30.3	8.2	.84	.84	.44
SAAM-Avoidance	18.0	7.6	.80	.80	.37
TAS-20 - F1	14.6	5.4	.80	.80	.37
TAS-20 - F2	11.6	4.4	.80	.80	.45
TAS-20 - F3	17.6	4.3	.57	.59	.15
CTQ - Em. Abuse	8.4	3.7	.84	.85	.50
CTQ - Phys. Abuse	5.6	2.8	.97	.98	.98
CTQ - Sex. Abuse	4.2	0.7	.78	.77	.94
CTQ - Em. Neglect	8.2	3.6	.80	.81	.48
CTQ - Phys. Neglect	6.0	1.6	.25	.24	.06

Note. TAS-20: F1= Difficulty with identifying feelings; F2 = Difficulty describing feelings to others; F3 = Externally oriented thinking. CTQ: Em. Abuse = Emotional Abuse; Phys. Abuse = Physical Abuse; Sex. Abuse = Sexual Abuse; Em. Neglect = Emotional Neglect; Phys. Neglect = Physical Neglect.

Correlations between study variables

Correlations between all psychological variables (ASQ, ECR-R, SAAM, TAS-20, CTQ) investigated are shown in Table 2.

Table 2. Correlation among all psychological variables: Attachment Style Questionnaire (ASQ), Experiences in Close Relationships-Revised (ECR-R), State Adult Attachment Measure (SAAM), Toronto Alexithymia Scale – 20 (TAS-20) and Childhood Trauma Questionnaire (CTQ)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. ASQ-Confidence	-	-.33	-.32	-.43	-.06	-.50***	-.32**	.57***	-.24*	-.38***	-.37***	-.40***	-.10	-.38***	.21	.11	-.14	-.41***	-.20	-.07
2. ASQ-Need for approval	-.33	-	.35	-.05	.10	.38***	.06	-.12	.34**	.17	.34***	.22*	-.05	.24*	.24*	-.04	-.16	-.04	-.29**	.14
3. ASQ-Preoccupation with relationships	-.32	.35	-	.11	.01	.49***	-.25*	-.14	.53***	.21	.28**	-.06	-.07	.09	.02	.17	.16	.18	.08	.18
4. ASQ-Discomfort with closeness	-.43	-.05	.11	-	.01	.25*	.24*	-.28**	-.03	.41***	.11	.21	.03	.15	.08	.26*	.12	.34**	.18	.34**
5. ASQ-Relationships as secondary	-.06	.10	.01	.01	-	-.02	.14	-.12	-.21*	.14	.17	.13	.45***	.31**	.06	.01	-.10	-.10	.01	.03
6. ECR-R-Anxiety	-.50***	.38***	.49***	.25*	-.02	-	.32	-.40***	.49***	.48***	.45***	.31**	.02	.36***	-.09	.01	.05	.33**	.23*	.13
7. ECR-R-Avoidance	-.32**	.06	-.25*	.24*	.14	.32	-	-.44***	-.20	.60***	.25*	.37***	.19	.35***	-.05	-.14	-.14	.14	-.01	-.03
8. SAAM-Security	.57***	-.12	-.14	-.28**	-.12	-.40***	-.44***	-	.00	-.44	-.46***	-.39***	-.26*	-.49***	.28**	.02	-.04	-.56***	-.32**	-.15
9. SAAM-Anxiety	-.24*	.34**	.53***	-.03	-.21*	.49***	-.20	.00	-	.06	.22*	.05	.15	.07	-.31	.05	-.03	.05	.02	.01
10. SAAM-Avoidance	-.38***	.17	.21	.41***	.14	.48***	.60***	-.44	.06	-	.38***	.38***	.18	.41***	.04	.20	-.02	.28**	.10	.24*
11. TAS-20 - F1	-.37***	.34***	.28**	.11	.17	.45***	.25*	-.46***	.22*	.38***	-	.58	.26	.83	-.07	-.17	-.10	.25*	.14	.06
12. TAS-20 - F2	-.40***	.22*	-.06	.21	.13	.31**	.37***	-.39***	.05	.38***	.58	-	.37	.83	-.15	-.20	-.15	.21	.07	-.06
13. TAS-20 - F3	-.10	-.05	-.07	.03	.45***	.02	.19	-.26*	.15	.18	.26	.37	-	.66	.28**	-.20	-.12	.02	.15	-.24*
14. TAS-20 - Total	-.38***	.24*	.09	.15	.31**	.36***	.35***	-.49***	.07	.41***	.83	.83	.66	-	-.20	-.25*	.16	.21*	.16	-.09
15. CTQ-Emotional abuse	.21	.24*	.02	.08	.06	-.09	-.05	.28**	-.31	.04	-.07	-.15	.28**	-.20	-	.44	-.28	-.37	-.58	.63
16. CTQ-Physical abuse	.11	-.04	.17	.26*	.01	.01	-.14	.02	.05	.20	-.17	-.20	-.20	-.25*	.44	-	.11	.18	.04	.76
17. CTQ-Sexual abuse	-.14	-.16	.16	.12	-.10	.05	-.14	-.04	-.03	-.02	-.10	-.15	-.12	.16	-.28	.11	-	.24	.43	.13
18. CTQ-Emotional neglect	-.41***	-.04	.18	.34**	-.10	.33**	.14	-.56***	.05	.28**	.25*	.21	.02	.21*	-.37	.18	.24	-	.67	.38
19. CTQ-Physical neglect	-.20	-.29**	.08	.18	.01	.23*	-.01	-.32**	.02	.10	.14	.07	.15	.16	-.58	.04	.43	.67	-	.08
20. CTQ-Total	-.07	.14	.18	.34**	.03	.13	-.03	-.15	.01	.24*	.06	-.06	-.24*	-.09	.63	.76	.13	.38	.08	-

