



Rejection sensitivity as a mediator of the relationship between experienced rejection and borderline characteristics



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ABSTRACT

Experiences of rejection in childhood play an important role in the etiology of borderline personality disorder (BPD). Additionally, individuals who report borderline symptoms report high levels of rejection sensitivity. The current study aimed to disentangle the relationship between experiences of rejection, rejection sensitivity and borderline characteristics. Therefore, we retrospectively assessed experiences of parental and peer rejection, collected data of self-reported rejection sensitivity and social support and prospectively investigated borderline characteristics in a sample of 193 students. Results indicated that rejection sensitivity fully mediated the previously significant relationship between experiences of parental rejection and borderline characteristics, whereas peer rejection maintained a significant effect on borderline traits. Social support was identified as a protective factor. Results indicated a crucial role of rejection sensitivity in borderline symptomatology.

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1. Introduction

Individuals with borderline personality disorder (BPD) often report experiences of rejection by significant others or have a great fear of being rejected (Linehan, 1993; Staebler, Helbing, Rosenbach, & Renneberg, 2011). On the other hand, not all individuals experiencing rejection develop a mental disorder or more specifically, borderline traits. One aspect that might be crucial for the development of clinical symptoms in individuals that experienced interpersonal rejection is the way they perceive social interactions. The tendency to anxiously expect and readily perceive rejection by others was defined as “rejection sensitivity” by Downey and Feldman (1996). Rejection sensitivity is hypothesized to be the outcome of early and long-lasting experiences of rejection (Downey & Feldman, 1996). Patients with various mental disorders report higher levels of rejection sensitivity than non-clinical samples (Rosenbach & Renneberg, 2011). Extremely high levels of rejection sensitivity were found in patients with BPD (Staebler et al., 2011). Therefore, rejection sensitivity can be assumed to be a critical factor in the relationship between experienced rejection and psychological dysfunction.

According to Downey and Feldman (1996), high rejection sensitivity is the internalized result of early and persistent experiences of rejection. In childhood and adolescence, parents and peers constitute the most important persons in the social environment. Therefore, early and long-lasting rejection by parents and/or peers is regarded as a main risk factor for high levels of rejection sensitivity. Hitherto, intra-familial aggression (Brendgen, Vitaro, Tremblay, & Wanner, 2002; Feldman & Downey, 1994), emotional neglect by parents (Downey, Khouri, & Feldman, 1997), teasing during childhood (Butler, Doherty, & Potter, 2007) and rejection by classmates (Brendgen et al., 2002; London, Downey, Bonica, & Paltin, 2007) were related to rejection sensitivity.

Individuals high in rejection sensitivity aim to avoid further experiences of rejection. Therefore, they tend to show social withdrawal and loneliness (Watson & Nesdale, 2012), aggressiveness (Ayduk, Gyurak, & Luerssen, 2008; Buckley, Winkel, & Leary, 2004) or strong interpersonal engagement and submissiveness (Pearson, Watkins, & Mullan, 2010). All these patterns can lead to even more psychological distress and may add to the development of clinical disorders such as BPD.

1.1. Borderline features and rejection sensitivity

BPD is characterized by a pervasive pattern of instability of interpersonal relationships, self-image, and affect as well as high impulsivity (American Psychiatric Association, 2013). One core feature of BPD is the fear of abandonment. Thus, it seems consistent

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that borderline features are accompanied by high levels of rejection sensitivity. In several studies of nonclinical samples, the number of borderline symptoms was related to the degree of rejection sensitivity (Ayduk, Zayas et al., 2008; Boldeo et al., 2009; Meyer, Ajchenbrenner, & Bowles, 2005). Two studies emphasized the extremely high levels of rejection sensitivity in patients with BPD compared to non-clinical (Berenson, Downey, Rafaeli, Coifman, & Paquin, 2011) and other clinical samples (Staebler et al., 2011).

