Mating strategies and experience of early adversity in female patients with borderline personality disorder: Insights from life history theory

Martin Brüne *, Jiaqing O [1], Merita Schojai, Christine Decker, Marc-Andreas Edel

LWL University Hospital Bochum, Department of Psychiatry, Psychotherapy and Preventive Medicine, Division of Cognitive Neuropsychiatry and Psychiatric Preventive Medicine, Ruhr-University, 44791 Bochum, NRW, Germany

ABSTRACT

Borderline personality disorder (BPD) is a psychiatric condition which severely affects psychological well-being. Etiological explanations of BPD include the experience of early adversity, but how this impacts on risk-taking and impulsivity in relation to sexuality and mating has remained elusive. Here, we tested the hypothesis that people with BPD adopt a "fast" life history strategy which impacts their mate choice and sexual behavior.

Sixty female patients with BPD and 45 controls were given 3 hypothetical vignettes depicting a "Predictably Safe", an "Unpredictably Safe-Risky", and a "Predictably Risky" life conditions, requiring the participant to put herself imaginatively into the described situation. Participants also completed questionnaires about their psychosexual development, depressiveness, and childhood experiences.

Patients with BPD were significantly more likely to expect less parental investment from their hypothetical partners in the predictably safe condition, and to consent to sexual affairs at an earlier age than controls. Correlation analyses suggest that subjective depressiveness, childhood trauma, rearing style of patients' parents, and actual psychosexual development impacted on mate choice in the hypothetical scenarios. In addition, findings may also corroborate ideas of nonrandom mating in patients with BPD, which may be taken into consideration when interpersonal difficulties with romantic partners are dealt with in psychotherapy.

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1. Introduction

Borderline personality disorder (BPD) is characterized by difficulties in emotion regulation, heightened impulsivity and risk-taking, fluctuations in self-schema, and problems with maintaining trustful interpersonal relationships (American Psychiatric Association, 2013). Self-injurious behaviors occur in over 60% of people with BPD, and the suicide risk, as well as general mortality among people with BPD is markedly increased (Soloff, Lis, Kelly, Cornelius, & Ulrich, 1994; Kjær, Biskin, Vestergaard, & Munk-Jørgensen, 2015). In consideration of such substantial health risks and reports of prevalence rates of BPD of up to 6% in the general population (Grant et al., 2008), it is imperative and therapeutically meaningful to achieve a comprehensive understanding of the development of BPD.

Biopsychosocial frameworks such as Linehan's (1993) biosocial theory of BPD posit that individuals who grew up experiencing considerable emotional invalidation by caregivers or significant others in general during the early years of their lives and who already possessed a biological predisposition toward hyperactivity and hyperarousal, may be at risk of emotion dysregulation, a key driver postulated to be instrumental in the subsequent progression toward BPD (reviewed in Cavazzi & Becerra, 2014). Data from a host of empirical studies have generally endorsed the main tenets of the biosocial theory (e.g., Arens, Grabe, Spitzer, & Barnow, 2011; Chapman, Leung, & Lynch, 2008; Sauer & Baer, 2010). In addition, neuroimaging studies have highlighted deviant emotion processing in BPD (e.g., Driessen et al., 2000; Whittle et al., 2009), while other research has focused on the role of neurotransmitters such as serotonin (e.g., Norra et al., 2003; Ni et al., 2006) or neuropeptides (Bertsch, Schmidinger, Neumann, & Herpertz, 2013; Brüne, 2016; Cicchetti, Rogosch, Hecht, Crick, & Hetzel, 2014; Stanley & Siever, 2010), as well as genetic contributions to BPD (Distel et al., 2008; Ni et al., 2007; reviewed in Amad, Ramoz, Thomas, Jardri, & Gorwood, 2014).

However, several issues concerning BPD need to be reframed in a broader theoretical context. For example, it seems to be problematic to view BPD as a clinical syndrome with identifiable brain lesions (e.g., Whalley et al., 2015), particularly in light of observations suggesting that interpersonal difficulties of patients with BPD are less prevalent outside emotionally challenging situations, and that over time many

* Corresponding author at: LWL University Hospital, Department of Psychiatry, Psychotherapy and Preventive Medicine, Division of Cognitive Neuropsychiatry and Psychiatric Preventive Medicine, Ruhr-University Bochum, Alexandrinenstr. 1, D-44791 Bochum, Germany.

E-mail address: martin.bruene@rub.de (M. Brüne).

[1] Independent scholar.

patients experience a substantial reduction in self-mutilating behavior and impulsivity (Zanarini, Frankenburg, Hennen, & Silk, 2003). In addition, in contrast to most psychiatric conditions with an "organic" basis, BPD does not worsen with increasing age, which warrants an explanation. This does not challenge neurobiological approaches to BPD per se, but specifically one-sided interpretations in favor of a "defect" model of BPD. Finally, both risk-taking behavior and depression are key features of BPD, whereby people with depression are usually risk-averse, rather than risk-prone, the latter being a typical feature of BPD (Smoski et al., 2008). Brüne (2016) has therefore proposed a model of BPD based on behavioral ecology (i.e. Life History Theory), which integrates biological and behavioral research into a coherent picture of BPD (Brüne, 2016).