Note. $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$. TAS-20: F1= Difficulty with identifying feelings; F2 = Difficulty describing feelings to others; F3 = Externally oriented thinking. CTQ: Em. Abuse = Emotional Abuse; Phys. Abuse = Physical Abuse; Sex. Abuse = Sexual Abuse; Em. Neglect = Emotional Neglect; Phys. Neglect = Physical Neglect

Analysis of Variance (ANOVA) with group (presence vs. absence of a close relationship) as between factor on psychological variables

ANOVA was performed between the scores of all participants' psychological variables. Presence vs. Absence of a Couple Relationship was considered as a between subject factor on psychological variables.

Table 3. Analysis of Variance (ANOVA) with group (Presence vs Absence of a close relationship) as between factors on psychological variables: Attachment style questionnaire (ASQ), Experiences in Close Relationships-Revised (ECR-R), State Adult Attachment Measure (SAAM), Toronto Alexithymia Scale – 20 (TAS-20) and Childhood Trauma Questionnaire (CTQ)

	Presence of a close relationship n=45 (males=16; female=29)		Absence of a close relationship n=39 (males=16; female=23)		F (1,82)	p	Partial η^2
	M	SD	M	SD			
Age	30.8	12.7	26.6	10.9	2.5	.116	
TAS-20 - F1	14.9	5.5	14.3	5.4	0.3	.600	
TAS-20 - F2	11.2	4.2	11.7	4.3	0.2	.639	
TAS-20 - F3	17.8	4.5	17.4	4.2	0.1	.701	
TAS-20 - Total Score	43.7	10.5	43.4	11.0	0.1	.896	
CTQ - Em. Abuse	3.6	2.4	5.8	4.4	8.9	.004	.10
CTQ - Phys. Abuse	5.5	0.9	5.8	3.2	0.6	.441	
CTQ - Sex. Abuse	6.0	1.9	5.5	0.9	2.6	.109	
CTQ - Em. Neglect	15.6	7.2	14.2	6.6	0.8	.360	
CTQ - Phys. Neglect	7.1	4.3	4.8	3.0	8.0	.006	.09
CTQ - Total Score	5.8	0.7	6.3	1.8	2.6	.113	
ASQ-Confidence	33.0	4.1	35.0	5.3	3.7	.059	
ASQ-Need for approval	21.1	5.1	21.4	5.4	0.1	.797	
ASQ-Preoccupation with relationships	27.6	4.4	25.6	5.7	2.7	.101	
ASQ-Discomfort with closeness	34.8	5.5	34.7	8.0	0.1	.955	
ASQ-Relationships as secondary	16.9	4.4	16.6	4.8	0.1	.762	
ECR-R-Anxiety	55.3	15.7	57.8	17.3	0.5	.485	
ECR-R-Avoidance	47.7	14.3	59.8	14.9	6.4	.013	.07
SAAM-Security	40.2	6.6	39.1	7.7	0.6	.446	
SAAM-Anxiety	32.0	7.4	28.4	8.8	4.3	.04	.01
SAAM-Avoidance	16.1	6.7	20.2	8.2	14.5	.000	.15

Note. $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$. TAS-20: F1= Difficulty with identifying feelings; F2 = Difficulty describing feelings to others; F3 = Externally oriented thinking. CTQ: Em. Abuse = Emotional Abuse; Phys. Abuse = Physical Abuse; Sex. Abuse = Sexual Abuse; Em. Neglect = Emotional Neglect; Phys. Neglect = Physical Neglect.