The impact that this high level of rejection sensitivity may have on perception in social interactions, was demonstrated by Renneberg et al. (2012). In a study with borderline patients playing a virtual ball-tossing game (Cyberball), BPD patients reported being excluded to a higher degree than they actually were and they tended to feel excluded when they actually were included.

1.2. Experiences of rejection and borderline features

Linehan's (1993) biosocial theory of BPD emphasizes the crucial role of an 'invalidating' childhood environment and associated attachment-based problems as well as emotional dysfunction in the development of borderline symptoms (Crowell, Beauchaine, & Linehan, 2009; Linehan, 1993). A wide range of research has demonstrated the significant role of traumatic childhood experiences such as physical and sexual abuse in the etiology of BPD (Ball & Links, 2009; Battle et al., 2004; Bornovalova, Gratz, Delany-Brumsey, Paulson, & Lejuez, 2006; Carlson, Egeland, & Sroufe, 2009; Lobbstael, Arntz, & Bernstein, 2010; Rogosch & Cicchetti, 2005; Trull, 2001; Zanarini, 2000). The role of emotional maltreatment for borderline symptoms, nevertheless, has rarely been looked at (Cheavens et al., 2005; Crowell et al., 2009; Lobbstael et al., 2010; Widom, Czaja, & Paris, 2009; Zanarini et al., 1997). Two studies analyzed different subtypes of childhood maltreatment and identified emotional abuse as the only reliable predictor of borderline symptoms (Carr & Francis, 2009; Gratz, Tull, Baruch, Bornovalova, & Lejuez, 2008).

Interestingly, in BPD the role of peer rejection has only rarely been examined. Werner and Crick (1999) pointed at the relevance of social exclusion for borderline features. Several studies showed that social exclusion, but not physical aggression by peers, is associated with borderline features in middle childhood and adolescence (Crick, Murray-Close, & Woods, 2005; Ostrov & Houston, 2008). In contrast, a recent prospective study demonstrated that physical and emotional maltreatment by peers predicts borderline features in childhood (Wolke, Schreier, Zanarini, & Winsper, 2012).

Considering these findings, there is evidence that different forms of childhood maltreatment from parents and peers constitute risk factors for borderline symptoms. Until now, research focused mainly on the impact of physical and sexual maltreatment and violence on borderline features. The role of rejection – defined as a verbal or non-verbal declaration of an individual or group that the interaction or company of the person is not desired or wanted (Leary, 2005) – has rarely been investigated. The current study aims to clarify the relationship between rejection sensitivity, borderline characteristics and experiences of rejection. Additionally, the role of social support in the relationship of childhood rejection and borderline characteristics is examined.

2. Methods

2.1. Sample

All data were collected via an online survey using the platform Unipark.¹ At the first time of assessment (t1), all current students of

Freie Universität Berlin were asked to participate via an e-mail sent by the university data processing center. The e-mail contained the link to the survey, general information regarding the topic of the study and the duration of the survey as well as contact details in case of questions. A reminder was sent 2 weeks later. $N = 2400$ students completed the survey, 548 students agreed to be contacted again for a second survey. Two years later (t2), 193 of those students completed the second survey. Again, a reminder was sent after 2 weeks. The university management approved the procedure.

Analyses are based on the data of students that completed the survey at both times of measurement ($n = 193$). At time 1, participants had a mean age of 25 years ($SD = 5.4$; age range 19–49), 153 participants were female (79.3%).

