Fachbereich Erziehungswissenschaft und Psychologie der Freien Universität Berlin

Rejection Sensitivity

Etiological aspects and psychopathological impact

Dissertation

zur Erlangung des akademischen Grades

Doktor der Philosophie

(Dr. phil.)

vorgelegt von

Dipl.-Psych.

Charlotte Rosenbach

Berlin, 2013

Disputation am 10.09.2013

Erstgutachterin: Prof. Dr. Babette Renneberg

Zweitgutachter: Prof. Dr. Herbert Scheithauer

Chapter 1

Introduction

Rejection Sensitivity 3

The Construct of Rejection Sensitivity 3

Measuring rejection sensitivity – the Rejection Sensitivity Questionnaire 6

Etiology of rejection sensitivity 8

Correlates of rejection sensitivity 10

Borderline Personality Disorder 12

Depression 14

Research objectives 16

Chapter 2

Study 1: Rejected, excluded, ignored: The perception of social rejection and mental disorders – a review *(Abgelehnt, ausgeschlossen, ignoriert: Die Wahrnehmung sozialer Zurückweisung und psychische Störungen - eine Übersicht)*

Abstract (english) 20

Einleitung 22

Methodisches Vorgehen 30

Ergebnisse 37

Zusammenfassung 45

Diskussion 47

Chapter 3

Study 2: Rejection sensitivity as a mediator of the relationship between experienced rejection and borderline and depressive symptoms

Abstract 54

Introduction 55

Method 64

Results 69

Discussion 77

Chapter 4

Study 3: Remembering Rejection: Specificity and Linguistic Styles of Rejection-Related Autobiographical Memories in Borderline Personality Disorder and Depression

Abstract 82
Introduction 83
Method 90
Results 95
Discussion 103

Chapter 5

General discussion

Main results 109
Study 1 109
Study 2 111
Study 3 114
Additional research 116
Social anxiety and rejection sensitivity 116
Rejection sensitivity in children and adolescents 117
Limitations and future research 119
Clinical implications 122

Chapter 6

Summary 125
References 129
Appendix 143
List of figures 148
List of tables 149
Zusammenfassung 150
Selbstständigkeitserklärung 154

Introduction

Chapter 1

I take rejection as someone blowing a bugle in my ear to wake me up and get going, rather than retreat (Sylvester Stallone).

Sometimes I feel my whole life has been one big rejection (Marilyn Monroe).

Experiences of rejection by others belong to everyone's life. It might be the missing invitation to a friend's party, the refusal of a job opportunity, the end of a romantic relationship, or the reluctance of a stranger to talk to you – it all leads primarily to negative feelings like sadness or anger. How individuals interpret these experiences and further cope with them depends on diverse intra- and interpersonal factors. Both Sylvester Stallone and Marilyn Monroe (quotes above) referred to experiences of rejection. While Mr. Stallone takes rejection as a motivation to engage even more in his career, Ms. Monroe looks at rejection as permanent and life-impairing. One's perspective on experiencing rejection and the interpretation of the experience of rejection vary to a great degree. One factor that helps to understand such differences in the perception of and reaction to rejection is the construct of *rejection sensitivity* (Feldman & Downey, 1994). Individuals high in rejection sensitivity tend to be extremely aware of social rejection cues and often react inappropriately in response to perceived rejection. They

report a long history of repeated experiences of rejection and are vulnerable to psychological distress. A wide range of publications offer first attempts to identify etiological as well as social, behavioral, and neurocognitive correlates of rejection sensitivity. This thesis focuses on rejection sensitivity in two of the most frequent disorders it is associated with: Borderline Personality Disorder (BPD) and Major Depression (MDD). First, an overview over existing empirical research on mental distress / disorders associated with rejection sensitivity is given (study 1). Second, a first step to disentangle the relationship of experienced rejection, rejection sensitivity, and psychological distress (borderline and depressive symptoms) is aspired (study 2). In Study 3, autobiographical memories of rejection in BPD and MDD are analyzed in respect to specificity and linguistic patterns.

The current thesis aims to enrich our understanding of the interplay of experienced rejection and rejection sensitivity in their significance for BPD and depression. Results of the presented studies clarify some previous opaque interrelations and offer important cues for further research.

The first chapter of this thesis provides a broad theoretical overview of the construct of rejection sensitivity, thereby covering some aspects regarding the etiology, correlates, and the measurement of rejection sensitivity. In the following chapters, the three studies conducted within this dissertation are presented as they were published respectively submitted to peer reviewed journals. In chapter 5, a summary of the findings is given, additional research is presented, and implications for future research are discussed.

Rejection Sensitivity

The Construct of Rejection Sensitivity

Human beings' identity is crucially influenced by the feedback of others. The relevance of interpersonal contact was already stated by Freud (1901), who focused on the satisfaction of sexual needs as main motive of seeking interpersonal contact. Maslow (1968) specified the need of "love and belongingness" as hierarchically arranged behind basic needs like food and safety. Bowlby's Theory of Attachment (1969) regards adult social behavior as motivated by early experiences of (maternal) intimate behavior. As a result and depending on early interpersonal experiences, humans strive to build similar structures in intimate relationships.

Baumeister and Leary (1995) stated that most of humans' actions are motivated by the universally inherent need to belong, defined as "a need to form and maintain at least a minimum quantity of interpersonal relationships" (p. 499). K.D. Williams (1997, 2001) ascribed the power of the need to belong to the fact that it affects four primary human needs: belonging, self-esteem, control, and meaningful existence. Smart Richman and Leary (2009) focused on the relational value, that is, "the degree to which (a person) believe(s) that others value to having relationships with them" (p. 366).

All theories share one common assumption: when the need to belong (or the relational value) remains enduringly unsatisfied, a person suffers from different negative consequences. Whereas support and approval from others and the integration into a functioning social network promote physical and psychological well-being, the experience of rejection and disinterest can lead to psychological distress and physical impairment.

Feldman and Downey (1994) tied in with Bowlby's Attachment Theory (1969) and combined it with Michel's Cognitive Social Learning Perspective (1973). They stated that early experiences of rejection shape how individuals encode, expect, and value new social situations, and how they react towards them. According to the authors, individuals with a prolonged history of rejection easily perceive social rejection cues and expect to be repeatedly rejected. They either avoid situations in which rejection is potentially possible or intensively seek assurance that they will not be rejected (again). To specify the disposition to anxiously expect, readily perceive and overreact to rejection, they stated the term 'rejection sensitivity'.

In their model of rejection sensitivity (see Figure 1.1), the authors attempt to combine causes and consequences of rejection sensitivity into a self-maintaining process of cognitive, emotional and behavioral components. According to that, the disposition to rather expect rejection than inclusion in social interactions is the result of early and prolonged experiences of rejection. Downey, Khouri and Feldman (1997) postulated that parental maltreatment and the rejection of basic needs lead to the persisting assumption that rejection will follow over and over. When a trigger stimulus appears (e.g. two people that talked to each other fall silent when one approaches), the individual perceives being rejected - even in ambiguous situations. The perception of rejection activates cognitive (e.g. self-blaming) and affective reactions (e.g. feeling sad or angry), which in turn lead to withdrawal, aggression, or submissiveness. These (inappropriate) reactions to (perceived) rejection can in turn entail actual rejection by others in terms of a self-fulfilling prophecy.

Downey, Mougios, Ayduk, London and Shoda (2004) added to the model the specification of rejection sensitivity as defensively motivated system. A defensive

motivational system (DMS) becomes activated when negatively classified stimuli are faced. It then prepares the individual for (automatically conducted) behaviors with the goal to protect the self (fight-or-flight responses). With regard to rejection sensitivity, the DMS "helps" the high rejection sensitive individual to quickly detect rejection in social situations and to react towards it.

Even though the model of rejection sensitivity encompasses etiology, nature, and consequences of rejection sensitivity, it has become consensus that the *anxious expectation of rejection* alone is termed rejection sensitivity. The divergence between the broadly used definition presented above ("*anxiously expect, readily perceive and overreact to rejection*") and the empirical operationalization described in the following section should be retained in memory.

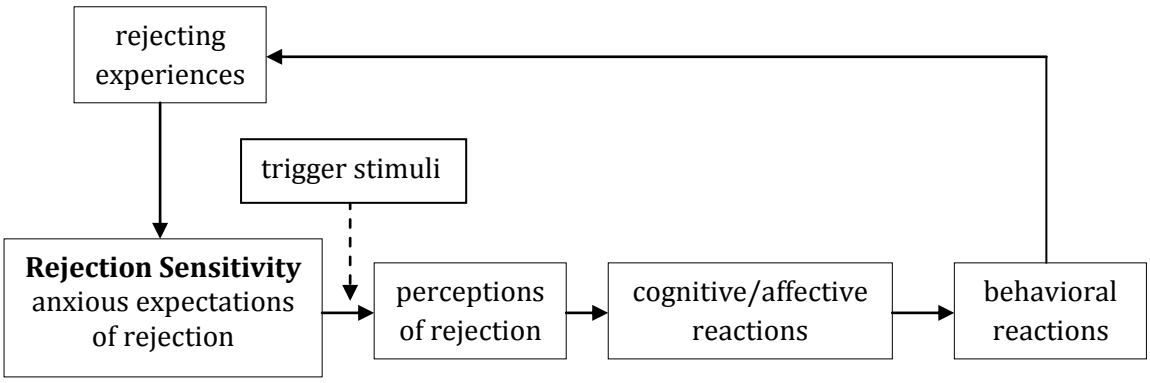

Figure 1.1: The Model of Rejection Sensitivity (Levy, Ayduk, Downey, & Leary, 2001; p. 252)

Whereas the given definition of rejection sensitivity describes precisely what is meant with the construct, there is a great interchangeability in the usage of terms aiming to focus on concerns about negative social evaluation, e.g. social anxiety, shyness, and interpersonal sensitivity. Marin and Miller (2013) just published an integrative review summarizing all findings on 'interpersonal sensitivity' in medical illnesses. The authors

define interpersonal sensitivity as a multidimensional construct with several motivational, cognitive, affective, and behavioral components. The components include 'social anxiety and avoidance', 'submissiveness, 'introversion', 'rejection sensitivity' and several others. Rejection sensitivity is classified as a cognitive/affective component and can be contextually differentiated from the other components. To my understanding, this review succeeds in enlightening the conceptual differences between these similar but not equal constructs.

Measuring rejection sensitivity – the Rejection Sensitivity Questionnaire

The most commonly used instrument to assess rejection sensitivity as defined above is the Rejection Sensitivity Questionnaire (RSQ) which was initially developed by Feldman and Downey (1994) to investigate the link between childhood maltreatment and attachment behavior. The questionnaire consists of 18 hypothetical social situations with unknown outcome. The situations mainly describe interpersonal interactions, where the person asks someone to do something for him/her (e.g. "You ask a friend to do you a big favor"). Each item is rated in regard to the concern or anxiety in the situation and the perceived likelihood that the other person would act in their favor. The two scales are multiplied for each item and then interpreted over the overall mean score (for details see study 2). Therefore, rejection sensitivity assessed via the RSQ considers both the anxiety and the perceived likelihood of rejection in social interactions.

The original version (Feldman & Downey, 1994) was developed for undergraduate students and consists of 18 items mainly fitting to their daily social life (e.g. "you ask your boyfriend / girlfriend to come home to meet your parents"). A variety of tailored adaptions for adults, children as well as questionnaires with a race-based or age-based

rejection focus have subsequently been developed (http://socialrelations.psych.columbia.edu) and applied in different settings. The RSQ has widely been translated into different languages. In the first study assessing rejection sensitivity in German samples (Staebler, Hellbing, Rosenbach, & Renneberg, 2011) an adapted 20-item German version of the questionnaire achieved good psychometric properties.

The RSQ for children (CRSQ) has originally been presented with a slightly different focus. Downey, Lebolt, Rincón and Freitas (1998) emphasized that there is a difference between anxious and angry expectations of rejection in children. Therefore, the 12 items of the CRSQ are rated once in regard to the anxiety ("How nervous would you be…") and additionally in regard to the anger ("How mad would you be…") in the particular situation. In line with the division of reactions to threat in fight- and flight-reactions, it seems plausible that the perception of rejection leads to different emotional reactions. However, in a study focusing on the translation and validation of the CRSQ in German language, we found no statistical evidence for the existence of two different expectation scales (Rosenbach, Nißlein, Schultze-Krumbholz, Bull, Scheithauer & Renneberg, in preparation). Therefore, and by analogy with the adult version, we developed a German version of the CRSQ with "anxious expectation" only.

In the publication initially presenting the CRSQ (Downey et al., 1998), the authors furthermore presented a second part of the questionnaire, with an attempt to assess imagined reactions to ambiguously intentional rejection. Eleven items described possible emotional, behavioral and cognitive reactions to a previously named rejection experience (e.g. "I would feel like hitting someone or something"). Even though the purpose of assessing reactions to rejection in addition to the expectancy of rejection can

be regarded as useful step in the development of a model-congruent questionnaire (as the model includes reactions as well), the second part of the American CRSQ lacks empirical validation and was not followed up in subsequent publications.

Yet, for the German version of the CRSQ, we developed a new reaction scale with three subscales ("anger and aggression", "disappointment", and "self-attribution") showing good psychometric properties (Rosenbach et al., in preparation). An application of both parts of the CRSQ in clinical and non-clinical settings is in progress.

It should be mentioned at this point that the assessment of rejection sensitivity – similar to the intermixed usage of terms describing concerns about negative social evaluation - is not limited to the RSQ. As outlined in study 1, authors utilize the term 'rejection sensitivity' as well when applying the Interpersonal Sensitivity Measure (IPSM; Boyce & Parker, 1989) or the Interpersonal Sensitivity subscale of the Symptom Checklist (SCL-90; Derogatis, Rickels, & Rock, 1976). Both (sub)scales assess similar but not identical constructs as rejection sensitivity. Therefore, the empirical methodology should always be taken into account when referring to results on rejection sensitivity.

Etiology of rejection sensitivity

Early and prolonged experiences of rejection are theoretically assumed to be relevant in the etiology of rejection sensitivity (Levy et al., 2001). In a retrospective study with undergraduate students, Downey and Feldman (1996) identified rejection sensitivity as a full mediator of the relationship between familiar aggression and insecure attachment. A strong link between familiar aggression and rejection sensitivity was demonstrated. Brendgen, Vitaro, Tremblay and Wanner (2002) confirmed the relevance of parental aggression in the etiology of rejection sensitivity and additionally identified peer

rejection as significant predictor. Associations of rejection sensitivity with peer rejection and teasing by classmates have subsequently been demonstrated (Butler, Doherty, & Potter, 2007; London, Downey, Bonica, & Paltin, 2007). A recent study conducted by Wang, McDonald, Rubin and Laursen (2012) specified that peer rejection leads to higher levels of rejection sensitivity in adolescents who hold high regard for social relationships (relational value). Until now, the study by Brendgen et al. (2002) is the only one looking at both parental and peer rejection in association with rejection sensitivity.

A main divergence can be seen in the theoretical assumption of the impact of "experiences of rejection" for rejection sensitivity postulated by Downey and Feldman's theory and the empirical implementation by mainly assessing parental or peer aggression. Interpersonal rejection can very simply be understood as the act of rejecting someone from interpersonal interactions. Whereas aggressive and violent behaviors indeed threaten a relationship, it is less a lack of interaction but more an extreme form of acting **with** someone. In their initial publication on rejection sensitivity, Feldman and Downey (1994) put emphasis on the "harmful effects of rejection embodied in the hostility, denigration, and insensitivity that accompany physically abusive acts" (p. 231). It means in effect that the authors attempted to indirectly assess rejection by measuring aggression. Most research from there on rather focused on physical violence in the etiology of rejection sensitivity, whereas the impact of emotional rejection on rejection sensitivity has been left unattended. In my understanding, the subtle and hidden power of rejection in social exclusion (ostracism) might be a much stronger factor in the etiology of the constant expectation of further exclusion, than physical aggression. Therefore, I attempt to focus on emotional rejection in association with rejection sensitivity. Study 2 provides insight into the relationship of experienced rejection and

rejection sensitivity. In the discussion section some additional data on the influence of parenting behavior on rejection sensitivity are presented.

Experiences of rejection in childhood and youth are considered the main risk factor for being highly sensitive to rejection in adult life. However, rejections by parents and peers might not be the only factors contributing to the trait of rejection sensitivity. A multidimensional etiologic model of rejection sensitivity should be assumed where experiences of rejection as well as other factors (e.g. genetic predisposition, chronic stressors) are integrated. Additionally, the protective power of positive parenting is to be considered.

Correlates of rejection sensitivity

Looking at rejection sensitivity as a cognitive-affective processing disposition (Downey & Feldman, 1996), it is reasonable to assume that it has a major impact on intimate relationships. A large range of research on social processes has identified rejection sensitivity as crucial in the formation of interpersonal relationships. High levels of rejection sensitivity have been associated with greater insecurity and hostility in romantic relationships (Purdie & Downey, 2000), a higher risk for sexual victimization (Young & Furman, 2008), declines in academic functioning (Downey et al., 1998), social withdrawal (Holliday, 2008), deficits in emotion regulation (Silvers et al., 2012), and hostility and aggression (Ayduk, Gyurak, & Luerssen, 2008; Ayduk, May, Downey, & Higgins, 2003; Cassidy & Stevenson, 2005; Jacobs & Harper, 2013; Waisbrod, Rosenbaum, & Ronen, 2012). Additionally, rejection sensitivity is associated with higher levels of neuroticism (Brookings, Zembar & Hochstetler, 2003) and problematic internet use (Davis, 2004).

Following the first results on rejection sensitivity and its impact on interpersonal relationships, research started to focus on psychological distress and psychopathology in high rejection sensitive individuals. In several, mainly non-clinical (student) samples, different aspects of mental symptomatology were investigated. The main results on this topic are presented in study 1.

In addition to the empirical data presented in study 1, it is worth mentioning a few other related issues. One part of research on rejection sensitivity in affective disorders focused on the interface of atypical depression, bipolar disorder and rejection sensitivity. Parker et al. (2002) stated that rejection sensitivity - as an enduring personality style - is highly present in atypical depression and called for a change in the definition of atypical depression in terms of a primacy of the personality style of rejection sensitivity, relying on research showing rejection sensitivity as most common symptom in atypical depression (e.g. Derecho, Wetzler, McGinn, Sanderson, & Asnis, 1996). Joyce et al. (2004) found that atypically depressed individuals high in rejection sensitivity showed a different antidepressant response than individuals low in rejection sensitivity. A recent study conducted by Ng and Johnson (2013) indicated that individuals with bipolar disorders are significantly higher in rejection sensitivity than a healthy control group. Thereby, patients with actual depressed mood reported higher levels of rejection sensitivity than patients in an acute manic episode.

Not only social and clinical psychology research but also research on neuroendocrinology and neurocognition has attempted to identify correlates of rejection sensitivity. Tops et al. (2008) stated that rejection sensitivity is accompanied with frequent high cortisol responses, which in return lead to a long-term cortisol inhibition. An fMRi study conducted by Kross, Egner, Ochsner, Hirsch and Downey

(2007) found that low rejection sensitivity goes along with more activity in left inferior and right dorsal frontal regions, areas associated with distress regulation, whereas areas responsible for emotional processing and cognitive control where not affected. Burklund, Eisenberger and Lieberman (2007) identified a greater dorsal anterior cingulate cortex (dACC) activity in response to disapproving facial expressions in individuals high in rejection sensitivity, a possible indicator for the experience of personal threat to the self. A current review conducted by Premkumar (2012) pointed as well at the dACC as main relevant region for experiencing rejection. The ACC is relevant for aspects as conflict detection, reward processing, and the experience of pain, and might therefore be activated while experiencing rejection.

These studies provide evidence about the different reactivity to social threat in individuals high in rejection sensitivity.

In summary, rejection sensitivity appears to be associated with different behavioral, emotional and neural aspects and might be one essential factor in the explanation of interpersonal behavior and the development and maintenance of mental disorders.

Borderline Personality Disorder

Up to 6% of individuals in Western countries are suffering from BPD (Lenzenweger, Lane, Loranger, & Kessler, 2007), and in clinical populations, BPD is the most prevalent personality disorder (e.g. Korzekwa, Dell, Links, Thabane, & Webb, 2008). Bohus and Schmahl (2007) estimated that patients with BPD account for 30% of the total costs for psychiatric inpatient care in Germany.

BPD is characterized by a pervasive pattern of instability in interpersonal relationships, self-image, and affects, and marked impulsivity (APA, 2000). One of the nine diagnostic

criteria for BPD is the fear of abandonment and of being alone (APA, 2000). Therefore, rejection - or the idea of being rejected – is a main concern for individuals with BPD. Patients with BPD frequently seek reassurance that they are not abandoned; they engage in extreme behavior to avoid being left alone, and suffer great pain when experiencing rejection.

BPD has been associated with a high sensitivity to rejection related cues in several studies. Results of an experimental study pointed at a bias towards perceiving angry faces in BPD, whereas this bias was not apparent for the perception of fearful faces (Domes et al., 2008). Schmahl et al. (2004) assessed psychophysiological reactivity in response to abandonment scripts and found evidence for a higher arousal for abandonment cues in BPD compared to individuals with Posttraumatic Stress Disorder and healthy controls. In a field study using hand-held computers, Stiglmayr et al. (2005) demonstrated that experiences of rejection or being alone lead to extremely high levels of internal tension in BPD. A study conducted by Renneberg et al. (2012) investigated the perception of social participation in BPD. Participants were instructed to play a ball tossing game (Cyberball) inducing social inclusion and exclusion. Inter alia, results showed that patients with BPD felt more excluded compared to healthy subjects, independent of the actual inclusion or exclusion rate.

A recent study (Gutz, Renneberg, Röppke, & Niedeggen, in preparation) investigated electrophysiological correlates of the processing of social participation in BPD. The authors again used the Cyberball paradigm to experimentally induce rejection and focused on the elicitation of the P3, an event-related brain potential that is sensitive to stimulus relevance and probability. Results showed that in healthy controls the

elicitation of a P3 complex was restricted to the exclusion condition, whereas in BPD the component was also expressed in the inclusion condition.

These above results indicate a hypersensitivity of BPD patients for interpersonal rejection. Berenson and collegues (2011) and Staebler, Hellbing, et al. (2011) were the first to apply the RSQ in clinical BPD settings and confirmed high levels of rejection sensitivity in their samples (for details see study 1).

Whereas it is evident that BPD is associated with high levels of rejection sensitivity, it remains unclear how experiences of rejection contribute to rejection sensitivity and, in turn, to the development of borderline symptoms and what features are characteristic for experienced rejection in BPD. Both issues are approached in study 2 and 3.

Depression

With a life-time prevalence of up to 20% (Kessler et al., 2010) depression is one of the most common mental disorders. Most depressive disorders are chronically recurring and lead to remarkable limitation in the professional, social, and familiar context. In their paper on the social risk hypothesis of depressive mood, Allen and Badcock (2003) demonstrate that individuals with depressive disorders are often highly sensitive to social threats, seek supportive behavior by others and avoid potentially risky social behavior.

In a series of experiments, DeWall et al. (2011) demonstrated that acute rejection leads to an automatic emotion regulation process in healthy participants. That is, in consequence of experimentally induced rejection, healthy participants activated more positive emotions and retrieved more positive memories than non-rejected participants.

In contrast, in depressed individuals, a lack of emotion regulation was observed, which suggests a more pronounced negative impact of rejection in MDD.

To my knowledge, the examination of the perception and reaction to exclusion in individuals with MDD (e.g. assessed via the Cyberball paradigm) has not yet been systematically undertaken. There is evidence, though, that social exclusion elicits depressive symptoms (Nolan, Flynn, & Garber, 2003; K. D. Williams & Nida, 2011). Study 2 and 3 expand our knowledge regarding the relationship of experienced rejection, rejection sensitivity and depression.

Research objectives

The rejection sensitivity model presented above postulates that rejection sensitivity is the result of early and prolonged experiences of rejection. In the model it is stated as well, that rejection sensitivity leads to maladaptive behavior patterns and can therefore result in factual experiences of rejection. This dissertation focuses on a) the investigation of experiences of rejection in association with rejection sensitivity and b) the relationship of rejection sensitivity and psychopathology.

Empirical data on rejection sensitivity and subclinical syndromes / mental disorders indicate a close connection. As mentioned above, the utilization of the term *rejection sensitivity* is not limited to the RSQ and the current state of research is sometimes confounding when looking at results on rejection sensitivity and psychological dysfunction. First goal of this dissertation is to review the existing literature on rejection sensitivity (assessed via the RSQ) in psychological distress / disorders (study 1).

Research on experiences of rejection in the etiology of rejection sensitivity is still limited. Most of the studies focused on experiences of parental physical maltreatment or aggression by peers, whereas the impact of emotional maltreatment and social rejection (ostracism) has been neglected. Only Brendgen et al. (2002) have so far investigated parental and peer rejection at the same time in their significance for rejection sensitivity. Study 2 aims to investigate the impact of parental and peer (emotional) rejection for rejection sensitivity. In addition, the interplay of experiences of rejection, rejection sensitivity and depressive and borderline symptomatology is explored.

To further deepen our understanding of experienced rejection in individuals high in rejection sensitivity, study 3 focuses on autobiographical memories of rejection and their relation to rejection sensitivity in two clinical samples (BPD and MDD) and a

healthy control-group. Memories are analyzed regarding their specificity and their linguistic patterns.

Study 1: Rejected, excluded, ignored: The perception of social rejection and mental disorders – a review

(Abgelehnt, ausgeschlossen, ignoriert: Die Wahrnehmung sozialer Zurückweisung und psychische Störungen - eine Übersicht)

Chapter 2

A slightly adapted version of this chapter has been published as Rosenbach, C. & Renneberg, B. (2011). Abgelehnt, ausgeschlossen, ignoriert: Die Wahrnehmung sozialer Zurückweisung und psychische Störungen - eine Übersicht., *Verhaltenstherapie 21*, 87–98.

This study has been published in German language and is therefore printed in its original form.

Zusammenfassung

Dieser Artikel gibt eine Übersicht über die Bedeutung von Zurückweisungsempfindlichkeit für subklinische Syndrome und psychische Störungen. Mit Zurückweisungsempfindlichkeit wird die Disposition bezeichnet, in sozialen Situationen davon auszugehen, zurückgewiesen zu werden, potentielle soziale Zurückweisungen vorschnell wahrzunehmen und extrem darauf zu reagieren (Downey und Feldman, 1996).

Aus 1075 Artikeln wurden 21 extrahiert, die Zurückweisungsempfindlichkeit mit dem Rejection Sensitivity Questionnaire (RSQ) an klinischen und nicht-klinischen Stichproben untersuchen und Zusammenhänge zu psychopathologischen Symptomen und psychischen Störungen herstellen.

Die Ergebnisse der Forschungsbefunde geben erste Hinweise auf eine störungsübergreifende Bedeutung der Zurückweisungsempfindlichkeit sowohl für die Ätiologie als auch für die Aufrechterhaltung psychischer Probleme. Borderline-Symptome, depressive Symptomatik, soziale Ängste und aggressive Verhaltensweisen gehen mit hohen Werten der Zurückweisungsempfindlichkeit einher, während die Aufmerksamkeitsdefizit-/Hyperaktivitätsstörung (ADHS) und psychotische Symptome nicht mit Zurückweisungsempfindlichkeit korrelieren.

Empfehlungen für Forschung und Praxis werden diskutiert.

Abstract (english)

This article presents an overview of the impact exerted by Rejection Sensitivity on subclinical syndromes and mental disorders. Rejection Sensitivity is the tendency to

anxiously expect, readily perceive, and overreact to rejection (Downey und Feldman, 1996).

From 1075 articles, we selected those 21 studies that investigate rejection sensitivity using the Rejection Sensitivity Questionnaire (RSQ) in clinical and non-clinical samples, showing different aspects of the relationship between rejection sensitivity and various subclinical syndromes and mental disorders.

The results suggest a heterogeneous role of rejection sensitivity for the etiology as well as the maintenance of mental problems. Positive associations have been found between rejection sensitivity and borderline symptoms, depressive symptoms, social anxiety and aggressive behavior, whereas the attention deficit hyperactivity disorder (ADHD) and psychotic symptoms did not show any relationship with rejection sensitivity.

Recommendations for research and practice are discussed.

Einleitung

In seinem Handeln strebt der Mensch nach Anerkennung und Akzeptanz durch Andere. Ziel dabei ist es, eines der zentralen menschlichen Grundbedürfnisse zu befriedigen: die Zugehörigkeit zu einer Gruppe (Baumeister & Leary, 1995). Doch was geschieht, wenn einer Person diese Befriedigung dauerhaft verwehrt wird? Und was führt dazu, dass einige Menschen Zurückweisung durch Andere sehr schnell wahrnehmen, während andere Personen eher gelassen in zwischenmenschlichen Interaktionen agieren?

Zurückweisung kennt jeder Mensch aus seinem Leben: ein Schulkamerad möchte nicht neben einem sitzen, während des Studiums sucht sich ein Kommilitone eine andere Arbeitsgruppe, der Partner/die Partnerin verlässt einen, eine potentieller neuer Partner weist eine Einladung zurück. Redewendungen wie „ein gebrochenes Herz“, nachdem eine Person verlassen wurde, oder „ein Schlag ins Gesicht“ nach einer zurückgewiesenen Einladung geben Hinweise auf den Schmerz, den Zurückweisung durch andere Menschen mit sich bringen kann.

In ihrem Modell der Reaktionen auf interpersonelle Zurückweisungserfahrungen (engl.: multimotive model of reactions to interpersonal rejection experiences) unterteilen Smart Richman und Leary (2009) die Reaktionen und Folgen sozialen Ausschlusses in kurzfristige und langfristige Folgen. Hiernach führt der Ausschluss aus einer sozialen Gruppe (Ostrazismus, engl. *Ostracism*; K.D. Williams, 2007) unmittelbar zu einer physiologischen Erregung (z.B. erhöhter Herzschlag, Transpiration) und emotionaler Verletzung („hurt feelings“). Die längerfristige Reaktion ist nach Smart Richman und Leary (2009) durch die Bewertung der Zurückweisung (z.B. persönlicher Wert einer Beziehung, Möglichkeit von Alternativen, Dauer und Schwere der Zurückweisung, wahrgenommene Kosten) sowie durch aktuelle Stimmung und Selbstwert bedingt. Diese

langfristigen Reaktionen können in drei grobe Kategorien eingeteilt werden: prosoziales Verhalten, sozialer Rückzug und antisoziales Verhalten. Je nachdem, ob das grundsätzliche menschliche Bedürfnis nach Akzeptanz und Anerkennung durch das jeweilige Verhalten wiederhergestellt werden kann, können positive oder negative psychische Folgen resultieren (s. Smart Richman & Leary, 2009).

