



IMPACT OF PARENTAL MENTAL ILLNESS IN THE ATTACHMENT STYLE OF CLUSTER B PERSONALITY DISORDERS

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ABSTRACT

Introduction: Cluster B personality disorders are the most controversial conditions in the psychopathological spectrum. Attachment seems to be a relevant factor in the development of these disorders. Emerging studies have focused on the impact of parental mental illness (PMI) on the psychopathological traits of the offspring. Therefore, the main objective is to assess the impact of PMI antecedents in the attachment style of individuals with PD-Bs.

Methods: A total number of 298 subjects were recruited for the study (148 healthy control and 150 cluster B PD subjects). Descriptive information was collected and ECR scale was administered. Chi-square and t-test analyses were developed for descriptive analyses. General linear models were developed to assess the impact of PMI in the attachment style of these individuals.

Results: Cluster B PD groups presented significantly higher scores than the control group in attachment anxiety and avoidance, as well as the cluster B PD with PMI group presenting higher levels of attachment anxiety comparing to the other case group. Regarding the impact of PMI in the attachment style, these models have explained 25.8% of the variability of attachment anxiety and 9% of attachment avoidance.

Discussion: Attachment might impact the development of cluster B PDs and the presence of PMI could lead to an even more anxious attachment pattern, suggesting that PMI might be a risk factor for a dysfunctional development of the attachment system. Moreover, the association between PMI and cluster B PD in the offspring could be related to dysfunctional attachment patterns established during childhood.

Key words: cluster B personality disorders, attachment style, parental mental illness.

1. INTRODUCTION

Personality disorders (PD) are defined as “enduring patterns of inner experience and behaviour that deviate markedly from the expectations of the individual’s culture, are pervasive and inflexible, have an onset in adolescence or early adulthood, are stable over time, and lead to distress or impairment”. DSM-5 groups PDs in three different clusters. Cluster A refers to the odd and eccentric cluster, including paranoid, schizoid and schizotypal PDs. Cluster B, which this paper is focused on, is the dramatic, emotional or erratic cluster, formed of antisocial (ASPD), borderline (BPD), histrionic (HPD) and narcissistic (NPD) PDs. Lastly, cluster C is the anxious and fearful cluster, including dependant, avoidant and obsessive-compulsive PDs (American Psychiatric Association, 2013). Although an improvement in conceptualization, assessment and treatment of PDs has been witnessed since the 1990s (Sperry, 2017), PDs continue being the most controversial and least understood conditions in all the psychopathological spectrum (Lilienfeld & Latzman, 2018).

Cluster B PDs affect approximately between the 3,1 and 4,5% of the general population, as well as being remarkably prevailing, up to 13%, in psychiatric outpatient settings (Bartak et al., 2011). This cluster, specially antisocial and borderline PDs, is the most studied one in PDs’ spectrum (Douzenis, Tsopelas & Tzeferakos, 2012). This could be justified by the fact that it is usually related to individual suffering and early institutional care, as well as to criminality. Therefore, these PDs perform a relevant concern both for the individuals and the society (Bartak et al., 2011). These disorders are related to higher prevalence rates of suicide, specifically borderline, narcissistic and antisocial personality disorders (Pompili, Ruberto, Girardi & Tatarelli, 2004).

Attachment has been considered as an etiological factor in the development of PDs (Sagha, Varma & Yadegarfar, 2019). Attachment, following Bowlby’s attachment theory, is a way of conceptualizing the propensity of human beings to make strong affectional bonds to particular others and of explaining the many forms of emotional distress and personality disturbance (Bowlby, 1979). Attachment theory suggests that the first bonds between the child and the caregiver influences child’s developing self-concept and view of social relationships. Specifically, infants form

mental representations and affective-cognitive schemas about themselves and others, known as “internal working models”, which will be present in the future (Miño, Guendelman, Castillo-Carniglia, Sandana & Quintana, 2018). Early attachment experiences will partly determine future romantic attachment (Cascio & Alaimo, 2016). Therefore, insecure attachment styles during childhood may affect interpersonal relationships and self-concept during adulthood (Miño et al., 2018). Similarly, PDs have been extensively characterized by problems in relationships with significant others, as well as with the self. Thus, it is hypothesized that PDs are not only related to experiences in adult relationships, but also to memories of childhood experiences (Neumann, 2017). These similarities suggest that PDs and insecure attachment styles could be overlapping constructs, at least to certain degree (Meyer, Pilkonis, Proietti, Heape & Egan, 2001).