2.2. Measures

2.2.1. Rejection sensitivity

Rejection Sensitivity was assessed using the German version of the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996; German: *Fragebogen zur Zurückweisungsempfindlichkeit*, Staebler et al., 2011). The RSQ consists of 20 hypothetical situations in which rejection by others is possible (e.g., 'You ask a friend for a favor'). Each situation is asked to be rated on two dimensions: (a) the degree of anxiety (e.g., 'How concerned or anxious would you be over whether or not your friend would want to help you out?') and (b) expectations of acceptance or rejection (e.g., 'I would expect that he/she would willingly agree to help me out.'). Anxiety and expectation are both rated on a 6 – point Likert scale (anxiety: 1 = *not at all anxious*, 6 = *very anxious*; expectation: 1 = *very unlikely*, 6 = *very likely*). The rejection sensitivity score is calculated by multiplying the score for the degree of anxiety by the reverse score for expectations of rejection. Internal consistency ($\alpha = 0.94$) and test–retest reliability ($r_{tt} = 0.90$) of this scale proved excellent (Staebler et al., 2011). In the current sample internal consistency was $\alpha = 0.89$, test–retest reliability was $r_{tt} = 0.70$.

2.2.2. Social support

The Questionnaire of Social Support (German: *Fragebogen zur sozialen Unterstützung*, F-SozU; Fydrich, Sommer, Tydecks, & Brähler, 2009) assesses perceived social support via 14 items rated on a 5 – point Likert scale (1 = *disagree* 5 = *strongly agree*). Psychometric properties are very good with $\alpha = 0.94$ and test–retest reliability ($r_{tt} = 0.96$) (Fydrich et al., 2009). In the current sample internal consistency was $\alpha = 0.89$ and test–retest reliability was $r_{tt} = 0.70$.

2.2.3. Borderline characteristics

The Questionnaire of Thoughts and Feelings (German: *Fragebogen zu Gedanken und Gefühlen*, FGG; Renneberg, Schmidt-Rathjens, Hippin, Backenstrass, & Fydrich, 2005) is a screening instrument assessing feelings, strategic cognitions, and assumptions characteristic of BPD. It has been shown to have excellent screening properties to detect borderline symptoms. The short version (Renneberg & Seehausen, 2010) consists of 14 statements rated on a 5 – point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) and evaluated via the mean score. The FGG has good convergent and discriminant validity (Renneberg & Seehausen, 2010). Internal consistency is excellent ($\alpha = .96$), and was satisfying in the current sample ($\alpha = .89$).

2.2.4. Parental rejection

To assess rejection by parents, we used the Parental-Representation-Screening-Questionnaire (German: *Elternbildfragebogen*, EBF; Titze et al., 2010). The EBF records the subjective representation of parental behavior in children and adolescents. We used the two scales "rejection" and "punishment" of the adult version. The

¹ <http://www.unipark.com/1-1-online-survey-software-for-universities-and-students.htm>.

rejection-scale assesses open rejection (“my mother/father told me I am useless”) and covert rejection (e.g., “my mother/father didn’t care about me”) with 4 items, whereas the punishment scale focuses on physical violence (e.g. “my mother/father beat me”) and consists of 3 items. All items are rated once for maternal and once for paternal behavior. The rating is implemented on a 5 – point Likert scale (0 = never, 4 = always) and evaluated via the mean score. Internal consistency of the scale is satisfactory ($\alpha = .82$ to $.90$) (Titze et al., 2010), replicated in the current sample with $\alpha = .84$ to $.89$.

2.2.5. Rejection by peers

The Questionnaire of Rejection by Peers (German: *Fragebogen zur Peerzurückweisung*, SMOB; Kasper, 2001) was developed to assess experienced rejection by peers in childhood and adolescence. The questionnaire was adapted for an adult sample. Items were phrased in retrospect (e.g., “others ignored me”; “others hindered me in speaking in public”). Additionally, statements referring to rejection by teachers were dropped. The remaining 39 items are rated on a dichotomous yes/no-scale. We calculated the sum-score for the rejection experiences (Range 0–39). Reliability analyses have yet not been reported. In our sample, the internal consistency of the 39 items was good with $\alpha = .90$.

At the initial assessment (t1), we assessed age, gender, rejection sensitivity (RSQ), peer rejection (SMOB), parental rejection (EBF), and social support (F-SozU). Two years later (t2), participants provided information regarding rejection sensitivity (RSQ), social support (F-SozU), and borderline features (FGG).

