

**Emotion Dysregulation and Interpersonal Dysfunction in Intimate Relationships of BPD  
Women- A Review of the Literature**

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This review is part of a thesis project, led by Prof. Peter de Jonge. It aims to validate the Stress Response Network Model by exploring different arrows of the model with systematic reviews of existing literature. Other investigations in to this model were done by Andreea Jiman, Joris Kunst, Kayla O' Shea, Mirthe Kievit & Noah Tapper.

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### **Abstract**

*Introduction:* Borderline Personality Disorder (BPD) is characterized by instability. It appears in many aspects of the affected individual's life. This systematic review focuses on instability in relationships and emotion. I tie this into a model of stress that focuses on the network between stress and psychopathology. I want to explore whether Emotion Dysregulation (ER) displayed by BPD individuals causes stress in their lives in form of Interpersonal Dysfunction in their intimate relationships (RD).

*Methods:* I employ a systematic review. Included are quantitative studies with discernable female samples.

*Results:* I found 22 relevant studies in my search. BPD is significant predictor of RD and ER. Moreover, BPD, RD and ER are also significantly correlated.

*Discussion:* I found evidence for BPD being linked to stress in the form of RD. Dysfunctional ER appears to be a contributing variable to this relation. Besides, individuals with BPD employ maladaptive ER strategies significantly more often than controls.

*Limitations:* Few studies investigate the three-way relationship between BPD, RD and ER, and this review only has one reviewer.

*Implications:* Future research should investigate ER as mediator of BPD and RD relationship. Moreover, the inclusion of partners or interpersonal trainings into treatment of BPD should be considered.

## **Emotion Dysregulation and Interpersonal Dysfunction in Intimate Relationships of BPD Women- A Review of the Literature**

### **Introduction**

Fights with one's significant other are emotionally exhausting and a challenging part of any relationship dynamic. However, partners who are in healthy relationships accept disagreements as a component of building intimacy rather than a reason to question the relationship quality (Mosier, 2005). Managing one's emotions and stress responses sufficiently is a key determinant for overcoming moments of conflict. This concept is often described as emotion regulation (ER) and refers to an individual's ability to modulate the experience and expression of a set of emotions (APA, 2022; Gross 2002).

### **BPD Symptomatology**

Individuals with Borderline Personality Disorder (BPD) often experience a problem with regulating their emotions effectively. BPD is part of Cluster B personality disorders in the DSM-5, categorized as the existence of a (1) pervasive pattern of instability of interpersonal relationships, self-image, and affects, and (2) marked impulsivity beginning by early adulthood and present in a variety of contexts (DSM-5; American Psychiatric Association, 2013). Referring to the first diagnostic criteria, individuals diagnosed with this personality disturbance show pervasive heightened affective instability with sudden and large mood changes (Ebner-Priemer et al., 2007; Houben et al., 2016). The experience of such affective instability due to the lack of skill in regulating their emotions can be debilitating for many people diagnosed with BPD.

Furthermore, this diagnostic criterion also alludes to the experience of interpersonal dysfunction. Interpersonal functioning reflects a person's skill to carry out effective interactions and relationships with others, through their ability to communicate thoughts and

feeling (APA, 2022). Research suggests BPD women experience faster reactions to interpersonal emotional triggers than healthy controls (Miano et al., 2021). It appears they especially show emotional hyper-reactivity in interpersonal threat situations (Sauer, 2016). During adulthood, the romantic partner is one of the main sources and target of dyadic emotion regulation (Miano, 2021). Dyadic emotion regulation describes how partners regulate their emotions in an interpersonal context. In the case of individuals with BPD and, to a lesser extent, their partners, it has been shown that they exhibit a variety of problematic communication styles (Bouchard et al. 2009; Miano et al. 2017, Miano et al., 2021) like demanding, criticizing, blaming and nagging, to regulate their emotions and seek support in a negative way (Pasch et al., 2004, Miano et al., 2021). Thus, it appears that they ineffectively communicate their needs which creates conflict in their relations. Therefore, it seems the dysfunctional emotion regulation of the BPD individual has the potential to influence that person's relationships as well. This is most likely also linked to individuals with BPD often being concerned with abandonment and rejection (Miano et al, 2021), and taking frantic actions to avoid such abandonment (APA, 2013). Effectively, their struggle with interpersonal relationship disturbances is reflected in little relationship stability and poor quality (Bouchard et al. 2009; Miano et al. 2020). Accordingly, Bouchard et al. reported that individuals with BPD are prone to frequent episodes of breakups and reconciliations and in their study, over an 18-month period nearly 30% of clinical couples eventually dissolved their relationship (Bouchard et al., 2009).