As shown in table 3, single participants showed a greater perception of CTQ Emotional Abuse, (5.83 ± 4.39 vs. 3.56 ± 2.40) ($F_{1,82} = 8.93, p=.004$); ECR-R Avoidance (59.82 ± 14.92 vs. 47.69 ± 14.27) ($F_{1,82} = 14.48, p<.001$) and SAAM Avoidance (20.18 ± 8.16 vs. 16.07 ± 6.68) ($F_{1,82} = 6.35, p=.013$). Engaged people reached higher scores on CTQ Physical neglect (7.13 ± 4.31 vs. 4.82 ± 2.96) ($F_{1,82} = 7.96, p=.006$) and SAAM Anxiety (32.02 ± 7.37 vs. 28.38 ± 8.76) ($F_{1,82} = 4.28, p= .042$).

Correlational analysis between psychological variables, involvement and time spent in a close relationship

As shown in table 4, a correlation analysis between CTQ, ECR-R, ASQ, SAAM questionnaires and time spent in a couple relationship and without a couple relationship was performed. The amount of time the subject is involved in a relationship or spent alone was converted to months.

Table 4. Correlation analysis between psychological variables: Attachment style questionnaire (ASQ), Experiences in Close Relationships-Revised (ECR-R), State Adult Attachment Measure (SAAM), Childhood Trauma Questionnaire (CTQ), time (months) involved in a close relationship and time without a close relationship

	time spent in a close relationship	time spent without a close relationship
	Pearson r	Pearson r
CTQ - Emotional Abuse	-.09	.20
CTQ - Physical Abuse	-.04	-.02
CTQ - Sexual Abuse	.02	.01
CTQ - Emotional Neglect	-.06	-.08
CTQ - Physical Neglect	.05	-.23
CTQ - Total Score	-.13	.09
ASQ-Confidence	.01	-.08
ASQ-Need for approval	-.01	.16
ASQ-Preoccupation with relationships	.22*	-.08
ASQ-Discomfort with closeness	-.08	.03
ASQ-Relationships as secondary	-.11	-.01
ECR-R-Anxiety	.03	.23*
ECR-R-Avoidance	-.26**	.53***
SAAM-Security	.17	-.17
SAAM-Anxiety	.34**	-.02
SAAM-Avoidance	-.02	.41***

Note. $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Influences of trait attachment dimensions on time spent in a close relationship

A regression analysis was performed to determine the role of psychological variables in predicting the time spent in a couple relationship and time spent without a relationship. Psychological variables which showed a significant correlation in Table 4 were included in the analysis.