Secure attachment has been described as the healthy type of attachment, giving these individuals the capacity for emotional manifestations and resilience (Lefter, 2018). In terms of the most accepted model of adult attachment, insecure attachment in adulthood relies in two primary dimensions, namely avoidance and anxiety. Avoidance would be related to the tendency to feel uncomfortable in situations in which there is excessive closeness with partners, while an anxious attachment would be associated with exaggerated fears and worries toward close relationships (Neumann, 2017). Nevertheless, a new focus on the disorganized dimension of attachment has been developed lately in the literature, understood as a combination of the previous two attachment dimensions and characterized by fast changes between extreme anxiety and avoidance (Smith & South, 2020).

Traumatic wounds or emotional instability during childhood, strongly related to cluster B PDs, lead to attachment disorders, threatening a stable personality structure. Specifically, emotional abuse has been determined to be the type of abuse most closely associated with PDs (Neumann, 2017). Moreover, individuals with insecure attachment styles are frequently rigid and less open, which is other typical feature in cluster B PDs (Lefter, 2018). Therefore, a moderate and inverse correlation between secure attachment and cluster B PDs is widely suggested in the literature (Timmerman & Emmelkamp, 2006). However, the underlying mechanisms of this association and

the correlation between an insecure attachment style and each cluster B PD still remain controversial and unclear (Sagha et al., 2019).

Antisocial PD (ASPD) is described as a pervasive pattern of disregard for and violation of the rights of others, occurring since age 15 years. The primary traits related to this disorder are deceitfulness, impulsivity, irritability, aggressiveness, recklessness, irresponsibility and transgression of social norms and laws, and lack of empathy or remorse (American Psychiatric Association, 2013). Consequently, it is usually related to an established criminal history. Although this disorder being moderately heritable, it also appears to be influenced by an environmental component, consistent with findings of early abuse histories during childhood (Lilienfeld & Latzman, 2018) or parental psychiatric antecedents such as personality disorders (Glenn, Johnson & Raine, 2013). As a consequence, it is well-accepted that individuals with ASPD tend to be related to insecure attachment styles (Celedón, Barón, Cogollo, Miranda, & Martínez, 2016; Timmerman & Emmelkamp, 2006). Traditionally, ASPD has been associated with an avoidant or dismissing attachment style, in which these individuals are not comfortable in close relationships and they externalize emotions through aggression (Rosenstein & Horowitz, 1996; Timmerman & Emmelkamp, 2006). Other studies suggest that ASPD may be related to an anxious attachment style. Individuals with these features would fear rejection, exhibiting aggressiveness when abandonment being predicted, and this antisocial behaviour could work as a façade to cover their true sense of inferiority and insecurity towards others (McGauran, Brooks & Khan, 2019; Neumann, 2017). Nevertheless, emerging studies hypothesize that ASPD could be related to both anxious or avoidant attachment styles, depending on each individual's characteristics and experiences (Arbona & Power, 2003; Hansen, Waage, Eid, Johnsen & Hart, 2011).

