

Pathological Love: Impulsivity, Personality, and Romantic Relationship

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ABSTRACT

Introduction: Pathological love (PL)—behavior characterized by providing repetitive and uncontrolled care and attention to the partner in a romantic relationship—is a rarely studied condition, despite not being rare and causing suffering. This study aims at investigating impulsivity, personality, and characteristics related to the romantic relationship in this population.

Methods: Eighty-nine individuals (50 with PL; 39 individuals with no psychiatric disorder) were compared regarding impulsivity, personality, type of attachment, satisfaction with romantic relationship, and love style.

Results: Individuals with PL have higher levels of impulsivity ($P < .001$; Barratt Impulsiveness Scale), higher self-transcendence, that is, are more unconventional and hold sense of commu-

FOCUS POINTS

- Pathological love (PL) is the uncontrollable behavior of caring for a partner, abandoning activities, and self-development.
- The main characteristics of individuals with PL are high impulsivity, high levels of self-transcendence, and maintenance of unsatisfactory relationships.
- To further certify these important findings, replications of this study in larger samples are necessary.

nion with a wider reality ($P < .001$; Temperament and Character Inventory) and keep dissatisfactory romantic relationships ($P < .001$; Adapted Relationship Assessment Scale).

Conclusion: Individuals with PL present personality traits and relationship aspects that must be taken into account in devising assessment and therapeutic strategies for this population.

CNS Spectr. 2009;14(5):268-274

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Faculty Disclosures: Mses. Sophia and Lorena have received grants from the Brazilian Federal Agency for Support and Evaluation of Graduate Education. Drs. Tavares, Gorenstein, and Zilberman, and Mses. Berti, Pereira, and Mello do not have an affiliation with or financial interest in any organization that might pose a conflict of interest.

Submitted for publication: September 15, 2008; Accepted for publication: April 20, 2009.

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INTRODUCTION

Pathological love (PL) is characterized by the repetitive and uncontrolled behavior of providing care and attention to the partner with feelings of freedom loss. The behavior becomes a priority to the individual to the detriment of other interests that were previously valued.¹⁻⁴

Since antiquity, authors⁵⁻⁷ in different areas of knowledge have distinguished between what is understood as expression of healthy love and the unhealthy (pathological) love. In "The Banquet,"⁵ described true love as that setting human beings free and leading them to a "shared banquet" and possessive love, characterized by the need of the other, as that chasing them as an object to devour.

Recently, authors^{8,9} have suggested that PL can be manifested as a primary condition that occurs independently in individuals with low self-esteem^{8,10,11} and feelings of rejection, abandonment and anger,^{8,12,13} or may be associated with psychiatric disorders, especially depression, anxiety,^{2,3,13,14} or obsessive-compulsive disorder.^{15,16} When PL is secondary to psychiatric symptomatology, the maintenance of tense and disturbed relationships, despite causing suffering, can provide relief from primary symptoms of depression or anxiety.

Case studies^{2,3} have shown that PL is similar to clinical features of alcohol and other drug dependence, which has been corroborated by our experience at the Impulse Control Disorder Outpatient Clinic (AMITI) investigating and treating 64 individuals with PL over the past 2 years. Based on the comparison between the criteria for substance dependence established by the American Psychiatric Association in 1994¹⁷ and the characteristics of individuals with PL, we proposed six criteria for the identification of PL¹: signs and symptoms of withdrawal—when the partner is unavailable (physically or emotionally) or in threat of abandonment, there may be insomnia, tachycardia, muscle tension, and alternate periods of lethargy and intense activity; the behavior of caring for the partner is more intense than the individual would like it to be—the individual usually complains of caring or worrying for the partner more than intended; loss of control over behavior—there are frequent frustrated attempts to reduce or interrupt the unhealthy bond; much time is spent to control the partner's activities—time and energy are mostly dedicated to thoughts and attitudes

aiming at maintaining the partner under control, and abandonment of previously valued social activities—as the individual prioritizes the partner's interests, activities that provide personal and professional accomplishment are cast aside, such as children care, socialization with colleagues and relatives, professional development, etc.; and maintenance of the pathological bond, despite personal, family and professional damages—although aware of the hurtful consequences of such conduct, the individual is unable to control the behavior.