Ein Faktor, der die Wahrnehmung von Zurückweisung und die Reaktion auf diese beeinflusst, ist die Bereitschaft, Zurückweisungssignale überhaupt zu bemerken. Downey und Feldman (1996) zeigen, dass, während einige Menschen soziale Zurückweisung selten tatsächlich registrieren und eher gelassen und unbeeindruckt auf diese reagieren, andere bereits in unbedeutenden Ereignissen schnell eine persönliche Zurückweisung wahrnehmen. Die Sensitivität, d.h. die Empfindlichkeit für soziale Zurückweisungsreize, wurde als *Rejection Sensitivity* (deutsch: Zurückweisungsempfindlichkeit) definiert (ebd., 1996).

Zurückweisungsempfindlichkeit

Unter Zurückweisungsempfindlichkeit wird die Erwartung von Zurückweisung, die Hypervigilanz für potenzielle Signale der Zurückweisung und die übermäßige Reaktion auf Zurückweisung verstanden (Downey & Feldman, 1996). Individuen mit einer hohen Zurückweisungsempfindlichkeit erwarten demnach grundsätzlich von anderen Personen zurückgewiesen zu werden, nehmen Ablehnung auch in harmlosen sozialen Interaktionen wahr und neigen zu übertrieben Reaktionsmustern (z.B. übermäßiges Bemühen um Zuwendung, sozialer Rückzug oder feindseliges, aggressives Verhalten). Zurückweisungsempfindlichkeit bezieht sich demnach auf drei Prozesse: die *Erwartung* und die *Wahrnehmung von* und die *Reaktion auf* soziale Zurückweisung.

In ihrem Modell der Zurückweisungsempfindlichkeit gehen Downey und Kollegen (2004) (s. Abb. 1 in allgemeiner Einleitung) davon aus, dass die dispositionale Erwartung zurückgewiesen zu werden mit einer Hypervigilanz gegenüber potenziell zurückweisungsrelevanten Stimuli einhergeht, was wiederum zu negativen kognitiven (z.B. sich selbst die Schuld geben) und affektiven Reaktionen (z.B. Verletzung, Wut) führt. In der Folge auftretendes fehlangepasstes Verhalten (z.B. Aggression, sozialer Rückzug) provoziert wiederum Ablehnung durch andere im Sinne einer sich selbsterfüllenden Prophezeiung, wodurch erneut die grundlegende Annahme, zurückgewiesen zu werden, verstärkt wird. Demnach ist eine hohe Zurückweisungsempfindlichkeit auch ein Faktor, der die Integration in eine Gruppe gefährdet. Denn Unsicherheit im Sozialkontakt, sozialer Rückzug oder aggressive Verhaltensweisen sind häufige Verhaltenskorrelate einer hohen Zurückweisungsempfindlichkeit (Purdie & Downey, 2000).

Entstehungsfaktoren der Zurückweisungsempfindlichkeit

Hinsichtlich der Ursachen einer hohen Zurückweisungsempfindlichkeit gibt es eine Vielzahl von Vermutungen und einige wenige empirische Befunde. Vor allem früh einsetzende und andauernde Zurückweisungserfahrungen durch Eltern, ErzieherInnen, Freunde oder andere nahestehende wichtige Bezugspersonen werden für die Entstehung einer hohen Zurückweisungsempfindlichkeit verantwortlich gemacht. So gehen Brendgen und Kollegen (2002) davon aus, dass häufiges feindseliges Verhalten und Zurückweisung durch Eltern und Gleichaltrige dazu führen, dass Personen in sozialen Interaktionen eher auch Feinseligkeit und Ablehnung erwarten. Nach Downey und Feldman (1996) ist eine hohe Zurückweisungsempfindlichkeit das internalisierte Resultat früher und andauernder offener (z.B. physische und verbale Gewalt) und

verdeckter Zurückweisungen (z.B. emotionale Vernachlässigung). In retrospektiven Befragungen wurden vor allem familiäre Schwierigkeiten und elterliche Belastungen (z.B. psychische Störungen der Eltern) (Chang, Steiner, & Ketter, 2000) sowie aggressives Verhalten in der Familie (Brendgen et al., 2002) bei Menschen mit einer hohen Zurückweisungsempfindlichkeit berichtet. Hänseleien in der Kindheit und Ablehnung durch Gleichaltrige wurden als soziale Ursachen einer hohen Zurückweisungsempfindlichkeit identifiziert (Butler et al., 2007; London et al., 2007).

Eine aktuelle Studie untersucht die retrospektive Einschätzung von Studierenden hinsichtlich Erfahrungen der Zurückweisung von Eltern und Gleichaltrigen [Rosenbach & Renneberg, im Publikationsprozess]. Hier wurden vor allem ein ablehnender Erziehungsstil der Eltern und das „nicht beachtet werden“ durch Gleichaltrige in Zusammenhang mit einer hohen Zurückweisungsempfindlichkeit gebracht.

Zurückweisungsempfindlichkeit wird also als eine Eigenschaft verstanden, die sich durch wiederholte und andauernde Erfahrungen der Zurückweisung herausbildet und das Verhalten und Erleben in Situationen, in denen Ablehnung droht, beeinflusst. Trotz der angenommenen Stabilität der Eigenschaft wird diese in „bedrohlichen“ Situationen deutlich stärker aktiviert und ist damit auch zustandsabhängig.

Konsequenzen von Zurückweisungsempfindlichkeit

Schwerpunkte der empirischen Forschung bezüglich der Folgen einer hohen Zurückweisungsempfindlichkeit lagen bisher vorwiegend auf sozialpsychologischen Fragestellungen. Vor allem hinsichtlich Beziehungsproblemen in Familie und Partnerschaft wurde eine hohe Zurückweisungsempfindlichkeit mit unangepassten

Verhaltensweisen in Zusammenhang gebracht werden (z.B. Levy et al., 2001; Smart Richman und Leary, 2009).

Kombiniert man das Modell der Zurückweisungsempfindlichkeit (Downey et al., 2004) mit dem Modell von Smart Richman und Leary [2009], kann zusammengefasst werden, dass Menschen mit einer hohen Zurückweisungsempfindlichkeit auf wahrgenommene Zurückweisung entweder mit sozialem Rückzug und Angst, also der zukünftigen Vermeidung sozialer Situationen reagieren, offensive und aggressive (antisoziale) Verhaltensweisen zeigen oder aber mit extrem intensiven Bemühungen in sozialen Situationen agieren. In jedem Fall sind Folgen wie soziale Interaktionsschwierigkeiten, tatsächliche Ablehnung durch andere und eine erhöhte psychische Belastung unvermeidlich. Denn wie bereits erwähnt, trägt die Erfüllung des Bedürfnisses nach Zugehörigkeit und Akzeptanz maßgeblich zu Wohlbefinden und Gesundheit bei. Wird einer Person auf Dauer diese Befriedigung entzogen, kann es zu schwerwiegenden emotionalen Störungen kommen, die auch das Ausmaß klinisch relevanter Beeinträchtigungen annehmen können. Es lässt sich daher die Hypothese formulieren, dass eine hohe Zurückweisungsempfindlichkeit einen für die Ätiologie psychischer Störungen relevanten Risikofaktor darstellt und zur Aufrechterhaltung der Störungen beiträgt. In diesem Sinne hat die Forschung vermehrt (sub-) klinische Phänomene im Zusammenhang mit Zurückweisungsempfindlichkeit untersucht, deren zentrale Ergebnisse hier zusammengefasst werden.

Erfassung der Zurückweisungsempfindlichkeit und Abgrenzung zu ähnlichen Konstrukten

Eine wichtige Abgrenzung des Konstrukts der Zurückweisungsempfindlichkeit ist die zur sozialen Ängstlichkeit. Soziale Ängstlichkeit beschreibt eine allgemeine Unsicherheit

in Sozialkontakten, wobei Gefühle der Angst und der persönlichen Unzulänglichkeit im Vordergrund stehen. Auch wenn es eine Überschneidung zur Zurückweisungsempfindlichkeit gibt, bezieht sich Letztere auf die Grundannahme, in sozialen Interaktionen zurückgewiesen zu werden, und nicht auf die Bewertung der eigenen Person. Zusätzlich ist Zurückweisungsempfindlichkeit nicht nur mit Angst verbunden, sondern kann vielmehr auch mit Gefühlen der Wut oder Verachtung einhergehen.

Eine weitere wesentliche Unterscheidung ist die vom Begriff der Interpersonalen Sensitivität (*interpersonal sensitivity*). Interpersonale Sensitivität ist definiert als die Korrektheit und Angemessenheit der Wahrnehmung der Emotionen, Intentionen und Handlungen anderer Menschen (Hall & Bernieri, 2001) und ist eher im Sinne von *Empathie* zu verstehen. Dennoch wird in der englischsprachigen Literatur häufig der Begriff *interpersonal sensitivity* verwendet um sowohl dieses Konstrukt als auch Zurückweisungsempfindlichkeit zu beschreiben. Zurückweisungsempfindlichkeit meint jedoch meint die **spezifische** Annahme, in sozialen Situationen zurückgewiesen zu werden und dieses übermäßig häufig und schnell wahrzunehmen. Zur Erfassung von Zurückweisungsempfindlichkeit haben Downey und Feldman (1996) einen Fragebogen konzipiert (Rejection Sensitivity Questionnaire, RSQ), der über 18 fiktive, potentiell zurückweisungsrelevante soziale Situationen das Ausmaß von Zurückweisungsempfindlichkeit erfasst. Die Person soll einschätzen, wie ängstlich bzw. nervös sie jeweils in diesen Situationen ist und für wie wahrscheinlich sie es hält, abgewiesen/abgelehnt zu werden. Der Fragebogen liegt sowohl für Kinder als auch Erwachsene vor und wurde zusätzlich für spezifische Stichproben modifiziert (z.B. geschlechtsspezifische Zurückweisungsempfindlichkeit). Eine deutschsprachige validierte Form des Fragebogens für Erwachsene liegt vor (Staebler et al., 2011), eine

deutsche Version des Kinderfragebogens wird derzeit validiert (Rosenbach et al., in Vorbereitung).

Zusätzlich zu diesem Instrument gibt es zwei weitere Skalen, die mit Zurückweisungsempfindlichkeit in Verbindung gebracht werden, aber eigentlich andere Konstrukte erfassen. Zum einen das *Interpersonal Sensitivity Measure* (IPSM; Boyce & Parker, 1989), das die übermäßige und übertriebene Wahrnehmung von und Sensitivität für das Verhalten und die Gefühle anderer erfasst ["undue and excessive awareness of and sensitivity to the behavior and feelings of others", ebd., 1989]. Das IPSM erfasst mit Skalen wie „interpersonelles Bewusstsein", „Bedürfnis nach Anerkennung", „Trennungsangst", „Schüchternheit" und „fragiles inneres Selbst" (Boyce & Parker, 1989) jedoch ein sehr viel breiteres Spektrum interpersoneller Wahrnehmungen, wohingegen sich der RSQ ausschließlich auf die Erwartung und Wahrnehmung, zurückgewiesen zu werden, bezieht. Zum anderen ist die Subskala „Unsicherheit im Sozialkontakt" (engl. „interpersonal sensitivity") der Symptom-Check-List (SCL-90; Derogatis et al., 1976) zu erwähnen, die eine leichte soziale Unsicherheit bis hin zum Gefühl völliger persönlicher Unzulänglichkeit erfasst (Hessel et al., 2001). Diese Skala erfragt die Einschätzung und Bewertung der eigenen Person in sozialen Interaktionen, wohingegen der RSQ die spezifische Erwartung erfasst, von anderen zurückgewiesen zu werden. Diese Erwartung, zurückgewiesen zu werden, kann theoretisch auch unabhängig vom Selbstwert der Person hoch sein.

Ziel dieser Forschungsübersicht ist es, einen Überblick über die wesentlichen empirischen Befunde bezüglich der Zusammenhänge von psychopathologischen Auffälligkeiten und der Zurückweisungsempfindlichkeit zu geben. Da sowohl das IPSM als auch die SCL-Subskala „Unsicherheit im Sozialkontakt"

Zurückweisungsempfindlichkeit nicht in dem Sinne erfassen, wie oben definiert, und sich das Konstrukt der interpersonellen Sensitivität auf Empathie bezieht, wird in dieser Forschungsübersicht ausschließlich auf Studien eingegangen, die den Fragebogen zur Zurückweisungsempfindlichkeit (RSQ) angewandt haben.

Methodisches Vorgehen

Die Datenbanken PsycINFO, MEDLINE und PUBMED wurden mit den Schlagworten „rejection sensitivity" "sensitivity to rejection" und "interpersonal sensitivity" durchsucht. Zusätzlich wurden zentrale Artikel nach weiteren relevanten Forschungsartikeln gesichtet. Insgesamt wurden 1075 Artikel nach den oben genannten methodischen und definitorischen Kriterien begutachtet.

Ausschlusskriterien waren die folgenden:

- Studien die "interpersonal sensitivity" im Sinne von Empathie untersuchten
- Studien die sich auf die Subskala „Unsicherheit im Sozialkontakt" der SCL-90 bezogen
- Studien die das IPSM verwendeten
- Einzelfallstudien
- ausschließlich theoretische Arbeiten
- Studien die sich auf ausschließlich sozialpsychologische Fragestellungen bezogen
- Untersuchungen der Effektivität von pharmakologischen Behandlungen

Es verblieben 21 wissenschaftliche Artikel, die sich auf psychische Probleme und Zurückweisungsempfindlichkeit, erfasst über den RSQ, beziehen (Tabelle 2.1).

Tabelle 2.1: Übersicht über die wissenschaftlichen Artikel zu psychischen Symptomen/Störungen und Zurückweisungsempfindlichkeit (erfasst mit dem RSQ)

Autoren	Jahr	Klinische SP	Stichprobe	Design	Messinstrumente	Zentrale Ergebnisse
Atlas	2004	nein	84 amerikanische Studentinnen, Alter *M*= 18,7	FB, Querschnitt	Eating Disorders Inventory-Drive for Thinness and Bulimia subscales (Garner,Olmstead, & Polivy, 1983)	Zurückweisungsempfindlichkeit als signifikanter Prädiktor für "drive for thinness" nicht für bulimisches Essverhalten
Ayduk, Downey, & Kim	2001	nein	223 amerikanische Studentinnen, Alter *M* = 18.5	FB, Längsschnitt (6 Monate)	Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961)	Zurückweisungsempfindlichkeit sagt Depression vorher bei Frauen, die von Partner verlassen wurden, nicht aber bei Frauen, die eine Trennung selbst initiiert haben.
Ayduk, Gyurak, & Luerssen	2008	nein	129 amerikanische Studierende, Alter *M*=21.9	FB, Experimentell	Aggression gemessen über das Gewicht der scharfen Soße, die einem potentiellen Interaktionspartner aufgetan wird	Probanden mit hoher Zurückweisungsempfindlichkeit reagieren auf Zurückweisung mit mehr Aggression als Probanden mit niedriger Zurückweisungsempfindlichkeit.
Ayduk, Zayas, Downey, Cole, Shoda, & Mischel	2008	nein	379 amerikanische Studierende, Alter *M*= 21.2	FB, Querschnitt	Personality Assessment Inventory-Borderline Features Scale (PAI-BOR; Morey, 1991)	Borderline-Züge sind mit Zurückweisungsempfindlichkeit assoziiert, vor allem bei Probanden mit niedrigen exekutiven Kontrollfunktionen.

Autoren	Jahr	Klinische SP	Stichprobe	Design	Messinstrumente	Zentrale Ergebnisse
Boldero, Hulbert, Bloom, Cooper, Gilbert, Moobey & Salinger	2009	nein	101 australische Studierende, Alter *M*=20.6; 131 Studierende, Alter *M*=20.1	FB, Querschnitt	Borderline Personality Questionnaire (BPQ; Poreh et al., 2006), Experiences in Close Relationships Questionnaire (ECR; Brennan et al., 1998)	Höhere Zurückweisungsempfindlichkeit geht mit einer höheren BPS-Symptomatik einher; Zurückweisungsempfindlichkeit mediiert teilweise den Zusammenhang zwischen ängstlichen/vermeidenen Bindungsstilen und BPS-Symptomen.
Canu & Carlson	2007	ja	77 amerikanische Studenten, Alter 18-24	FB, Querschnitt	Conners Adult ADHD Rating Scale-Self Report: Screening Version (CAARS-S:SV; Conners, Erhardt, & Sparrow, 1999). Wender Utah Rating Scale (WURS; Ward, Wender, & Reimherr, 1993)	Keine Unterschiede in Zurückweisungsempfindlichkeit zwischen Probanden mit ADHS und gesunden Probanden .
Cassidy & Stevenson	2005	Sub-klinisch	179 männliche Teilnehmer eines Anti-Aggressionsprogramms, Alter *M*= 14.68	FB, Querschnitt	Multiscale Depression Index (MDI; Berndt, Petzel, & Berndt, 1980)	Zurückweisungsempfindlichkeit korreliert signifikant positiv mit Depression und wütenden Verhaltensreaktionen auf Ausschluss.

Autoren	Jahr	Klinische SP	Stichprobe	Design	Messinstrumente	Zentrale Ergebnisse
Gilbert, Irons, Olsen, Gilbert, & McEwan	2006	ja	104 PatientInnen mit Depression, Alter *M*=39	FB, Querschnitt	Mood and Anxiety Symptoms Questionnaire (MASQ; Watson & Clark, 1991, 1994)	Zurückweisungsempfindlichkeit korreliert positiv mit psychischer und depressiver Symptombelastung.
Gupta	2008	nein	427 amerikanische Studierende, Alter *M*= 19	FB, Querschnitt	Revised Conflict Tactics Scale (CTS2)-Perpetration (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) Aggression Toward Animals Scale (ATAS, Gupta & Beach, 2001)	Zurückweisungsempfindlichkeit sagt interpersonelle und gegen Tiere gerichtete Gewalt bei Frauen, nicht aber bei Männern vorher.
Harrison	2006	*Nicht zugänglich, keine ausreichende Informationen*				
Harper, Dickson, & Welsh	2006	nein	211 amerikanische Jugendliche, Alter 14-21	FB, Querschnitt	Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977)	Zurückweisungsempfindlichkeit korreliert positiv mit depressiver Symptomatik; „self-silencing“ als partieller Mediator.
Hartley	2007	nein	*Nicht zugänglich, keine ausreichende Informationen*			Zurückweisungsempfindlichkeit signifikant höher in pädophilen und hebephilen Sexualstraftätern im Vgl. zu gesunder Kontrollgruppe.

Autoren	Jahr	Klinische SP	Stichprobe	Design	Messinstrumente	Zentrale Ergebnisse
London, Downey, Bonica, & Paltin	2007	nein	150 amerikanische SchülerInnen (6.Klasse)	FB, Längsschnitt (4 Monate)	Diverse Items aus sozialen Angst-Skalen; Loneliness and Social Dissatisfaction Questionnaire (LSDC; Asher & Wheeler, 1985).	Zurückweisungsempfindlichkeit zu T1 sagt soziale Ängstlichkeit und sozialen Rückzug zu T2 vorher.
McCarty, Vander Stoep, & McCauley	2007	nein	331 amerikanische SchülerInnen, Alter *M*=12	FB, Quer- und Längsschnitt (1 Jahr)	Mood and Feelings Questionnaire (Costello & Angold, 1988); Child Behavior Checklist (Achenbach, 1991); Multidimensional Anxiety Scale for Children (March & MHS Staff, 1997)	Zurückweisungsempfindlichkeit korreliert zu T1 mit depressiver Symptomatik; Zurückweisungsempfindlichkeit sagt eine erhöhte Ängstlichkeit zu T2 vorher. Depressivität zu T1 sagt Zurückweisungsempfindlichkeit zu T2 vorher.
McDonald, Bowker, Rubin, Laursen, & Duchene	2010	nein	277 amerikanische Jugendliche, Alter *M*=14.3	FB, Querschnitt	Multidimensional Anxiety Scale for Children (MASC; March et al. 1999), Children's Depression Inventory (CDI; Kovacs, 1992, unveröffentlichtes Manuskript)	Zurückweisungsempfindlichkeit korreliert signifikant positive mit depressiven und Angstsymptomen.

Autoren	Jahr	Klinische SP	Stichprobe	Design	Messinstrumente	Zentrale Ergebnisse
Mellin	2008	nein	314 amerikanische Studierende, Alter 18-22	FB, Querschnitt	Center for Epidemiologie Studies Depression Scale (CES-D; Radloff, 1977).	Zurückweisungsempfindlichkeit klärt 11% der Varianz in Depressivität auf.
Meyer, Ajchenbrenner, & Bowles	2005	nein	156 Studenten und universitäre Angestellte, Alter *M*=30.2	FB, Querschnitt	SCID-II-Questionnaire (First et al., 1997); mood rating scale (Meyer, Ajchenbrenner, & Bowles, 2005)	Zurückweisungsempfindlichkeit korreliert positiv mit dem Ausmaß an Borderline- und Dependenter PS-Symptomatik; positiver Zusammenhang von Zurückweisungsempfindlichkeit und aktuellen Emotionen „Wut“, „Depressivität“, „Angst“.
Ruesch, Corrigan, Wassel, Michaels, Olschewski, Wilkniss, & Batia	2009	ja	85 amerikanische PatientInnen mit Schizophrenie, Bipolar I/II, schizoaffektiver Störung oder Depression, Alter *M*=45	FB, Querschnitt	Klinische Diagnose	PatientInnen mit Schizophrenie haben signifikant niedrigere Werte in Zurückweisungsempfindlichkeit als PatientInnen mit Bipolarer Störung und Depression.

Autoren	Jahr	Klinische SP	Stichprobe	Design	Messinstrumente	Zentrale Ergebnisse
Sandstrom, Cillessen, & Eisenhower	2003	nein	95 amerikanische Kinder, Alter *M*=9.7	FB, Querschnitt	Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1978) Social Anxiety Scale for Children-Revised (SASC-R; La Greca & Stone, 1993)	Erhöhte Zurückweisungsempfindlichkeit geht mit hohem Level an internalisierenden und externalisierenden Problemen einher.
Staebler, Helbing, Rosenbach, & Renneberg	2010	ja	145 deutsche PatientInnen (Borderline, Depression, Angststörungen), Alter *M*=36; 76 Kontrollprobanden, Alter *M*=29	FB, Querschnitt	SKID I (Wittchen, Wunderlich, Gruschwitz, & Zaudig, 1997) und SKID II (Fydrich, Renneberg, Schmitz, & Wittchen, 1997)	PatientInnen mit BPS signifikant höhere Zurückweisungsempfindlichkeit als alle anderen Gruppen; gefolgt von sozialen Angststörungen, Depression, andere Angststörungen.
Tragesser, Lippman, Trull, & Barrett	2008	nein	121 amerikanische Studierende, Alter *M*=19.2	FB, Querschnitt	Personality Assessment Inventory-Borderline Features Scale (PAI-BOR; Morey, 1991)	Keine Informationen über Zusammenhänge von Zurückweisungsempfindlichkeit und BPS-Zügen.

M = Durchschnitt, FB = Fragebogen, ZWE = Zurückweisungsempfindlichkeit, BPS = Borderline-Persönlichkeitsstörung, PS = Persönlichkeitsstörung.

Ergebnisse

Lediglich vier der 21 Studien untersuchen Zurückweisungsempfindlichkeit an klinischen Stichproben, alle weitere Untersuchung beziehen sich auf subklinische Syndrome. Drei der Studien beziehen sich auf längsschnittliche Daten, alle weiteren Ergebnisse stammen aus korrelativen Querschnittsuntersuchungen (Tabelle 2.1).

Im Folgenden werden störungs- bzw. symptomspezifische Aspekte und ihre Bedeutung für die Zurückweisungsempfindlichkeit erläutert und diskutiert.

Zurückweisungsempfindlichkeit und Borderline-Symptome

Eines der diagnostischen Kriterien der BPS ist das „verzweifelte Versuchen, tatsächliches oder vermutetes Verlassenwerden zu vermeiden“ (APA, 2000). Verlassenwerden kann als eine Form der Zurückweisung betrachtet werden. Gleichzeitig führen Personen mit BPS „instabile, aber intensive zwischenmenschliche Beziehungen, die durch einen Wechsel zwischen Extremen der Idealisierung und Entwertung gekennzeichnet“ sind (APA, 2000). Typisch sind Interaktionsmuster, die dem Festhalten an Beziehungen dienen, zugleich jedoch durch sozialen Rückzug und auch aggressive, abwertende Verhaltensweisen gekennzeichnet sind. Bezogen auf das Modell der Zurückweisungsempfindlichkeit von Levy und Kollegen (2001) zeigen Menschen mit einer BPS also nicht nur eine Form dysfunktionaler Verhaltensweisen als Reaktion auf die Wahrnehmung sozialer Zurückweisung, sondern vielmehr eine Vielzahl verschiedener, unter Umständen Zurückweisung provozierender Verhaltensweisen (bedrängendes und bedrohendes Verhalten, Selbstverletzung, Rückzug). Dies könnte unter anderem eine Erklärung für die extrem hohen zu beobachtenden Werte der Zurückweisungsempfindlichkeit (Staebler, Renneberg, et al., 2011) bei BPS darstellen.

In einer aktuellen Studie fühlten sich Borderline-Patientinnen bei einem virtuellen Ballspiel (Cyberball) selbst dann zurückgewiesen und ausgeschlossen, wenn sie es „faktisch“ nicht sind (Staebler, Renneberg, et al., 2011). Ein möglicher zugrunde liegender Mechanismus dieser übermäßigen Wahrnehmung kann die sehr hohe Zurückweisungsempfindlichkeit dieser Borderline-Patientinnen sein.

Zurückweisungsempfindlichkeit korreliert nur dann mit Borderline-Symptomen bei einer nichtklinischen Stichprobe, wenn Personen zugleich niedrige exekutive Kontrollfunktionen aufweisen (Ayduk, Zayas, et al., 2008). Das heißt, vor allem dann, wenn Personen nur schwer in der Lage sind, automatische Reaktionsmuster zugunsten situativ angemessenerer Verhaltensweisen zu unterdrücken, geht eine hohe Zurückweisungsempfindlichkeit mit einer erhöhten Borderline-Symptomatik einher. Auch wenn sich diese Befunde auf querschnittliche nicht-klinische Daten beziehen, lässt sich die Vermutung formulieren, dass zusätzlich zu der Zurückweisungsempfindlichkeit bei der Ätiologie und auch Aufrechterhaltung der BPS weitere personenbezogene Variablen, (wie z.B. exekutive Kontrollfunktionen) eine maßgebliche Rolle spielen. Interessanterweise zeigen Boldeo et al. (2009) diesbezüglich, dass sowohl vermeidende bzw. ängstliche Bindungsstile als auch Zurückweisungsempfindlichkeit mit der Anzahl an Borderline-Symptomen korrelieren, der hoch signifikante Zusammenhang zwischen vermeidenden bzw. ängstlichen Bindungsstilen und der Anzahl an Borderline-Symptomen aber teilweise durch Zurückweisungsempfindlichkeit mediiert wird.

Zurückweisungsempfindlichkeit und depressive Symptome

Menschen mit depressiven Symptomen berichten häufig ein niedriges Selbstwertgefühl oder Wertlosigkeit und fühlen sich leicht abgelehnt und zurückgewiesen. In den diagnostischen Kriterien der Atypischen Depression wird die „lang anhaltende

Überempfindlichkeit gegenüber subjektiv empfundenen persönlichen Zurückweisungen“ sogar explizit erwähnt (APA, 2000). Zusammenhänge zwischen der Zurückweisungsempfindlichkeit und depressiven Symptomen sowie ein möglicher sich gegenseitig verstärkender reziproker Einfluss der Zurückweisungsempfindlichkeit und depressiver Symptome sind demnach anzunehmen.

In einer Stichprobe ambulanter und stationärer depressiver PatientInnen konnte ein positiver Zusammenhang zwischen depressiver Symptombelastung und Zurückweisungsempfindlichkeit identifiziert werden (Gilbert et al., 2006).

Zurückweisungsempfindlichkeit sagt vor allem dann depressive Symptome in Folge eines belastenden Ereignisses vorher, wenn es sich um das Verlassenwerden durch den Partner handelt (Ayduk et al., 2001). Das durch die Person selbst herbeigeführte Ende einer Beziehung oder z.B. akademisches Versagen hingegen führt bei hoch zurückweisungsempfindlichen Frauen nicht zu erhöhten Depressionswerten. Eine hohe Zurückweisungsempfindlichkeit scheint vor allem dann ein Risikofaktor für depressive Reaktionen von Frauen zu sein, wenn genau das eintritt, was grundsätzlich befürchtet wird, nämlich von einer anderen Person zurückgewiesen zu werden.

Interessanterweise berichten McCarty und Kollegen (2007) in einer Längsschnittstudie keine prädiktive Wirkung der Zurückweisungsempfindlichkeit hinsichtlich späterer Depressivität, wohl aber einen umgekehrten kausalen Zusammenhang. Personen mit depressiven Symptomen zeigen im weiteren Verlauf erhöhte Werte der Zurückweisungsempfindlichkeit. Dies lässt zum einen vermuten, dass das typische Rückzugverhalten depressiver Menschen dazu führen, dass sie dadurch wiederholt Zurückweisung erfahren und somit einen höheren Grad an Zurückweisungsempfindlichkeit entwickeln. Zum anderen können Gefühle der Scham und Schuld aufgrund der psychischen Probleme Faktoren sein, die dazu führen, dass

depressive Personen starke Befürchtungen entwickeln, zurückgewiesen bzw. stigmatisiert zu werden.

So kann die Zurückweisungsempfindlichkeit einerseits als ein ereignisspezifischer Risikofaktor für depressive Symptomatik identifiziert werden, andererseits kann aber depressives Interaktionsverhalten als ein Auslöser oder Verstärker der Zurückweisungsempfindlichkeit wirken.