Borderline PD (BPD) is described as a pervasive pattern of instability of interpersonal relationships, self-image and affects, and marked impulsivity, beginning by early adulthood in a variety of contexts. Primary traits related to this diagnosis are efforts to avoid abandonment, instability in relationships with idealization-devaluation extremes, identity disturbance, suicidal or self-harming attempts, affective instability, lack of anger control and paranoid or dissociative symptomatology (American Psychiatric Association, 2013). Individuals with BPD diagnosis tend to be more likely

to have a history of maltreatment during childhood (Ibrahim, Cosgrave & Woolgar, 2017), consistent with insecure attachment styles in adulthood (Anticevic, Sasic & Britvic, 2019; Meyer et al., 2001; Miño et al., 2018; Weydmann, Bizarro & Serralta, 2019). Romantic relationships in individuals with this disorder tend to be unstable, conflictive, characterized by early marriage and marital disruption, as well as having more, but time-limited, relationships (Smith & South, 2020). Thus, an association between BPD and anxious or preoccupied attachment style has been found in many studies (Beeney et al., 2015; Black, 2010; Crawford et al., 2007; Hill et al., 2011; Meyer et al., 2001; Rosenstein & Horowitz, 1996; Timmerman & Emmelkamp, 2006), suggesting that this attachment anxiety would be manifested through problems keeping one's self views and emotional regulation in the face of others' experiences (Beeney et al., 2015; Crawford, 2007). However, many studies have found that both dimensions of attachment, anxiety and avoidance, may co-occur in BPD, being related to a fearful or disorganized attachment style (Anticevic et al., 2019; Black, 2010; Khoury et al., 2019; Neumann, 2017; Smith & South, 2020). BPD is characterized by the highest degree of structural disorganization in personality (Lefter, 2018), as well as being related to dissociation and fragmentation in self-view, consistent with disorganized attachment style. Moreover, shifting in perceptions of relevant others (splitting) is indicative of cyclic closeness and distance poles in close relationships, typical in both BPD and disorganized attachment (Smith & South, 2020).

Histrionic PD (HPD) is described as “a pervasive pattern of excessive emotionality and attention seeking, beginning by early adulthood and present in a variety of contexts”. The primary traits of this disorder are discomfort in situations in which they are not the centre of attention, seductive or provocative behaviour, rapid shift and shallow expression of emotions, excessively impressionistic and lacking in detail style of speech; self-dramatization, theatricality and exaggerated emotionality; suggestibility; and consideration of relationships to be more intimate than they actually are (American Psychiatric Association, 2013). Although not many studies having researched HPD, the combination between genetic and environmental or parenting factors in the etiology of this disorder is the most broadly accepted explanation (Lilienfeld & Latzman, 2018). These individuals usually experience entangled and absorbing parenting styles, as well as being usual to have family antecedents of this disorder (Lyddon & Sherry, 2001). Thus, the models that these

individuals receive tend to be based on affective and emotional lability, eccentricity and superficiality, as well as on inconsistent discipline, leading to the use of extreme measures so as to be noticed (Lyddon & Sherry, 2001). Consequently, HPD has been widely correlated with insecure attachment, specifically with the anxious or preoccupied style (Brennan & Shaver, 1998; Lefter, 2018, Rosenstein & Horowitz, 1996; Lyddon & Sherry, 2001; Timmerman & Emmelkamp, 2006). This finding is consistent with being highly involved in close relationships, dependence on external acceptance for a sense of well-being, and idealization and extreme emotionality in relationships, common features for both HPD and anxious attachment style (Timmerman & Emmelkamp, 2006).