2.3. Analysis

All analyses were conducted using SPSS statistics 22.

The maternal and paternal scales for “rejection” as well as for “punishment” (EBF) were highly correlated and therefore aggregated to form the scales “parental rejection” and “parental punishment”. Scales were calculated via the mean score of all maternal and paternal rejection respectively punishment items.

Simple and multiple mediation were tested using mediator models including bootstrapping ($B = 1000$) according to Preacher and Hayes (2008). This procedure allows for the assessment of indirect effects and the contrasting of two mediators within a single model.

3. Results

3.1. Descriptive results

Means and standard deviations are shown in Table 1. Borderline characteristics were comparable to non-clinical normative samples ($M_{FGG} = 1.79$, $SD = .30$; Renneberg & Seehausen, 2010; $t(192) = .89$, $p = .37$). The current sample reported higher levels of social support than the normative sample ($M_{F-SozU} = 4.02$, $SD = .67$; Fydrich et al., 2009; $t(192) = 4.36$, $p < .05$).

Mean scores of parental rejection and parental punishment were standardized to T -values ($T_{rejection} = 61.4$; $T_{punishment} = 57.4$) and compared to the normative samples. All values lay within the recommended range ($.35 < T < .65$; K. Titze, personal communication, March 25, 2009). Mean sum-score of experiences of rejection was $M = 13.37$ ($SD = 7.96$).

Simple correlation analyses revealed parental rejection to be positively associated with rejection sensitivity ($r = .27$, $p < .001$) and borderline characteristics ($r = .19$, $p < .05$), whereas parental punishment was neither significantly related to rejection sensitivity ($r = .11$, $p = .13$) nor to borderline characteristics ($r = .09$, $p = .20$) and was thus excluded from further analyses. Peer rejection was positively correlated with rejection sensitivity ($r = .36$, $p < .001$) and borderline characteristics ($r = .34$, $p < .001$).

3.2. Rejection sensitivity as a mediator of the relationship between experienced rejection and borderline characteristics

In the first mediation analysis, parental rejection was entered as independent variable, borderline characteristics as dependent variable and rejection sensitivity as mediator. Table 2 shows the relationship between experienced parental rejection and borderline characteristics to be completely mediated by rejection sensitivity ($B_{indirect} = .13$, $p < .001$, $CI = .06$ to $.23$). The model explained 21% of variance in borderline characteristics.

Second, a mediation analysis with rejection by peers as independent variable and borderline characteristics as dependent variable was conducted. The relationship between rejection by peers and borderline characteristics was only partially mediated by rejection sensitivity ($B_{indirect} = .011$, $p < .01$, $CI = .006$ to $.02$; $R^2 = .25$) (see Table 2).

3.3. Social support as second mediator in the relationship between experienced rejection and borderline characteristics

Subsequently, social support as a second mediator was added into the mediation models above. As shown in Fig. 1, social support was a significant mediator of the effect of parental rejection on borderline characteristics. The addition of social support to the model explained 4% more of the variance in borderline characteristics, the change in variance was significant ($F(1, 189) = 11.6$, $p < .001$). The relationship between parental rejection in childhood and borderline characteristics in adult life was fully mediated by rejection sensitivity ($B_{indirect} = .10$, $p < .01$, $CI = .04$ to $.18$) and social support ($B_{indirect} = .08$; $p < .01$, $CI = .04$ to $.17$).

The effect of peer rejection on borderline characteristics remained partially mediated when adding social support to the model (see Fig. 2). The increase in the amount of explained variance was 5% ($F(1, 189) = 13.24$, $p < .001$). Rejection sensitivity ($B_{indirect} = .008$, $p < .01$, $CI = .003$ to $.02$) and social support ($B_{indirect} = .006$, $p < .01$, $CI = .002$ to $.01$) were both significant mediators.

Table 1
Descriptive statistics.