Harper et al. (2006) weisen darauf hin, dass der Zusammenhang zwischen Zurückweisungsempfindlichkeit und Depression teilweise durch Verhaltensweisen mediiert wird, die durch das Zurückhalten eigenen Emotionen und Bedürfnisse gekennzeichnet ist, mit dem Ziel, innerhalb sozialer Beziehungen Konflikte zu meiden („self-silencing"). Demnach leiden vor allem die Personen unter depressiven Symptomen, die hoch zurückweisungsempfindlich sind und ihre eigenen Bedürfnisse aus Angst vor Konflikten zurückstellen. Bezieht man diese Ergebnisse auf das Modell der Zurückweisungsempfindlichkeit, können diese Verhaltensweisen als dysfunktionale Reaktionen interpretiert werden, welche wiederum Ablehnung und einer Verstärkung der Zurückweisungsempfindlichkeit zur Folge haben.

Zusätzlich beeinflusst die Anzahl der positiven sozialen Bindungen den Zusammenhang zwischen Zurückweisungsempfindlichkeit und Depression (McDonald et al., 2010). So sind hoch zurückweisungsempfindliche Jugendliche, die mindestens eine positive Beziehung berichten (Elternteil oder peers) weniger depressiv als diejenigen, die keine positiven Beziehungen aufweisen. Soziale Bindungen können demnach innerhalb des Modells der Zurückweisungsempfindlichkeit einen Schutzfaktor darstellen.

Zurückweisungsempfindlichkeit und Angstsymptome

Eines der Kriterien sozialer Ängste ist die Vermeidung bestimmter sozialer Situationen aus der Angst heraus, sich peinlich zu verhalten oder unangenehm aufzufallen. Die Befürchtung, negativ bewertet oder ausgeschlossen zu werden ist dabei von großer Bedeutung. London et al. (2007) zeigen in einer längsschnittlichen Studie, dass Zurückweisungsempfindlichkeit (t1) mit sozialer Ängstlichkeit und sozialem Rückzug (t2, vier Monate später) einhergeht. Zusätzlich weisen die Autoren darauf hin, dass soziale Ablehnung nur bei männlichen, nicht jedoch bei weiblichen Studienteilnehmern zu einer höheren Zurückweisungsempfindlichkeit führt, während soziale Einbindung durch Peers das Ausmaß an Zurückweisungsempfindlichkeit bei beiden Geschlechtern reduziert. Diese Ergebnisse decken sich mit den Befunden von McDonald und Kollegen (2010), die ebenfalls für soziale Ängste zeigen konnten, dass die Anzahl an positiven sozialen Bindungen das Ausmaß an Angstsymptomen bei zurückweisungsempfindlichen Jugendlichen reduziert.

Zurückweisungsempfindlichkeit und aggressives Verhalten

Einige Befunde weisen auf den direkten Zusammenhang von Zurückweisungsempfindlichkeit und aggressiven Verhaltensweisen hin. In einer Untersuchung mit Jugendlichen, die bereits an einer disziplinarischen Maßnahme aufgrund gewalttätigen Verhaltens teilnahmen, konnte Zurückweisungsempfindlichkeit einen signifikanten Anteil der Varianz in aggressivem Verhalten aufklären. Die Autoren nehmen an, dass aggressives Verhalten als dysfunktionale Bewältigungsstrategie gesehen werden kann, um von der eigenen Überempfindlichkeit abzulenken (Cassidy & Stevenson, 2005).

Diese Annahmen konnten in einer Studie bestätigt werden, in der sozialer Ausschluss experimentell induziert wurde (Ayduk, Gyurak, et al., 2008). In einer fiktiven Chat-Situation wurden Probanden, nachdem sie einige Angaben über ihre Person gemacht haben, von einem potenziellen Chat-Partner abgelehnt. Die Probanden hatten im Anschluss die Möglichkeit, scharfe Soße auf das Essen der Ausschließenden zu applizieren, was von den Autoren als Indikator für interpersonelle Aggression interpretiert wird. Hoch zurückweisungsempfindliche Personen (die zuvor ausgeschlossen wurden) verwendeten mehr scharfe Soße als niedrig zurückweisungsempfindliche Personen.

Interessanterweise zeigt Gupta (2008), dass Zurückweisungsempfindlichkeit ein signifikanter Prädiktor für Gewalt von Frauen in intimen Partnerschaften ist, nicht aber für die von Männern. Eventuell ist Zurückweisungsempfindlichkeit auch hier ein vermittelnder Faktor zwischen weiteren Persönlichkeitseigenschaften und dem auffälligen Verhalten.

Auch die Befunde zu signifikant höheren Werten der Zurückweisungsempfindlichkeit bei pädophilen und hebephilen Sexualstraftätern im Vergleich zu einer gesunden Kontrollgruppe bieten einen Hinweis auf den Zusammenhang von aggressivem Verhalten und Zurückweisungsempfindlichkeit (Hartley, 2007).

Sandstrom et al. (2003) weisen darauf hin, dass Zurückweisungsempfindlichkeit den Zusammenhang zwischen erlebter Zurückweisung und externalisierenden Problemen bei Kindern moderiert, was die Annahmen des Models der Zurückweisungsempfindlichkeit bestätigt.

Zurückweisungsempfindlichkeit und weitere psychische Auffälligkeiten

Einzelne Befunde weisen auf weitere Zusammenhänge zwischen der Zurückweisungsempfindlichkeit und psychischen Belastungen hin.

Altas (2004) identifiziert Zurückweisungsempfindlichkeit als signifikanten Prädiktor für den Drang, dünn zu sein („drive for thinness"), keine Zusammenhänge bestehen jedoch zwischen Zurückweisungsempfindlichkeit und bulimischem Essverhalten. Der Zusammenhang vom Streben nach Schlankheit mit Zurückweisungsempfindlichkeit wird damit erklärt, dass reduziertes Essverhalten und der Wunsch, dünn zu sein, eine eventuelle Kompensationsmaßnahme gegen die hohe Angst vor Zurückweisung sein kann (Atlas, 2004). Auch hier besteht demnach ein Zusammenspiel verschiedener kognitiver und affektiver Komponenten, die den Zusammenhang von Zurückweisungsempfindlichkeit und psychologischen Auffälligkeiten erklären.

In einer Stichprobe von Schulkindern konnte ein positiver Zusammenhang von Zurückweisungsempfindlichkeit und internalisierenden (Ängstlichkeit, Depressivität) und externalisierenden Verhaltensauffälligkeiten (Hyperaktivität, Aggressivität) festgestellt werden (Sandstrom et al., 2003). Zusätzlich sollte auch auf jene Befunde hingewiesen werden, die *keinen* Zusammenhang zwischen Zurückweisungsempfindlichkeit und psychischer Symptombelastung identifizieren konnten. Dies betrifft bisher zwei veröffentlichte Studien: Canu und Carlson (2007) konnten keine Unterschiede in dem Ausmaß an Zurückweisungsempfindlichkeit bei Studierenden mit oder ohne ADHS ermitteln. Die Autoren argumentieren mit einem selbstschützenden "positiven" Illusionsbias sowie der Überschätzung der eigenen sozialen Performanz. Beide Phänomene sind bei Kindern mit ADHS häufig zu beobachten und könnten sich auch im Erwachsenenalter darauf auswirken, dass

tatsächlich erlebte Ablehnung nicht als solche wahrgenommen wird und sich auch nicht im Sinne einer hohen Zurückweisungsempfindlichkeit auswirkt.

In der bisher einzigen Studie mit schizophrenen PatientInnen konnten keine erhöhten Werte in der Zurückweisungsempfindlichkeit gefunden werden (Ruesch et al., 2009).

Zusammenfassung

Die empirische Befundlage hinsichtlich der Zusammenhänge von Zurückweisungsempfindlichkeit mit psychischen Problemen und Störungen steckt noch in den Anfängen. Dennoch lassen sich einige vorläufige Forschungsbefunde zusammenfassen.

Aus den Ergebnissen für klinische Stichproben wird deutlich, dass Zurückweisungsempfindlichkeit bei unterschiedlichen psychischen Störungen in verschiedenem Ausmaß eine Rolle zu spielen scheint. So wird ein erhöhtes Maß an Zurückweisungsempfindlichkeit sowohl bei depressiven Störungen, Angststörungen und der BPS berichtet, wobei PatientInnen mit BPS ein besonders hohes Ausmaß an Zurückweisungsempfindlichkeit aufweisen (Staebler, Renneberg et al., 2011).

Diese ersten Befunde aus klinischen Populationen werden durch Studien an nichtklinischen Stichproben bestätigt. So wird in mehreren Studien ein positiver Zusammenhang zwischen dem Ausmaß an Zurückweisungsempfindlichkeit und Borderline-Persönlichkeitszügen berichtet (Ayduk, Zayas, et al., 2008; Boldero et al., 2009; Meyer et al., 2005). Auch das Maß an depressiver Symptomatik (Ayduk et al., 2001; Cassidy & Stevenson, 2005; Harper et al., 2006; McCarty et al., 2007; McDonald et al., 2010; Mellin, 2008) sowie der Grad an Ängstlichkeit (London et al., 2007; McCarty et al., 2007; McDonald et al., 2010) korrelieren positiv mit Zurückweisungsempfindlichkeit. Zusätzlich berichten einzelne Studien einen positiven Zusammenhang von Zurückweisungsempfindlichkeit und Aspekten aggressiven Verhaltens (Wut, Gewalt, Aggression; Ayduk, Gyurak, et al., 2008; Cassidy & Stevenson, 2005; Gupta, 2008) oder gestörtem Essverhalten (Atlas, 2004).

Erste Ergebnisse zu Zurückweisungsempfindlichkeit bei ADHS (Canu & Carlson, 2007) bzw. Schizophrenie (Ruesch et al., 2009) zeigen keine signifikanten Zusammenhänge.

Zusätzlich konnten Faktoren identifiziert werden, die den Zusammenhang zwischen Zurückweisungsempfindlichkeit und psychischen Problemen auf unterschiedliche Weise beeinflussen. So verstärkt eine niedrige exekutive Kontrollfunktion den Zusammenhang von Borderline-Symptomen und Zurückweisungsempfindlichkeit (Ayduk, Zayas, et al., 2008); das Zurückhalten eigener Emotionen und Bedürfnisse („self-silencing“) mediiert hingegen den Zusammenhang von Depression und Zurückweisungsempfindlichkeit (Harper et al., 2006).

Positive soziale Beziehungen reduzieren das Ausmaß an Zurückweisungsempfindlichkeit bei depressiven Symptomen und sozialen Ängsten (McDonald et al., 2010).

Diskussion

Eine vorläufige Interpretation dieser ersten Forschungsbefunde spricht für eine störungsübergreifende Bedeutung der Zurückweisungsempfindlichkeit. Sowohl depressive als auch Angstsymptome sind mit einer erhöhten Zurückweisungsempfindlichkeit assoziiert, ebenso Borderline-Symptome und aggressive Verhaltenstendenzen. Dies konnte je nach Studie bei klinischen und nichtklinischen Stichproben beobachtet werden sowie bei Kindern, Jugendlichen und Erwachsenen. Auch wenn die meisten der aufgeführten Studien sich auf querschnittliche Daten beziehen, lässt sich die erste zusammenfassende Annahme formulieren, dass eine hohe Zurückweisungsempfindlichkeit als Risikofaktor für die Entstehung und Aufrechterhaltung verschiedener Formen dysfunktionaler Verhaltensweisen wirkt. Umgekehrt können aber auch psychische Probleme eine erhöhte Zurückweisungsempfindlichkeit nach sich ziehen.

Für die Ätiologie diverser psychischer Störungen werden Faktoren, die auch für die Ätiologie der Zurückweisungsempfindlichkeit diskutiert werden, als wichtige Risikofaktoren betrachtet. Dazu zählen elterliche Vernachlässigung, psychische Misshandlungen und physische Gewalt sowie negative Bindungsstile (Downey & Feldman, 1996; Feldman & Downey, 1994). Hinsichtlich negativer Bindungsstile wird der Typ der unsicheren Bindung mit der Entstehung psychischer Störungen in Verbindung gebracht, 90% einer Stichprobe von Patienten mit unterschiedlichen psychischen Störungen haben einen unsicheren Bindungsstil (Grawe, 2004). Vor allem längere und schwerwiegende negative Erfahrungen führen zu höheren Belastungen (Egle & Cierpka, 2006). Eine mögliche erste Hypothese ist, dass negative und andauernde Erfahrungen der Ablehnung und Zurückweisung eine defensive Erwartungshaltung weiterer Zurückweisungen zur Folge haben

(Zurückweisungsempfindlichkeit) und diese wiederum als Risikofaktor für die Entstehung verschiedener psychischer Auffälligkeiten bzw. Störungen wirkt. Je nach zusätzlich wirkenden ätiologisch relevanten Risikofaktoren (wie z.B. niedrige exekutive Kontrollfunktion oder «self-silencing»), aber auch Schutzfaktoren (soziale Unterstützung) kann es dann zu einer psychischen Störung kommen (z.B. Depression, BPS, soziale Phobie). Längsschnittlich angelegte Untersuchungen sollten diese Annahme empirisch überprüfen.

Negative Bindungserfahrungen mit den primären Bezugspersonen können dennoch auch durch spätere positive Beziehungserfahrungen „korrigiert" werden (Grawe, 2004). Interessant wäre es demnach zu untersuchen, inwieweit Personen mit negativen Bindungserfahrungen mit oder ohne folgende positive Beziehungserfahrungen höhere oder niedrigere Werte in der Zurückweisungsempfindlichkeit berichten und dadurch eine höhere oder niedrigere psychische Belastung aufzeigen. Einige der hier aufgeführten Studien weisen bereits darauf hin, dass positive Beziehungen das Ausmaß der psychischen Belastung bei hoch zurückweisungsempfindlichen Menschen reduzieren (z.B. McDonald et al., 2010). Grundsätzlich wäre es wichtig zu prüfen, inwieweit bestimmte Risiko-, aber auch Schutzfaktoren die angenommenen kausalen Zusammenhänge von Zurückweisungsempfindlichkeit und psychopathologischer Auffälligkeit bedingen.

Versucht man, die Störungsbilder den unterschiedlichen fehlangepassten Reaktionsmustern im Modell der Zurückweisung von Smart Richman und Leary (2009) zuzuordnen, können depressive Störungen sowie (vor allem soziale) Angststörungen mit der Vermeidung sozialer Kontakte assoziiert werden, während aggressive Verhaltensweisen eher die offensive antisoziale Reaktion auf wiederholt erlebten Ausschluss darstellen. PatientInnen mit einer BPS zeigen beide Reaktionsmuster: Sie

streben zum einen nach engen Beziehungen, fürchten und vermeiden diese jedoch zugleich. Zudem können Personen mit BPS auch aggressive Verhaltensweisen zeigen.

Unterschiede in der Ätiologie psychischer Störungen und die Bedeutung der Zurückweisungsempfindlichkeit für diese sollten weiterführend untersucht werden. Erste Hinweise auf unterschiedliche Mechanismen und Zusammenhänge zeigen Sandstrom und Kollegen (2003). So ist der Zusammenhang zwischen Zurückweisungsempfindlichkeit und externalisierenden Verhaltensauffälligkeiten nur bei den Kindern signifikant, die auch tatsächliche Zurückweisung erlebt haben. Der Zusammenhang von internalisierenden Verhaltensauffälligkeiten und Zurückweisungsempfindlichkeit existiert jedoch unabhängig davon, ob eine Person Zurückweisung erlebt hat oder nicht.

Neben der Rolle der Zurückweisungsempfindlichkeit für die Ätiologie psychischer Störungen sollte auch die Frage diskutiert werden, inwieweit Zurückweisungsempfindlichkeit als Folge psychischer Symptombelastung auftreten kann. McCarty und Kollegen (2007) konnten zeigen, dass Depressivität Zurückweisungsempfindlichkeit vorhersagt. Depressive Symptome wie das Gefühl der Wertlosigkeit, Antriebshemmungen und Interessenverlust verändern sowohl die Wahrneh- mung als auch das Verhalten in sozialen Interaktionen, welches wiederum mit tatsächlichen Erfahrungen der Zurückweisung einhergehen kann. Zusätzlich geht das Leiden an einer psychischen Störung häufig mit Scham, Angst vor Stigmatisierung und daraus folgend sozialem Rückzug einher. Dabei spielen Aspekte wie „sich fremd fühlen“, „anders sein“, “von der Norm abweichen“ eine wichtige Rolle. Die Möglichkeit, dass Zurückweisungsempfindlichkeit als Folge der mit einer psychischen Störung einhergehenden Veränderung im Erleben und Verhalten auftritt, sollte demnach auch

berücksichtigt und weiterführend untersucht werden.

In diesem Zusammenhang ist ebenso die potenziell aufrechterhaltende Funktion der Zurückweisungsempfindlichkeit zu diskutieren. Die Befürchtung, in sozialen Interaktionen zurückgewiesen zu werden, fördert unter Umständen Symptome wie Antriebshemmung und das Gefühl der Wertlosigkeit, sozialen Rückzug oder auch extrem ambivalentes Interaktionsverhalten, wie es bei Personen mit BPS auftritt. Daraus resultieren dann tatsächliche Erfahrungen der Zurückweisung, korrigierende Erfahrungen werden verhindert, die Symptomatik wird verstärkt.

Integriert man diese Annahmen und Befunde in das Modell der Zurückweisungsempfindlichkeit, können einige dort formulierte Zusammenhänge bestätigt werden. So kann erlebte Zurückweisung eine erhöhte Zurückweisungsempfindlichkeit zur Folge haben. Inwieweit sich diese dann als Risikofaktor für psychische Belastungen entwickelt, scheint von weiteren Personeneigenschaften abzuhängen. Denn zusätzlich spielen auch bei der Reaktion auf wahrgenommene Zurückweisung weitere Variablen eine Rolle (z.B. exekutive Kontrollfunktionen). Es ist daher wichtig, das Modell der Zurückweisungsempfindlichkeit durch mögliche zusätzlich wirkende Variablen, die den Zusammenhang verstärken («self-silencing») oder reduzieren (soziale Beziehungen), zu erweitern (s. modifiziertes Modell der Entstehung und Aufrechterhaltung der Zurückweisungsempfindlichkeit, Abbildung 2.1). Störungsspezifische Wirkmechanismen sollten dabei berücksichtigt sowie eine Längsschnittuntersuchung zur Überprüfung kausaler Zusammenhänge angestrebt werden.

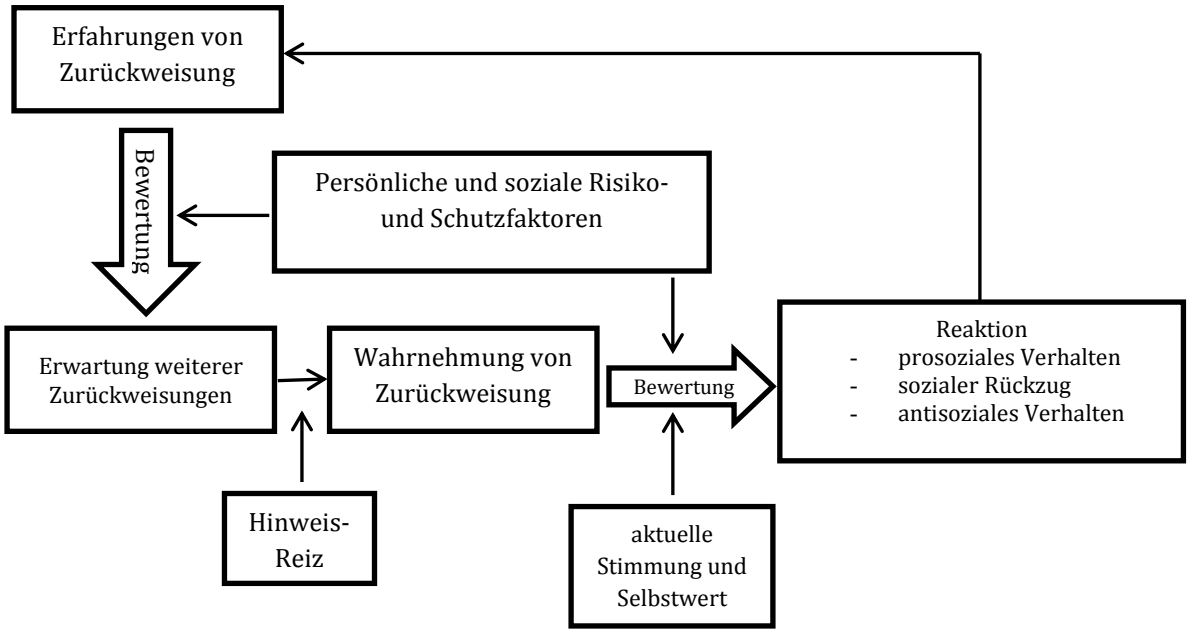

Abbildung 2.1: Modifiziertes Modell der Entstehung und Aufrechterhaltung der Zurückweisungsempfindlichkeit (Erweiterung des Modells von Levy et al., 2004)

Zusätzlich geben einige Annahmen des Modells der Zurückweisung von Smart Richman und Leary (2009) Anhaltspunkte, um welche Faktoren das Modell der Zurückweisungsempfindlichkeit modifiziert bzw. erweitert werden muss. So ist eine differenziertere kognitive Bewertung der „erfahrenen Zurückweisung" zu berücksichtigen. Denn die Zurückweisungserfahrung allein lässt noch keine weitere negative Erfahrung annehmen. Smart Richman und Leary (2009) integrieren in ihr Modell die Wahrnehmung und Bewertung (z.B. persönlicher Wert einer Beziehung, Möglichkeit von Alternativen, Dauer und Schwere der Zurückweisung, wahrgenommene Kosten) von Zurückweisung und sprechen ihnen eine maßgebliche Rolle bei der Reaktion auf die Zurückweisung zu. Auch diese Aspekte wurden in das modifizierte Modell (Abbildung 2.1) integriert.

Hinsichtlich der Bedeutung der dargestellten Befunde für die therapeutische Praxis ist auf die Notwendigkeit der Modifikation dysfunktionaler Verhaltensweisen mit Methoden der Verhaltenstherapie und auf die Modifikation dysfunktionaler Kognitionen in der kognitiven Therapie hinzuweisen. So kann das Erlernen von Strategien der Selbst-Kontrolle und der Selbst-Regulation (vor allem bei PatientInnen mit BPD; Ayduk et al., 2000; Ayduk, Zayas, et al., 2008) zur Reduktion negativer Verhaltensweisen auf die Wahrnehmung sozialen Ausschlusses führen. Darüber hinaus sollte darauf geachtet werden, PatientInnen Rückmeldung über ihre verzerrte Wahrnehmung hinsichtlich der Zurückweisung durch andere (oder auch durch den Therapeuten) zu geben und an alternativen Erklärungsmodellen zu arbeiten. In gruppentherapeutischen Settings ist den TherapeutInnen ohnehin nahezulegen, den PatientInnen gleich viel Beachtung zu schenken, um nach Möglichkeit die Wahrnehmung von Zurückweisung nicht zu provozieren.

Zusammenfassend liegen erste Hinweise vor, dass Zurückweisungsempfindlichkeit einen relevanten Faktor für die Entstehung und Aufrechterhaltung psychischer Probleme bzw. Störungen darstellt. Die Konstellation mit anderen Personen- und Situationseigenschaften scheint dabei eine relevante Rolle zu spielen. Der vor allem für die Interaktion relevante Aspekt einer hohen Zurückweisungsempfindlichkeit sollte im psychotherapeutischen Setting berücksichtigt werden.

Study 2: Rejection sensitivity as a mediator of the relationship between experienced rejection and borderline and depressive symptoms

---

Chapter 3

A slightly adapted version of this chapter has been submitted to a peer reviewed journal as Rosenbach, C. & Renneberg, B. Rejection sensitivity as a mediator of the relationship between experienced rejection and borderline and depressive symptoms.

Abstract

Borderline features, as well as depressive symptoms, are associated with experiences of rejection in childhood. Additionally, individuals who report borderline or depressive symptoms report high levels of rejection sensitivity. The current study aimed to disentangle the relationship between experiences of rejection, rejection sensitivity and psychological distress. Therefore, we retrospectively assessed experiences of parental and peer rejection, collected data of self-reported rejection sensitivity and social support and prospectively investigated borderline and depressive symptoms in a sample of 193 students. Results indicated that rejection sensitivity fully mediated the previously significant relationship between experiences of parental rejection and depressive as well as borderline symptoms. Whereas the relationship between peer rejection and depressive symptoms was also fully mediated by rejection sensitivity, peer rejection maintained a significant effect on borderline symptoms. Social support was identified as a protective factor for borderline and depressive symptoms. Results indicated a crucial role of rejection sensitivity in borderline and depressive symptoms.

Introduction

Social behavior is, to a great extent, formed by early experiences with parents, caregivers and peers. Experiences of parental care and acceptance as well as positive experiences with peers are factors contributing to a greater degree of social integration in a well-functioning and intact social network (Hartup, 1996; Rothbaum & Weisz, 1994). The ability to enter and maintain stable relationships depends to a large degree on experienced positive relationships earlier in life (Bowlby, 1969). In contrast, experiences of rejection, neglect or social exclusion can lead to low self-esteem, insecurity in social situations, the tendency to bond in dysfunctional relationships, aggressive behavior patterns, or social withdrawal (Smart Richman & Leary, 2009).

In clinical practice, patients with depressive disorders or borderline personality disorder (BPD) often report experiences of rejection by significant others or have a great fear of being rejected (Beck, 1967; Linehan, 1993). On the other hand, not all individuals experiencing rejection develop borderline traits or depressive features. 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 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 populations (Rosenbach & Renneberg, 2011). Extremely high levels of rejection sensitivity were found in patients with BPD (Staebler, Hellbing, et al., 2011). Therefore, rejection sensitivity can be hypothesized to be a critical factor in the relationship between experienced rejection and psychological dysfunction.

Individuals who are highly sensitive to rejection have the tendency to always expect to be rejected rather than included by others. They quickly identify social rejection in even neutral social situations and therefore often show inappropriate behaviors towards others. The model of rejection sensitivity (Downey, Feldman, Kowalski, & Leary, 2004) describes a vicious circle where the expectation of being rejected leads to the perception of potential rejection that in turn activates maladaptive behavior, which, as a self-fulfilling prophecy, may result in actual rejection by others. Rejection by others itself then reinforces the expectation of repeatedly being rejected.

According to Downey and Feldman (1996), high rejection sensitivity is the internalized result of early and persistent experiences of rejection. Thus, the experience of rejection leads to the assumption that more rejection is to be expected. 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.

Only a few studies have attempted to empirically test these assumptions and to identify factors associated with rejection sensitivity. Brendgen et al. (2002) showed that parental aggression reported by 12-year-old boys predicted rejection sensitivity four years later. This finding is in line with a previous study by Feldman and Downey (1994), who found rejection sensitivity in young adults to be associated with their report of intra-familial physical aggression. Downey et al. (1997) additionally showed that retrospectively reported emotional neglect by parents is correlated with rejection sensitivity. Regarding the significance of rejection by peers, memories of teasing during childhood (Butler et al., 2007) and rejection by classmates assessed via peer nomination (Brendgen et al.,

2002; London, et al., 2007) were related to rejection sensitivity in adolescents and young adults.

As a consequence of 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, et al., 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 psychological disorders such as BPD and depression.

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 (APA, 2000). Patients with BPD are very sensitive to interpersonal stress. One core feature of BPD is the fear of abandonment. Thus, it seems consistent 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 et al., 2005). As mentioned above, compared to other clinical samples, patients with BPD reported significantly higher levels of rejection sensitivity (Staebler, Hellbing, et al., 2011). In another study, patients with BPD showed mean scores of rejection sensitivity above the 90th percentile for a general sample of adults (Berenson et al., 2011). Both studies emphasized the extremely high levels of rejection sensitivity in BPD.

The impact that this high level of rejection sensitivity may have on perception in social interactions, was demonstrated by Renneberg and colleagues (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.

In a study conducted by Berenson et al. (2011), the perception of rejection had a triggering effect on the sudden onset of rage typical for BPD. Therefore, rejection sensitivity, conceptualized as the tendency to quickly perceive rejection cues, might be one factor explaining emotional turmoil, specifically rage in BPD. Extreme emotional reaction patterns in BPD lead to high levels of interpersonal difficulties. Therefore, rejection sensitivity might contribute to the maintenance of the pattern of instability in interpersonal relationships that is typical for BPD.

The study by Boldeo and colleagues (2009) suggested that rejection sensitivity is relevant not only for the maintenance but also for the etiology of BPD symptoms. The authors investigated the relationship between attachment, rejection sensitivity and BPD. Anxious and avoidant attachment was related to more BPD features, while rejection sensitivity partially mediated this relationship.

Summarizing the current state of research, rejection sensitivity seems to be strongly associated with borderline symptoms. In the etiology of borderline features, negative childhood experiences are commonly regarded as a relevant factor. Therefore, rejection sensitivity and borderline symptoms theoretically may share the same risk factors.

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 in the development of borderline symptoms (Crowell, Beauchaine, & Linehan, 2009; Linehan, 1993). A wide range of research has investigated the relationship between aversive childhood experiences and borderline features. Accordingly, traumatic childhood experiences such

as physical and sexual abuse play a significant role in the etiology of BPD (Ball & Links, 2009; Battle et al., 2004; Bornovalova, Gratz, Delany-Brumsey, Paulson, & Lejuez, 2006; Carlson, Egeland, & Sroufe, 2009; Lobbestael, Arntz, & Bernstein, 2010; Rogosch & Cicchetti, 2005; Trull, 2001). Zanarini (2000) reported that 40 – 70% of individuals with BPD experienced sexual maltreatment. Whereas physical and sexual maltreatment have been widely investigated, the role of emotional maltreatment like interpersonal rejection for borderline symptoms has rarely been looked at separately. Some studies mention emotional neglect as a risk factor in line with physical neglect (Lobbestael et al., 2010; Widom, Czaja, & Paris, 2009), others found perceived parental criticism (Cheavens et al., 2005; Crowell et al., 2009) or emotional withdrawal by caregivers (Zanarini et al., 1997) associated with borderline symptomatology. Gratz, Tull, Baruch, Bornovalova and Lejuez (2008) analyzed different subtypes of childhood maltreatment and found emotional abuse as the only reliable predictor of BPD status in a sample of substance abusers, confirming the previous findings of Bornovalova et al. (2006). Furthermore, Carr and Francis (2009) identified childhood emotional abuse as the only significant predictor of borderline symptoms when controlling for other forms of maltreatment.