Lastly, narcissistic personality disorder (NPD) is described as “a pervasive pattern of grandiosity (in fantasy or behaviour), need for admiration and lack of empathy, beginning by early adulthood and present in a variety of contexts”. The primary traits of this personality disorder are a sense of grandiosity, preoccupation with fantasies of unlimited success, special and unique view of themselves, requirement of excessive admiration, sense of entitlement, interpersonally exploitative, lack of empathy, sense of envy towards or from others, and arrogant, haughty behaviours (American Psychiatric Association, 2013). Although this disorder being moderately heritable, psychoanalytic theories suggest that pathological narcissism is a compensatory effort to increase self-esteem in individuals that their admiration and idealization needs were unmet during childhood (Lilienfeld & Latzman, 2018). Specifically, narcissism has been related to excessive parental indulgence and admiration (Otway & Vignoles, 2006). Referring to the latter, overparenting has been related to extreme involvement and preoccupation about the child’s capacity, leading to a lack of space for the development of self and others relations. Thus, it is suggested that overparenting, based on parents’ own narcissism, is a process in which parents finish filling the child’s mind with their mind (Munich & Munich, 2009). Accordingly, NPD has been negatively associated with secure attachment style (Ahmadi et al., 2013). Some studies have found a correlation between NPD and avoidant or dismissing attachment style (Rosenstein & Horowitz, 1996; Pistole, 1995), both involving latent vulnerability, coldness, hostility and using others. Other studies suggest that NPD is related to anxious or preoccupied attachment style (Neumann, 2017), narcissism working as a façade to cover feelings

of inferiority and insecurity towards others. Moreover, NPD has been related to both types of insecure attachment as well (Ahmadi et al., 2013).

Therefore, it seems necessary to take into consideration the two dimensions of narcissism, grandiose and vulnerable, in order to clarify these results. Grandiose narcissism is related to the representation of this disorder in DSM, based on grandiose, arrogant, entitled, exploitative and envious traits, and characterized by dominance, low interpersonal distress, emotional inhibition and positive representation of themselves in relationships. Vulnerable narcissism, on the contrary, is associated with self-inhibited, modest, emotionally labile traits, with underlying grandiose expectations for themselves and others, and characterized by fear in relating to others, lack of confidence in themselves, fear of being disappointed and greater distress in their relationships (Dickinson & Pincus, 2003). Vulnerable narcissism seems to be a better predictor of insecure attachment styles than grandiose narcissism (Cramer, 2019). It has been widely associated with anxious or preoccupied attachment style (Dickinson & Pincus, 2003; Otway & Vignoles, 2006; Rohmann, Neumann, Herner & Bierhoff, 2012; Smolewska & Dion, 2005), while grandiose narcissism has been found to correlate with avoidant attachment style (Dickinson & Pincus, 2003; Rohmann et al., 2012).

As mentioned above, traumatic wounds, emotional instability and adverse experiences during childhood are related both to insecure attachment styles and cluster B PDs. An emerging research target in this area is related to the impact of parental mental illness (PMI) on the development of insecure attachment styles in cluster B PDs. The majority of adults with mental disorders are parents (67.2% of females and 75.5% of males), and 20% of children live with parents with psychopathological conditions (Zalewski et al., 2017). PMI has been described as a robust but non-specific predictor of their offspring's psychopathology. Thus, children with PMI antecedents are more likely to develop psychopathology during their lifespan (McLaughlin et al., 2012; Wesseldijk et al., 2016; Wesseldijk et al., 2018; Zalewski et al., 2017;). Moreover, mental pathology in both parents has been associated with increased impact on the child, and consequently, with elevated risk of developing psychiatric disorders (Kahn, Brandt & Whitaker, 2004; Wesseldijk et al., 2016). A survey developed by the World Health Organization (McLaughlin et al.,

2012) determined that having a parent with a mental pathology condition explained 12.4% of the onset of offspring cases, being consistently higher for behavioural disorders (11.0-19.9%) than other conditions (7.1-14.0%).