Lee¹⁸ devised a typology of love that has since been validated in different countries and summarized the six most significant love styles: Eros (passionate love), Ludus (love that is played as a game), Storge (friendship love), Mania (dependent, possessive love),Pragma ("shopping list" love, logical), and Agape (selfless, benevolent love). The relationship between love styles and personality traits has been investigated among English university students. It was observed that the Mania love style is positively associated with impulsivity and emotionality and negatively associated with self-esteem; Agape is also negatively associated with self-esteem, whereas Eros is positively associated with self-esteem and negatively associated with emotionality.¹⁹ There are no studies in the literature focusing on the personality traits typical of individuals with PL.

Another study²⁰ investigated type of attachment and personality in 426 Swiss adolescents. The authors used the Adult Attachment Types,²¹ developed from the Attachment Theory²² about the three forms of mother-child attachment²³: secure (child feels safe to explore the world when the caregiver is briefly distant), avoidant (after briefly distant from caregiver, the child tends to avoid him/her; associated with abusive or neglectful caregiver), and anxious-ambivalent (child gets distressed when caregiver leaves; associated with poor parent's availability). These models of initial bonding are predictive of the adult loving relationship.²¹ Personality was assessed by the Temperament and Character Inventory (TCI).²⁴ It was observed that the anxious-ambivalent type of attachment was positively related to harm avoidance and novelty seeking, and negatively correlated with the character trait self-directedness (ie, with a configuration compatible with borderline personality disorder). Avoidant attachment was

negatively related to novelty seeking. Secure (healthier) attachment was negatively correlated with harm avoidance and positively correlated with novelty seeking and reward dependence, in addition to positive associations with cooperativeness and self-transcendence.

The aim of this study is to compare impulsivity, personality, and romantic relationship aspects of individuals with PL and healthy individuals without PL.

METHODS

Subjects

The total sample ($n=89$) comprised 50 individuals with PL (36 women; 14 men) and 39 healthy individuals with no psychiatric pathology (29 women; 10 men).

The individuals with PL were selected from those who answered advertisements posted in different media inviting people who felt their form of loving were causing them suffering to participate in a research project conducted at the AMITI. It was additionally explained that participating individuals would be offered group therapy specific for pathological love.²⁵ Inclusion criteria were individuals of both genders, with at least complete elementary school and clinical status compatible with PL, as elicited by interview with trained psychologists. All the participants in this study had the aforementioned six criteria.¹

Of the 74 volunteers that initially replied to our advertisement, 24 were excluded due to illiteracy ($n=3$); refusal to participate ($n=2$); absence of PL: dependent personality disorder ($n=2$); delusional jealousy ($n=4$); borderline personality disorder ($n=2$); dissatisfied with the current partner's rejection behavior ($n=6$); dissatisfied with the partner's PL behavior ($n=2$); and family is dissatisfied with choice of partner ($n=3$).

The healthy individuals were part of another research project, which aimed at investigating low doses of an antidepressant in individuals without any psychiatric pathology.²⁶ Inclusion criteria were age between 21 and 50 years, at least high school education, good physical health, and no lifetime psychiatric disorders according to the Structured Clinical Interview for Diagnosis (SCID).²⁷ Selected individuals were informed on data confidentiality and signed a consent form before completing the scales. The institutional review board approved the research protocol.

Data Collection and Instruments

To check for homogeneity between samples regarding sociodemographics, the Sociodemographic Data Questionnaire (SDQ)²⁸ was used to collect the following variables: age, gender, race, marital status, job status, job specialization (by the Hollingshead scale),²⁹ religion, monthly income, and years of formal education.

Since depressive and anxiety symptoms are known to interfere with personality self-assessment, the Portuguese version of the Beck Depression Inventory³⁰ and the State-Trait Anxiety Inventory (STAI)³¹ were included to yield adjustment of personality scores.

The other instruments used were, for personality variables, the Barratt Impulsiveness Scale, version 11³²—composed of 30 self-reporting items assessing three correlated aspects of impulsivity (lack of attention, unrestlessness, and lack of planning); the TCI³³—240 self-reporting true-or-false items that evaluate four dimensions of temperament (novelty seeking [sensitivity to new experiences, curiosity, impulsiveness, and disorganization]); harm avoidance (pessimism, lack of care, and fear of physical and moral suffering); reward dependence (need of social contact, attachment, dependence, and sentimentalism); and persistence (behavior stability in the absence of positive or negative suggestion); and three character dimensions: self-directedness (ability to set goals and move toward them, self-esteem); cooperativeness (tolerance, compassion, and empathy with people); and self-transcendence (sensation of being part of a wider reality, which considers the spiritual and ideal aspects of the human being, as opposed to the conventional aspect).