### **Stress and BPD**

More broadly, BPD can in many ways be related to the concept of stress. Firstly, the onset of BPD can, in many cases, be traced to genetic factors and the interaction with adverse life events (Amid et al., 2014). Adverse life events are stress-inducing situations anyone can

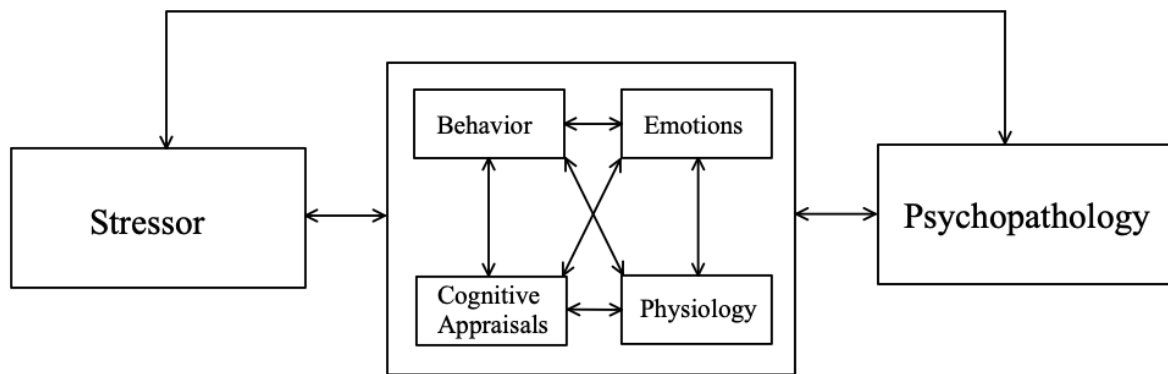
encounter throughout their lifetime. BPD subjects report significantly more total adverse life events than those with other personality disorders or Major Depressive Disorder (Pagano et al., 2004). These events, especially those that have an interpersonal component, predict decreased psychosocial functioning over time, as is seen in BPD individuals (Pagano et al., 2004). Moreover, there is a high comorbidity between BPD and Post Traumatic Stress Disorder (PTSD). Depending on the study, 25% to 60% of people with BPD also have PTSD. This rate is significantly higher than what is observed in the general population (Tull, 2020). This may be due to both BPD and PTSD being believed to stem from the experience of adverse life events (Tull, 2020.) In sum, adverse life events are stressors, that can promote the onset of BPD pathology.

Secondly, BPD is also related to alterations in stress response. Generally, individuals with BPD show heightened stress reactivity (Deckers et al., 2015) and display many dysfunctions that alter their response to stress at multiple levels (Bourvis et al., 2017). In the Stress Response Network Model (Fig. 1), stress responses are divided into four categories- Behavior, Cognitive Appraisal Physiology and Emotions. Impulsive behavior, characteristic of BPD, is most often displayed after the experience of a stressor (Bourvis et al., 2017). One example of this is self-harming behavior that is argued to relieve the individual of the tension caused by the experience of a stressor. Furthermore, BPD patients display maladaptive cognitive appraisal processes in response to stressors (Nater et al., 2010). In relation to physiology, Bourvis et al. found a neural pattern of altered stress perception and regulation in BPD compared to HC (Bourvis et al., 2017). Moreover, women with BPD show elevated cortisol baseline levels, a key neurological indicator of stress (Scott, 2013). Lastly, the emotional response to stress is altered in individuals with BPD. For example, being in a disagreement, a stressful interpersonal experience, is associated with increased negative affect compared to healthy controls (Chaudhury et al., 2017).