The central unresolved matter in this topic is to determine whether having a parent with a mental disorder creates a general vulnerability to psychopathology, or particular disorders are related to particular offspring disorders (McLaughlin et al., 2012). As mentioned above, there is a moderate consensus that PMI is a non-specific predictor of offspring psychopathology. Many studies have found associations between PMI and offspring's mental disorders, but these associations are generally cross-class correlations more than within-class ones. Therefore, there is limited evidence that parent and child will present the same condition (McLaughlin et al., 2012; Ramchandani, Stein & Murray, 2000; Zalewski et al., 2017). Many types of parental diagnoses, such as major depression, alcoholism, substance abuse, anxiety disorders and PDs, have been related to increased risk of child psychopathology (Kuperman, Schlosser, Lidral & Reich, 1999; Ramchandani et al., 2000). For instance, children of parents with substance abuse disorders are related to impairments in social and cognitive development, presenting increased levels of impulsivity and aggressiveness (Ramchandani et al., 2000), as well as being linked to increased risk for offspring's non-suicidal self-injury behaviours (Gromatsky et al., 2017). Moreover, risks for offspring suicide attempt and violent offending have been found to be elevated for the full spectrum of PMI (Mok et al., 2016). There is accumulating evidence that PDs in parents have a considerable impact on the development of psychological problems on their children (Ramchandani et al., 2000).

The transmission of these psychopathological traits is accepted to be mediated by a combination of genetic and environmental factors. In terms of environmental factors, PMI often co-occurs with other risk factors for children's development and stability (Leverton, 2003; Zalewski et al., 2017), such as unemployment, poverty, marital problems and family instability. Moreover, parenting style seems to play a crucial role in the transmission of these traits. Parents with mental health conditions tend to present deficiencies in warmth, developmental sensitivity, autonomy promotion and firm but flexible discipline (Zalewski et al., 2017). Some parents with cluster B PDs are related to inappropriate expectations of children, lack of empathy

and tend to believe in physical punishment (Ramchandani et al., 2000). For instance, mothers with BPD usually present more overprotective, insensitive and hostile behaviours (Macfie, Kurdziel, Mahan & Kors, 2017; Zalewski et al., 2017), and some studies suggest that these traits affect these children's development, including possible transmission of BPD features via representational models (Macfie et al., 2017). However, the extent to which PMI influences attachment patterns and the course of cluster B PDs is still highly controversial and inconsistent.

Consequently, the primary aim of this paper is to assess the impact of PMI in the attachment style of cluster B PD patients. In order to reach this aim, attachment styles in three different groups are going to be compared. The first group is formed by healthy controls; the second group consists of individuals with a cluster B PD diagnosis, but without PMI antecedents, whereas the third group is formed by individuals with a cluster B PD and with PMI antecedents.

2. METHODS

Participants

A total of 298 subjects were recruited for the study. 148 were healthy controls and 150 were patients with a cluster B PD diagnosis, following DSM-IV-TR diagnostic criteria.

The healthy control group was formed of 148 participants (111 females and 37 males). Their mean age was 34.10 years (SD=10.20). Control subjects were mainly health workers in Bizkaia, primarily recruited by the Mental Health Network from Bizkaia, including different professional categories. Other group of healthy control subjects was recruited from the first grade of Physiotherapy Degree from UPV-EHU. Lastly, other part of this group proceeded from heterogeneous resources from the general population, through verbal diffusion of the project. The inclusion criteria were: age between 18 and 65 years, current legal situation to give consent to participate in the study, IQ superior or equal to 71, absence of brain organic pathology antecedents, and absence of previous psychiatric treatment both for themselves or first grade family members.

The sample of cluster B PDs was formed of 150 participants (112 females and 38 males). Their mean age was 33.31 years ($SD=10.36$). The diagnosis was made by psychologists and psychiatrists with a minimum professional experience of 8 years, following DSM-IV-TR diagnostic criteria. These participants proceeded from different mental health devices in Bizkaia, where an active assessment or treatment program was being conducted for them. The inclusion criteria were: to be currently receiving treatment for any cluster B PD, age between 18 and 65 years, current legal situation to give consent to participate in the study, IQ superior or equal to 71, absence of brain organic pathology antecedents, and absence of symptoms related to schizophrenia, schizoaffective disorder, type I bipolar disorder or active substance use disorder.