In addition to parents, interactions with peers are highly relevant for development. 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).

In particular, the chronic combination of emotional and physical maltreatment put children at high risk for borderline features.

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. Given that rejection by parents and peers as such has hitherto not been specifically examined, this study aims to focus on experiences of parental and peer rejection and to explore the role of rejection sensitivity in the relationship between experienced rejection and borderline features. A model clarifying the relationship between rejection sensitivity, borderline features and experiences of rejection has not yet been established.

Depression and rejection sensitivity

Symptoms of depression like feelings of worthlessness or hopelessness, and a low self-esteem suggest individuals with depressive disorders might be very sensitive to rejection. Several studies confirmed this assumption by showing significant correlations between rejection sensitivity and depressive symptoms (Gilbert et al., 2006; Harper et al., 2006; Mellin, 2008). Regarding the causal link between depression and rejection sensitivity, a recent study (Pearson, Watkins, & Mullan, 2012) identified rejection sensitivity as predictor for depressive rumination. These findings are in line with results of an earlier study identifying rejection sensitivity as a risk factor for depressive reactions after being abandoned by an intimate partner (Ayduk et al., 2001). High rejection sensitivity seems to be a risk factor for the development of depressive

symptoms in adulthood and appears to heighten the impact of negative life-events. At the same time, McCarty et al. (2007) identified depression as a predictor of rejection sensitivity, thus suggesting a vicious circle of depressive symptoms and rejection sensitivity. Additionally, McDonald et al. (2010) found that the number of supportive relationships moderates the relationship between rejection sensitivity and depressive symptoms. Thus, social support may "buffer" the impact of rejection sensitivity on depression.

Experiences of rejection and depression

Theories of depression (Beck, 1967; Rose & Abramson, 1992) postulate that negative life events contribute to the development of stable dysfunctional beliefs and cognitive schemas that put individuals at risk for depression. Gibb (2002) analyzed the role of childhood maltreatment in the development of negative cognitive styles. In his review, the author emphasized the relevance of emotional maltreatment, whereas physical maltreatment was not significantly associated with negative beliefs.

A recent meta-analysis summarized findings regarding the relationship between childhood maltreatment and symptoms of depression (Nanni, Uher, & Danese, 2012). Most of the included epidemiological and clinical studies indicated that physical abuse, family violence and childhood trauma are related to an elevated risk of developing recurrent and persistent depressive episodes. Additionally, depressed individuals with a history of childhood maltreatment benefit less from treatment than other depressed individuals. Regarding the specific role of emotional maltreatment, Brown and colleagues (2007) reported that maternal rejection and lack of affection are more relevant for the development of chronic depression than other forms of maltreatment. Van Harmelen et al. (2010) confirm these findings by showing that emotional

maltreatment was more strongly associated with depressive symptomatology than physical or sexual abuse. Tronick and Reck (2009) highlight the relevance of the lack of interaction - a form rejection - in mother-child-dyads. They found that unresponsive and affectively flat behavior of depressed mothers led to sadness and distress in their children.

Regarding the role of peer maltreatment in depressive symptoms, Gibb, Abramson and Alloy (2004) demonstrated the impact of current peer maltreatment on depression in two studies. In their meta-analysis, Hawker and Boulton (2000) found a strong relationship between peer maltreatment and depression. Nevertheless, only one of the included studies referred to emotional maltreatment (Crick & Grotpeter, 1996); thus, evidence is only available for physical maltreatment. Recent research, however, focused more on indirect (relational) forms of maltreatment, mainly bullying and/or cyber-bullying. Various studies found associations between bullying and depressive symptoms, indicating the relevance of rejection by peers for depression (Gladstone, Parker, & Malhi, 2006; Prinstein, Boergers, & Vernberg, 2001; Undheim & Sund, 2010; van der Wal, de Wit, & Hirasing, 2003; Jing Wang, Nansel, & Iannotti, 2011).

In summary, the empirical findings for depression indicate - similar to BPD - that experienced rejection as well as rejection sensitivity are associated with depression. Chango, McElhaney, Allen, Schad and Marston (2012) undertook the first attempts to disentangle the association between experiences of rejection, rejection sensitivity and depression. The authors showed that family and peer relational stressors only predicted symptoms of depression in teenagers who were highly rejection sensitive, whereas in adolescents with low levels of rejection sensitivity, this relationship was not significant.

In this study, only adolescent relationship stressors at age 16 were examined and no early experiences of rejection were reported in this sample.

For a better understanding of the etiology of psychopathological symptoms, the present study aimed to examine the impact of rejection sensitivity on the relationship between early experiences of rejection and borderline symptoms, as well as depressive symptoms. A potential protective effect of social support is also examined. Additionally, the relationship between experiences of rejection in childhood and adolescence and rejection sensitivity in adulthood is investigated more closely.

Method

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 email 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 two 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 two weeks. Aim of a second assessment was to examine the stability of rejection sensitivity and social support. In addition, the second survey included measures for depressive and borderline symptoms. The completion of the survey at each assessment point took approximately 30-45 minutes. The procedure was approved by the university management.

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 (SD = 5.4), range 19 – 49 years, 153 participants were female (79.3%). 56% of the students had a steady romantic partner, 44% were single. Most participants studied subjects related to the social sciences (56%; e.g. psychology, pedagogy, political sciences), 19.7% natural sciences (medicine, physics, biology) and 18.1% humanities (philology, drama). The remaining 6.2% of participants did not provide information regarding their main subject.

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

Measures

Rejection Sensitivity. Rejection Sensitivity was assessed using the German version of the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996; German: *Fragebogen zur Zurückweisungsempfindlichkeit*, Staebler, Helbing, 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 and concern about the outcome (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*). Three scores can be calculated for the RSQ: the mean score for anxiety (range 1 - 6), the mean score for expectation of rejection (range 1 - 6), and the overall rejection sensitivity score (the score for degree of anxiety is multiplied by the reverse score for expectations of rejection [7 - expectation of acceptance], range 1 - 36). Internal consistency (α = 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 α = 0.89, test-retest reliability was r_{tt} = 0.70.

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 α = 0.94 and test-retest reliability (r_{tt} = 0.96) (Fydrich, et al., 2009). In the current sample internal consistency was α = 0.89 and test-retest reliability was r_{tt} = 0.70.

Depressive symptoms. Symptoms of depression were assessed via the German version of the Center for Epidemiological Studies Depression Scale (*Allgemeine Depressionsskala,* ADS-K; Hautzinger & Bailer, 1993). The ADS-K is a widely used instrument for measuring depressive symptoms in non-clinical samples. 15 items are rated on a 4 - point Likert scale (0 = *never*; 3 = *most of the time*); sum scores vary between 0 and 45. The ADS-K shows good psychometric properties with an internal consistency of α = .90 and a test-retest reliability of r_{tt} = .90 (Hautzinger & Bailer, 1993).

Borderline symptoms. The Questionnaire of Thoughts and Feelings (QTF; German *Fragebogen zu Gedanken und Gefühlen*, *FGG;* (Renneberg, Schmidt-Rathjens, Hippin, Backenstrass, & Fydrich, 2005; Renneberg & Seehausen, 2010) 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 (Renneberg & Seehausen, 2010). The short version consists of 14 statements rated on a 5 - point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*) and evaluated via the mean score. Internal consistency is excellent (α = .96; Renneberg & Seehausen, 2010).

Parental rejection. To assess rejection by parents, we used the Parental-Representation-Screening-Questionnaire (PRSQ; German: *Elternbildfragebogen* [EBF]; Titze et al., 2010). The PRSQ records the subjective representation of parental behavior in children and adolescents. We used the two scales, "rejection" and "punishment", of the version for adults. The rejection-scale assesses open rejection ("*my mother/father told me I am useless*") and covered 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 (α = .82-.90) (Titze et al., 2010).

Rejection by peers. The Questionnaire of Rejection by Peers (SMOB; German: *Fragebogen zur Peerzurückweisung*; 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. Subsequently, participants are asked to rate how often they experienced one or more of the mentioned actions by others. The duration of experienced rejection is rated on an 8 - point scale (0 = *never*, 7 = *more than 2 years*). In this study, we focused on the duration of experienced rejection, referring to the theoretical assumption that the *extended* experience of rejection is an etiologically relevant factor for rejection sensitivity (Downey & Feldman, 1996).

At the initial assessment (t1), the survey comprised socio-demographic questions (age gender, subject of study, relationship status), the Rejection Sensitivity Questionnaire (RSQ), the Questionnaire of Rejection by Peers (SMOB), the Parental-Representation-Screening-Questionnaire (PRSQ), and the Questionnaire of Social Support (F-SozU). Two years later (t2), participants were requested to provide information regarding rejection sensitivity (RSQ), social support (F-SozU), borderline features (FGG) and depressive symptoms (ADS-K).

Analysis

All analyses were conducted using SPSS statistics 20.

The maternal and paternal scales for "rejection" and "punishment" (PRSQ) were highly correlated and therefore aggregated to form the scales "parental rejection" and "parental punishment".

Four models were analyzed: 1) parental rejection (t1) predicting borderline symptoms (t2), 2) parental rejection (t1) predicting depressive symptoms (t2), 3) peer rejection (t1) predicting borderline symptoms (t2), and 4) peer rejection (t1) predicting depressive symptoms (t2). Rejection sensitivity (t1) and social support (t1) were used as mediator variables. In each model we first investigated the mediating role of rejection sensitivity alone and then added social support to the model.

Simple and multiple mediation were tested using mediator models including bootstrapping 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.

Results

Descriptive results

Means and standard deviations are shown in Table 3.1. Depression scores and borderline symptoms were comparable to non-clinical normative samples (M_{ads} = 11.16, SD = 7.99; Hautzinger & Bailer, 1993; $t(192)$ = .66, p = .51; 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 = 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 and compared to the normative samples ($T_{rejection}$ = 61.4; $T_{punishment}$ = 57.4). All values lay within the recommended range (.35 < T < .65; K. Titze, personal communication, March 25, 2009). Mean value of duration of peer rejection was M = 4.4 (SD = 2.7) with 0 indicating "never experienced rejection" and 7 referring to "more than 2 years of peer rejection". Both the RSQ expectation scale ($t(192)$ = 5.43, p < .01) and the total RSQ score ($t(192)$ = 3.83, p < .01), showed lower scores at t2. Female participants reported higher levels of social support at both times of assessment ($t_{t1}(191)$ = 2.27, p < .05; t_{t2} (191) = 2.83, p < .01). Males reported more borderline symptoms at t2, ($t_{t2}(191)$ = 2.02,p < .05) and a significantly longer duration of experienced peer rejection than females ($t(191)$ = 1.18, p < .01).

Table 3.1: Descriptive Statistics

	All participants				Male participants				Female participants			
	Time 1		Time 2		Time 1		Time 2		Time 1		Time 2	
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
RSQ anxiety	3.31	.86	3.28	.80	3.33	.86	3.43	.86	3.31	.87	3.25	.79
RSQ expect.	2.68#	.63	2.47#	.57	2.78	.61	3.63	.68	2.66	.65	2.44	.54
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
ADS	-	-	10.78	7.8	-	-	10.73	8.0	-	-	10.80	7.8
FGG	-	-	1.74	.65	-	-	1.93**	.76	-	-	1.70**	.61

Note. *gender difference $p < .05$; **gender difference $p < .01$; + normative sample comparison $p < .05$; # t_1 - t_2 comparison $p < .01$.

Experienced rejection as a predictor of rejection sensitivity

Simple correlation analyses revealed parental rejection to be positively associated with rejection sensitivity ($r = .27$, $p < .001$), whereas parental punishment was not significantly related to rejection sensitivity ($r. = .11$, $p = .13$). Furthermore, the punishment scale was neither correlated with borderline symptoms ($r = .09$, $p = .20$) nor depressive symptoms ($r = .12$, $p = .10$) and thus the punishment-scale was excluded from further analyses.

In two simple regression analyses, both parental ($\beta = .27$, $R^2 = .07$, $p < .01$) as well as peer rejection ($\beta = .28$, $R^2 = .08$, $p < .01$) explained a significant amount of variance in rejection sensitivity. Nevertheless, a stepwise regression analysis with both predictors included showed that peer rejection is a stronger predictor ($\beta = .23$, $R^2 = .08$, $p < .01$) compared to parental rejection ($\beta = .21$, $\Delta R^2 = .04$, $p < .01$) (total $R^2 = .11$) in this sample.

Rejection sensitivity as a predictor of borderline and depressive symptoms

Rejection sensitivity was a strong predictor for both borderline symptoms ($\beta = .46$, $p < .01$) as well as for depressive symptoms ($\beta = .45$, $p < .01$). When differentiating between anxiety and expectation of rejection, expectation of rejection explained most of the variance in borderline symptoms, whereas anxiety emerged as the stronger predictor for depressive symptoms (see table 3.2).

Table 3.2: Regression analyses predicting borderline symptoms/depressive symptoms

IV	DV	*B*	*SD B*	*β*	Model
Rejection sensitivity (t1)	Borderline symptoms (t2)	.07	.01	.46**	R^2 = .22
Expectation of rejection (t1)	Borderline symptoms (t2)	.31	.08	.31**	R^2 = .19
Anxiety (t1)	Borderline symptoms (t2)	.15	.06	.20*	ΔR^2 = .03
Rejection sensitivity (t1)	Depressive symptoms (t2)	.82	.18	.45**	R^2 = .20
Anxiety (t1)	Depressive symptoms (t2)	2.42	.75	.27**	R^2 = .16
Expectation of rejection (t1)	Depressive symptoms (t2)	2.58	1.02	.21*	ΔR^2 = .03

Note. IV = independent variable; DV = dependent variable.
* p < .05; ** p < .01.

Rejection and borderline/depressive symptoms

To examine how rejection sensitivity influences the relationship between experienced rejection and clinical symptoms, we conducted mediation analyses. First, parental rejection was entered as the independent variable, depressive symptoms as the dependent variable and rejection sensitivity as the mediator. Table 3.3 shows the relationship between experienced rejection and depressive symptoms to be completely mediated by rejection sensitivity (B_{indirect} = 1.49, $p < .001$, CI = .73 - 2.53). The model explained 21% of variance in depressive symptoms.

Table 3.3: Rejection sensitivity as a mediator of the relationship between parental rejection and clinical symptoms

						95% CI	
IV	DV		*Coeff.*	*SE*	*p*	*LL*	*UL*
Parental rejection (t1)	Depressive symptoms[a] (t2)	Total effect	2.70	.93	.004		
		Direct effect	1.21	.87	.17		
		Indirect effect through RS (t1)	1.49	.45	.001	.73	2.53
	Borderline symptoms[b] (t2)	Total effect	.21	.08	.008		
		Direct effect	.08	.07	.27		
		Indirect effect through RS (t1)	.13	.04	.001	.06	.23

Note. IV = independent variable; DV = dependent variable; CI = confidence interval; LL = lower level; UL = upper level.
a = R^2 = .21, $F(2,190) = 25.8$, $p < .001$; *b* = R^2 = .21, $F(2,190) = 26.8$, $p < .001$.

In the second model with parental rejection as the independent variable and borderline symptoms as the dependent variable, rejection sensitivity can also be classified as a full mediator (B_{indirect} = .13, $p < .001$, *CI* = .06 - .23). The model explained 21% of variance in borderline symptoms.

For rejection by peers as an independent variable, we conducted two mediation analyses, one with depressive and the other with borderline symptoms as the dependent variable. For both models, rejection sensitivity was a significant mediator. Whilst rejection sensitivity fully mediated the relationship between rejection by peers and

depressive symptoms (B_{indirect} = .34, p< .001, CI = .14-.62; R^2 = .21), the relationship between rejection by peers and borderline symptoms was only partially mediated (B_{indirect} = 03, p < .001, CI = .01 - 05; R^2 = .24) (see table 3.4).

Table 3.4: Rejection sensitivity as a mediator of the relationship between rejection by peers and clinical symptoms

						95% CI	
IV	DV		*Coeff.*	*SE*	*p*	*LL*	*UL*
Rejection by peers (t1)	Depressive symptoms[a] (t2)	Total effect	.64	.20	.002		
		Direct effect	.30	.19	.115		
		Indirect effect through RS (t1)	.34	.10	.001	.14	.62
	Borderline symptoms[b] (t2)	Total effect	.07	.02	.000		
		Direct effect	.04	.02	.006		
		Indirect effect through RS (t1)	.03	.01	.001	.01	.05

Note. IV = independent variable; DV = dependent variable; CI = confidence interval; LL = lower level; UL = upper level.
a = R^2 = .21, F(2,190) = 26.1, p < .001; *b* = R^2 = .24, F(2,190) = 30.8, p < .001.

Social support as the second mediator in the relationship between experienced rejection and borderline/depressive symptoms

In addition to the mediating role of rejection sensitivity, we also wanted to investigate the mediating role of social support. Therefore, we added social support as a second mediator into the mediation models above. As shown in table 3.5, social support was a significant mediator of the effect of parental rejection on depressive symptoms (B_{indirect} =1.12, $p < .01$, *CI* = .57 - 2.02). The addition of social support to the model explained 5% more of the variance in depressive symptoms, the change in variance was significant ($F(1, 189) = 14.9$, $p < .001$). The relationship between parental rejection in childhood and depressive symptoms in adult life was fully mediated by rejection sensitivity and social support.

Regarding the effect of parental rejection on borderline symptoms, social support explained an additional 4% of the variance ($F(1, 189) = 11.6$, $p < .001$). The effect of parental rejection on borderline symptoms was fully mediated by rejection sensitivity (B_{indirect} =.10, $p < .01$, *CI* = 04 - .18) and social support (B_{indirect} =.08; $p < .01$, *CI* = .04 - .17).

Adding social support as a second mediator in the model of peer rejection and depressive symptoms led to an increase of explained variance of 5% ($F(1, 189) = 15.6$, $p<.001$). The effect of peer rejection on depressive symptoms was fully mediated by rejection sensitivity (B_{indirect} =.23, $p < .01$, *CI*=06 - .45) and social support (B_{indirect} =.17, $p < .05$, *CI*=.06 - .39) (see table 3.6).

Table 3.5: Rejection sensitivity and social support as mediators of the relationship between parental rejection and clinical symptoms

IV	DV		*Coeff.*	*SE*	*p*	95% CI *LL*	95% CI *UL*
Parental rejection (t1)	Depressive symptoms[a] (t2)	Total effect	2.70	.93	.004		
		Direct effect	.53	.86	.54		
		Indirect effect through RS (t1)	1.04	.37	.005	.40	2.08
		Indirect effect through social support* (t2)	1.12	.39	.004	.57	2.02
	Borderline symptoms[b] (t2)	Total effect	.21	.08	.008		
		Direct effect	.03	.07	.679		
		Indirect effect through RS (t1)	.10	.03	.004	.04	.18
		Indirect effect through social support* (t2)	.08	.03	.007	.04	.17

Note. IV = independent variable; DV = dependent variable; CI = confidence interval; LL = lower level; UL = upper level
a = R^2 = .26, $F(3,189) = 23.4$, $p < .001$; *b* = R^2 = .25, $F(3,189) = 22.7$, $p < .001$.
*all direct effects of parental rejection on social support and of social support on the dependent variables were negative.

The effect of peer rejection on borderline symptoms remained partially mediated when adding social support to the model. The increase in the amount of explained variance was 4% ($F(1, 189) = 11.4$, $p < .001$). Rejection sensitivity ($B_{indirect}$ =.02, $p < .01$, *CI*=.01 -

.04) and social support ($B_{indirect}$ =.01, p < .05, *CI*=.003 - .03) were both significant mediators.

Table 3.6: Rejection sensitivity and social support as mediators of the relationship between rejection by peers and clinical symptoms

						95% CI	
IV	DV		*Coeff.*	*SE*	*p*	*LL*	*UL*
Peer rejection (t1)	Depressive symptoms[a] (t2)	Total effect	.64	.20	.002		
		Direct effect	.24	.18	.201		
		Indirect effect through RS (t1)	.23	.08	.005	.06	.45
		Indirect effect through social support*(t1)	.17	.07	.016	.06	.39
	Borderline symptoms[b] (t2)	Total effect	.07	.02	.000		
		Direct effect	.04	.02	.013		
		Indirect effect through RS (t1)	.02	.01	.004	.01	.04
		Indirect effect through social support* (t1)	.01	.01	.02	.003	.03

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

a = R^2 = .26, $F(3,189) = 24.0$, $p < .001$; *b* = R^2 = .28, $F(3, 189) = 25.5$, $p < .001$.

*all direct effects of peer rejection on social support and of social support on the dependent variables are negative

Discussion

For the first time, the interaction between experiences of parental and peer rejection, rejection sensitivity, social support and borderline as well as depressive symptoms was investigated. In this study, with recalled parental and peer rejection, rejection sensitivity was revealed as a mediator between experienced rejection and borderline as well as depressive symptoms. The significant influence of parental rejection on depressive as well as borderline symptomatology was fully mediated by rejection sensitivity. In other words, parental rejection only functions as a risk factor for depressive or borderline symptoms in individuals high in rejection sensitivity. These results also account for the relationship between peer rejection and depressive symptoms, whereas peer rejection maintains a significant influence on borderline features. These findings clarify the previously confounded associations between the different variables, and provide initial insight into a new model relevant for the etiology of symptoms of depression and BPD.

When social support was added to the mediator models, a significant amount of variance in psychopathology was additionally explained. Peer, as well as parental rejection was associated with lower levels of perceived social support, which in turn increased depressive and borderline symptoms. Various studies emphasize the influence of positive relationships as a resilience factor in maltreated children (Collishaw et al., 2007; Salazar, Keller, & Courtney, 2011; Seeds, Harkness, & Quilty, 2010). People with high levels of rejection sensitivity may therefore benefit from social support as a protective factor that diminishes the risk of developing depressive and borderline symptoms. These findings are consistent with McDonald et al. (2010), who found people high in rejection sensitivity to be at a lower risk for depression when reporting at least one positive relationship.

Beck's (1967, 1987) theory of depression regards cognitive risk factors as crucial for understanding the relationship between childhood experiences and depression. Rejection sensitivity can be understood as a cognitive risk factor in terms of a cognitive preparedness to expect and perceive rejection by others. The present study suggests that rejection sensitivity is one specific factor that aids in the understanding of the link between negative experiences and depressive symptoms.

As the results demonstrated, depressive symptoms were mainly associated with the *fear* of rejection rather than with the *expectation* of being rejected. To better understand the role of rejection sensitivity in diathesis-stress-models of depression, further studies should consider the role of actual stressors triggering this specific fear. Initial evidence for this assumption was provided by Chango et al. (2012), showing that current relational stressors in adolescents only led to depressive reactions in individuals high in rejection sensitivity.

In contrast, borderline symptoms were associated with the *expectation* of rejection. Considering the early onset of problematic interpersonal behavior that is characteristic of BPD, it is likely that individuals with borderline traits experienced interpersonal rejection from early on and therefore regard further rejection as inevitable.

A recent study (Bornovalova et al., 2013) analyzed the effect of childhood maltreatment on borderline features and stated that there is no direct link, but reported common genetic influences. Our findings suggest that parental rejection is only linked to borderline symptoms in individuals high in rejection sensitivity. Whereas Bornovalova and colleagues (2013) focused on shared genetic influences, we additionally emphasize the role of cognitive-affective information processing factors (like rejection sensitivity) in the interaction of aversive childhood experiences and BPD.

Peer rejection, on the other hand, is directly linked to and independently influences borderline features. 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, maintains an additional influence on borderline traits.

Another focus of the study was the empirical verification of prevailing theoretical assumptions regarding the etiological relevance of experienced rejection for rejection sensitivity. Downey et al. (1997) emphasized that both physical violence as well as emotional neglect by parents put individuals at risk for high rejection sensitivity. Our data revealed parental rejection as a significant predictor but not physical parental violence. These findings are consistent with Gibb (2002), who emphasized that childhood physical maltreatment and negative cognitive styles are not related. As stated earlier, experiences of rejection such as social exclusion or lack of communication might be more likely to lead to negative assumptions about the self than experiences of physical violence.

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

Our findings indicate that for both depressive as well as borderline symptoms rejection sensitivity seems to be an important etiological factor. Perceived social support had a protective effect. Nevertheless, 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, especially as rejection sensitivity seems to play an important role in psychopathological symptoms. There may be a genetic predisposition for rejection sensitivity as with other personality features (Bouchard, Lykken, McGue, Segal, & Tellegen, 1990; Sugden et al., 2010). Potential cognitive moderators (e.g. the importance of relationships; Wang et al., 2012) might 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.

Study 3: Remembering Rejection: Specificity and Linguistic Styles of Rejection-Related Autobiographical Memories in Borderline Personality Disorder and Depression.

Chapter 4

An adapted version of this chapter is in publication process as Rosenbach, C. & Renneberg, B. Remembering Rejection: Specificity and Linguistic Styles of Rejection-Related Autobiographical Memories in Borderline Personality Disorder and Depression.

Abstract

The Rejection Sensitivity Model (Levy et al., 2001) postulates that early and prolonged experiences of rejection are causal for high levels of rejection sensitivity. Aim of this study was to investigate autobiographical memories of rejection in a clinical sample high in rejection sensitivity (Borderline Personality Disorder, BPD) and to identify differences in the quality of the memories compared to a clinical group (Major Depression Disorder, MDD) and a healthy control group.

To retrieve memories of rejection, the Autobiographical Memory Test (AMT) was adapted using cues referring to rejection. Specificity of memories and linguistic word usage as well as rejection sensitivity was analyzed in 30 patients with BPD, 27 patients with MDD and 30 healthy controls.

Patients with BPD retrieved less specific memories compared to the healthy control group, whereas patients with MDD did not differ from controls in this regard. The group difference turned non-significant when controlling for rejection sensitivity. Linguistic analysis indicated that compared to both other groups, patients with BPD showed a higher self-focus, used more anger-related words and referred more to familiar and social environments.

A rejection-related version of the AMT led to results contradicting previous research on memory specificity. The degree of rejection sensitivity influenced memory specificity. Analysis of linguistic styles revealed specific linguistic patterns in BPD - i.e., higher self-focus more anger-related words, more reference to social processes.

Introduction

Experiences of rejection are common incidents in a person's life and each individual has personal memories of rejection by others. Whereas some people might think of a first break up, others think of parental absence or a missed job chance. All these memories are part of the autobiographical memory (ABM). ABM refers to memories of an individual's life and is regarded to hold an identity-establishing function (Brewer, 1986; Schacter, 1996). Autobiographical memories can be retrieved by a large variety of cues (e.g., a certain smell, a word, something we see). Important identity-related factors like problem-solving and mood regulation, social interaction and communication as well as simply providing information about the self are functions based on the ABM (Conway, 1996; Conway & Pleydell-Pearce, 2000).

Downey and Feldman (1996) postulated that early and long lasting experiences of interpersonal rejection are stored as a cognitive-affective processing disposition that leads to the expectation to be repeatedly rejected by others. They stated the term *rejection sensitivity* to define a tendency to anxiously expect and readily perceive rejection by others. Individuals high in rejection sensitivity are hyper-vigilant in social interactions and feel rejected in even neutral situations. In response to (presumed) rejection, they typically react either with aggressive behavior, with a high social devotion or with social withdrawal (Ayduk, Gyurak, et al., 2008; Pearson et al., 2010; Watson & Nesdale, 2012). These reaction patters can lead to actual rejection by others in terms of a self-fulfilling prophecy. The Rejection Sensitivity Model (Downey and Feldman, 1996) combines experiences of rejection, expectations of being rejected, reactions following perceived rejection, and the actual rejection by others in an amplifying vicious circle. Psychological distress and mental disorders can be the result

of a continuous reciprocal interaction of perceived and experienced rejection and dysfunctional reactions (for a review see Rosenbach & Renneberg, 2011).

One characteristic feature of Borderline Personality Disorder (BPD) is the fear of abandonment. Rejection by others can be understood as a form of abandonment, thus high levels of rejection sensitivity in BPD are conceivable. Previous research repeatedly showed extremely high levels of rejection sensitivity in BPD compared to other clinical samples as well as to nonclinical control groups (Berenson et al., 2011; Staebler, Helbing, et al., 2011).

Individuals with depressive disorders often feel worthless and isolated by others. Here as well, an elevated degree of rejection sensitivity was associated with depression in clinical samples (Gilbert et al., 2006). In a direct comparison of these two clinical groups, patients with BPD reported much higher levels of rejection sensitivity than patients with depression (MDD) (Staebler, Helbing, et al., 2011).

In view of the assumptions of Downey and Feldman (1996) that high levels of rejection sensitivity are the result of earlier experiences of rejection, we wanted to investigate the characteristics of autobiographical memories of rejection in BPD and depression. Therefore, we wanted to examine the quality of autobiographical memories of rejection regarding specificity and linguistic properties.

Specificity of autobiographical memories

In their pivotal study, initially using the Autobiographical Memory Test (AMT), (J. M. Williams & Broadbent, 1986) demonstrated that suicidal patients failed in retrieving specific memories and presented a so-called *overgeneralized memory* (OGM). OGM is

defined as the tendency to remember enduring or recurring personal events rather than a specific moment or instance when responding to cue-words of the AMT. A large variety of following empirical studies investigated overgeneral memory in several emotional disorders (for a review see J. M. Williams et al., 2007). Mainly for depression, OGM has been shown to be a consistent characteristic of autobiographical memory retrieval (for a review see J.M. Williams et al., 2007). In their meta-analysis, van Vreeswijk and de Wilde, (2004) pointed out that OGM is associated with depression in inpatient samples as well as depressive symptoms in nonclinical samples. As well, OGM in depression was associated with an increased risk of recurrent depressive episodes (Peeters, Wessel, Merckelbach, & Boon-Vermeeren, 2002). Crane, Barnhofer and Williams (2007) investigated OGM in previously depressed and never-depressed individuals. They showed that OGM is strongly associated with the self-relevance of cue-words: the more impact cues have for the individual, the less capable the individual is to retrieve specific memories. These results counted for formerly depressed individuals only, whereas for never-depressed participants the self-relevance of cues was irrelevant.

Some researchers have attempted to explain OGM as a protective mechanism helping to reduce negative emotions associated with traumatic experiences (e.g., Hermans et al., 2004). The disability to remember specific events would then be explainable by the avoidance of thinking about traumatic life events. However, in their review Moore and Zoellner (2007) stated that there is no reliable relationship between trauma exposure and overgenerality, but depressive or posttraumatic symptoms are more consistent predictors for OMG.