Consequently, the experience of interpersonal problems in BPD women can be argued to be conceptually related to stress. Conway et al. found an effect they coined stress generation to be a key feature of psychopathology (Conway et al., 2012). Stress generation refers to the occurrence of stressful events generated through behaviors related to a specific psychopathology. I argue that the emotional dysregulation component of BPD generates stress in form of interpersonal dysfunction in the individuals' intimate relationships (Fig. 1.1)

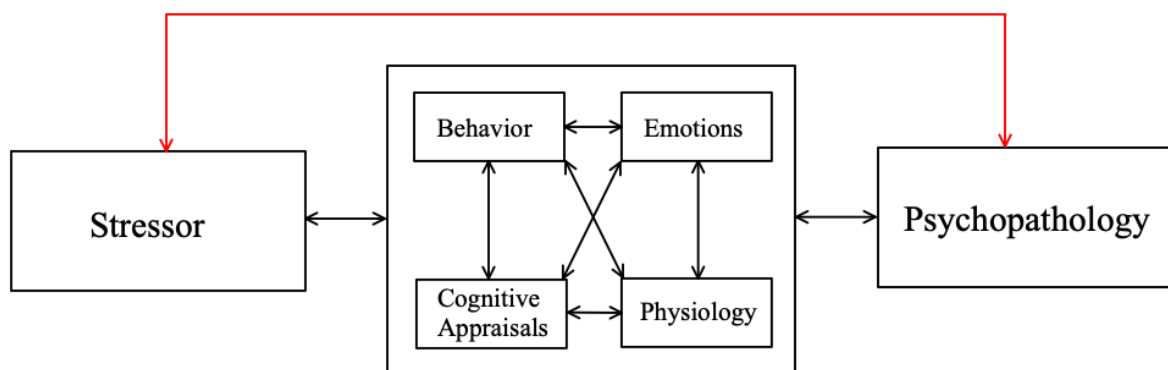
**Figure 1**

*Stress Response Network Model*



**Figure 1.1**

*Stress Response Network Model- Feedback Arrow*





## **Research Question and Hypotheses**

By use of a systematic literature review, I will try to establish whether there is a link between the symptomatology of BPD and the experience of relationship stress. I tie this to a model of stress (Stress Response Network Model) in which specific psychopathology may create a stressor in the affected individual's life, through an interplay with their symptomatology. Specifically, I want to investigate whether BPD is linked to stress in form of relationship dysfunction. Thereafter, I ask whether the emotion dysregulation observed in women with BPD promotes interpersonal dysfunction in their intimate relationships. I hypothesize that emotion dysregulation does indeed promote dysfunction in intimate relationships of women with BPD. Furthermore, I expect markers of this to be relationship dissatisfaction, heightened attachment insecurity, and lower ratings of closeness as a result of the experience of interpersonal stress.

## **Methods**

### **Method Selection**

To approach this discourse on BPD symptomatology in intimate relationships, I chose to employ a systematic literature review. A systematic literature review allows for the inspection of a wide range of studies that employ different research strategies to investigate the topic of interest. These studies can then be synthesized to answer the questions asked in this paper. More specifically, I define the terms I want to include in my search of a chosen database, to find relevant articles that can help me answer the question of whether BPD, Relationship Dysfunction (RD), and ER are connected. By reviewing all studies found under my chosen search terms I get an idea of both the scope of research on this topic, as well as a consensus on whether the relationship I am investigating exists. I can then summarize the findings to get an overview of how different researchers have answered parts of my question.

There is a large base of research on BPD symptomatology in psychological research. Therefore, reviewing the existing literature to investigate the relationship between BPD and Interpersonal Stress is a viable option to gain an overview of where psychological research currently stands on the topic. Moreover, a systematic review allows for potential gaps in the research to be discovered. In turn, future research can then investigate this gap in the literature to further our understanding of BPD in intimate relationships.