Measures and procedure

Clinical and Socio-demographic Variables

The participants completed a socio-demographic questionnaire, which included questions related to age, education level, marital status and occupation. Subsequently, the researcher intended to collect data regarding psychopathology. First, information about psychiatric antecedents in these subjects or in first grade family members was collected. In the healthy control group, this was an exclusion criterion, whereas in the case group the researcher sought to know the specific mental condition of their family members. Afterwards, information about traumatic events experiences was collected, asking in a dichotomous manner (Yes/No) if they had experienced traumatic events, physical abuse, sexual abuse or negligent care from their caregivers, especially during childhood, or during adolescence or adulthood, referring to violation or other experiences.

Experiences in Closed Relationships (ECR)

ECR is a self-reported and a 36 items-based questionnaire, used to measure adult romantic attachment styles, including two primary dimensions: anxiety (18 items) and avoidance (18 items). Consequently, this questionnaire offers three different scores: dimension of anxiety, dimension of avoidance and a global score. The Spanish version of this scale was used for this study (Alonso-Arbiol et al., 2007), characterized by similar internal consistency and reliability to the English version.

The coefficient alphas were .87 and .85 for the avoidance and anxiety scales, respectively.

Procedure

The recruiting process of the healthy control group was developed by one of the nurses from the Mental Health Network of Bizkaia. During the routine checks to the staff, once that psychiatric antecedents were excluded (both for the individuals and their first grade family members), this nurse informed them about the project, offering the possibility to participate. Information about the project and the informed consent were given to those that accepted to participate, as well as collecting information about clinical and socio-demographic variables of each subject. Moreover, they received the above mentioned questionnaires in order to fill them at home, and these subjects were summoned posteriorly so as to collect this documentation.

In the case of the Physiotherapy students, the aim and procedure of this study were presented during a lesson, and those who wanted to participate filled the necessary documents (the questionnaires, the informed consent, and information about clinical and socio-demographical variables) in a practical lesson about Personality Disorders. The last group of the healthy controls was informally informed about the project and then summoned so as to give more information about it and its procedure. In the case of accepting, psychiatric antecedents (in the individual or first grade family members) were excluded, and they received information sheets, the informed consent and they were asked for information to collect data about clinical and socio-demographical variables. Posteriorly, they filled the questionnaires at home and they were summoned in order to collect this data.

The process with the case group was similar. The psychiatrist or psychologist, contributor in the study, informed the patient about the study and its characteristics during regular follow-up visits. Those who accepted were given the informed consent and information sheets that same day, as well as collecting data about clinical and socio-demographical variables. These individuals filled the questionnaires at home or in the mental health centre, and they were summoned to receive these data.

As mentioned above, ECR was given so as to assess their romantic attachment patterns. The study was developed following the code of ethical criteria from the Declaration of Helsinki and it was accepted by the Ethical Committee of the Basque Country in 2013 (PI13/01006). The project was developed between 2014 and 2018 under grant PI2013111034 of the Health Department of the Basque Government with the participation of the Psychiatry Department of Basurto University Hospital, Bizkaia Mental Health Network, AMSA-IMQ and AVATI-TLP. Patients and data were recruited between 2015 and 2018 from the aforementioned outpatient services.

Statistical analyses

A descriptive analysis of the sample has been performed using Chi-square and t-test analyses. Moreover, general lineal model analyses were used in order to compare attachment styles in the three groups developed by PD-B and PMI variables, controlled by gender and age.

3. RESULTS

Clinical and Socio-demographic variables

Firstly, the case group was divided in two subgroups depending on PMI antecedents; 58 subjects presented a PD-B diagnosis without PMI antecedents (PD-B without PMI), while the other 87 PD-B subjects presented PMI antecedents (PD-B with PMI). The mean age of the healthy control group was 34.05 (SD=10.30), it was 34.38 years (SD=10.23) for the PD-B without PMI group, and lastly, 32.28 years (SD=10.38) for the PD-B with PMI group. Regarding gender distribution, 75.17% from the healthy control group, 74.14% from the PD-B without PMI group and 77.01% from the PD-B with PMI group were females.