As shown in table 5, avoidant romantic attachment style (ECR-R) was negatively associated with time spent in a relationship and positively associated with time without a Linear regression models showed that the trait of avoidant romantic attachment style predicted lower time spent in a relationship ($\beta = -.22$, $t(81) = -2.03$, $p = .046$) and greater time spent without it ($\beta = .49$, $t(80) = 5.09$, $p < .001$).

Table 5. Regression analysis on psychological variables (Experiences in Close Relationships-Revised (ECR-R), Childhood Trauma Questionnaire (CTQ), Attachment style questionnaire(ASQ)) as predictors of time (months) spent in a relationship or without a relationship

predictors	time spent in a close relationship		
model effect: $r = .31$; $r^2 = .09$; adjusted $r^2 = .07$; $F(2,81) = 4.2$; $p = .018$			
	β	t(81)	P
ASQ - Preoccupation with relationships	.17	1.5	.129
ECR- Avoidance	-.22	-2.0	.046

predictors	time spent without a close relationship		
model effect: $r = .59$; $r^2 = .35$; adjusted $r^2 = .33$; $F(3,80) = 14.5$; $p < .001$			
	β	t(80)	P
ECR - Avoidance	.49	5.1	<.001
ECR - Anxiety	.13	1.3	.182
CTQ - Physical Neglect	-.26	-2.8	.007

Influences of time spent in a close relationship on state attachment dimensions

A regression analysis was performed between the amount of time the subject has spent in a couple relationship or without a relationship, as predictor variable, and SAAM scales, as outcome variable (Table 6).

Table 6. Regression Analysis on time spent in a relationship or without a relationship as predictors of State Adult Attachment Measure (SAAM) subscales

predictors	SAAM Security		
model effect: $r = .20$; $r^2 = .04$; adjusted $r^2 = .02$; $F(2,81) = 1.7$; $p = .182$			
	β	t(81)	p
time spent in a close relationship	.12	1.1	.279
time spent without a close relationship	-.14	-1.2	.228

predictors	SAAM Avoidance		
model effect: $r = .42$; $r^2 = .17$; adjusted $r^2 = .15$; $F(2,81) = 8.5$; $p < .001$			
	β	t(81)	p
time spent in a close relationship	.07	0.7	.481
time spent without a close relationship	.43	4.1	<.001

predictors	SAAM Anxiety		
model effect: $r = .34$; $r^2 = .12$; adjusted $r^2 = .09$; $F(2,81) = 5.3$; $p = .007$			
	β	t(81)	p
time spent in a close relationship	.35	3.3	.002
time spent without a close relationship	.06	0.6	.550

Time spent in a relationship predicted higher anxious attachment scores (SAAM) ($\beta = .35$, $t(81) = 3.26$, $p = .002$), whereas time spent without a relationship predicted higher avoidant attachment levels (SAAM) ($\beta = .43$, $t(81) = 4.11$, $p < .001$).

Finally, as shown in table 7, only in the participants who were involved in a couple relationship, ECR-R anxiety and avoidance scales predicted lower levels of secure state attachment (Table 7).

Table 7. Regression Analysis on Experiences in Close Relationships-Revised (ECR-R) as possible predictors of State Adult Attachment Measure (SAAM) Security-subscale in subjects with/without a close relationship

Subjects with a close relationship			
predictors	SAAM Security		
model effect: $r = .54$; $r^2 = .29$; adjusted $r^2 = .26$; $F(2,81) = 8.8$; $p < .001$			
	β	t(42)	p
ECR-R Avoidance	-.37	2.8	.008
ECR-R Anxiety	-.30	2.2	.031
Subjects without a close relationship			
predictors	SAAM Security		
model effect: $r = .46$; $r^2 = .21$; adjusted $r^2 = .17$; $F(2,81) = 4.9$; $p = .013$			
	β	t(42)	p
ECR-R Avoidance	-.31	1.9	.060
ECR-R Anxiety	-.26	1.6	.111