For BPD, the empirical evidence of overgeneral autobiographical memory retrieval is less consistent. Whereas an early study replicated empirical results for depression in

borderline samples (Jones et al., 1999), other studies did not find a lack of specificity in BPD (Arntz, Meeren, & Wessel, 2002; Renneberg, Theobald, Nobs, & Weisbrod, 2005) or found the effect only in patients with BPD with comorbid depression (Kremers, Spinhoven, & Van der Does, 2004). Startup et al. (2001) found OGM associated with less parasuicidal behavior in BPD and argued - similar as Hermans (2004) for MDD - that OGM might be a protective factor in BPD by preventing negative affectability. Two studies additionally pointed at the valence of retrieved ABM (Renneberg et al, 2005; Jorgensen et al., 2012): Borderline patients reported more negative life events than other clinical groups or nonclinical samples. Renneberg et al. (2005) also stated that borderline patients rated more memories as more unpleasant than healthy control participants who tended to rate negative life-events as neutral (see also Ebner-Priemer et al., 2006).

Poor social problem-solving (Maurex et al., 2010) diminished executive resources (J. M. Williams, 1996), and analytic (self-focused and ruminative) cognitive processing (Watkins & Teasdale, 2001) are additional factors that are discussed in their relevance for OGM (for an overview see Moore & Zoellner, 2007).

In summary, empirical research is concordant in determining OGM in depression, whereas findings regarding the capability of retrieving specific memories in BPD are inconsistent.

Until now, to our knowledge, only one study has empirically tested the association of rejection sensitivity and memory specificity (Kelleter, 2012) by using a sentence completion task in a nonclinical sample. There, rejection sensitivity was not associated

with memory specificity. An investigation of autobiographical memories in response to rejection-relevant cues using the AMT has not yet been conducted.

Linguistic patterns

Language is regarded as a psychological marker allowing insight into emotional, cognitive and social processes. The way individuals use words are connected with aspects as social status, age and gender as well as personal preferences, goals and biography. To study language use as an indicator for psychological processes has a large history going back to Freud (1901). Whereas for a long time qualitative analyses have been dominant, quantitative methods became more and more relevant in the investigation of linguistic styles. (Pennebaker, Mehl, & Niederhoffer, 2003) give an overview over the different methods of statistical word count procedures.

Due to the stability over time of people's word choice, language is a valid measure to assess individual differences regarding basic language usage as well as socialpsychological and cognitive dimensions (Pennebaker, et al., 2003; for a summary of all reliability statistics, see Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007). Perspectives of sociolinguistic and communication research regard language as a method that enables individuals to give a meaning to events. These created meanings shape the individual`s reality (see Pennebaker, et al., 2003). Therefore, language has a great impact on the memory of events and thereby influences the self (see also Prebble, Addis, & Tippet, 2013).

Using the Adult Attachment Interview (AAI), Carter and Grenyer (2012) compared spoken word usage in borderline patients with a healthy control group. The authors conclude an overall disturbance in expressive language and showed that borderline

patients used less words related to positive emotions and more words related to negative emotions (especially anger-related words) than the control group. They did not identify any difference regarding the 1st person usage but stated that borderline patients used less words related to cognitive mechanisms (words like "think", "consider", "cause").

In a sample of patients with different Axis II disorders, Arntz, Hawke, Bamelis, Spinhoven and Molendijk (2012) found less positive and more negative emotional word usage in patients with a personality disorder compared to a healthy control group. Additionally, they reported that the diagnosis of a personality disorder was associated with less language use related to social interaction and more negation use.

Numerous studies have demonstrated that symptoms of depression are frequently expressed by specific language patterns in individuals with depressive disorders. An often-observed phenomenon in depressed samples is the elevated usage of 1st person singular (linguistic self-focus) and a lack of 3rd person pronouns (Bucci & Freedman, 1981; Mehl, 2006; Rude, Gortner, & Pennebaker, 2004; Stirman & Pennebaker, 2001). Regarding emotional word usage, Rude et al. (2004) reported that depressed individuals employed more negative emotion words than healthy controls. Mehl (2006) investigated several linguistic dimensions and found the amount of anger- and optimism-related words negatively correlated with levels of depressive symptoms. In a study comparing word usage in online blogs and personal diaries, more depressive symptoms were associated with less positive emotions, more sadness and more descriptions of cognitive mechanisms (Rodriguez, Holleran, & Mehl, 2010).

Most of the listed studies applied the Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2001; see method section) to analyze language use in different categories. To our knowledge, memories retrieved via the AMT have not yet been analyzed with a quantitative word count program such as the LIWC.

Aim of the present study was to analyze autobiographical memories in patients with BPD using an adapted, rejection-focused version of the AMT. Patients with MDD were chosen as a clinical control group because a) depressive symptoms have been associated previously with rejection sensitivity whereby the levels of rejection sensitivity were not as high as in BPD, and b) linguistic patterns in BPD can be tested regarding their disorder-specificity.

We first looked at the specificity of memory recall in borderline patients and depressed individuals as well as nonclinical controls. Additionally, we applied LIWC on all retrieved memories and compared the usage of linguistic patterns.

We expected the highest levels of rejection sensitivity in BPD, followed by MDD, and the lowest levels in the healthy control-group.

As patients with BPD are highly sensitive to rejection and rejection sensitivity is theoretically associated with enduring rather than unique experiences of rejection, we hypothesized less specific memories in BPD in the adapted rejection-version of the AMT.

Regarding the linguistic patterns, we exploratory investigated the linguistic categories that have been associated before with BPD and added further categories of interest (see method section).

Method

Participants

Participants in this study were recruited in different settings and encompass three groups: borderline patients (N = 30; 28 female, 2 male; M_{age} = 30.5, SD_{age} = 8.43), depressed patients (N = 27; 18 female, 9 male; M_{age} = 41.6, SD_{age} =14.5) and a nonclinical control group (N = 30; 22 female, 8 male; M_{age} = 33, SD_{age} = 10.4). Borderline patients were in inpatient treatment at the Department of Psychiatry Charité - Universitätsmedizin Berlin. Patients with depressive disorders were in outpatient treatment at the Vivantes Klinikum for Psychiatry, Psychotherapy and Psychosomatic, Berlin, and the outpatient facility of Freie Universität, Berlin. Nonclinical controls were recruited at a public scientific event (*Lange Nacht der Wissenschaften / Long Night of Science*) at Freie Universität Berlin.

Trained interviewers diagnosed borderline patients according to the German version of the International Neuropsychiatric Interview (M.I.N.I.; Ackenheil, Stotz-Ingenlath, Dietz-Bauer, & Vossen, 1999) and the Structured Clinical Interview for DSM-IV, Axis II (SCID II; Fydrich, Renneberg, Schmitz, & Wittchen, 1997), and depressed patients with SCID I (Wittchen, Wunderlich, Gruschwitz, & Zaudig, 1997) and SCID II (Fydrich, Renneberg, et al., 1997). Exclusion criteria were acute psychotic symptoms, current substance use disorder, organic brain disease and bipolar disorders.

Measures

Rejection sensitivity. Rejection sensitivity was assessed using the German version of the Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996; German version: *Fragebogen zur Zurückweisungsempfindlichkeit*, Staebler, Helbing, et al, 2011). The RSQ consists of 20 hypothetical social situations with ambiguous outcome (e.g., "You

ask a friend to lend you money"). Each situation is rated regarding a) the anxiety (e.g., "How anxious would you be over whether or not your friend would lend you money?") and b) regarding the expectation about the outcome ("I would expect my friend would willingly lend me money.").

Anxiety and expectation are both rated on a 6-point Likert response format (anxiety: 1 = *not at all anxious*, 6 = *very anxious*; expectation: 1 = *very unlikely*, 6 = *very likely*). Three scores can be calculated for the RSQ: the mean score for anxiety (range 1-6), the mean score for expectation of rejection (range 1 - 6), and the overall rejection sensitivity score (the score for degree of anxiety is multiplied by the reverse score for expectancy rejection [7 - expectation of acceptance], range 1 - 36). Internal consistency (α = 0.94) and re-test reliability (r_{tt} = 0.90) of this scale proved excellent (Staebler et al., 2011).

Autobiographical memory. The original Autobiographical Memory Test (AMT) administered by (J. M. Williams & Broadbent, 1986) consisted of 10 emotional cue-words (5 pleasant and 5 unpleasant adjectives). Aim of the development of the modified version of the AMT was to specifically look at experiences of rejection in the autobiographical memories of borderline patients and individuals with MDD. Therefore we used five rejection-related cue-words (rejected, neglected, ignored, repelled, unwanted) and five positive cue-words (safe, carefree, happy, successful, interested). Participants obtained a written instruction sheet followed by the presentation of the alternating positive/rejection cue-words, with each cue word presented on a single page. Each page provided space to write down a memory associated with the respective cue. The instruction sheet contained the request to think of a specific event that happened at a specific time at a specific place. Each following cue word was introduced by the task "Of which event does this word remind you? Describe the event as precisely as possible".

Linguistic patterns. Linguistic Inquiry and Word Count (LIWC; Pennebaker, Booth, & Francis, 2007) is a dictionary-based and computerized text analysis program developed for the exploration of different text patterns. It counts the words in a given text file and matches every word to fitting linguistic dimensions. The dimensions range from basic language categories (e.g., articles, pronouns), to psychological processes (e.g., positive and negative emotion categories), relativity-related words (e.g., time), and traditional content dimensions (e.g., sex, death, home, occupation). The dimensions are hierarchically organized and words can fall into several categories (e.g., "terrified" would fall in the categories "affect", "negative feeling", "anxiety", and "past tense".). Results are displayed in the percentage of word use in each category.

LIWC was applied in a variety of studies investigating social processes, personality, and clinical issues as well as lyric, political discourses and daily communication (Wolf et al., 2008).

In this study the German version of LIWC was applied (Wolf et al., 2008). In line with previous research regarding observed linguistic patterns in BPD and MDD (see introduction), we investigated the 1st and 3rd person usage, negation, positive emotions, negative emotions (sadness and anger), social processes, and cognitive mechanisms. Additionally word usage related to sexuality and death was explored (Table 4.1). Linguistic analyses were conducted first for the categories and then for the subcategories.

Table 4.1: Applied categories and word examples

Dimension	Categories	Subcategory	Dictionary entry (Exp.)
Basic-linguistic dimensions	Word count		
	Pronominal	1st person singular	*me, I*
		1st person plural	*we, us*
		3rd person	*he, him, her, them*
	Negation		*no, never*
Psychological processes	Affective processes	Positive emotions	*happy, good, lucky*
		Negative emotions	*sad, useless*
		Sadness	*lonely, depressed, cry*
		Anger	*aggression, hate, yell*
	Social processes	Friends	*friend, partner*
		Family	*mother, father, sister*
		Home	
	Cognitive processes		*therefore, know, define*
Personal issues	Physical	Sexuality	*love, naked, condom*
		Death	*suicide, drawn*

Procedure

Participation was voluntary and anonymous for control group participants. All participants completed a short sheet with basic information (age, gender) followed by the AMT and the RSQ. All hand–written essays were subsequently transcribed in Microsoft Excel by two trained research assistants. The transcripts were corrected for simple spelling errors, and abbreviations were written-out. Text data analyses were then run in LIWC, quantitative data analyses were performed with SPSS, Version 21.

Data with more than three omissions in the AMT were excluded from the statistical analyses.

Statistics

ANOVAs with Bonferroni post hoc tests were used to test group differences in rejection sensitivity.

The relationship between rejection sensitivity and linguistic word usage was examined with correlations.

Group differences regarding the specificity of memories as well as word usage in response to positive or rejection cue-words were investigated via 3 (BPD, MDD, CG) × 2 (positive cues, rejection cues) ANOVAs. Bonferroni post hoc tests were applied to further investigate group differences, whereas intragroup differences were checked via t-tests.

Rejection sensitivity was entered as a covariate in all ANOVAs regarding specificity and word usage in ABM.

As no previous empirical research has been undertaken in this specific topic, we used an exploratory approach for the analyses and thus abstained from correction of significance levels (e.g., Bonferroni).

Results

Rejection Sensitivity

As expected, patients with BPD reported the highest and the control group the lowest level of RS ($F(2, 80) = 19.52$, $p < .001$, $\eta^2 = .34$) (see Table 4.2 for descriptive statistics). Post hoc tests revealed a significant difference between borderline patients and both other groups (both $p < .001$), whereas depressed patients and controls did not differ ($p = .70$). The same pattern was observed in the subscales anxiety ($F(2, 80) = 25.06$, $p < .001$, $\eta^2 = .40$) and expectation ($F(2, 80) = 13.24$, $p < .001$, $\eta^2 = .26$).

Table 4.2: Descriptive results on rejection sensitivity

	BPD	MDD	CG
Rejection sensitivity	18.15 (7.09)	11.94 (6.52)	7.94 (2.89)
Rejection anxiety	4.76 (.87)	3.60 (1.02)	3.08 (.75)
Rejection expectation	3.59 (1.03)	2.92 (.94)	2.33 (.58)

BPD = Borderline Personality Disoder; MDD = Major Depression; CG = nonclinical control group
Values given as mean (standard deviation).

Regarding the associations of rejection sensitivity and linguistic patterns, the RSQ total score was correlated negatively with *total word use* ($r = -.58$, $p < .05$), 3rd person usage ($r = -.27$, $p = .01$), and *positive emotions* ($r = -.29$, $p < .05$) and positively with *social processes* ($r = .27$, $p = .01$) and *family* ($r = .32$, $p < .01$).

Specificity

Descriptive results on the percentage of specific memories are given in Table 4.3. Groups differed significantly in number of specific memories ($F(2, 85) = 3.61$, $p = .03$, $\eta^2 = .078$), whereas the main effect for cue-word ($F(1, 85) = .15$, $p = .70$, $\eta^2 = .002$) and the cue-word × group interaction ($F(2, 85) = 1.33$, $p = .33$, $\eta^2 = .026$) were non-significant. Post hoc tests revealed that borderline patients reported less specific memories than the

nonclinical control group (p = .032), whereas the depressed patients did not differ significantly from the nonclinical control group or the borderline group (all *ps* > .14). Adding rejection sensitivity as covariate in the ANCOVA, the main group effect was no longer significant ($F(2, 85) = 2.67$, p = .075, η^2 = .06), no other main or interaction effects showed significance (all *ps* > .33).

Table 4.3: Number of specific responses on the autobiographical memory test (AMT)

	BPD	MDD	CG
Total	31.02 (25.70)	41.89 (26.40)	43.78 (28.35)
Positive cues	29.60 (32.03)	40.68 (28.50)	45.83 (34.02)
Rejection cues	32.11 (33.33)	41.73 (30.90)	42.93 (31.86)

BPD = Borderline Personality Disoder; MDD = Major Depression; CG = nonclinical control group
Values given as mean (standard deviation) in %.

Linguistic dimensions of word use

Word count

The total word count of all memories was 24,242. The LIWC dictionary recognized 76.6 % of all words.

Over all participants, 813 memories were generated (BPD = 263, MDD = 255, CG = 295). The length of memories ranged between one and 160 words (M = 29.80, SD = 24.31). In response to positive cues, longer memories were generated (M = 32.45, SD = 25.03) than in response to rejection cues (M = 27.08, SD = 23.26; $t(1, 810) = -3.16$, $p < .01$). Borderline patients retrieved shorter memories (M = 20.88, SD = 16.36) than depressed patients (M = 34.24, SD = 28.52) and control participants (M = 33.98, SD = 24.25) ($F(2, 808) = 28.07$, $p < .001$, η^2 = .07). These significant group differences applied to memories retrieved to positive cues ($F(2, 399) = 18.32$, $p < .001$, η^2 = .08) as well as rejection cues ($F(2, 412) = 12.52$, $p < .001$, η^2 = .06).

Table 4.4: Descriptive results on linguistic categories

Category	Cues	Sample			
		BPD	MDD	CG	all
1st pers. sing.	total	15.80a (9.28)	13.23b (7.75)	10.46c (6.97)	13.06 (8.31)
	pos.	16.34 (8.73)	13.87 (9.09)	10.43 (6.95)	13.37 (8.58)
	reject.	15.31 (9.76)	12.61 (6.15)	10.49 (7.02)	12.75 (8.04)
1st pers. pl.	total	0.25 (1.16)	0.38 (1.47)	0.52 (1.82)	0.39 (1.53)
	pos.	**0.32** (1.45)	**0.47** (1.83)	**0.70** (2.08)	**0.51** (1.82)
	reject.	**0.18** (0.80)	**0.29** (1.02)	**0.35** (1.52)	**0.27** (1.16)
3rd pers.	total	2.14 (4.02)	2.74a (3.65)	2.02b (2.95)	2.29 (3.55)
	pos.	1.67 (4.30)	**1.79** (4.30)	**1.19** (2.20)	1.53 (3.29)
	reject.	2.58 (3.72)	**3.67** (3.72)	**2.86** (3.36)	3.02 (3.65)
Negation	total	3.23 (9.12)	2.05 (3.61)	3.96 (5.98)	2.54 (6.64)
	pos.	**4.48** (12.58)	1.50 (3.00)	**0.76** (1.85)	2.17 (7.50)
	reject.	**2.08** (3.49)	2.59 (0.06)	**3.96** (7.96)	2.90 (5.68)
Pos. emot	total	4.06 (8.28)	4.15 (4.68)	5.01 (5.51)	4.44 (6.34)
	pos.	**5.52** (6.86)	**5.35** (5.09)	**5.78** (4.76)	**5.56** (5.59)
	reject.	**2.71** (9.22)	**2.98** (3.92)	**4.25** (6.10)	**3.34** (6.82)
Neg. emot.	total	2.52 (4.84)	2.25 (3.46)	2.24 (6.57)	2.33 (5.19)
	pos.	**1.83** (5.12)	**0.88** (2.06)	**0.97** (2.31)	**1.22** (3.42)
	reject.	**3.16** (4.49)	**3.59** (3.99)	**3.51** (8.86)	**3.42** (6.28)
Sadness	total	0.40 (1.50)	0.46 (1.69)	0.38 (1.19)	0.41 (1.46)
	pos.	0.32 (1.32)	0.19 (0.74)	0.27 (1.04)	**0.26** (1.06)
	reject.	0.47 (1.66)	0.72 (2.23)	0.50 (1.32)	**0.56** (1.76)
Anger	total	0.51a (2.27)	0.09b (0.48)	0.18b (0.90)	0.26 (1.43)
	pos.	0.42 (2.64)	0.02 (0.16)	0.05 (0.29)	0.16 (1.50)
	reject.	0.59 (1.87)	0.16 (0.65)	0.31 (1.23)	0.36 (1.36)
Soc. proc.	total	11.53a (13.45)	8.93b (7.74)	7.78b (7.14)	9.35 (9.90)
	pos.	**7.66** (11.45)	**6.05** (6.41)	**5.61** (5.31)	**6.39** (8.07)
	reject.	**15.08** (14.18)	**11.75** (7.92)	**9.98** (8.05)	**12.22** (10.65)
Friends	total	1.27 (6.65)	**1.03** (2.41)	**0.98** (2.54)	1.09 (4.29)
	pos.	0.79 (2.47)	**0.61** (1.98)	**0.65** (1.61)	0.68 (2.03)
	reject.	1.71 (8.90)	1.45 (2.71)	1.32 (3.19)	1.49 (5.66)
Family	total	5.02a (11.13)	1.91b (3.76)	1.17b (2.18)	2.64 (6.99)
	pos.	**3.07** (9.87)	1.44 (3.33)	0.96 (1.99)	1.78 (6.02)
	reject.	**6.81** (11.93)	2.36 (4.09)	1.38 (2.35)	3.49 (7.73)
Home	total	1.10 (3.21)	0.75 (1.76)	0.75 (1.88)	0.87 (2.37)
	pos.	**0.50** (1.60)	**1.05** (2.09)	0.91 (2.10)	0.82 (1.96)
	reject.	**1.66** (4.10)	**0.46** (1.31)	0.60 (1.63)	0.91 (2.70)
Cogn. proc.	total	10.68 (10.39)	9.43 (7.93)	9.67 (9.48)	9.92 (9.34)
	pos.	11.03 (12.35)	9.54 (8.45)	10.14 (11.22)	10.23 (10.81)
	reject.	10.35 (8.22)	9.32 (7.42)	9.20 (7.32)	9.62 (7.66)
Sex.	total	0.27 (1.37)	0.21 (1.25)	0.19 (0.89)	0.22 (1.17)
	pos.	0.16 (1.32)	0.14 (0.73)	0.12 (0.71)	0.14 (0.95)
	reject.	0.36 (1.40)	0.27 (1.60)	0.27 (1.04)	0.30 (1.35)
Death	total	0.13 (0.95)	0.10 (0.79)	0.07 (0.54)	0.10 (0.77)
	pos.	0.17 (1.23)	0.00 (0.00)	0.07 (0.60)	0.08 (0.78)
	reject.	0.09 (0.59)	0.19 (1.11)	0.07 (0.46)	0.11 (0.76)

capture for table 4.4
BPD = Borderline Personality Disoder; MDD = Major Depression; CG = nonclinical control group.
reject. = rejection cues, pos. = positive cues, soc. proc. = social processes, cogn. proc. = cognitive processes.
values given as mean (standard deviation) in %.
a,b,c values on the same line with different letters differ significantly.
bold values underneath differ significantly.

Basic linguistic dimensions of word use

All descriptive statistics on linguistic dimensions are displayed in Table 4.4.

Over all memories, the main effect for the group factor in the category *1st person* was significant ($F(2, 812) = 31.13$, $p < .001$, $\eta^2 = .072$), whereas the main effect for the cue-word factor ($F(1, 812) = 1.73$, $p = .19$, $\eta^2 = .002$) and the groups × cue-word interaction effect ($F(2, 812) = .55$, $p = .58$, $\eta^2 = .001$) were non-significant. Post hoc tests revealed significant differences between all groups (all $p < .001$) with borderline patients using the 1st person singular more often than both other groups and depressed patients more frequently than controls.

These results only counted for *1st person singular*, whereas groups did not differ in *1st person plural* usage ($F(2, 812) = 2.24$ $p = .11$, $\eta^2 = .006$). In 1st person plural usage, a cue-word main effect was observed instead ($F(1,812) = 4.36$, $p = .047$, $\eta^2 = .005$), indicating more 1st person plural usage in response to positive cues than to rejection cues. Cue-word × group interaction was non-significant ($F(2, 812) = .35$, $p = .70$, $\eta^2 = \cdot001$).

In the category *3rd person*, the main effects for group ($F(2, 812) = 3.19$, $p = .04$, $\eta^2 = .008$) and for cue-word ($F(1, 812) = 36.9$, $p < .001$, $\eta^2 = .044$) were significant, but not the interaction effect ($F(2, 812) = 1.38$, $p = .25$, $\eta^2 = .003$). Post hoc tests showed a significant difference between depressed patients and controls ($p = .048$), with depressed patients using more often 3rd person words than controls, whereas all other differences did not

reach significance (all $p > .15$). Regarding the intragroup differences, patients with major depression used significantly more *3rd person* in response to rejection cues compared to their responses to positive cues ($t(253) = -4.23$, $p < .001$), showing a similar linguistic pattern as the control group ($t(293) = -5.02$, $p < .001$). Word usage of patients with BPD did not differ significantly in this regard ($t(261) = 1.85$, $p = .066$).

In the category *negation (e.g., never, nobody, no)*, a significant group × cue-word interaction effect was found ($F = 12.88$, $p < .001$, $\eta^2 = .031$), whereas the main effect for group ($F(2, 812) = 2.54$, $p = 0.80$, $\eta^2 = .006$) and the main effect for cue-word ($F(1, 812) = 1.85$, $p = .17$, $\eta^2 = .002$) were non-significant. Depressed patients retrieved more words in the category *negation* in response to rejection cue-words than to positive cues ($t(253) = -2.42$, $p = .016$), showing a similar pattern as the control group ($t(293) = -4.75$, $p < .001$). Borderline patients, in contrast, retrieved more *negation* words in response to positive cues ($t(261) = .2.15$, $p = .033$) (Figure 4.1).

Psychological dimensions of word use

Affective processes in word use

Significant cue-word main effects in the categories *positive emotions* and *negative emotions* indicate that all participants used more *positive emotions* in response to positive cue-words than in response to rejection cue-words ($F(2, 812) = 25.96$, $p < .001$, $\eta^2 = .031$) and vice versa in the category *negative emotions* ($F(2, 812) = 37.48$, $p < .001$, $\eta^2 = .044$). Neither group main effects nor interaction effects in these two categories were significant (all *ps* >.15).

In the category *sadness* the main cue-word effect was significant ($F(1, 812) = 8.80$, $p = .003$, $\eta^2 = .01$), indicating more sadness-related words in response to rejection cues over

all groups. Neither the group effect ($F(2, 812) = .18$, $p = .83$, $\eta^2 = .001$) nor the interaction effect ($F(1, 812) = 1.23$, $p = .29$, $\eta^2 = .003$) were significant.

In the category *anger* the group main effect was significant ($F(2, 812) = 6.04$, $p = .002$, $\eta^2 = .015$), whereas the cue-word main effect ($F(1, 812) = 3.73$, $p = .54$, $\eta^2 = .005$) and the interaction effect ($F(2, 812) = .14$, $p = .87$, $\eta^2 = .001$) were non-significant. Post hoc tests revealed that borderline patients used more *anger* words than both other groups (both $p < .02$), whereas patients with MDD and controls did not differ ($p = .99$).

Social processes in word use

In the main category *social processes* both the group main effect ($F(2, 812) = 10.51$, $p < .001$, $\eta^2 = .025$) and the cue-word main effect ($F(1, 812) = 78.57$, $p < .001$, $\eta^2 = .089$) were significant, but not the interaction effect ($F(2, 812) = 1.84$, $p = .16$, $\eta^2 = .005$). Post hoc tests revealed patients with BPD using more words in this category than patients with MDD and controls (both $ps < .01$), whereas controls and patients with MDD did not differ ($p = .43$). All groups used more words in the category *social process* in response to rejection cues than to positive words (all $p < .001$).

In the category *friends, the* cue-word main effect reached significance ($F(1, 812) = 7.15$, $p = .008$, $\eta^2 = .009$). The depressed group ($t(253) = -2.82$, $p = .005$) and controls ($t(293) = -2.25$, $p = .025$) used more *friends* related words in response to rejection cues than to positive cues, whereas the word usage in patients with BPD did not differ in this regard ($t(261) = -1.12$, $p = .266$). Both the group main effect ($F(2, 812) = .30$, $p = .74$, $\eta^2 = .001$) and the interaction effect ($F(2, 812) = .07$, $p = .94$, $\eta^2 = .001$) were non-significant in this category.

In the category *family* the group main effect ($F(2, 812) = 23.96$, $p < .001$, $\eta^2 = .056$) and the cue-word main effect ($F(2, 812) = 12.83$, $p < .001$, $\eta^2 = .016$) as well as the group ×

cue-word interaction ($F(2, 812) = 4.77$, $p = .009$, $\eta^2 = .012$) were significant (Figure 4.2). Post hoc tests showed patients with BPD with higher word use in this category than both other groups (both *ps* < .001), whereas depressed and controls did not differ from each other ($p = .60$). Additionally, patients with BPD used more *family*-related words in response to rejection cues than to positive cues ($t(263) = -2.75$, $p = .006$), whereas both other groups did not show this pattern ($p > .05$).

In the category *home*, both main effects were not significant ($F_{group}(2, 812) = 1.71$, $p = .17$, $\eta^2 = .004$; $F_{cue\text{-}word}(1, 812) = .27$, $p = .61$, $\eta^2 = .001$), but a significant group × cue-word interaction effect was detected ($F(2, 812) = 10.64$, $p < .001$, $\eta^2 = .026$). Whereas borderline patients referred more often to *home* in response to rejection cues ($t(261) = -2.97$, $p = .003$), depressed patients more often wrote about *home* in response to positive cues ($t(253) = 2.70$, $p = .007$). The control group did not differ in their word usage in response to positive and rejection cues ($t(293) = 1.44$, $p = .15$).

Cognitive processes in word use

Neither main effects nor the interaction effect in the category cognitive processes were significant (all $p > .26$).

Personal issues

No main group, cue-word or interaction effect was detected in the categories *death* (all p > .10) or *sexuality* (all $p > .05$). The percentage usage in these categories was little to non-existent.

Rejection sensitivity and word categories

In the categories associated with rejection sensitivity (*3rd person usage, positive emotions*, *social processes,* and *family*), the 3×2 ANOVAs run before were again checked

with rejection sensitivity as covariate. No significant changes in main or interaction effects were retrieved, indicating that these effects are not attributable to the RSQ level.

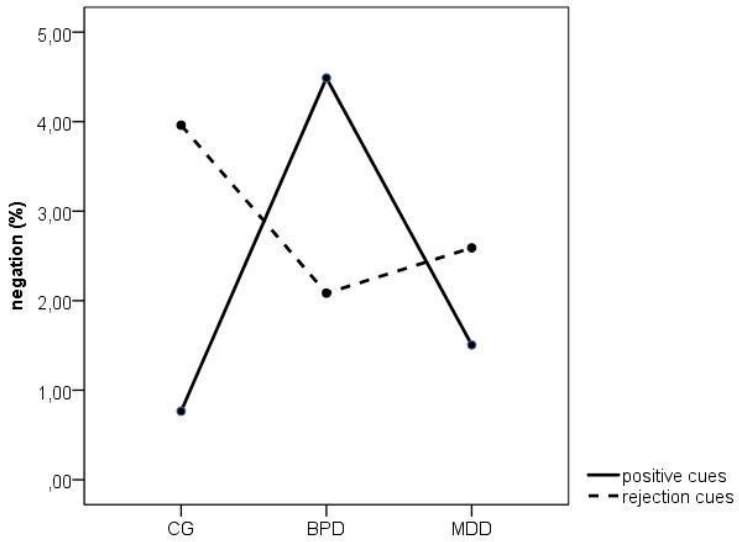

Figure 4.1: Group (CG, BPD, MDD) x cue-word (negation) ANOVA

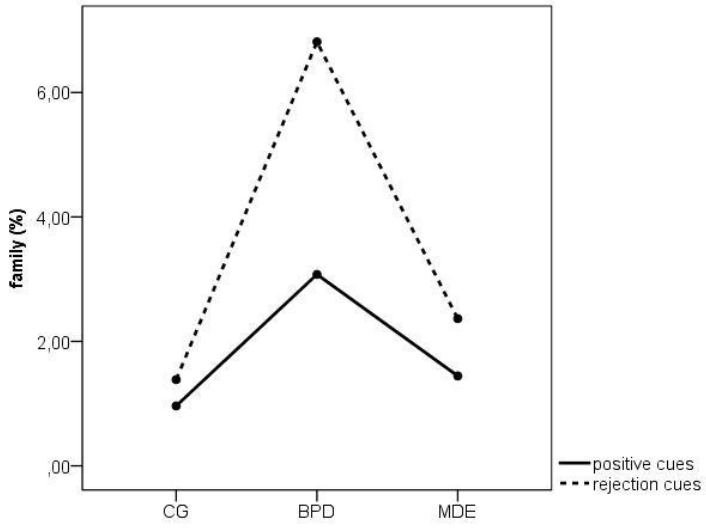

Figure 4.2: Group (CG, BPD, MDD) x cue-word (family) ANOVA

Discussion

Results of this study provide first insight in the quality of memories to rejection words in BPD and depression compared to healthy controls. Additionally, the role of current rejection sensitivity for the specificity and for language usage was investigated.