Measure	All participants				Male participants				Female participants			
	Time 1		Time 2		Time 1		Time 2		Time 1		Time 2	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
RSQ total	10.02 [#]	4.32	9.13 [#]	3.66	10.18	4.46	9.86	4.56	9.98	4.30	8.94	3.38
F-SozU	4.14	.61	4.20	.57	3.94*	.72	3.98**	.68	4.19 [†]	.58	4.26**	.53
FGG	–	–	1.74	.65	–	–	1.93**	.76	–	–	1.70**	.61
EBF	.41	.60	–	–	.38	.48	–	–	.42	.62	–	–
SMOB	13.37	7.96	–	–	14.85	8.66	–	–	12.89	7.76	–	–

Note. *Gender difference $p < .05$; **gender difference $p < .01$; [#]t₁ – t₂ comparison $p < .01$.

Table 2
Rejection sensitivity as a mediator of the relationship between parental/peer rejection and borderline characteristics.

IV	DV		Coeff.	SE	p	95% CI	
						LL	UL
Parental rejection (t1)	Borderline characteristics ^a (t2)	Total effect	.21	.08	.008		
		Direct effect	.08	.07	.27		
		Indirect effect through RS (t1)	.13	.04	.001	.06	.23
Peer rejection (t1)	Borderline characteristics ^b (t2)	Total effect	.03	.005	.000		
		Direct effect	.017	.005	.003		
		Indirect effect through RS (t1)	.011	.003	.001	.006	.02

Note. IV = independent variable; DV = dependent variable; CI = confidence interval; LL = lower level; UL = upper level.

^a $R^2 = .21, F(2, 190) = 26.8, p < .001.$

^b $R^2 = .25, F(2, 190) = 31.7, p < .001.$

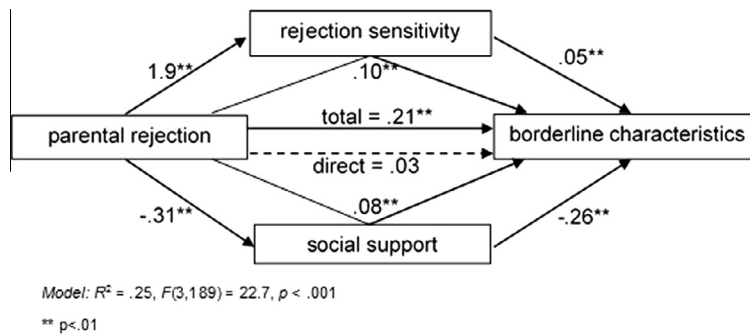


Fig. 1. Rejection sensitivity and social support as mediators of the relationship between parental rejection and borderline characteristics.

4. Discussion

For the first time, the relationship between experiences of parental and peer rejection, rejection sensitivity, social support and borderline characteristics was investigated. In this study, with retrospectively recalled parental and peer rejection, rejection sensitivity was a mediator between experienced rejection and borderline characteristics. The significant influence of parental rejection on borderline characteristics was fully mediated by rejection sensitivity. In other words, parental rejection was only associated to borderline characteristics in individuals high in rejection sensitivity. In contrary, peer rejection maintained a significant association with borderline characteristics.

When social support was added to the mediator models, a significant amount of variance in borderline characteristics was additionally explained. Peer as well as parental rejection were associated with lower levels of perceived social support, which in turn were related to a higher levels of borderline characteristics. These results are in line with previous studies that emphasized the influence of positive relationships as a resilience factor in

maltreated children (Collishaw et al., 2007; Salazar, Keller, & Courtney, 2011; Seeds, Harkness, & Quilty, 2010).

The findings of the present study clarify the previously confounded associations between the different variables, and provide initial insight into a new potential model relevant for the etiology of BPD symptoms. In this model, experiences of interpersonal rejection lead to variables of vulnerability as rejection sensitivity, which then constitute a risk factor for borderline symptomatology. It can be hypothesized that social support serves as a protective factor in this model, i.e. social support diminishes the risk of developing borderline symptoms.