Love relationship variables were measured with the Adapted Relationship Assessment Scale (Adapted RAS)—composed of four items derived from the extended version, the Relationship Assessment Scale (RAS),^{34,35} focusing satisfaction with romantic relationships. This is a consistent measure, with Cronbach's α of 0.85.³⁴; the Love Attitudes Scale (LAS), short-form³⁶—composed of 24 items that measures six love styles from the typology by Lee.³⁷ (This scale, besides providing mean scores for the six love styles, elicits the predominant love style [indicated by the love style with the smaller score] for a given individual. The Portuguese version showed varying α : 0.45 [Ludus], 0.65 [Pragma], 0.74 [Eros], 0.87 [Mania], 0.88 [Agape], and 0.90 [Storge].); and Adult Attachment Types (AAT)²¹—self-report

instrument composed of three statements, developed from the attachment theory.²²

These last three scales were translated and validated into Portuguese. Further information on the validation process is available from authors upon request.

Statistical Analysis

The first step was to compare the Beck Depression Inventory and the STAI scores. As expected they were highly correlated to each other ($r=.88$, $P<.001$). Since the BDI is a more widely used instrument, we discarded the STAI and performed the adjustment of the personality scores based on the former. PL and healthy individuals significantly differed regarding the BDI mean score (22.7 ± 11.0 vs 1.47 ± 1.93 , $t=-13.432$, $P<.001$, respectively). Further linear regression analyses were carried on to assess the impact of depression over love styles, type of attachment, and satisfaction with romantic relationship. No significant association was uncovered. Thus, no adjustment on these variables was provided.

Next, univariate analysis was used to compare PL and healthy samples regarding sociodemographic, personality, and relationship variables using Bonferroni correction for multiple comparisons (ie, dividing .05 by the 25 variables (nine demographic variables, eight personality variables, and eight love relationship variables). The corrected significance level adopted was .002. Mann-Whitney (U) non-parametric test was used for quantitative variables, and the χ^2 test for categorical variables.

Finally, variables reaching the corrected significance level entered a multivariate logistic regression model on a stepwise procedure from the most significant to the least significant. Variables with significance level $>5\%$ were removed from the model. According to Tabachnik and Fidel,³⁸ the following equation must be observed in order to adjust sample size (n) and number of independent variables (IV) entering a regression model: $n\geq 50+8$ IV. Hence, in our regression analyses there should be no >4 IV, in order to avoid instability in the model. The final regression model and all intermediate steps leading to it were checked; no model had at any moment >4 IV.

RESULTS

PL and healthy volunteers did not differ regarding most demographic variables: all subjects reported being heterosexually oriented, the

majority was female ($n=65$, 73.0%), self-attributed white ($n=59$, 66.3%), Roman Catholic ($n=70$, 78.7%), living without a partner ($n=60$, 67.4%), working full-time ($n=46$, 51.7%), with a mean family monthly income of \$ 1,849.52 \pm 2,803.53).

However, PL and healthy volunteers did differ regarding age ($t=-2.96$; $P=.004$), number of years of formal education ($U=569.0$; $P<.001$) and type of profession ($U=424.5$; $P<.001$). Individuals with PL were older (40.56 ± 11.33 years of age vs 34.56 ± 7.75 years of age), were more educated than healthy individuals (15.54 ± 3.54 years of age vs 12.85 ± 2.96 years of age), and were concentrated mostly between levels 1 and 3 of the Hollingshead scale of job specialization³⁹ (from administrative jobs to high executives; $n=37$, 74.0%), while healthy volunteers concentrated between levels 4 and 6 (from not specialized to technical jobs).

The Table shows the univariate analysis of personality and love relationship variables comparing PL and healthy volunteers.

PL individuals reported higher impulsivity than healthy individuals. There were also remarkable differences regarding the other personality variables, except for persistence and cooperativeness. Particularly of note is the difference in harm avoidance and self-transcendence between groups, with abnormally higher scores in PL, as opposed to healthy subjects.

PL presented higher frequency of anxious-ambivalent attachment. Romantic relationship of individuals with PL, differently from what was found in healthy individuals, is commonly rated as dissatisfactory. The prevailing love styles were Mania and Agape. By comparison, healthy individuals were characterized by secure type of attachment and Eros love style.