Other than in previous research, patients with depression did not show the phenomenon of *overgeneralized memory* (OGM) in the AMT. Instead, individuals with BPD retrieved significantly less specific memories than the nonclinical control group overall, but did not differ from the depressed group. This group difference was no longer significant when controlling for the degree of rejection sensitivity. These results indicate that the lack of specificity in rejection-related memories may be explainable by the degree of rejection sensitivity rather than by diagnoses of mental disorders. High levels of rejection sensitivity are regarded as the result of early and prolonged experiences of rejection (Downey & Feldman, 1996). Therefore, it is conceivable that individuals high in rejection sensitivity retrieve less specific memories and report long lasting or reoccurring events of interpersonal rejection. When looking at the percentage of retrieved categorical (that is, reoccurring events) memories, 20.23% of the memories in patients with BPD were categorical, compared to 10.2 % in MDD and 15.5% in the healthy controls. These results are significant for the difference between BPD and MDD (p = .048) but not for the difference between BPD and healthy control group (p = .37). These results indicate a higher number of memories of repeated experiences of rejection rather than singular events in BPD. Furthermore, the impact of personal relevance of cues on the specificity of memories has been demonstrated before (Crane et al., 2007). Therefore, rejection cues - highly relevant for individuals high in rejection sensitivity such as in BPD – were associated with less specificity in highly rejection sensitive individuals.

Compared to previous studies, participants retrieved generally few specific memories. Renneberg et al. (2005) reported a mean score of specific memories of 3.33 in response to 5 positive cues and 3.73 in response to 5 negative cues, and Kremers et al. (2004) pointed at 75.3% specific memories in healthy controls, 54.4% in MDD, and 59 - 70% in BPD (depending on comorbid MDD).

Debeer, Hermans and Raes (2009) compared specificity of memories of participants using a minimal instruction version as we did in this study to participants who were given a more detailed instruction as initially established by Williams and Broadbent (1986). Results indicated that minimal instructed individuals retrieved significantly fewer specific memories (53% vs. 83%), wherewith results of the present study confirm. Still, in the present study the total amount of specific memories was comparably lower (28%). The rejection-specificity of the adapted AMT might be an explanatory reason.

Main findings regarding the linguistic patterns indicate that individuals used more words related to social processes in response to rejection cues than to positive cues, and more words related to positive emotions in response to positive cues respectively more words related to negative emotions in response to rejection cues. These effects emphasize that the adapted version of the AMT works well in terms of rejection-related cue-words retrieving more negatively experienced memories related to interpersonal aspect, whereas positive cues activate more positive emotions.

Personal pronouns can offer insight regarding the subject of general attention. Borderline patients used more often 1st person singular than both depressed participants and the control group, indicating a high self-reference in BPD and contradicting previous findings that showed no difference between BPD and non-clinical

controls (Carter & Grenyer, 2012). Mor and Inbar (2009) experimentally investigated schema-congruent information processing biases related to rejection sensitivity and demonstrated that individuals high in rejection sensitivity tend to describe themselves with more rejection-related words. Additionally, rejection sensitivity predicted the amount of recalled rejection-related words. Results indicate that rejection cues are rated as highly self-relevant in individuals high in rejection sensitivity. The high usage of 1st person singular in BPD might therefore be explained by the highly self-relevant cues (of rejection) that potentially trigger higher self-reference.

Patients with MDD were lower in self-reference than individuals with BPD but still significantly higher than the healthy control group. This result confirms prior research showing a higher 1st person word usage in MDD compared to healthy control groups (e.g., Rude et al., 2004).

In contrast, the high focus on others in MDD, demonstrated by the higher usage of 3rd person, is unsettling. High usage of 3rd person has prior been associated with out-group awareness (Tausczik & Pennebaker, 2010), and individuals with MDD often feel as outsiders. Our data, especially when relating to rejection experiences, might indicate an out-group perception (e.g., in response to rejected: "*In school, I wanted to play with some girls of my class. First they did not let me participate, then they just left*.").

In BPD, more negation words were used in response to positive words than to rejection cues, differing from both other groups. Negation refers to words as "never", "nobody", and "nothing" and a higher usage in response to positive cues indicate that patients with BPD more often deny having memories in response to positive cues. This is confirmed by looking at the wording of memories of patients with BPD (in response to happy: "*I never felt happy"* or in response to secure: "*no one ever gave me the feeling of being*

secure"). In certain ways these results confirm Renneberg and colleagues` results (2005), who reported more unpleasant memories in BPD compared to healthy controls.

A more frequent usage of anger-related words in BPD compared to patients with MDD and healthy controls emphasizes the significance of anger as emotion in BPD (Gardner, Leibenluft, O'Leary, & Cowdry, 1991; Jacob et al., 2008) and goes in line with BPD criteria in DSM-IV ("Inappropriate, intense anger or difficulty controlling anger"; APA, 2000). Berenson et al. (2011) demonstrated that rage is a contingent reaction to perceived rejection in BPD. Our data support these findings by indicating a higher usage of anger-related words in a rejection-related version of the AMT (e.g., in response to neglected: "*in my childhood and youth! My parents hated me; they always showed me I wasn't welcome*").

Even though the group differences in the category *sadness* were not significant, Figure 4.3 shows a trend in so far, that individuals with MDD more often use sadness-related words in response to rejection cues than to positive cues - in contrast to both other groups that hardly differ. Sadness is, probably, dominant as emotional reaction to rejection-relevant cues in MDD. Smart Richman and Leary (2009) stated that depending on different external and internal aspects, reactions to rejection differ in their appearance. Therefore, it is assumable that due to their inner emotional states, BPD and MDD react differently to rejection.

Interestingly, patients with BPD referred more often to social processes, especially to family and home, in response to rejection cues. This leads to the assumption that patients with BPD associate particularly rejection-related words with interpersonal

events taking part in familiar and home environment. A closer look at the qualitative features of retrieved memories revealed many memories in BPD related to rejection by primary caregivers, particularly by the mother (e.g., in response to repelled: "*my mother never cuddled me*" or: "*I have always been told by my parents how useless I am*")

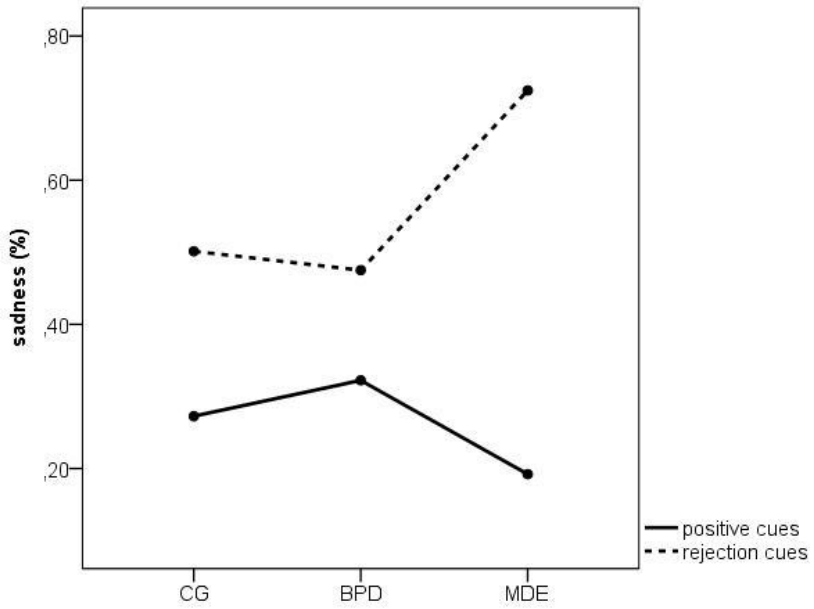

Figure 4.3: Group (CG, BPD, MDD) x cue-word (sadness) ANOVA

A main limitation of this study is the lack of control for depressive symptoms and BPD symptoms in the nonclinical control group. Due to the assessment of the healthy control group in an anonymous and public setting, the task duration was limited and filled in with the given questionnaires.

Especially the missing statistical difference in the RSQ comparing MDD with the healthy control group is divergent to previous findings. Future studies should focus on further investigating characteristics of autobiographical memories and thereby control for BPD and MDD symptomatology.

Neither intelligence nor verbal fluency was tested. Any linguistic differences can be traceable on factors associated with these factors. As well, additional features previously associated with OGM (see introduction) and potentially influencing the present results (such as self-relevance) were not investigated and should be controlled for in pursuing studies.

The written form of the AMT implies a greater number of omissions. Even though participants with more than 3 omissions were excluded, an oral setting might reduce the omissions still.

Qualitative content analyses of the assessed memories were not conducted yet. Aspects such as reported trauma as well as self-relevance and valence of memories should additionally be investigated.

Crane and colleagues (2007) stated the importance of cue relevance for the specificity of ABM. Patients with BPD show high levels of rejection sensitivity; therefore they are extremely vigilant in regard to rejection-related cues (Renneberg et al., 2012). Findings of the present study indicate that the cue relevance – namely rejection related cues – may play an important role for the quality of memories. Taking the identity-shaping character of autobiographical memories into account, it becomes obvious how relevant experiences of rejection are for individuals with BPD. As well, when retrieving memories associated with rejection, patients with BPD associate as many prolonged experiences as specific memories, indicating the potential power of long-lasting rejection for BPD.

The analysis of linguistic patterns provided first insight in the representation of rejection-related memories in BPD compared to patients with MDD and healthy controls. Language proves to be a relevant indicator for cognitive and affective processes in confirming clinical and theoretical assumptions of characteristic in BPD.

General discussion

Chapter 5

Main results

Study 1

First goal of the present dissertation was to shed light on the theoretical assumptions and empirical data regarding rejection sensitivity in mental disorders. Therefore, in study 1 a broad review regarding research on rejection sensitivity was conducted. Out of 1075 scientific papers, only 21 utilized the RSQ (or CRSQ) in connection with subclinical syndromes and mental disorders. All other publications either applied different measures not explicitly assessing rejection sensitivity as defined by Feldman and Downey (1994) or referred to social-psychological, psychopharmacological or theoretical issues. This alone indicates how important it is to consider the applied methodology and the underlying theoretical model when referring to research on rejection sensitivity.

Out of the 21 remaining articles, only four assessed rejection sensitivity in clinical samples. All others looked at (mainly student) non-clinical samples. Two studies (Gilbert et al., 2006; Staebler et al., 2011) reported high levels of rejection sensitivity in patients with depression. In the study of Staebler, Helbing et al. (2011) patients with BPD reported even higher levels of rejection sensitivity compared to patients with depression. The remaining papers confirm strong associations of rejection sensitivity with depressive and borderline symptoms in subclinical samples. A few additional topics

address anxiety symptoms, schizophrenia and attention deficit hyperactivity disorder (ADHD) without any major findings.

Taken together, the still limited empirical evidence suggests that borderline symptoms particularly are accompanied by extremely high levels of rejection sensitivity, and depressive symptoms by elevated degrees of rejection sensitivity. Evidence regarding the causal relationship between rejection sensitivity and psychopathology is still missing. Studies have demonstrated rejection sensitivity as risk factor for mental disorders as well as psychopathological symptoms as antecedents of elevated levels of rejection sensitivity.

In addition, study 1 points at potential factors influencing the relationship of rejection sensitivity and mental distress. Individuals high in rejection sensitivity and at the same time low in executive control functions (ECF; e.g. insight, will, abstraction, and judgment; Royal et al., 2002) had a higher risk of developing borderline symptoms than individuals with no impaired ECF.

One factor enhancing depressive symptoms in high rejection sensitive individuals is self-silencing. The silencing of self (Jack, 1991) theorizes that individuals whose self is relationally-based and who show self-sacrificing behavior in relationships, have higher risks of developing depressive disorders. A recent study (Romero-Canyas, Reddy, Rodriguez, & Downey, 2013) emphasized the significance of self-silencing for inadequate reactions to interpersonal rejection. In an online dating paradigm self-silencing mediated the relationship of rejection sensitivity and hostility after rejection.

A second factor influencing the onset of depression in individuals high in rejection sensitivity is the self-relevance of the interpersonal threat (Ayduk et al., 2001). A self-

initiated end of a romantic partnership does not lead to depressive reactions whereas a partner-initiated separation does.

Not only is the impact of rejection sensitivity on psychopathology mediated, but rejection sensitivity is a mediator itself, e.g. by enhancing the impact of avoidant attachment patterns on borderline symptomatology.

Taking these additional factors into account, a more extensive model of rejection sensitivity considering inter- and intrapersonal variables has been suggested in study 1 (figure 2.1). Rejection sensitivity does not seem to be a disorder-specific pattern but rather a disposition to put individuals at a higher risk to develop (symptoms of) mental disorders, depending on additional personal and environmental factors. In this interplay, protective factors, such as social support and adaptive coping mechanisms, must additionally be considered.

Study 2

The second study of the present thesis aimed to undertake an initial disentanglement of the confusing relationship of experienced rejection, rejection sensitivity and psychopathology. Main results indicate that rejection sensitivity is a strong mediator in the relationship between parental and peer rejection and borderline as well as depressive symptomatology. Individuals with a history of parental and/or peer rejection who reported high levels of rejection sensitivity, were suffering more from borderline or depressive symptoms than individuals with low levels of rejection sensitivity. Perceived social support was identified as a protective factor, lowering the degree of psychopathological distress.

These findings offer a first relevant insight in the mechanisms underlying the dynamic interplay of rejection, rejection sensitivity and distress.

Contrary to previous studies, we differentiated between the anxiety and the expectation of rejection in the construct of rejection sensitivity. Interestingly, borderline symptoms were more associated with the expectation of being rejected, whereas depressive symptoms were accompanied by higher levels of the fear of rejection.

One feature of BPD is ambivalent and impulsive interpersonal behavior (APA, 2000). Such behaviors can lead to cumulative experiences of rejection by others, probably leading to the expectation of being rejected as the fear of rejection.

In depression, a minimization of social risks is often aspired (Allen & Badcock, 2003) and social threat – as rejection by others – is feared. Due to high attempts in the reduction of social risk, the expectation of rejection might be lower, though the fear is actually present.

Nevertheless, these results on subfeatures of rejection sensitivity in association with different aspects of psychopathology were not confirmed in study 3, where both clinical groups reported higher levels of the fear of rejection than the expectation of rejection. One explanation might be the different grades of symptomatology: study 2 referred to a non-clinical student sample, whereas study 3 was conducted in clinical samples of patients with BPD or MDD.

A third concern of the second study was to more closely look at the impact of physical and emotional rejection on rejection sensitivity. As presented, physical maltreatment was not significantly related to rejection sensitivity, whereas social exclusion was. These

results sustain the previously formulated assumption regarding the high(er) impact of emotional maltreatment for rejection sensitivity.

Concerning this topic, the manuscript of study 2 did not contain all results that were gained from the data of the student sample. The applied questionnaire to assess parenting behavior contains more scales than reported in the paper. In addition to the scales of "rejection" and "punishment", the Parental-Representation-Screening-Questionnaire (PRSQ; Titze et al., 2010) consists of seven further scales assessing different parental child-raising behavior: "cohesion", "identification", and "autonomy" as three resource-scales, "conflicts", "emotional burden", "overprotection" as risk-scales and one additional scale "aid" (scale descriptions see table A.1, appendix). A regression analysis with all parental scales on rejection sensitivity revealed not only "rejection" as significant predictor. But, it also showed "overprotection", "identification" and "help" were positively, and "cohesion" and "autonomy" negatively related to rejection sensitivity (table A.2, appendix). "Conflicts", "punishment", and "emotional burden" were not associated with rejection sensitivity. These results indicate that apart from experienced rejection, parental control and a role-reversal regarding familiar responsibilities (parentification) are also high potential risk-factors in the etiology of rejection sensitivity, whereas the parental enhancement of autonomy and familiar cohesion are possible protective factors.

A second aspect also not included in the paper is the analysis of retest-reliablility of the RSQ, indicating a high stability (r_{tt} = .70) and providing good evidence regarding the trait-characteristic of rejection sensitivity.

Study 3

To thoroughly investigate experiences of rejection in reference to rejection sensitivity, the third study was designed to particularly look at specific characteristics of memories of rejection in two clinical groups high in rejection sensitivity: BPD and MDD. Therefore, an adapted version of the autobiographical memory test (AMT) using rejection-related cue-words was developed. First, autobiographical memories were examined regarding the specificity of recalled events. That was done to assess how capable participants were to retrieve specific memories regarding a specific event, taking place at a specific time and place. Second, linguistic patterns of memories were analyzed regarding potential disorder-specific patterns.

In earlier findings, depression was strongly associated with overgeneral memory (OGM) – the lack of specific memory retrieval, and results regarding ABM in BPD were inconsistent (Williams et al., 2007). In the present study, patients with BPD retrieved significantly less specific memories than the healthy control group. Patients with MMD, in contrary, did not show the phenomenon of OGM and did not differ from the control group. Firstly and when approaching in light of previous research on ABM, these results seem surprising and lead to some doubt regarding the applied methods. On second thought, though, results appear harmonious with assumptions regarding rejection sensitivity: high levels of rejection sensitivity are supposed to be the result of prolonged experiences of rejection. Results of study 2 confirm this assumption in indicating that the duration of peer rejection is significantly correlated with the degree of rejection sensitivity. Patients with extremely high levels of rejection sensitivity might therefore rather report enduring or repeated experiences of rejection than specific events. The differences in the amount of categorical memories indicated that patients with BPD reported more recurrent rejection-related events than individuals with MDD or healthy

controls. Looking at the percentage of extended (enduring) memories, it becomes obvious that patients with BPD report as many extended memories as specific memories, whereas patients with MDD and healthy controls report less extended than specific memories (figure A.1, appendix). Memories of recurring or enduring experiences of rejection seem to be very present in BPD. These results offer another empirical base for further research on experiences of rejection in high rejection sensitive individuals..

When controlling for rejection sensitivity, the differences in specificity between the groups were non-significant. This result underlines the influence of rejection sensitivity on rejection-related memory recall. Mor and Inbar (2009) analyzed encoding recall processes in dependence of rejection sensitivity and demonstrated that individuals high in rejection sensitivity offered an increased recall of rejection-related terms. The authors explained these results by a schema-congruent information processing bias in rejection sensitivity.

Nevertheless, patients with MDD did report as many specific memories as healthy subjects. One possible explanation might be the lack of significant difference on the RSQ as rejection sensitivity influenced memory specificity.

A second goal of study 3 was to identify linguistic patterns of memories of rejection. For the first time, we applied a linguistic word count program on memories retrieved via the AMT. Results indicate that patients with BPD have a high self-focus, negate positive experiences, show anger as relevant emotion, and associate rejection mainly with family and home environment. This borderline-specific linguistic style is not surprising and goes in line with observations in clinical surroundings. Patients with BPD report a large variety of familiar maltreatment and neglect (Zanarini, 2000) and rarely offer evidence

for safe and secure familiar surroundings. The qualitative content of memories in BPD very well exemplifies the linguistic patterns (examples see study 3 and table A.3 apendix).

Additional research

In the following section, additional results from two further conducted studies on rejection sensitivity in clinical samples are presented (both manuscripts in preparation). First, the relationship of rejection sensitivity and social anxiety has been empirically tested. Second, subgroup differences in a clinical children and adolescents sample from the validation of the Children's Rejection Sensitivity Questionnaire (CRSQ) are presented.

Social anxiety and rejection sensitivity

In the anxiety spectrum, some non-clinical studies indicated a positive correlation between rejection sensitivity and (social) anxiety symptoms (London et al., 2007; McCarthy et al., 2007; McDonald et al., 2010) and features of Avoidant Personality Disorder (APD) (Meyer et al., 2005). Staebler et al. (2011) mentioned significant higher levels of rejection sensitivity in a sample of patients with social phobia and/or APD compared to a healthy control group. The qualitative differences between the two constructs have been mentioned in study 1. Surprisingly, no study has yet focused on the empirical testing of the differentiation of rejection sensitivity and social anxiety.

Concerning this matter, a recent study at the outpatient clinic of Freie Universität Berlin offers some preliminary interesting results. In a sample of 33 individuals with the diagnosis of Social Anxiety Disorder and/or Avoidant Personality Disorder the relationship between rejection sensitivity and measures of social anxiety symptoms was

analyzed. Before and after a manualised cognitive-behavioral group intervention (Stangier, Heidenreich, & Peitz, 2009), participants completed a variety of questionnaires, including the RSQ, the Social Interaction Anxiety Scale (Soziale Interaktions-Angst-Skala, SIAS; (Stangier, Heidenreich, Berardi, Golbs, & Hoyer, 1999), the Social Phobia Scale (Soziale Phobie-Skala, SPS; Stangier et al., 1999), and the Brief Fear of Negative Evaluation scale (BFNE; Leary, 1983). Initial results indicate no significant correlations between rejection sensitivity and measures of social anxiety across both measurement points (table A.4, appendix). Additionally, whereas the degree of social anxiety (SPS; SIAS; BFNE) significantly decreased from T1 to T2, levels of RSQ were constant and did not change over time. The lack of correlations between the RSQ and the measures of social anxiety indicate – as hypothesized in study 1 - that rejection sensitivity is a qualitatively different construct to social anxiety and should not be termed equivalent (see also Marin & Miller, 2013). Besides, this results point at the stability of rejection sensitivity in terms of a dispositional trait rather than a state.

Rejection sensitivity in children and adolescents

In the introduction, the validation study for the CRSQ was mentioned (Rosenbach et al., in preparation). In addition to the psychometric properties of the CRSQ, the study provided an interesting first insight in the manifestation of rejection sensitivity in clinical samples of children and adolescents. When comparing children with internalizing (depression, anxiety disorders) and externalizing disorders (ADHD, oppositional defiant disorder), patients with externalizing disorders reported significantly higher levels of rejection sensitivity than individuals with depression or anxiety disorders. Even though ADHD is not equivalent with BPD, both disorders are characterized by demanding and at the same time rejecting and therefore contradictory

interpersonal behavior. Experiences of factual rejection might follow and result in high levels of rejection sensitivity – as well already in childhood and adolescence. Therefore, rejection sensitivity might be a personality trait that is already shaped during childhood and adolescence. Sample sizes in this study were very small (total N= 33) and results should be regarded as first indicators of potentially relevant mechanisms.

Limitations and future research

Results of the present dissertation hold some limitations that will be addressed in the following.

In Study 1, research on rejection sensitivity is summarized in terms of a literature review. Statistical data has not been systematically reviewed or analyzed with meta-analytic methods. Main reason was the insufficient provision of relevant statistical data for a meta-analysis.

Results retrieved from study 2 are based on a non-clinical sample and therefore refer to low rates of clinically significant levels of depressive or borderline symptoms. A transfer to mental disorders is only speculative and needs further empirical support. Secondly, the baseline of depressive and borderline symptoms has not been assessed. Therefore, results regarding the predictive power of rejection sensitivity for psychopathology can only be interpreted as correlative.

Third, the assessment of rejection experiences has been undertaken retrospectively and as self-assessment. Consequently they might be biased in dependence of the actual psychological functioning or recent interpersonal experiences.

Fourth, the high rate of attrition between T1 and T2 is noteworthy. Due to the long interval between the two measurement points, some students might have finished their studies or changed their email-address. As well, the lack of (financial) reward is probably diminishing the potential motivation to participate.

In study 3, the adapted version of the AMT was applied for the first time; an empirical validation is therefore still pending. A noteworthy result regarding the linguistic patterns - that is not included in the paper – is the main effect in the category “time”

(past, present, future; F (2, 810) = 47.88, p <.001, η^2 = .56). Post hoc analyses revealed that all participants used more past related words than present or future related words. Descriptive results indicate a very low future related word usage. These results at least provide proof that the AMT elicits memories of the past and does not evoke associations with future times. These effects can be interpreted as first indicators of an adequate validity of the modified rejection-related AMT.

A main limitation of study 3 is the insufficient assessment of depressive and borderline symptoms in the control group. The non-clinical participants were recruited at a public event with restricted time setting; the questionnaires administered were therefore limited to the AMT and the RSQ. The lack of control for psychopathology narrows the room for interpretation.

Further research should attempt to pursue the investigation of different risk and protective factors in the etiology of rejection sensitivity as well as the mechanisms underlying the perception of and reaction to rejection. Relevant behavioral, cognitive and emotional correlates of rejection sensitivity should precisely be identified. The "multimotive model of reactions to interpersonal rejection experiences" (Smart Richman & Leary, 2009) offers some points that might be relevant in the context of rejection sensitivity (see also figure 2.1). Thus, actual affect and self-esteem as emotional factors, the valuation of the (threatened) relationship and perceived fairness as cognitive elements, as well as social withdrawal and prosocial / antisocial responses as behavioral factors might further enlighten the knowledge of interpersonal processes in regard to rejection sensitivity.

Previous studies (e.g. Ayduk, Gyurak, et al., 2008) tested intentions of reactions to rejection in experimental settings. It is recommended that a reaction-scale for the adult

RSQ in analogy to the reaction-scale comprised in the German version of the CRSQ is developed. A comparative testing of behavioral intentions following rejection sensitivity can hence be achieved.

Rejection sensitivity as risk factor itself for mental disorders needs to be tested in controlled longitudinal studies in clinical and non-clinical samples. It should be investigated as well if, on the other hand, psychological distress itself is a trigger for higher levels of rejection sensitivity as mental disorders influence an individual`s perception. Ehnvall et al. (2007, 2009) differentiated between state and trait rejection sensitivity and demonstrated that pain sensitivity in acute affective disorders was associated with higher levels of state but not trait rejection sensitivity. It is conceivable that rejection sensitivity is a stable trait characteristic that is reinforced by acute psychological distress and therefore can still increase in its intensity. Longitudinal studies in clinical samples with e.g. recurrent depressive disorders should attempt to further investigate this presumption.

This thesis revealed first indicators for high levels of rejection sensitivity in externalizing disorders, whereas previous research found no associations of rejection sensitivity and symptoms of ADHD (Canu & Carlson, 2007). Larger samples of individuals with ADHD and conduct disorders should be assessed to clarify this contradiction. As well, rejection sensitivity might be relevant for other personality disorders, e.g. Dependent Personality Disorder (DPD) or Narcissistic Personality Disorder (NPD). Interpersonal subordinating and submissive behavior is characteristic for DPD (APA, 2000) and might be associated with high levels of rejection sensitivity. In NPD, beneath the feeling of grandiosity, the fear of insufficiency and rejection has been

reported (APA, 2000). An investigation of rejection sensitivity in NPD might enhance the possibility of identifying subgroups within individuals with NPD.

An empirically supported and modified model of rejection sensitivity including the various etiologic, correlative and prospective factors needs consideration. A first attempt has been presented in study 1 (figure 2.1).

Intervention studies including a waiting group are needed to explicitly analyze the changeability of rejection sensitivity. In this regard, the development of a rejection sensitivity focused intervention module might be worthwhile. This module should comprise psychoeducation, focus on perception and reattribution training, and enhance adequate reactions to rejection.

Clinical implications

The present thesis has demonstrated the impact of high levels of rejection sensitivity for BPD and depression. Both disorders are highly prevalent in inpatient and outpatient facilities, and the constitution of a therapeutic working alliance is frequently limited due to symptom severity (e.g. McCabe & Priebe, 2005). The knowledge of high levels of rejection sensitivity in individuals with BPD or MDD might lead to a better understanding of interpersonal therapeutic processes and as a result enhance the working alliance and, in turn, the likelihood of symptom change. Thereby, psychoeducation in regard to the (individual) etiology, nature, and consequences of rejection sensitivity should enhance the patient`s knowledge of his interpersonal difficulties.

The relevance of child-raising behavior for psychosocial function has frequently been confirmed (e.g. Khaleque & Rohner, 2012), and research on prevention has

demonstrated the effectiveness of programs focusing on enhancing positive patterning behavior (e.g. Nowak & Heinrichs, 2008; Thomas & Zimmer-Gembeck, 2007). A recent meta-analysis pointed at the relevance of parenting behavior for later interpersonal difficulties with peers (Lereya, Samara, & Wolke, 2013): abusive parental behavior, maltreatment and neglect enhance the likelihood to become a bully in adolescence. In contrary, positive parental behavior serves as protective factor. Results of the current thesis underline the mandatory to enhance positive parental behavior, especially in families at risk.

Not at least, the protective function of social support in the pathway from rejection sensitivity to psychopathology should be considered in counseling as well as clinical settings.

Summary

Chapter 6

Rejection Sensitivity is defined as the tendency to anxiously expect, readily perceive and overreact to rejection. Individuals high in rejection sensitivity assume to be repeatedly rejected in social interactions, quickly identify signals of exclusion in ambiguous situations, and tend to social withdrawal, submissiveness, or aggression in the aftermath of experienced rejection. The first study of the present thesis offered an overview of clinical symptoms associated with rejection sensitivity. Especially individuals with borderline symptoms or the diagnosis of a Borderline Personality Disorder (BPD) reported extremely high levels of rejection sensitivity. Further syndromes associated with elevated levels of rejection sensitivity were mental disorders in the affective (MDD and subclinical levels of depression) and anxiety spectrum (social anxiety). In addition, several personality traits and contextual variables influencing the relationship between rejection sensitivity and psychopathological symptoms have been presented (e.g. self-silencing, low executive control, social support), leading to an extended model of rejection sensitivity. Study 1 indicated that rejection sensitivity represents a potential highly relevant factor in the etiology and maintenance of psychological distress. Research on the origin of rejection sensitivity is therefore of great importance.