A recent study (Bornovalova et al., 2013) analyzed the effect of childhood maltreatment on borderline features and stated that there may be no direct link, but reported common genetic influences. Our findings suggest that parental rejection is only linked to borderline characteristics in individuals high in rejection sensitivity. Linehan (1993) emphasized the relevance of emotional dysregulation in the influence of invalidating childhood experiences and borderline symptomatology. Several studies added empirical evidence to this assumption by demonstrating

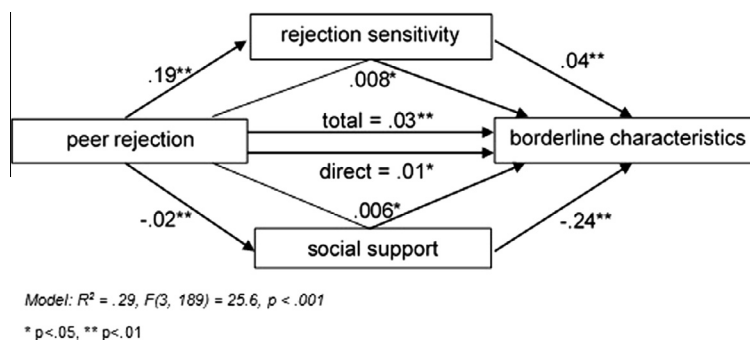


Fig. 2. Rejection sensitivity and social support as mediators of the relationship between peer rejection and borderline characteristics.

that emotion dysregulation mediated the relationship between childhood maltreatment and BPD symptomatology (e.g., [Carvalho Fernando et al., 2013](#); [Gratz et al., 2008](#)). A recent study conducted by [Martín-Blanco et al. \(2014\)](#) emphasized the impact of temperamental traits (neuroticism-anxiety) on the relationship of emotional maltreatment and borderline symptomatology.

The present study incrementally contributes to these previous findings by emphasizing the role of cognitive-affective information processing factors (like rejection sensitivity) in the relationship of rejection experiences and borderline characteristics. The models of the present study accounted to up to 28% of variance in borderline characteristics. Adding emotional dysregulation and temperamental traits in the model might very likely increase the amount of variance explanation.

Only peer rejection was directly linked to and independently related to borderline characteristics. Whereas experiences of parental rejection go back to early childhood and therefore might initially shape sensitivity for further rejection, rejection by peers occurs later in life and may already be a response to dysfunctional interaction patterns. Peer rejection, therefore, might maintain an independent association with borderline traits. Nevertheless, experiences of rejection were assessed retrospectively and it is conceivable that rejection sensitivity influences retrospective perceptions of rejection experiences and results have to be interpreted preliminarily.

5. Limitations and conclusion

The current study has several limitations. First of all, data were collected in a non-clinical student, predominantly female, sample. Therefore, generalization of the findings is limited. As well, a baseline assessment of borderline characteristics was missing. Further studies should consider these limitations and focus on a replication of the findings in prospective longitudinal designs with clinical samples. Additional relevant factors should be integrated, e.g., the assessment of current stressors.

It should be noted that experiences of parental and peer rejection did only explain a part of the variance in rejection sensitivity. Further research should focus on identifying additional factors that lead to high levels of rejection sensitivity, as rejection sensitivity seems to play an important role in psychopathological symptoms. There may be a genetic predisposition for rejection sensitivity as is the case with other personality features ([Bouchard, Lykken, McGue, Segal, & Tellegen, 1990](#); [Sugden et al., 2010](#)). Potential cognitive moderators (e.g., the importance of relationships; [Wang, McDonald, Rubin, & Laursen, 2012](#)) might as well influence the impact of experiences of rejection on rejection sensitivity.

Research on these factors could contribute to a more comprehensive model to understand the etiology of rejection sensitivity and its role in the etiology of borderline symptomatology.

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