1.1. Perspectives from life history theory

Based on both Chisholm's (1996) attachment model and Belsky, Steinberg, and Draper's (1991) "evolutionary theory of socialization", an evolutionary approach of BPD suggests that the condition is an extreme version of a series of adaptive responses that are activated via an unconscious evaluation early in life of resources in one's future environment (Brüne, 2016; Brüne, Ghiassi, & Ribbert, 2010). Such a formulation is grounded on the principles of Life History Theory (LHT), an evolutionary framework which posits that living organisms (including humans) adopt a "faster strategy" (e.g. achieving puberty and attempting to mate and propagate one's genes more swiftly, at the expense of investing resources in development and long-term survival) when faced with severe difficulties and uncertainty in their early environments, and vice versa (Ellis, Boyce, Belsky, Bakermans-Kranenburg, & van IJzendoorn, 2011; Ellis, Figueredo, Brumbach, & Schlomer, 2009; Griskevicius, Tybur, Delton, & Robertson, 2011). A LHT approach has recently been introduced by Del Giudice (2015) to frame psychopathological conditions along a continuum ranging from fast to slow life history strategies. Accordingly, a faster strategy appears to characterize several symptoms of BPD, including impetuousness, a tendency toward unrestricted sociosexuality, and having multiple mating partners (Brüne, 2014, 2016).

Indeed, consistent with a faster life-history strategy, persons with BPD have been shown to have sexual intercourse with a considerably higher number of different persons (Sansone, Lam, & Wiederman, 2011), and tend to be at a higher risk of getting pregnant during their youth and of bearing more children compared to their healthier counterparts (De Genna, Feske, Larkby, Angiolieri, & Gold, 2012). Moreover, in accordance with a LHT approach, a substantial proportion of people with BPD have experienced severe adversity early in their lives (e.g. Bandelow et al., 2005; Hurlbert, Apt, & White, 1992; Zanarini, Gunderson, Marino, Schwartz, & Frankenburg, 1989).

1.2. Hypotheses

This study sought to further examine the relevance of LH strategies in delineating BPD. Specifically, we were interested in the question how people with BPD – compared to psychologically healthy individuals – would respond to hypothetical scenarios that differed in terms of domains that are directly relevant to the selection of an individual's LH strategy (e.g., parental investment, timing of first sexual intercourse, and mating strategies). To this end, we adopted a methodological approach developed by Cohen and Belsky (2008) who designed the "Birkbeck Mating Questionnaire" (BMQ; Cohen, 2004), which consists of three hypothetical scenarios reflecting different degrees of resource availability. The three vignettes describe a "predictably safe", a "predictably unsafe" and an "unpredictably safe-risky" situation based on the availability of resources including an individual's hypothetical education/income level, employment status, relationship status, as well as some physical and psychosocial aspects of the neighborhood, work and home environments.

We predicted that patients with BPD would differ from unaffected controls in that they chose (no conscious decision implied!) "faster" LH strategies, which might become particularly overt in the "predictably safe" condition, where unaffected controls would be more likely to more often choose "slow" LH strategies. Moreover, we hypothesized that preferences for mates, willingness to have sexual intercourse and investment in own offspring would depend on patients' early experiences including parents' (invalidating) rearing styles and history of traumatic events.

We further considered the possibility that "assortative mating" could impact on our results. This idea originated from two sources of evidence. One concerns research reports suggesting that assortative mating, that is, mate choice based on similarity in psychological traits, is present in people with psychiatric conditions (Maes et al., 1998). This has foremost been shown for individuals with affective disorders, anxiety disorder or substance abuse (reviewed in Mathews & Reus, 2001; Nordsletten et al., 2016), but may also pertain to BPD (Distel et al., 2009). In addition, studies suggest that assortative mating may not only be true for antisocial personality traits (which may be associated with BPD; Galbaud du Fort, Boothroyd, Bland, Newman, & Kakuma, 2002). Secondly, it seems that nonrandom mating can also involve family constellations in which depressed women choose antisocial men as partners, which may create a situation in which a child is at increased risk of developing psychopathological conditions (Marmorstein, Malone, & Iacono, 2004), which makes sense in LHT perspective, because Belsky et al. (1991) identified internalizing problems such as depression and anxiety in females as a consequence of environments fostering "fast" LH strategies. We therefore sought to examine the effect of subjective depressiveness on mate preferences in the hypothetical scenarios, in light of predictions that people with BPD would vastly differ from controls in regard of depressiveness ratings.

We finally sought to explore, based on the work of Ellis et al. (2009) and Belsky and co-workers (Belsky et al., 1991; Belsky, 2012), whether timing of puberty (i.e. indicators of physical maturation) would be associated with the chosen mating strategy and how real-life experiences such as age at first sexual intercourse and number of sexual partners would impact on individual's response pattern to the hypothetical ecological scenarios.

2. Methods

2.1. Sample characteristics

One hundred fifty-seven individuals (142 females) participated in the study of which 107 persons were diagnosed with BPD according to DSM-IV criteria and a structured clinical interview, German version (Wittchen & Fydrich, 1997). All patients were recruited from an in-patient unit with a treatment focus on dialectical behavior therapy. Fifty-two subjects formed the control group, the majority of which were recruited from the local university. Ten participants who did not report their responses for large parts of the BMQ were excluded – the remaining ones with sporadic missing data have had these data replaced with the mean value of the particular item. As the current study was primarily concerned about mating behaviors in fecund women we further excluded all male participants and female participant who were older than 30 years of age. Thus, the final number of female participants suitable for the main analyses was 105 (60 in the BPD group, 45 controls). An additional questionnaire was given to examine the participants' recall of onset of pubertal markers such as age at menarche, breast development, age at first sexual intercourse as well as to gather information about their current relationships status and actual sexual behavior. The demographics for both the BPD and the control groups are summarized in Table 1.