In terms of the marital status in the healthy control group, 46.89% were single, 46.21% were married or cohabiting with their couples and 6.89% were divorced. In the PD-B without PMI group, 58.62% were single, 27.59% were married or cohabiting with their couples and 13.79% were divorced. Lastly, regarding the PD-B

with PMI group, 64.37% were single, 20.69% were married or cohabiting with their couples, 13.79% were divorced, and 1.15% was widowed.

In the whole sample, 1.72% of the subjects of the PD-B without PMI group presented absence of studies. Regarding primary education, referring to primary and secondary school, 3.45% of the subjects from the healthy control group, 32.76% of the subjects from the PD-B without PMI group and 37.93% of the subjects from the PD-B with PMI group presented this educational level. The frequency of secondary education, referring to high school and medium professional formation programs, in this sample was 33.79% for the healthy control group, 34.48% for the PD-B without PMI group and 40.23% for the PD-B with PMI group. Lastly, 62.75% of the healthy control group had tertiary or higher educational level, referring to university or superior professional formation programs, whereas 32.76% from the PD-B without PMI group and 20.69% from the PD-B with PMI group presented this educational level. Description of the sample is shown in Table 1.

Table 1. Description of the sample

	Controls (N=145)	PD-B without PMI (N=58)	PD-B with PMI (N=87)
Age (mean±SD)	34.05±10.30	34.38±10.23	32.28±10.38
Sex: females	109	43	67
Marital status:			
Single	68	34	56
Married/ cohabiting	67	16	18
Divorced	10	8	12
Widowed	0	0	1
Education level:			
None	0	1	0
Primary	5	19	33
Secondary	49	20	35
Tertiary/higher	91	19	18

Experiences in Closed Relationships (ECR)

Regarding attachment differences between the three groups, the mean score for attachment anxiety in the healthy control group was 3.497 (SD=.836), the mean score was 4.435 (SD=1.263) in the PD-B without PMI group, and it was 4.844 (SD=1.176) in the PD-B with PMI group. Referring to attachment avoidance, 3.577 (SD=.848) was the mean score in the healthy control group, 4.300 (SD=1.066) in the PD-B

without PMI group and, lastly, the mean score was 3.973 (SD=.973) in the PD-B with PMI group. Mean scores in the ECR scale are shown in Table 2.

Table 2. Mean scores in attachment anxiety and avoidance in the studied groups.

	Controls (N=145)	PD-B without PMI (N=58)	PD-B with PMI (N=87)
ECR anxiety (mean±SD)	3.497±.836	4.435±1.263	4.844±1.176
ECR avoidance (mean±SD)	3.577±.848	4.300±1.066	3.973±.973

Impact of PMI in PD-B attachment styles

Regarding the impact of PMI in the attachment style of cluster B PDs, statistically significant differences have been observed in attachment anxiety (F=49.98, p=.000) and avoidance (F=14.032, p=.000). Moreover, these models have explained 25.8% of the variability of attachment anxiety (adj R²=.258) and 9% of attachment avoidance (adj R²=.090). Results of the models are shown in Table 3.

Table 3. Impact of PMI in attachment anxiety and avoidance

	Anxiety			Avoidance		
	F	p	Adj R ²	F	p	Adj R ²
Model	26.11	0.000	.258	8.17	0.000	.090
PMI	49.98	0.000		14.03	0.000	
Sex	4.17	0.042		0.00	0.925	
Age	0.49	0.485		4.98	0.026	

Furthermore, using the Bonferroni correction in the post-hoc analyses, significantly higher scores have been obtained for attachment anxiety and avoidance in both cluster B PD groups when compared to the control group (p<.01 in all groups). Interestingly, the cluster B PD with PMI group presented significantly higher scores of attachment anxiety with respect to the cluster B PD without PMI group (mean difference=.409±.176, p=.021), whereas no significant differences were observed with regards to attachment avoidance.