Variables that reached the corrected significance level at the univariate analysis entered the stepwise logistic regression model. The Barratt Impulsiveness Scale, version 11 total score (impulsivity: Wald $\chi^2=8.18$, OR=1.32, $P=.004$), the adjusted self-transcendence score (Wald $\chi^2=10.1$, OR=1.59, $P=.001$), and the Adapted RAS score (dissatisfaction with the relationship: Wald $\chi^2=9.48$, OR=.556, $P=.002$) remained in the final model (Nagelkerke's $R^2=.910$, $P<.001$). Finally, each excluded variable were separately added to the remaining block to see whether they could fit in, but none reached significance.

DISCUSSION

We compared impulsivity, personality and romantic relationship aspects of individuals with

PL and healthy individuals. Our results showed important differences concerning these aspects between the two samples. Regarding sociodemographics, the fact that people with PL have a more qualified type of profession is coherent with the fact that they are more educated and older than the healthy individuals of the sample. Moreover, the difference between the samples concerning education and job level is bigger than the difference regarding age, further reinforcing the notion that healthy individuals and PL subjects come from different social classes.

However, as this study included the first individuals who visited the clinic, it is possible that these professional and educational aspects represent a bias of individuals who can have easier access to the media (where the research was advertised).

The higher impulsivity of individuals with PL than that of healthy individuals is in accordance with the study by Mallandain and Davis¹⁹ showing that the Mania love style, which concept is similar to that of PL, is associated with impulsivity. A study conducted in the Brazilian population described higher impulsivity in patients with

TABLE.
Comparison of Impulsivity, Personality and Relationship Characteristics of Individuals with PL (n=50) and Healthy Individuals (n=39)

<i>Personality Variables</i>	<i>Individuals with PL (n=50)</i>	<i>Healthy Individuals (n=39)</i>	<i>Coefficient</i>	<i>P</i>
<i>Impulsivity* (BIS)</i>				
Total Mean [SD]	69.36 [8.38]	58.54 [7.36]	U=312.0	<.001
<i>Personality* (TCI Temperament)</i>				
Novelty seeking, mean [SD]	21.20 [4.88]	18.54 [4.44]	U=528.0	<.001
Harm avoidance, mean [SD]	20.72 [6.71]	8.23 [3.55]	U=389.0	<.001
Reward dependence, mean [SD]	17.00 [3.14]	15.21 [2.77]	U=587.5	.001
Persistence, mean [SD]	4.62 [1.83]	5.05 [1.52]	U=942.0	.785
<i>Personality* (TCI Character)</i>				
Self-directedness, mean [SD]	21.82 [8.03]	37.49 [6.14]	U=343.0	<.001
Cooperativeness, mean [SD]	28.98 [6.02]	34.28 [3.40]	U=799.0	.146
Self-transcendence, mean [SD]	19.20 [5.90]	10.82 [5.55]	U=164.5	<.001
<i>Love Relationship Variables</i>				
<i>Type of Attachment (AAT)</i>			$\chi^2=36.5$	<.001
Secure	12 (24.0%)	32 (82.1%)		
Avoidant	7 (14.0%)	6 (15.4%)		
Anxious-ambivalent	31 (62.0%)	1 (2.6%)		
<i>Satisfaction with Relationship (Adapted RAS), mean [SD]</i>				
	9.62 [4.50]	15.4 [3.22]	U=316.0	<.001
<i>Love Style (LAS)</i>				
Eros, mean [SD]	11.44 [3.31]	7.10 [2.40]	U=290.0	<.001
Ludus, mean [SD]	13.12 [3.88]	13.54 [3.46]	U=899.5	.637
Storge, mean [SD]	14.22 [4.57]	11.18 [5.05]	U=635.0	.005
Mania, mean [SD]	8.00 [3.35]	15.23 [3.43]	U=140.5	<.001
Pragma, mean [SD]	14.62 [3.89]	14.08 [3.81]	U=909.5	.586
Agape, mean [SD]	9.88 [4.27]	14.79 [4.03]	U=398.5	<.001

* Adjusted scores for depressive symptoms (BDI score)

PL=pathological love; BAS=Barratt Impulsiveness Scale, version 11; TCI=Temperament and Character Inventory; AAT=Adult Attachment Types; Adapted RAS=Adapted Relationship Assessment Scale; LAS=Love Attitudes Scale.

Sophia EC, Tavares H, Berti MP, Pereira AP, Lorena A, Mello C, Gorenstein C, Zilberman ML. *CNS Spectr*. Vol 14, No 5. 2009.

a behavioral dependence, such as pathological gambling.⁴⁰ This draws attention to the similarity between the impulsive profile of individuals with PL and other impulse-control disorders. The higher scores of novelty seeking (the impulsive component of the TCI) observed among PL further highlight the impulsiveness of PL.