Discussion and Conclusion

The findings of the present study confirm that psychological stable characteristics can affect the choice to get involved in a couple's relationship. In fact, the participants involved in a close-relationship reported a greater experience of physical neglect, a lower experience of emotional abuse in their childhood and lower levels of romantic avoidance compared to the participants non engaged in a couple. Coherently, a greater experience of physical neglect in childhood predicted a lower time spent without being involved in a couple relationship. Parental neglect occurs when the parent intentionally or unintentionally overlooks child's needs for care and attention (Schimmenti & Bifulco, 2015).

Early relational experiences in childhood directly affect the organization of the attachment system, providing the working models of future adult relationships (Fonagy et al., 2002; Slade et al., 2005). Insensitive caregiving and maltreating behaviors have been implicated in the development of insecure and disorganized attachment style (van IJzendoorn and Bakermans-Kranenburg, 2009). People exposed to neglectful cares may perceive their primary attachment figure as a potential source of distress and could feel themselves unsafe and insecure (Cyr et al., 2010; Hesse and Main, 2006).

A possible explanation of the present findings could be that people who experienced physical neglect tend to perceive themselves as insecure and to seek care and attention through a close relationship, trying to balance what they missed during childhood and to improve their sense of safety. At the same time, since they did not experience emotional abuse, they are able to maintain an emotional proximity.

Furthermore, greater levels of romantic avoidance predicted a greater time spent as single and lower time spent in a couple relationship. These findings support the prototype hypothesis that implies an association between attachment system and the choice to be involved in a close relationship (Fraley, 2002). According to our findings, previous studies sustained this hypothesis that the attachment style was associated with duration and quality of the couple relationship (Beebe & McCrorie, 2006). Hazan and Shaver showed that participants with avoidant attachment preferred social withdrawal strategies in interpersonal relationships, whereas participants with anxious

attachment showed higher self-reported loneliness, responding with hyper-proximity to attachment figures (Hazan & Shaver, 1987) and reporting a frustrating search for love and reluctance to interrupt an unsatisfactory relationship (Davila & Bradbury, 2001).

Moreover, findings of the present study showed that the participants involved in a couple relationship reported higher scores of anxiety and lower scores of avoidance in state attachment compared to participants not involved in a couple relationship. Anxious attachment seems directly related with anxiety disorders later in life (Brown and Whiteside, 2008). Warren and colleagues (1997) found that anxious/resistant attachment assessed in infancy was associated with anxiety disorders 16 years later (Warren, Huston, Egeland, & Sroufe, 1997). Working models of anxious individuals also bias the perception of romantic relationships. Anxious people worry about being abandoned, are hypervigilant towards the partner attitudes and show a higher perception of conflict and stronger negative emotions (Campbell, Simpson, Boldry, & Kashy, 2015). Simpson (1990) found that an individual with an anxious attachment style tends to establish a relationship with an avoidant individual, and this matching can be as lasting as the one between two secure partners. Eastwick and Finkel (2008) argued that anxiety in romantic attachment is an important motivational force in the development of relationships, even before attachment bond with a partner is consolidated. It may be possible that anxious people, involved in a close relationship, experience fear to break up, spending more energy to control and manage external fearful experiences, compared to avoidant people whose energy is directed to handle with unwanted intimate experiences (Nielsen et al., 2016).