4. DISCUSSION

Cluster B PDs are highly controversial in both the clinical practice and research, related to a wide variety of information gaps about the conceptualization, assessment and treatment. Moreover, these disorders are considered as a matter of individual and social concern, being associated with elevated rates of criminality and early institutional care. Consequently, many studies have been directed to assess the core traits or the associated factors of these conditions. As mentioned above, the relationship between insecure attachment styles and cluster B PDs has been the research target of many authors. However, not many researchers have investigated the impact of PMI in the development of cluster B PDs, which could be a promoter, mediated by insecure attachment styles.

Moreover, this project has demonstrated the high incidence of PMI antecedents in cluster B PD patients. Although comparisons of PMI antecedents between the three groups not being developed, these results suggest that PMI antecedents between cluster B PD patients could be significantly higher comparing to healthy control subjects. Specifically, lifelong incidence of psychiatric conditions in the general population in Spain is estimated to be around 19.4% (Kessler et al., 2007), whereas the 60% of the parents in the cluster B PD case group presented psychiatric antecedents, suggesting that the prevalence of mental illness among this parent population is probable to be significantly higher than general population.

Family psychopathology has been described as a risk factor for the later development of borderline PD in the offspring (Stepp, 2016). Reinelt and colleagues (2014) found an indirect effect of maternal BPD symptoms on offspring BPD symptoms via maladaptive parenting behaviors. Stepp et al. (2016) also point to the presence of maltreatment as a possible independent risk factor for the development of BPD; child maltreatment, on its part, is more often seen in families with mentally ill parents (Sethi et al., 2013). We propose that the association between PMI and cluster B PD in the offspring could be related to dysfunctional attachment patterns established during childhood, due to the difficulties that mentally ill parents can face while rearing their children.

Cluster B PD patients have shown higher levels of both attachment anxiety and avoidance, comparing to the healthy control group. This finding supports the conclusion that many authors (Sagha et al., 2019; Timmerman & Emmelkamp, 2006) have previously reached about the correlation between insecure attachment styles and cluster B PDs. Interestingly, significant differences were found in attachment anxiety between the two cluster B PD groups depending on their PMI antecedents; patients with PMI displayed significantly higher scores in attachment anxiety than those patients without PMI. These results point out that the presence of PMI in at least one of the parents could lead to an even more anxious attachment pattern, suggesting that PMI might be a risk factor for a dysfunctional development of the attachment system, which in turn, has been associated with the eventual development of PD.

Regarding the impact of PMI antecedents in the attachment style of this individuals, these models, that also included the influence of age and sex, explained the 25,8% of the variability of attachment anxiety and 9% of the variability of attachment avoidance. Similarly, as mentioned in the last paragraph, significant differences in attachment anxiety between the cluster B PD groups were found. Consequently, these results suggest that the attachment style could be a contributor to the development of cluster B PDs.

It should be mentioned that this study has been nested on a larger project on genetic association of dysfunctional personality traits, and the cluster B PD group was not compared with a natural healthy control group, but rather with a “super-healthy” group without any family history of mental illness. So, the main limitation remains on the fact that the presence of PMI antecedents was an exclusion criterion for the healthy control group. Therefore, it could be interesting to obtain a natural control group, mentally healthy but permitting the presence of PMI, in order to calculate the actual risk of developing a cluster B PD conferred by PMI, and the mediating effect of insecure attachment styles.

Consequently, although PDs being controversial conditions in both the clinical practice and research, this project offers the analysis of factors, such as PMI antecedents, that can be contributing to the development of core cluster B PD traits (attachment avoidance or anxiety, for instance). As mentioned above, attachment

seems to be a relevant factor in the development of these conditions, but, still, further research is needed so as to draw solid conclusions. However, based on these results, interventions that promote a healthy attachment to their offspring in mentally ill parents seem to be a positive preventing strategy. Lastly, further research is needed in order to determine factors that interfere in the development of cluster B PDs, and consequently, to reach wider therapeutic targets.

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