Besides novelty seeking, people with PL have higher scores for the temperament factors harm avoidance and reward dependence, with the exception of persistence. This means that individuals who are more attached and dependent on others (high reward dependence) and those naturally more prone to anxiety and concern over punishment (high harm avoidance) are more likely to engage and maintain disturbing relationships, due to fear of loneliness and abandonment.^{2,3,12}

In terms of character, those personality traits marked by learning, individuals with PL present extremely lower self-directedness than healthy individuals. This is associated with their reduced self-esteem. Summed up, these results are aligned to those obtained by Chotai and colleagues²⁰ regarding the associations between personality and attachment types. In their study, novelty seeking and harm avoidance were positively correlated to anxious-ambivalent attachment as was reduced self-directedness. A anxious-ambivalent attachment was the most frequent attachment type found among PL in our study. Interestingly, cooperativeness is lower in those with PL than in healthy individuals. This helps differentiating PL individuals from people with co-dependence issues, who also tend to maintain problematic relationships with partners holding substance use disorders. Attention is drawn to the quite higher score for self-transcendence in individuals with PL than in healthy individuals. Such loss of limit between the individual and the other is in accordance with PL subjects' difficulties in establishing a limit between themselves and their partners, manifested by the need of constant and repetitive attitudes to have the other under control.^{1-3,5}

Regarding satisfaction with the romantic relationship, we observed that most individuals with PL have been maintaining a pathological relationship, despite being aware of and reporting dissatisfaction with it as evidenced by high scores at the Adapted RAS. Facts that may be associated with the maintenance of such unhealthy relationships could be secondary to the high

level of psychiatric symptomatology^{2,3,13,14} and the relationship model learned in the first years of life. For instance, Hazan and Shaver²¹ showed that the mother-child relationship is "relived" in adult relationships. In other words, when the person had an anxious-ambivalent model with caretaker in childhood, he/she is more prone to display the same type of attachment in future romantic relationships.

Norwood³ argues that the persistence in such dysfunctional relationship is related to the high intensity of feelings toward the partner. Nevertheless, corroborating Lee's ideas,³⁸ a previous study conducted by our group showed that PL is not associated with elevated love intensity. The RAS^{34,35} was applied to 39 individuals (19 with PL, 20 healthy) and the item 6 score, which investigates love intensity ("How much do you love your partner?"), was, to our surprise, not significantly different between PL and healthy individuals. In other words, our data reinforce the last criterion identified for PL, that the individual maintains a pathological behavior even being aware of the damages caused to his/her personal life.^{1,2,4} Moreover, these results indicate that PL is not about excessive love but, rather, about persisting in a very unsatisfying relationship. One might wonder if the age differences between samples could have influenced the differences in relationship satisfaction. If that was the case, we would expect that older individuals, being more mature, would present more satisfactory relationships than younger ones. However, our data show the opposite.

Love styles associated with PL are Mania and Agape, which is in agreement with the Lee study³⁷ describing these styles with features similar to PL. The anxious-ambivalent type of attachment is more common in individuals with PL than in healthy individuals, for whom the secure attachment is characteristic. A previous study by Fricker and Moore⁴⁰ showed that the individual with secure attachment experienced a healthy model in the mother-child relationship. The anxious-ambivalent attachment²¹ is characteristic of people with separation anxiety and insecure about relationship maintenance, a symptom that was confirmed in many individuals with PL.^{1,2,4}

One important limitation of this study is the small sample size and the inequality of group sizes. This is probably due to our difficulty in selecting healthy individuals in an outpatient psychiatric unit. Besides, our criteria for excluding psychiatric pathology was somewhat rigid (by SCID).

The personality and relationship profile of PL individuals identified in this study will allow for the adequate development of evaluation and treatment strategies. This is important because of the apparent frequent nature of this condition that leads to suffering for both patients and concerned others.

CONCLUSION

Based on the results, the profile of individuals with PL is characterized by high impulsivity; temperament characterized by high levels of novelty seeking, harm avoidance, and reward dependence, and character marked by reduced levels of self-directedness and high levels of self-transcendence; low satisfaction with the relationship; Mania and Agape love styles; as well as an anxious-ambivalent type of attachment. Due to the relevance of the findings, the study deserves replication in larger samples. **CNS**

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