Theoretical assumptions point at the crucial role of early and prolonged experiences of rejection in the etiology of rejection sensitivity. However, the systematic investigation of the relationship of parental as well as peer emotional rejection and rejection sensitivity was still outstanding. Results of study 2 showed that both parental and peer rejection

are associated with rejection sensitivity. Experiences of parental rejection were related to borderline and depressive symptoms only in individuals high in rejection sensitivity. Peer rejection, in contrary, has an independent significant impact on borderline symptoms. Perceived social support was identified as a protective factor in individuals high in rejection sensitivity regarding the degree of psychopathological distress.

Additional data assessed in the context of study 2 indicated that experiences of physical violence and severe conflicts were not correlated with rejection sensitivity, whereas social exclusion, parentification and parental overprotection were associated with higher levels of rejection sensitivity. Familiar cohesion and parental promotion of autonomy were identified as potential protective factors for rejection sensitivity.

To further deepen the knowledge of experiences of rejection in clinical samples high in rejection sensitivity study 3 compared autobiographical memories of patients with BPD to a clinical (MDD) and a healthy control group using an adapted and rejection-related version of the autobiographical memory test (AMT). In contrast to previous research, patients with BPD retrieved less specific memories compared to the healthy control group. The level of rejection sensitivity significantly influenced this difference. Linguistic analyses revealed borderline specific word use patterns: patients with BPD retrieved memories that were characterized by a high focus on the self, by a negation of positive experiences, by elevated levels of anger, and by a significant association of rejection with home environment.

In addition, this thesis comprised empirical data providing evidence that rejection sensitivity seems to be a trait more than a state. The stability of the RSQ shown in a clinical and a non-clinical sample indicated that rejection sensitivity might in fact be a

persisting personality disposition. As well, for the first time, indicators for differences in the quality of rejection sensitivity and social anxiety were tested and confirmed.

Finally, first data of rejection sensitivity in children with different clinical diagnosis point at the high relevance of rejection sensitivity in externalizing disorders.

Empirical results of the current thesis demonstrate the potential enhancing and maintaining effect of rejection sensitivity on psychopathology. They offer evidence for a multiple etiologic model of rejection sensitivity compromising risk as well as protective factors. They propose evidence for a particularity strong role of experiences of rejection and rejection sensitivity in BPD illustrated by different aspects of autobiographical memoires.

It becomes more and more obvious that rejection sensitivity plays an important role in different aspects of psychopathology. Further research should focus on confirming these first indicators in controlled longitudinal studies. At the same time a higher awareness of the relevance of rejection sensitivity in clinical settings should be promoted.

SUMMARY

References

Achenbach, T. (1991). *Manual for the Child Behavior Checklist 4-18*. Burlington: University of Vermont, Department of Psychiatry.

Allen, N. B., & Badcock, P. B. T. (2003). The Social Risk Hypothesis of Depressed Mood: Evolutionary, Psychosocial, and Neurobiological Perspectives. *Psychological Bulletin, 129*(6), 887-913.

Arntz, A., Hawke, L. D., Bamelis, L., Spinhoven, P., & Molendijk, M. L. (2012). Changes in natural language use as an indicator of psychotherapeutic change in personality disorders. *Behaviour Research and Therapy, 50*(3), 191-202.

Arntz, A., Meeren, M., & Wessel, I. (2002). No evidence for overgeneral memories in borderline personality disorder. *Behaviour Research and Therapy, 40*(9), 1063-1068.

American Psychiatric Association (APA) (2000). *Diagnostic and statistical manual of mental disorders (4th ed., text rev.)*. Washington, DC: Author.

Atlas, J. G. (2004). Interpersonal sensitivity, eating disorder symptoms, and eating/thinness expectancies. *Current Psychology, 22*(4), 368-378.

Ayduk, Ö., Downey, G., & Kim, M. (2001). Rejection sensitivity and depressive symptoms in women. *Personality and Social Psychology Bulletin, 27*(7), 868-877.

Ayduk, Ö., Gyurak, A., & Luerssen, A. (2008). Individual differences in the rejection-aggression link in the hot sauce paradigm: The case of rejection sensitivity. *Journal of Experimental Social Psychology, 44*(3), 775-782.

Ayduk, Ö., May, D., Downey, G., & Higgins, E. T. (2003). Tactical differences in coping with rejection sensitivity: The role of prevention pride. *Personality and Social Psychology Bulletin 29*(4), 435-448.

Ayduk, Ö., Mendoza-Denton, R., Mischel, W., Downey, G., Peake, P. K., & Rodriguez, M. (2000). Regulating the interpersonal self: Strategic self-regulation for coping with rejection sensitivity. *Journal of Personality and Social Psychology, 79*(5), 776-792.

Ayduk, Ö., Zayas, V., Downey, G., Cole, A. B., Shoda, Y., & Mischel, W. (2008). Rejection sensitivity and executive control: Joint predictors of borderline personality features. *Journal of Research in Personality, 42*(1), 151-168.

Ball, J. S., & Links, P. S. (2009). Borderline personality disorder and childhood trauma: Evidence for a causal relationship. *Current Psychiatry Reports, 11*, 63-68.

Battle, C. L., Shea, M. T., Johnson, D. M., Yen, S., Zlotnick, C., Zanarini, M. C., . . . Morey, L. C. (2004). Childhood maltreatment associated with adult personality disorders: Findings from the collaborative longitudinal personality disorders study. *Journal of Personality Disorders, 18*(2), 193-211.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-529.

Beck, A. T. (1967). *Depression: clinical, experimental, and theoretical aspects*. New York: Harper & Row.

Beck, A. T. (1987). Cognitive models of depression. *Journal of Cognitive Psychotherapy, 1*(1), 5-37.

Berenson, K. R., Downey, G., Rafaeli, E., Coifman, K. G., & Paquin, N. L. (2011). The rejection-rage contingency in borderline personality disorder. *Journal of Abnormal Psychology, 120*(3), 681-690.

Bohus, M., & Schmahl, C. (2007). Psychopathologie und Therapie der Borderline-Persönlichkeitsstörung (psychopathology and therapy of borderline personality disorder). *Der Nervenarzt, 78*(9), 1069-1081.

Boldeo, J. M., Hulbert, C. A., Bloom, L., Cooper, J., Gilbert, F., Mooney, J. L., & Salinger, J. (2009). Rejection sensitivity and negative self-beliefs as mediators of associations between the number of borderline personality disorder features and self-reported adult attachment. *Personality and Mental Health*(3), 248–262.

Bornovalova, M. A., Gratz, K. L., Delany-Brumsey, A., Paulson, A., & Lejuez, C. W. (2006). Temperamental and environmental risk factors for borderline personality disorder among inner-city substance users in residential treatment. *Journal of Personality Disorders, 20*(3), 218-231.

Bornovalova, M. A., Huibregtse, B. M., Hicks, B. M., Keyes, M., McGue, M., & Iacono, W. (2013). Tests of a direct effect of childhood abuse on adult borderline personality disorder traits: A longitudinal discordant twin design. *Journal of Abnormal Psychology, 122*(1), 180-194.

Bouchard, T. J., Lykken, D. T., McGue, M., Segal, N. L., & Tellegen, A. (1990). Sources of human psychological differences: The Minnesota study of twins reared apart. *Science, 250*, 223-228.

Bowlby, J. (1969). *Attachment and loss: Vol 1. Attachment.* New York: Basic Books.

Boyce, P., & Parker, G. (1989). Development of a scale to measure interpersonal sensitivity. *Australian and New Zealand Journal of Psychiatry, 23*(3), 341-351.

Brendgen, M., Vitaro, F., Tremblay, R. E., & Wanner, B. (2002). Parent and peer effects on delinquency-related violence and dating violence: A test of two mediational models. *Social Development, 11*(2), 225-244.

Brewer, W. F. (1986). What is autobiographical memory? In D. C. Rubin (Ed.), *Autobiographical memory* (pp. 25-49). Cambridge, England: Cambridge University Press.

Brookings, J. B., Zembar, M. J. & Hochstetler, G. M. (2003). An interpersonal circumplex/five-factor analysis of the Rejection Sensitivity Questionnaire. *Personality and Individual Differences* 34(3), 449-61.

Brown, G. W., Craig, T. K. J., Harris, T. O., Handley, R. V., & Harvey, A. L. (2007). Development of a retrospective interview measure of parental maltreatment using the Childhood

Experience of Care and Abuse (CECA) instrument. A life-course study of adult chronic depression. *Journal of Affective Disorders, 103*(1-3), 205-215.

Bucci, W., & Freedman, N. (1981). The language of depression. *Bulletin of the Menninger Clinic, 45*(4), 334-358.

Buckley, K. E., Winkel, R. E., & Leary, M. R. (2004). Reactions to acceptance and rejection: Effects of level and sequence of relational evaluation. *Journal of Experimental Social Psychology, 40*(1), 14-28.

Burklund, L. J., Eisenberger, N. I., & Lieberman, M. D. (2007). The face of rejection: Rejection sensitivity moderates dorsal anterior cingulate activity to disapproving facial expressions. *Social Neuroscience, 2*(3), 238-253.

Butler, J. C., Doherty, M. S., & Potter, R. M. (2007). Social antecedents and consequences of interpersonal rejection sensitivity. *Personality and Individual Differences, 43*(6), 1376-1385.

Canu, W. H., & Carlson, C. L. (2007). Rejection Sensitivity and Social Outcomes of Young Adult Men With ADHD. *Journal of Attention Disorders, 10*(3), 261-275.

Carlson, E. A., Egeland, B., & Sroufe, L. A. (2009). A prospective investigation of the development of borderline personality symptoms. *Development and Psychopathology, 21*(4), 1311-1334.

Carr, S., & Francis, A. (2009). Childhood familial environment, maltreatment and borderline personality disorder symptoms in a non-clinical sample: A cognitive behavioural perspective. *Clinical Psychologist, 13*(1), 28-37.

Carter, P. E., & Grenyer, B. F. S. (2012). Expressive language disturbance in borderline personality disorder in response to emotional autobiographical stimuli. *Journal of Personality Disorders, 26*(3), 305-321.

Cassidy, E. F., & Stevenson, H. C., Jr. (2005). They wear the mask: Hypervulnerability and hypermasculine aggression among African American males in an urban remedial disciplinary school. *Journal of Aggression, Maltreatment & Trauma 11*(4), 53-74.

Cassidy, J., Sherman, L. J., & Jones, J. D. (2013). What's in a word? Linguistic characteristics of Adult Attachment Interviews. *Attachment & Human Development, 14*(1), 11-32.

Chang, K. D., Steiner, H., & Ketter, T. A. (2000). Psychiatric phenomenology of child and adolescent bipolar offspring. *Journal of the American Academy of Child & Adolescent Psychiatry, 39*(4), 453-460.

Chango, J. M., McElhaney, K. B., Allen, J. P., Schad, M. M., & Marston, E. (2012). Relational stressors and depressive symptoms in late adolescence: Rejection sensitivity as a vulnerability. *Journal of Abnormal Child Psychology, 40*(3), 369-379.

Cheavens, J. S., Rosenthal, M. Z., Daughters, S. B., Nowak, J., Kosson, D., Lynch, T. R., & Lejuez, C. W. (2005). An analogue investigation of the relationships among perceived parental criticism, negative affect, and borderline personality disorder features: the role of thought suppression. *Behaviour Research and Therapy, 43*(2), 257-268.

Collishaw, S., Pickles, A., Messer, J., Rutter, M., Shearer, C., & Maughan, B. (2007). Resilience to adult psychopathology following childhood maltreatment: Evidence from a community sample. *Child Abuse & Neglect, 31*(3), 211-229.

Conway, M. A. (1996). Autobiographical memory. In E. L. Bjork & R. A. Bjork (Eds.), *Memory* (pp. 165-194). New York: Academic Press.

Conway, M. A., & Pleydell-Pearce, C. W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review, 107*(2), 261-288.

Crane, C., Barnhofer, T., & Williams, J. M. G. (2007). Cue self-relevance affects autobiographical memory specificity in individuals with a history of major depression. *Memory, 15*(3), 312-323.

Crick, N. R., & Grotpeter, J. K. (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology, 8*(2), 367-380.

Crick, N. R., Murray-Close, D., & Woods, K. (2005). Borderline personality features in childhood: A short-term longitudinal study. *Development and Psychopathology, 17*(4), 1051-1070.

Crowell, S. E., Beauchaine, T. P., & Linehan, M. M. (2009). A biosocial developmental model of borderline personality: Elaborating and extending linehan's theory. *Psychological Bulletin, 135*(3), 495-510.

Davis, R. A. (2004). *Problematic internet use: Structure of the construct and association with personality, stress, and coping* (PhD thesis). Retrieved from ProQuest Dissertations and Theses.

Debeer, E., Hermans, D., & Raes, F. (2009). Associations between components of rumination and autobiographical memory specificity as measured by a minimal instructions autobiographical memory test. *Memory, 17*(8), 892-903.

Derecho, C.N., Wetzler, S., McGinn, L.K., Sanderson, W.C., & Asnis, G.M. (1996). Atypical depression among psychiatric inpatient clinical features and personality traits. *Journal of Affective Disorders, 39*, 55-59.

Derogatis, L. R., Rickels, K., & Rock, A. F. (1976). The SCL-90 and the MMPI: A step in the validation of a new self-report scale. *British Journal of Psychiatry, 128 280*, 280-289.

DeWall, C. N., Twenge, J. M., Koole, S. L., Baumeister, R. F., Marquez, A., & Reid, M. W. (2011). Automatic emotion regulation after social exclusion: Tuning to positivity. *Emotion, 11*(3), 623-636.

Domes, G., Czieschnek, D., Weidler, F., Berger, C., Fast, K., & Herpertz, S. C. (2008). Recognition of facial affect in borderline personality disorder. *Journal of Personality Disorders, 22*(2), 135-147.

Downey, G., & Feldman, S. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*(6), 1327-1343.

Downey, G., Feldman, S. I., Kowalski, R. M., & Leary, M. R. (2004). Implications of Rejection Sensitivity for Intimate Relationships *The interface of social and clinical psychology: Key readings.* (pp. 173-198). New York, NY US: Psychology Press.

Downey, G., Khouri, H., & Feldman, S. (1997). Early interpersonal trauma and adult adjustment: The mediational role of rejection sensitivity. In D. Cicchetti & S. Toth (Eds.), *Rochester Symposium on Developmental Psychopathology, Volume VIII: The effects of trauma on the developmental process.* (pp. 85-114). NY: University of Rochester Press.

Downey, G., Lebolt, A., Rincón, C., & Freitas, A. L. (1998). Rejection sensitivity and children's interpersonal difficulties. *Child Development 69*(4), 1074-1091.

Downey, G., Mougios, V., Ayduk, Ö., London, B. E., & Shoda, Y. (2004). Rejection sensitivity and the defensive motivational system: Insights from the startle response to rejection cues. *Psychological Science, 15*(10), 668-673.

Ebner-Priemer, U.W., Kuo, J., Shaw Welch, S., Thielgen, T., Witte, S., Bohus, M., & Linehan, M.M. (2006). A valence-dependent group-specific recall bias of retrospective self-reports: A study of borderline personality disorder in everyday life. *Journal of Nervous and Mental Disease, 194*, 774–779.

Egle, U. T., & Cierpka, M. (2006). Missbrauch, Misshandlung, Vernachlässigung. In A. Lohaus, M. Jerusalem & J. Klein-Hesling (Eds.), *Gesundheitsförderung im Kindes- und Jugendalter* (pp. 370–400). Göttingen: Hogrefe.

Ehnvall, A., Mitchell, P. B., Hadzi-Pavlovic, D., Loo, C., Breakspear, M., Wright, A., . . . Corry, J. (2007). Pain and rejection sensitivity in bipolar depression. *Bipolar Disorders, 13*(1), 59-66.

Ehnvall, A., Mitchell, P. B., Hadzi-Pavlovic, D., Malhi, G. S., & Parker, G. (2009). Pain during depression and relationship to rejection sensitivity. *Acta Psychiatrica Scandinavica, 119*(5), 375-382.

Feldman, S., & Downey, G. (1994). Rejection sensitivity as a mediator of the impact of childhood exposure to family violence on adult attachment behavior. *Development and Psychopathology, 6*, 231-247.

Freud, S. (1901). *The Psychopathology of Everyday Life*. New York: Norton.

Fydrich, T., Renneberg, B., Schmitz, B., & Wittchen, H.-U. (1997). *Strukturiertes Klinisches Interview für DSM-IV, Achse II: Persönlichkeitsstörungen, SKID II (Structured Clinical Interview for DSM-IV, Axis II, Personality Disoders)*. Göttingen: Hogrefe.

Fydrich, T., Sommer, G., Tydecks, S., & Brähler, E. (2009). Fragebogen zur sozialen Unterstützung (F-SozU): Normierung der Kurzform (K-14) (Psychometric properties of a short version of the Social Support Questionnaire, F-SozU). *Zeitschrift für Medizinische Psychologie, 18*(1), 43-48.

Gardner, D. L., Leibenluft, E., O'Leary, K. M., & Cowdry, R. W. (1991). Self-ratings of anger and hostility in borderline personality disorder. *Journal of Nervous and Mental Disease, 179*(3), 157-161.

Gibb, B. E. (2002). Childhood maltreatment and negative cognitive styles. A quantitative and qualitative review. *Clinical Psychology Review, 22*(2), 223-246.

Gibb, B. E., Abramson, L. Y., & Alloy, L. B. (2004). Emotional Maltreatment From Parents, Verbal Peer Victimization, and Cognitive Vulnerability to Depression. *Cognitive Therapy and Research, 28*(1), 1-21.

Gilbert, P., Irons, C., Olsen, K., Gilbert, J., & McEwan, K. (2006). Interpersonal sensitivities: Their links to mood, anger and gender. *Psychology and Psychotherapy: Theory, Research and Practice, 79*(1), 37-51.

Gladstone, G. L., Parker, G. B., & Malhi, G. S. (2006). Do bullied children become anxious and depressed adults?: A cross-sectional investigation of the correlates of bullying and anxious depression. *Journal of Nervous and Mental Disease, 194*(3), 201-208.

Gratz, K. L., Tull, M. T., Baruch, D. E., Bornovalova, M. A., & Lejuez, C. W. (2008). Factors associated with co-occurring borderline personality disorder among inner-city substance users: The roles of childhood maltreatment, negative affect intensity/reactivity, and emotion dysregulation. *Comprehensive Psychiatry, 49*(6), 603-615.

Grawe, K. (2004). *Neuropsychotherapie (Neuropsychotherapy)*. Göttingen: Hogrefe.

Gupta, M. (2008). Functional links between intimate partner violence and animal abuse: Personality features and representations of aggression. *Society & Animals, 16*(3), 223-242.

Gutz, L., Renneberg, B., Röppke, S., & Niedeggen, M. (in preparation). Processing of social participation in Borderline Personality Disorder and Social Phobia.

Hall, J., & Bernieri, F. (2001). *Interpersonal sensitivity: Theory and measurement.* Mahwah, NJ: Lawrence Erlbaum Associates.

Harper, M. S., Dickson, J. W., & Welsh, D. P. (2006). Self-Silencing and Rejection Sensitivity in Adolescent Romantic Relationships. *Journal of Youth and Adolescence, 35*(3), 459-467.

Harrison, H. M. (2006). *Peer victimization and depressive symptoms in adolescence* (PhD thesis). Retrieved from ProQuest Dissertations and Theses.

Hartley, A. M. (2007). *Attachment and sex offenders* (PhD thesis). Retrieved from ProQuest Dissertations and Theses.

Hartup, W. W. (1996). The company they keep: friendships and their developmental significance. *Child Development, 67*, 1-13.

Hautzinger, M., & Bailer, M. (1993). *Allgemeine Depressionsskala. Manual (General Depression Scale. Manual).* Göttingen: Beltz Test GmbH.

Hawker, D. S. J., & Boulton, M. J. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry, 41*(4), 441-455.

Hermans, D., Van den Broeck, K., Belis, G., Raes, F., Pieters, G., & Eelen, P. (2004). Trauma and autobiographical memory specificity in depressed inpatients. *Behaviour Research and Therapy, 42*, 775-789.

Jack, D. C. (1991). *Silencing the self: Women and depression*. Cambridge: Haward University Press.

Jacob, G. A., Guenzler, C., Zimmermann, S., Scheel, C. N., Rüsch, N., Leonhart, R., . . . Lieb, K. (2008). Time course of anger and other emotions in women with borderline personality

disorder: A preliminary study. *Journal of Behavior Therapy and Experimental Psychiatry, 39*(3), 391-402.

Jacobs, N., & Harper, B. (2013). The effects of rejection sensitivity on reactive and proactive aggression. *Aggressive Behavior, 39*(1), 3-12.

Jones, B., Heard, H., Startup, M., Swales, M., Williams, J. M. G., & Jones, R. S. P. (1999). Autobiographical memory and dissociation in borderline personality disorder. *Psychological Medicine, 29*, 1397-1404.

Jorgensen, C. R., Berntsen, D., Bech, M., Kjolbye, M., Bennedsen, B. E., & Ramsgaard, S. B. (2012). Identity-related autobiographical memories and cultural life scripts in patients with Borderline Personality Disorder. *Consciousness and Cognition: An International Journal, 21*(2), 788-798.

Joyce, P. R., Mulder, R. T., McKenzie, J. M., Luty, S. E., & Cloninger, C. R. (2004). Atypical Depression, Atypical Temperament and a Differential Antidepressant Response to Fluoxetine and Nortriptyline. *Depression and Anxiety, 19*(3), 180-186.

Kasper, H. (2001). *Schülermobbing - tun mir was dagegen! Der Smob-Fragebogen mit Anleitung und Auswertungshilfe und mit Materialien für die Schulentwicklung (Manual for the SMOB Questionnaire)*. Lichtenau: AOL.

Kelleter, A. (2012). *Autobiographical memory specificity and its relationship to avoidant personality and attachement styles* (PhD thesis). Retrieved from ProQuest Dissertations and Theses.

Kessler, R. C., Birnbaum, H. G., Bromet, E., Hwang, I., Sampson, N., & Shahly, V. (2010). Age differences in major depression: results from the National Comorbidity Survey Replication (NCS-R). *Psychological Medicine, 40*(2), 225-237.

Khaleque, A., & Rohner, R. P. (2012). Pancultural associations between perceived parental acceptance and psychological adjustment of children and adults: A meta-analytic review of worldwide research. *Journal of Cross-Cultural Psychology, 43*(5), 784-800.

Korzekwa, M. I., Dell, P. F., Links, P. S., Thabane, L., & Webb, S. P. (2008). Estimating the prevalence of borderline personality disorder in psychiatric outpatients using a two-phase procedure. *Comprehensive Psychiatry, 49*(4), 380-386.

Kremers, I. P., Spinhoven, P., & Van der Does, A. J. W. (2004). Autobiographical memory in depressed and nondepressed patients with borderline personality disorder. *British Journal of Clinical Psychology, 43*(1), 17-29.

Kross, E., Egner, T., Ochsner, K., Hirsch, J., & Downey, G. (2007). Neural dynamics of rejection sensitivity. *Journal of Cognitive Neuroscience, 19*(6), 945-956.

Leary, M. R. (1983). A brief version of the Fear of Negative Evaluation Scale. *Personality and Social Psychology Bulletin, 9*(3), 371-375.

Leary, M.R. (2005). Varieties of interpersonal rejection. In K.D. Williams, J.P. Forgas & W.V. Hippel (Eds.), *The Social Outcast: Ostracism, Social Exclusion, Rejection, and Bullying* (pp. 35-51). New York: Psychology Press.

Lenzenweger, M. F., Lane, M. C., Loranger, A. W., & Kessler, R. C. (2007). DSM-IV personality disorders in the national comorbidity survey replication. *Biological Psychiatry, 62*(6), 553-564.

Lereya, S. T., Samara, M., & Wolke, D. (2013). Parenting behavior and the risk of becoming a victim and a bully/victim: A meta-analysis study. *Child Abuse & Neglect*. doi: http://dx.doi.org/10.1016/j.chiabu.2013.03.001

Levy, S. R., Ayduk, O., Downey, G., & Leary, M. R. (2001). The role of rejection sensitivity in people's relationships with significant others and valued social groups *Interpersonal rejection.* (pp. 251-289). New York, NY US: Oxford University Press.

Linehan, M. M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. New York, NY: Guilford Press.

Lobbestael, J., Arntz, A., & Bernstein, D. P. (2010). Disentangling the relationship between different types of childhood maltreatment and personality disorders. *Journal of Personality Disorders, 24*(3), 285-295.

London, B., Downey, G., Bonica, C., & Paltin, I. (2007). Social causes and consequences of rejection sensitivity. *Journal of Research on Adolescence, 17*(3), 481-506.

Marin, T. J., & Miller, G. E. (2013). The Interpersonally Sensitive Disposition and Health: An Integrative Review. *Psychological Bulletin.. doi: 10.1037/a0030800*. doi: 10.1037/a0030800.

Maslow, A. H. (1968). *Toward a Psychology of Being*. New York: D. Van Nostrand Company.

Maurex, L., Lekander, M., Nilsonne, A., Andersson, E. E., Asberg, M., & Oehman, A. (2010). Social problem solving, autobiographical memory, trauma, and depression in women with borderline personality disorder and a history of suicide attempts. *British Journal of Clinical Psychology, 49*(3), 327-342.

McCabe, R., & Priebe, S. (2005). The Therapeutic Relationship in the Treatment of Severe Mental Illness: A Review of Methods and Findings. *International Journal of Social Psychiatry, 50*(2), 115-128.

McCarty, C. A., Vander Stoep, A., & McCauley, E. (2007). Cognitive features associated with depressive symptoms in adolescence: Directionality and specificity. *Journal of Clinical Child and Adolescent Psychology, 36*(2), 147-158.

McDonald, K. L., Bowker, J. C., Rubin, K. H., Laursen, B., & Duchene, M. S. (2010). Interactions between rejection sensitivity and supportive relationships in the prediction of adolescents' internalizing difficulties. *Journal of Youth and Adolescence, 39*(5), 563-574.

Mehl, M. R. (2006). The lay assessment of subclinical depression in daily life. *Psychological Assessment, 18*(3), 340-345.

Mellin, E. A. (2008). Rejection sensitivity and college student depression: Findings and implications for counseling. *Journal of College Counseling, 11*(1), 32-41.

Meyer, B., Ajchenbrenner, M., & Bowles, D. P. (2005). Sensory sensitivity, attachment experiences, and rejection responses among adults with borderline and avoidant features. *Journal of Personality Disorders, 19*(6), 641-658.

Mischel, W. (1973). Toward a cognitive social learning reconceptualization of personality. *Psychological Review, 80*(4), 252-283.

Moore, S. A., & Zoellner, L. A. (2007). Overgeneral autobiographical memory and traumatic events: An evaluative review. *Psychological Bulletin, 133*(3), 419-437.

Mor, N., & Inbar, M. (2009). Rejection sensitivity and schema-congruent information processing biases. *Journal of Research in Personality, 43*(3), 392-398.

Nanni, V., Uher, R., & Danese, A. (2012). Childhood maltreatment predicts unfavorable course of illness and treatment outcome in depression: A meta-analysis. *The American Journal of Psychiatry, 169*(2), 141-151.

Ng, T. H., & Johnson, S. L. (2013). Rejection sensitivity is associated with quality of life, psychosocial outcome, and the course of depression in euthymic patients with bipolar I disorder. *Cognitive Therapy and Research*. doi: 10.1007/s10608-013-9552-1.

Nolan, S. A., Flynn, C., & Garber, J. (2003). Prospective relations between rejection and depression in young adolescents. *Journal of Personality and Social Psychology, 85*(4), 745-755.

Nowak, C., & Heinrichs, N. (2008). A comprehensive meta-analysis of Triple P-Positive Parenting Program using hierarchical linear modeling: Effectiveness and moderating variables. *Clinical Child and Family Psychology Review, 11*(3), 114-144.

Ostrov, J. M., & Houston, R. J. (2008). The utility of forms and functions of aggression in emerging adulthood: Association with personality disorder symptomatology. *Journal of Youth and Adolescence, 37*(9), 1147-1158.

Parker, G., Roy, K., Mitchell, P., Wilhelm, K., Malhi, G., & Hadzi-Pavlovic, D. (2002). Atypical depression: A reappraisal. *The American Journal of Psychiatry, 159*(9), 1480-1481.

Pearson, K. A., Watkins, E. R., & Mullan, E. G. (2010). Submissive interpersonal style mediates the effect of brooding on future depressive symptoms. *Behaviour Research and Therapy, 48*(10), 966-973.

Pearson, K. A., Watkins, E. R., & Mullan, E. G. (2012). Rejection sensitivity prospectively predicts increased rumination. *Behaviour Research and Therapy, 49*(10), 597-605.

Peeters, F., Wessel, I., Merckelbach, H., & Boon-Vermeeren, M. (2002). Autobiographical memory specificity and the course of major depressive disorder. *Comprehensive Psychiatry, 43*, 344-35.

Pennebaker, J. W., Booth, R. J., & Francis, M. E. (2007). Linguistic Inquiry and Word Count: LIWC [Computer software]. Austin, TX: LIWC.net.

Pennebaker, J. W., Chung, C. K., Ireland, M., Gonzales, A., & Booth, R. J. (2007). *The development and psychometric properties of LIWC2007 [LIWC manual]*. Austin, TX: LIWC.net.

Pennebaker, J. W., Mehl, M. R., & Niederhoffer, K. G. (2003). Psychological aspects of natural language use: Our words, our selves. *Annual Review of Psychology, 54*, 547-577.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891.

Prebble, S. C., Addis, D. R., & Tippett, L. J. (2013). Autobiographical memory and sense of self. *Psychological Buletin, 139*, 815–840. doi:10.1037/a0030146.

Premkumar, P. (2012). Are you being rejected or excluded? Insights from neuroimaging studies using different rejection paradigms. *Clinical Psychopharmacology and Neuroscience, 10*(3), 144-154.

Prinstein, M. J., Boergers, J., & Vernberg, E. M. (2001). Overt and relational aggression in adolescents: Social-psychological adjustment of aggressors and victims. *Journal of Clinical Child Psychology, 30*(4), 479-491.