Regression models confirmed that greater time spent as single predicted higher avoidant state attachment whereas greater time spent in a couple relationship predicted higher anxious state attachment. These findings sustain the revisionist hypothesis suggesting that close relationships can shape some aspects of attachment system during life (Fraley, 2002). Gillath and colleagues relied on literature demonstrating a discontinuity in attachment style, which is mainly due to changes in subject relationships, such as involvement in solid or satisfactory relationships (Feeney, Noller, & Hanrahan, 1994; Hamond & Fletcher, 1991), breakups (Kirkpatrick & Hazan, 1994), and perception of interpersonal loss (Davila & Sargent, 2003). Consistently with the revisionist-contextual hypothesis, these authors also found that trait attachment security was not associated with levels of insecurity measured day-by-day (Gillath et al., 2009). Fraley and colleagues argued that IWM changes should be conceptualized as momentary variations over a stable value because the system is based on natural dynamics that allow temporary changes and *“a person’s attachment orientation at any time is not simply a state or a trait. Instead, it is a combination of influences from contextual factors and enduring ones”* (Fraley, Vicary, Brumbaugh, & Roisman, 2011, p. 989).

According to this perspective, a recent study showed that SAAM scales were associated with changes induced by stimuli-prime: people exposed to stimuli that trigger secure attachment representations decreased avoidance and anxiety scores. Likewise, participants exposed to stimuli related to the breakup of a relationship increased anxiety scores (Bosmans, Bowles, Dewitte, De Winter, & Braet, 2014).

As recently shown, also in the present study attachment dimensions were correlated with alexithymia (Montebarocci, Cadiposti, Badaro, & Rossi, 2004). A possible explanation of this finding may be that a higher emotional competence, especially in the fields of identifying and describing feelings, increases social ability (Fukunishi, Sei, Morita, & Rahe, 1999; Frye-Cox & Hesse, 2013). Consistently with literature, in the present study attachment measures were strongly inter-correlated (Gillath et al., 2009; Trentini et al., 2015).

Another interesting finding was that childhood traumatic experience was positively correlated with the avoidant attachment dimensions suggesting that childhood traumatic experiences can affect the adult relationships with an increased closure. Riggs (2010) suggests that attachment system may be an important mediator between emotional violence experienced during childhood and outcome of romantic relationships in adulthood. In a systemic-evolutionary perspective, the researcher argues that childhood emotional abuse within an attachment relationship contributes to the onset of an avoidant attachment style. Consistent with the present study, Riggs and colleagues attribute a main

effect to childhood emotional abuse and neglect experiences rather than sexual and physical abuse experiences. It is worth noting that Riggs and colleagues, investigating attachment system as mediator between violence experienced during childhood and outcome of couple relationships, found that Dyadic Adjustment Scale (DAS) was not associated with CTQ sub-scales investigating sexual and physical abuse. The data is consistent with findings in our study, in which Physical and Sexual abuse subscales are not associated with insecure romantic attachment, unlike scales about neglect experiences (Riggs, Cusimano, & Benson, 2011; Riggs, 2010).

The main limitation of the study is the lack of data on partners' attachment dimensions that could allow future research to investigate the role of the matching between two attachment profiles on the hypothesised effects. Moreover, the cross-sectional study design is not adequate for testing etiological hypotheses and the small sample size may not allow the generalization of the main findings. Future work could incorporate interviews and observation of relational dynamics of both members of the couple along multiple time intervals.

In conclusion, the present study provided evidence of the relationship between the attachment system and the couple relationships. Moreover, current findings expanded those of previous studies demonstrating the existence of a path of evolution of trait and state attachment based on the influence of the couple relationship. The current study showed that trait attachment characteristics and early experiences can influence the decision to get involved in a couple's relationship and the time spent in it. Involvement in a couple relationship also affects state attachment dimensions.

Author Contributions

C.L. designed the study and supervised all phases. F.C. collaborated with data gathering. D.A. and P.A. analyzed the data. C.L., P.A., F.C., L.P., G.R.P. collaborated at data discussion and interpretation. C.L., L.P., G.R.P. and F.C. collaborated in writing and revising draft and final versions.

Compliance with Ethical Standards

Conflict of interest

The authors declare that they have no competing interests.

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Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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