Purdie, V., & Downey, G. (2000). Rejection sensitivity and adolescent girls' vulnerability to relationship-centered difficulties. *Child Maltreatment, 5*(4), 338-349.

Renneberg, B., Herm, K., Hahn, A., Staebler, K., Lammers, C.-H., & Roepke, S. (2012). Perception of Social Participation in Borderline Personality Disorder. *Clinical Psychology and Psychotherapy, 19*, 473-480.

Renneberg, B., Schmidt-Rathjens, C., Hippin, R., Backenstrass, M., & Fydrich, T. (2005). Cognitive characteristics of patients with borderline personality disorder: Development and validation of a self-report inventory. *Journal of Behavior Therapy and Experimental Psychiatry, 36*(3), 173-182.

Renneberg, B., & Seehausen, A. (2010). Fragebogen zu Gedanken und Gefühlen (FGG). Ein Screening Instrument für Borderline-spezifisches Denken (Questionnaire of Thoughts and Feelings (QTF): a self-report inventory for the assessment of borderline-specific cognitions). *Zeitschrift für Klinische Psychologie und Psychotherapie: Forschung und Praxis, 39*(3), 170-178.

Renneberg, B., Theobald, E., Nobs, M., & Weisbrod, M. (2005). Autobiographical Memory in Borderline Personality Disorder and Depression. *Cognitive Therapy and Research, 29*(3), 343-358.

Rodriguez, A. J., Holleran, S. E., & Mehl, M. R. (2010). Reading between the lines: The lay assessment of subclinical depression from written self-descriptions. *Journal of Personality, 78*(2), 575-598.

Rogosch, F. A., & Cicchetti, D. (2005). Child maltreatment, attention networks, and potential precursors to borderline personality disorder. *Development and Psychopathology, 17*(4), 1071-1089.

Romero-Canyas, R., Reddy, K. S., Rodriguez, S., & Downey, G. (2013). After all I have done for you: Self-silencing accommodations fuel women's post-rejection hostility. *Journal of Experimental Social Psychology, 49*(4), 732-740.

Rose, D. T., & Abramson, L. Y. (1992). Developmental predictors of depressive cognitive style: research and theory. In D. Cicchetti & T. Toth (Eds.), *Rochester symposium of developmental psychopathology* (Vol. IV, pp. 323-349). Rochester, NY: University of Rochester Press.

Rosenbach, C., Nisslein, J., Schultze-Krumbholz, A., Bull, H.D., Scheithauer, H., & Renneberg, B. (in preparation). Validation of the German version of the Children Rejection Sensitivity Questionnaire (CRSQ).

Rosenbach, C., & Renneberg, B. (2011). Rejected, Excluded, Ignored: The Perception of Social Rejection and Mental Disorders - A Review. *Verhaltenstherapie*, *21*, 87-98.

Rothbaum, F., & Weisz, J. R. (1994). Parental caregiving and child externalizing behavior in nonclinical samples: a meta-analysis. *Psychological Bulletin, 116*, 55-74.

Royall, D., Lauterbach, E., Cummings, J., Reeve, A., Rummans, T., Kaufer, D., & Coffey, C. (2002). Executive control function: A review of its promise and challenges for clinical research. A report from the committee on research of the American Neuropsychiatric Association. *Journal of Neuropsychiatry and Clinical Neuroscience 14*(4), 377–406.

Rude, S. S., Gortner, E.-M., & Pennebaker, J. W. (2004). Language use of depressed and depression-vulnerable college students. *Cognition and Emotion, 18*(8), 1121-1133.

Ruesch, N., Corrigan, P. W., Wassel, A., Michaels, P., Olschewski, M., Wilkniss, S., & Batia, K. (2009). A stress-coping model of mental illness stigma: I. Predictors of cognitive stress appraisal. *Schizophrenia Research, 110*(1), 59-64.

Salazar, A. M., Keller, T. E., & Courtney, M. E. (2011). Understanding social support`s role in the relationship between maltreatment and depression in youth with foster care experience. *Child Maltreatment, 16*(2), 102-113.

Sandstrom, M. J., Cillessen, A. H. N., & Eisenhower, A. (2003). Children's Appraisal of Peer Rejection Experiences: Impact on Social and Emotional Adjustment. *Social Development, 12*(4), 530-550.

Schacter, D. L. (1996). *Searching for memory: The brain, the mind, and the past*. New York: Basic Books.

Schmahl, C. G., Elzinga, B. M., Ebner, U. W., Simms, T., Sanislow, C., Vermetten, E., . . . Bremner, J. D. (2004). Psychophysiological reactivity to traumatic and abandonment scripts in borderline personality and posttraumatic stress disorders: A preliminary report. *Psychiatry Research, 126*(1), 33-42.

Seeds, P. M., Harkness, K. L., & Quilty, L. C. (2010). Parental maltreatment, bullying, and adolescent depression: Evidence for the mediating role of perceived social support. *Journal of Clinical Child and Adolescent Psychology, 39*(5), 681-692.

Silvers, J. A., McRae, K., Gabrieli, J. D. E., Gross, J. J., Remy, K. A., & Ochsner, K. N. (2012). Age-related differences in emotional reactivity, regulation, and rejection sensitivity in adolescence. *Emotion, 12*(6), 1235-1247.

Smart Richman, L., & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A multimotive model. *Psychological Review, 116*(2), 365-383.

Staebler, K., Hellbing, E., Rosenbach, C., & Renneberg, B. (2011). Rejection Sensitivity and Borderline Personality Disorder. *Journal of Clinical Psychology and Psychotherapy, 18*(4), 275-283.

Staebler, K., Renneberg, B., Stopsack, M., Fiedler, P., Weiler, M., & Roepke, S. (2011). Facial emotional expression in reaction to social exclusion in borderline personality disorder. *Psychological Medicine, 41*(9), 1929-1938.

Stangier, U., Heidenreich, T., Berardi, A., Golbs, U., & Hoyer, J. r. (1999). Die Erfassung sozialer Phobie durch Social Interaction Anxiety Scale (SIAS) und die Social Phobia Scale (SPS) (Psychometric properties of a German version of the Social Interaction Anxiety Scale and the Social Phobia Scale). *Zeitschrift für Klinische Psychologie, 28*(1), 28-36.

Stangier, U., Heidenreich, T., & Peitz, M. (2009). *Soziale Phobien. Ein kognitiv-verhaltenstherapeutisches Behandlungsmanual, 2., korrigierte und erweiterte Auflage (Social Phobia A cognitive-behavioral theapeutic manual, 2nd. Edition).* Weinheim: Beltz.

Startup, M., Heard, H., Swales, M., Jones, B., Williams, J. M. G., & Jones, R. S. P. (2001). Autobiographical memory and parasuicide in borderline personality disorder. *British Journal of Clinical Psychology, 40*(2), 113-120.

Stiglmayr, C. E., Grathwol, T., Linehan, M. M., Ihorst, G., Fahrenberg, J., & Bohus, M. (2005). Aversive tension in patients with borderline personality disorder: A computer-based controlled field study. *Acta Psychiatrica Scandinavica, 111*(5), 372-379.

Stirman, S. W., & Pennebaker, J. W. (2001). Word use in the poetry of suicidal and nonsuicidal poets. *Psychosomatic Medicine, 63*(4), 517-522.

Sugden, K., Arseneault, L., Harrington, H., Moffitt, T. E., Williams, B., & Caspi, A. (2010). Serotonin transporter gene moderates the development of emotional problems among children following bullying victimization. *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(8), 830-840.

Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology, 29*(1), 24-54.

Thomas, R., & Zimmer-Gembeck, M. J. (2007). Behavioral outcomes of Parent-Child Interaction Therapy and Triple P-Positive Parenting Program: A review and meta-analysis. *Journal of Abnormal Child Psychology, 35*(3), 475-495.

Titze, K., Wiefel, A., Assheuer, J., Biermann, M., Führer, D., Riezler, B., & Lehmkuhl, U. (2010). Der Elternbildfragebogen für Kinder- und Jugendliche (EBF-KJ). Faktorielle Validität und Reliabilität (The PRSQ is a clinically oriented questionnaire for the assessment of the parental representation of children and adolescents.). *Diagnostica, 56*, 68-81.

Tops, M., Riese, H. t., Oldehinkel, A. J., Rijsdijke, F. h. V., & Ormel, J. (2008). Rejection sensitivity relates to hypocortisolism and depressed mood state in young women. *Psychoneuroendocrinology, 33*(5), 551-559.

Tragesser, S. L., Lippman, L. G., Trull, T. J., & Barrett, K. C. (2008). Borderline personality disorder features and cognitive, emotional, and predicted behavioral reactions to teasing. *Journal of Research in Personality*, *42*(6), 1512-1523.

Tronick, E., & Reck, C. (2009). Infants of depressed mothers. *Harvard Review of Psychiatry, 17*(2), 147-156.

Trull, T. J. (2001). Structural relations between borderline personality disorder features and putative etiological correlates. *Journal of Abnormal Psychology, 110*(3), 471-481.

Undheim, A. M., & Sund, A. M. (2010). Prevalence of bullying and aggressive behavior and their relationship to mental health problems among 12- to 15-year-old Norwegian adolescents. *European Child & Adolescent Psychiatry, 19*(11), 803-811.

van der Wal, M. F., de Wit, C. A., & Hirasing, R. A. (2003). Psychosocial health among young victims and offenders of direct and indirect bullying. *Pediatrics, 111*, 1312-1317.

van Harmelen, A.-L., de Jong, P. J., Glashouwer, K. A., Spinhoven, P., Penninx, B. W. J. H., & Elzinga, B. M. (2010). Child abuse and negative explicit and automatic self-associations: The cognitive scars of emotional maltreatment. *Behaviour Research and Therapy, 48*(6), 486-494.

van Vreeswijk, M. F., & de Wilde, E. J. (2004). Autobiographical memory specificity, psychopathology, depressed mood and the use of the Autobiographical Memory Test: A meta-analysis. *Behaviour Research and Therapy, 42*(6), 731-743.

Waisbrod, N., Rosenbaum, M., & Ronen, T. (2012). Self-control skills and motivational systems: Moderating the relationship between rejection sensitivity and a tendency towards aggressive behavior in adolescents. *Megamot, 48*(2), 337-365.

Wang, J., McDonald, K. L., Rubin, K. H., & Laursen, B. (2012). Peer rejection as a social antecedent to rejection sensitivity in youth: The role of relational valuation. *Personality and Individual Differences, 53*(7), 939-942.

Wang, J., Nansel, T. R., & Iannotti, R. J. (2011). Cyber and traditional bullying: Differential association with depression. *Journal of Adolescent Health, 48*(4), 415-417.

Watkins, E., & Teasdale, J. D. (2001). Rumination and overgeneral memory in depression: Effects of self-focus and analytic thinking. *Journal of Abnormal Psychology, 110*, 353-357.

Watson, J., & Nesdale, D. (2012). Rejection sensitivity, social withdrawal, and loneliness in young adults. *Journal of Applied Social Psychology, 42*(8), 1984-2005.

Werner, N. E., & Crick, N. R. (1999). Relational aggression and social-psychological adjustment in a college sample. *Journal of Abnormal Psychology, 108*(4), 615-623.

Widom, C. S., Czaja, S. J., & Paris, J. (2009). A prospective investigation of borderline personality disorder in abused and neglected children followed up into adulthood. *Journal of Personality Disorders, 23*(5), 433-446.

Williams, J. M., & Broadbent, K. (1986). Autobiographical memory in suicide attempters. *Journal of Abnormal Psychology, 95*(2), 144-149.

Williams, J. M. (1996). Depression and the specificity of autobiographical memory. In D. C. Rubin (Ed.), *Remembering our past: Studies in autobiographical memory* (pp. 244-267). New York: Cambridge University Press.

Williams, J. M., Barnhofer, T., Crane, C., Herman, D., Raes, F., & Watkins, E., & Dagleish, T. (2007). Autobiographical Memory Specificity and Emotional Disorder. *Psychological Bulletin, 133*(1), 122-148.

Williams, K. D. (1997). Social ostracism. In R. Kowalsk (Ed.), *Aversive interpersonal behaviors* (pp. 133-170). New York: Plenum.

Williams, K. D. (2001). *Ostracism: The power of silence*. New York: Guilford.

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology, 58*(1), 425-452.

Williams, K. D., & Nida, S. A. (2011). Ostracism: Consequences and coping. *Current Directions in Psychological Science, 20*(2), 71-75.

Wittchen, H.-U., Wunderlich, U., Gruschwitz, S., & Zaudig, M. (1997). *SKID-I - Strukturiertes Klinisches Interview für DSM-IV, Achse I: Psychische Störungen (Structured Clinical Interview* for *DSM-IV Axis I Disorders*). Göttingen: Hogrefe.

Wolf, M., Horn, A. B., Mehl, M. R., Haug, S., Pennebaker, J. W., & Kordy, H. (2008). Computergestuetzte quantitative Textanalyse: Aequivalenz und Robustheit der deutschen Version des Linguistic Inquiry and Word Count (Computer-aided quantitative textanalysis: Equivalence and reliability of the German adaptation of the Linguistic Inquiry and Word Count). *Diagnostica*, *54*(2), 85-98.

Wolke, D., Schreier, A., Zanarini, M. C., & Winsper, C. (2012). Bullied by peers in childhood and borderline personality symptoms at 11 years of age: A prospective study. *Journal of Child Psychology and Psychiatry, 53*(8), 846-855.

Young, B. J., & Furman, W. (2008). Interpersonal factors in the risk for sexual victimization and its recurrence during adolescence. *Journal of Youth and Adolescence, 37*(3), 297-309.

Zanarini, M. C. (2000). Childhood experiences associated with the development of borderline personality disorder. *Psychiatric Clinics of North America, 23*(1), 89-101.

Zanarini, M. C., Williams, A. A., Lewis, R. E., Reich, R. B., Vera, S. C., Marino, M. F., . . . Frankenburg, F. R. (1997). Reported Pathological Childhood Experiences Associated With the Development of Borderline Personality Disorder. *American Journal of Psychiatry, 154*(8), 1101-1106.

Appendix

Table A.1: Scale descriptions of the Parental-Representation-Screening-Questionnaire (PRSQ)

Scale	Description	Item-example
Cohesion	Parental support, warmth, and emotional closeness.	"I cuddled with my mother/father." "I always felt loved by my mother/father."
Identification	Identification with the parents.	"My mother's/father's opinion was important for me." "In some things I am just like my mother/father"
Autonomy	Parental encouragement to independence.	"My mother/father trusted in my decisions." "When I really wanted something, my mother/father let me do it."
Conflicts	Severe conflicts with parents.	"My mother/father fought with me" "My mother/father yelled at me."
Punishment	Physical or severe punishment by parents.	"My mother/father hit me with objects (e.g. belt)" "My mother/father punished me too hard."
Rejection	Rejection or uncaring parental behavior.	"My mother/father rejected me." "My mother/father didn't care about me."
Emotional burden	The parents use the child for their own emotional stabilization.	"I had to console my mother/father." "My mother/father told me all her/his sorrows."
Overprotection	The parents are extremely anxious and worried.	"My mother/father worried too much about me." "My mother/father always thought something terrible could happen to me."
Help	The parents are extremely needy in practical issues.	"My mother/father needed my help." "I had to be careful with my mother/father as she/he was quickly overstrained."

Table A.2: Regression analysis of the Parental-Representation-Screening-Questionnaire on the RSQ

IV	*B*	*SD B*	*β*	Model
Cohesion	-1.01	.16	-.21**	R^2 = .065
Overprotection	.56	.11	.11**	ΔR^2 = .018**
Rejection	.76	.17	.11*	ΔR^2 = .01**
Identification	.50	.18	.08	ΔR^2 = .002*
Autonomy	-.38	.15	-.07	ΔR^2 = .003*
Help	.26	.13	.04	ΔR^2 = .002*
				Total R=.32

Note. IV = independent variable
* p < .05; ** p < .01.

Table A.3: Examples of autobiographical memories

Cue	Memory
Patients with Borderline Personality Disorder (BPD)	
rejected	My father was sick for 7 years. Then he died. Our family broke. Then I got to learn my mother. The disappointment was big. She rejected me in everything and turned her back on me and her grandchildren. She only loves my brother.
rejected	The relationship to my mother.
safe	In the age of 35 I tried to kill myself for the second time. At the inpatient facility I felt secure.
safe	I can't remember when I ever felt safe.
neglected	My parents never cared if I go to school.
neglected	My childhood. Father too drunk to take care, mother never home.
ignored	In school from grade 7 to 10 I often felt ignored by my classmates; I was bullied too.
happy	I am never happy, only when I consumed drugs.
happy	When the maltreatment and torture stopped.
successful	When I moved out of my parents' house.
unwanted	Whenever I tried to talk about my feelings, my mother blocked and gave me the feeling to be unwanted.
interested	When my ex wanted sex I thought he is really interested in me.
interested	I am very interested in Dialectic Behavior Therapy because I want to learn something and change my life for the better.
Patients with Major Depression (MDD)	
rejected	I often feel rejected by friends, I didn't expect it from
rejected	A friend listed two other girls as her best friends, she didn't mention me though.
safe	I feel safe and secure with my family and friends. They are always there for me when I need them.
safe	I was sure that my parents would divorce. I supported my mother in that procedure.
neglected	As result of my profession and my marriage I neglected my daughter.
neglected	Clinic for two weeks. My friend didn't manage to call me once.
carefree	I am never carefree, I always worry.
carefree	I would love to be carefree once.
ignored	I talked to a friend; she didn't listen and just walked on.
ignored	I ignored letters, bills, reminders for two years; until it lead to big trouble.
happy	When my daughter was born.
happy	When I got to know my big love.
repelled	80 applications in three months, they all got rejected.
repelled	Prejudiced from people of another social stratum that didn't accept me how I am.
successful	When I finished school.
unwanted	My grandfather always said I should have become a boy. I still hear him saying this.
Healthy control group (CG)	
rejected	I applied for a scholarship and got surprisingly rejected.
rejected	My girlfriend didn't want to continue the relationship. The rejection happened without words.
safe	As a child, to play in the garden, my mother cooks lunch, my father is somewhere around; I play in the garden and feel secure.
neglected	When my sister was still little, my mother went working and my dad stayed at home. Instead of taking care of my sister he worked at his computer. My sister started to listen to audio-cassettes and thought the singer is her mom.
carefree	Just a few days ago I sat on the balcony with my roommate and enjoyed good conversations and the friendship. This summer-, leisure time-, evening-mood made me feel wonderfully carefree.
ignored	I was at a congress, talking with some colleagues. They ignored what I said.
happy	Travelling in New Zealand. We hiked the whole day and spent the night at a camping ground. Shower, building the tent up, cooking, change clothes – it was all very complicated. But then my boyfriend and I were lying in bed and heard the sheep bleak.
repelled	My parents denied buying me a dog. I was very sad as it was a big wish.
successful	Again and again.

Table A.4: Correlations of questionnaires assessing social anxiety and rejection sensitivity

	1	2	3	4	5	6	7	8
1 SIAS t1	-	.62***	.78***	-.01	.83***	.54***	.65***	.15
2 SPS t1		-	.56***	.02	.62***	.78***	.38*	.21
3 BFNE t1			-	.26	.58***	.43**	.77***	.17
4 RSQ t1				-	.02	-.08	.17	.55***
6 SIAS t2					-	.80***	.65***	.35*
6 SPS t2						-	.53***	.17
7 BFNE t2							-	.18
8 RSQ t2								-

SIAS: Social Interaction Anxiety Scale, SPS: Social Phobia Scale, BFNE: Brief Fear of Negative Evaluation Scale, RSQ: Rejection Sensitivity Questionnaire

*$p < .05$, **$p < .01$, ***$p < .001$

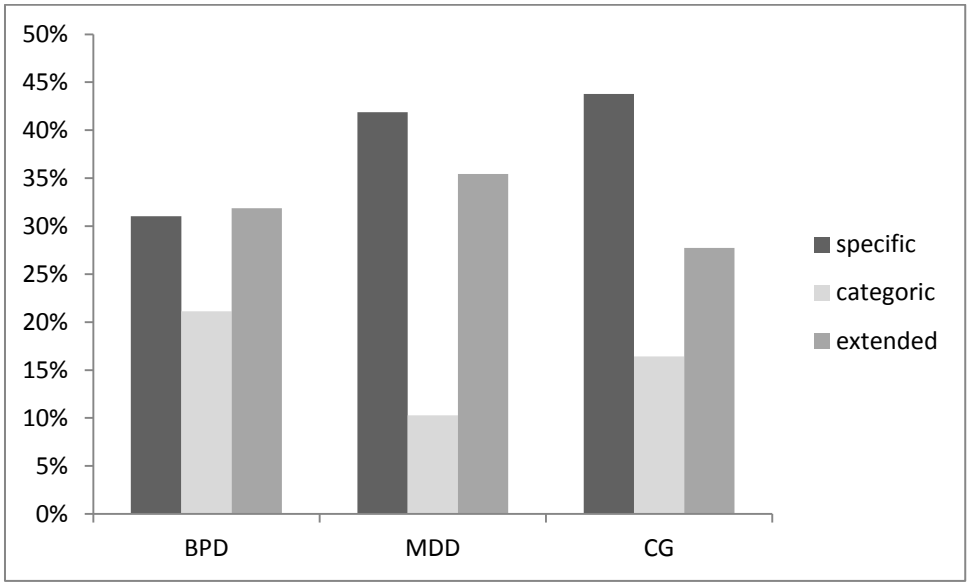

Figure A.1: percentage of specific, categorical and extended memories in BPD, MDD and CG

List of figures

Figure 1.1	The Model of Rejection Sensitivity	5
Figure 2.1	Modified Model of Rejection Sensitivity	51
Figure 4.1	Group (CG, BPD, MDD) x cue-word (negation) ANOVA	102
Figure 4.2	Group (CG, BPD, MDD) x cue-word (family) ANOVA	102
Figure 4.3	Group (CG, BPD, MDD) x cue-word (sadness) ANOVA	107
Figure A.1	Percentage of memories in BPD, MDD and CG	147

List of tables

Table 2.1	Publications on rejection sensitivity and psychopathology	31
Table 3.1	Descriptive statistics	70
Table 3.2	Regression analyses predicting borderline symptoms /depressive symptoms	71
Table 3.3	Rejection sensitivity as a mediator of the relationship between parental rejection and clinical symptoms	72
Table 3.4	Rejection sensitivity as a mediator of the relationship between rejection by peers and clinical symptoms	73
Table 3.5	Rejection sensitivity and social support as mediators of the relationship between parental rejection and clinical symptoms	75
Table 3.6	Rejection sensitivity and social support as mediators of the relationship between rejection by peers and clinical symptoms	76
Table 4.1	Applied categories and word examples	93
Table 4.2	Descriptive results on rejection sensitivity	95
Table 4.3	Specific responses on the autobiographical memory test	96
Table 4.4	Descriptive results on linguistic categories	97
Table A.1	Scale descriptions of the PRSQ	143
Table A.2	Regression analysis of the PRSQ on the RSQ	144
Table A.3	Examples of autobiographical memories	145
Table A.4	Correlations of social anxiety and rejection sensitivity	146

Zusammenfassung

Zurückweisungsempfindlichkeit wird definiert als die Erwartung von Zurückweisung, die Hypervigilanz für potenzielle Signale der Zurückweisung und die übermäßige Reaktion auf Zurückweisung. Personen mit einer hohen Zurückweisungsempfindlichkeit gehen davon aus, wiederholt zurückgewiesen zu werden, identifizieren auch in uneindeutigen Situationen schnell potenzielle Signale der Zurückweisung und neigen als Reaktion auf Zurückweisung zu sozialem Rückzug, Unterwürfigkeit in zwischenmenschlichen Beziehungen oder aggressiven Verhaltensweisen.

Die erste Studie der vorliegenden Dissertation bietet einen Überblick über psychische Belastungssymptome, die mit hohen Werten der Zurückweisungsempfindlichkeit assoziiert sind. Vor allem Symptome einer Borderline Persönlichkeitsstörung (BPS) gehen mit sehr hohen Werten der Zurückweisungsempfindlichkeit einher. (Sub)klinische depressive Störungen und Angststörungen werden ebenfalls mit einer hohen Zurückweisungsempfindlichkeit in Verbindung gebracht. Des Weiteren wurden zusätzliche Persönlichkeitseigenschaften und Variablen präsentiert, die den Zusammenhang von Zurückweisungsempfindlichkeit und psychischer Belastung beeinflussen (z.B. „self-silencing“, exekutive Kontrollfunktionen, soziale Unterstützung). Diese Befunde weisen darauf hin, dass Zurückweisungsempfindlichkeit eine wesentliche Rolle bei der Entstehung und Aufrechterhaltung der psychischen Symptombelastung spielt. Die Erforschung des Ursprungs der Zurückweisungsempfindlichkeit ist demnach von hoher Bedeutung.

Theoretische Annahmen betonen die Relevanz von früher und andauernder Zurückweisung in der Ätiologie der Zurückweisungsempfindlichkeit. Die systematische

empirische Überprüfung des Einflusses von elterlicher emotionaler Zurückweisung und Zurückweisung durch Gleichaltrige stand bisher jedoch noch aus. In der zweiten Studie wurden an einer nicht-klinischen studentischen Stichprobe retrospektiv elterliche Zurückweisung und Zurückweisung durch Gleichaltrige erfragt. Zusätzlich wurden das Ausmaß der Zurückweisungsempfindlichkeit sowie prospektiv depressive und Borderline-Symptome erfasst. Die Ergebnisse der Studie zeigten, dass sowohl emotionale Zurückweisung durch die Eltern als auch durch Gleichaltrige mit dem Ausmaß der Zurückweisungsempfindlichkeit zusammenhängen. Erfahrungen elterlicher Zurückweisung waren nur dann mit einer erhöhten psychischen Symptombelastung assoziiert, wenn zugleich hohe Werte der Zurückweisungsempfindlichkeit berichtet wurden. Zurückweisung durch Gleichaltrige hingegen hatte einen unabhängigen Effekt auf die Borderline-Symptomatik. Wahrgenommene soziale Unterstützung konnte als protektiver Faktor bei hoch zurückweisungsempfindlichen Individuen hinsichtlich der psychischen Symptombelastung identifiziert werden.

Im Rahmen der zweiten Studie zusätzlich erhobene Daten zeigten zudem, dass erlebte physische Gewalt und schwere Konflikte nicht mit dem Ausmaß der Zurückweisungsempfindlichkeit zusammen hängen. Sozialer Ausschluss, emotionale Vereinnahmung und Überbehütung waren hingegen mit höheren Werten der Zurückweisungsempfindlichkeit assoziiert. Familiäre Kohäsion und elterliche Förderung von Autonomie konnten als potenzielle protektive elterliche Erziehungsfaktoren identifiziert werden. Die Befunde dieser Studie sprechen für ein komplexes, multifaktorielles Modell der Zurückweisungsempfindlichkeit.

Um zusätzliche Erkenntnisse hinsichtlich der Rolle der Zurückweisungserfahrungen in hoch zurückweisungsempfindlichen klinischen Stichproben zu erlangen, wurden in der dritten Studie autobiographische, zurückweisungsbezogene Erinnerungen von

PatientInnen mit einer Borderline Persönlichkeitsstörung untersucht. Diese wurden mit denen von PatientInnen mit depressiven Störungen und gesunden Kontrollprobanden verglichen. Dazu wurde eine veränderte, zurückweisungsbezogene Version des Autobiographischen Gedächtnistests angewandt. Im Gegensatz zu früheren Forschungsbefunden berichteten PatientInnen mit einer BPS im Vergleich zu der gesunden Kontrollstichprobe weniger spezifische Erinnerungen. Das Ausmaß der Zurückweisungsempfindlichkeit beeinflusste diesen Unterschied signifikant. Linguistische Analysen zeigten, dass die Erinnerungen von PatientInnen mit einer BPS durch einen hohen Selbstfokus, der Negation positiver Erfahrungen, einem erhöhten Ausmaß an Wut sowie der Assoziation von Zurückweisungserfahrungen mit der häuslichen Umgebung gekennzeichnet sind. Die dritte Studie bietet empirische Evidenz für einen borderline-spezifischen Erinnerungsstil bei zurückweisungsbezogenen Hinweisreizen. Das Ausmaß der Zurückweisungsempfindlichkeit beeinflusst signifikant die Spezifität der Erinnerungen.

Weitere in dieser Dissertation erhobene Daten zeigten in einer klinischen und einer nicht-klinischen Stichprobe eine hohe Stabilität der Werte des Rejection Sensitivity Questionnaires (RSQ), so dass Zurückweisungsempfindlichkeit als dispositionelle Persönlichkeitseigenschaft zu verstehen ist.

Des Weiteren konnten erste empirische Belege für die qualitativen Unterschiede zwischen dem Konstrukt der Zurückweisungsempfindlichkeit und der sozialen Angststörung präsentiert werden.

Eine weitere Studie an einer klinischen Stichprobe von Kindern und Jugendlichen hat gezeigt, dass vorwiegend Kinder mit externalisierenden Störungen hohe Werte in der Zurückweisungsempfindlichkeit berichten.

Die empirischen Befunde der vorliegenden Arbeit zeigen die ätiologisch relevante und aufrechterhaltende Funktion der Zurückweisungsempfindlichkeit für psychische Störungen auf. Sie bieten Evidenz für ein multifaktorielles Entstehungsmodell der Zurückweisungsempfindlichkeit in dem sowohl Risiko- als auch protektive Faktoren integriert sind. Verschiedene Merkmale autobiographischer Erinnerungen von PatientInnen mit einer BPS weisen auf eine besondere Bedeutung von Zurückweisungserfahrungen sowie der Zurückweisungsempfindlichkeit bei der BPS hin. Die vorliegende Arbeit zeigt die relevante Rolle der Zurückweisungsempfindlichkeit für verschiedene Aspekte der Psychopathologie auf. Zukünftige Forschung sollte diese Ergebnisse in längsschnittlichen, kontrollierten Studien überprüfen. Zugleich sollte eine Sensibilität für die Relevanz der Zurückweisungsempfindlichkeit in klinischen Settings gefördert werden.

Selbstständigkeitserklärung

Hiermit versichere ich, dass ich die vorgelegte Arbeit selbstständig verfasst habe und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt habe, sowie Zitate kenntlich gemacht habe.

Die Arbeit ist in keinem früheren Promotionsverfahren angenommen oder abgelehnt worden.

Berlin, den 10. August 2013

Charlotte Rosenbach