### **Search Terms**

Included in my research are articles found on the psychology database *PsychInfo*. Articles were sought under the search string “*BPD or borderline personality disorder AND interpersonal functioning or interpersonal dysfunction or relationship quality or romantic relationship or intimate relationship or partner or couple AND emotional stability or emotional liability or emotion dysregulation or emotion regulation or relationship quality or relationship satisfaction*”. The objective of this search was to make sure studies focused on the potential connection between emotion (dys-)regulation and interpersonal (dys-)function in the context of intimate relationships, in samples concerning women diagnosed with BPD. Therefore, the first part of the string defines BPD, followed by the second part that focuses on relationship dysfunction. Lastly, the third part of the search focuses on emotion regulation. However, the initial search string did not present several studies I became aware of when first researching the topic (Appendix 1). These studies did not directly mention emotion regulation but focused on relationship dysfunction. Because the initial search string establishes emotion dysregulation and other definitions of the same concept as an obligatory aspect of any study included in this paper, these studies did not appear under said search terms.

Therefore, I duplicated the search terms “relationship quality” and “relationship satisfaction” and added them to the search string a second time. As a result, the search was no longer confined by an obligatory mention of keywords regarding ER. This allowed for the missing studies to surface in the search. In sum, the search presented me with 150 studies in total, of which two books came up twice and were therefore removed as duplicate records (Fig. 2). I was left with 148 papers for further analysis.

### **Inclusion Criteria**

Included were studies with data on females with BPD. If researchers had gathered data for more genders but presented their results separately, these findings were also included. Moreover, only quantitative research was included, as to allow for a statistical summary of all data. This research was required to present statistically sound data on definitions of emotion dysregulation and intimate relational dysfunction.

### **Exclusion Criteria**

Excluded were all studies with a focus on males diagnosed with BPD, as well as non-adult samples. Additionally, dissertations were removed from the review as they may not have been peer-reviewed. Due to the scope of this thesis project, articles in all languages other than English, even if potentially suitable for this review, had to be removed. As there was a focus on quantitative research- reviews, books, and qualitative research were also excluded. In relation to the article’s contents, entries about different psychopathologies and those off-topic for differing reasons were removed. Most of these off-topic articles concerned the genesis of BPD, did not provide data on intimate relationships, or did not focus on emotion regulation (see Appendix 2). Lastly, intervention and treatment studies were removed from the review. The reason being that the focus of this project lies with the presentation of disturbances in

intimate relationships of women with BPD, and not with establishing better treatment of such disturbances. However, some of these studies were reviewed at a later stage for the discussion of future implications of the findings.

### **Definitions**

The outcome variable that this research focuses on is relationship (dys-)function. I included research that defined this concept with any of the following terms: “Relationship Quality” (RQ), “Relationship Closeness” (RC), Relationship Stability (RS), “Relationship satisfaction” (RSF) or “Conflicts” (Table 3). Moreover, I ascribed the terms “fluctuation in distance”, “avoidance of intimacy”, “negative relationships”, “marital problems” and “partner invalidation” to these categories accordingly. Moreover, for the secondary outcome variable ER the definitions I sought included the terms “Emotion Regulation” (ER), “Interpersonal Emotion Regulation” (IER), “Anxiety/Avoidance”, “Hostility”, “Communication Strategies” and “Support Seeking”. Additionally, I also included data on “fluctuation in interpersonal distance, aggression/violence/externalizing behavior and emotional sensitivity/instability/liability/intensity (Table 4).

### **Data analysis**

To be able to compare data from all included papers, I transformed important data points to effect sizes. I employed Cohen’s  $d$  guidelines to classify effect sizes and get a picture of the strength of presented effects. Where possible I sought means and standard deviations to calculate the effect size. However, this was only possible when two groups were compared, here HC and BPD. In these cases, I also included the calculation of 95% CIs. As I included a number of articles that are based on BPD severity rating instead, I could not rely on the former method. In these cases, I transformed the correlations the researchers present in these studies to Cohen’s  $d$ . As a result, 95% CIs could not be calculated.

Lastly, it is important to mention that some of the variables included had both negative and positive definitions. In the case of Relationship stability for example, some studies showed data on BPD x Relationship Stability, which I expect to be negatively related. However, some studies that also analyze Relationship Stability define this variable as Relationship Instability. This, I expect, would in turn present me with a positive relation as instable patterns are assumed to be positively related to BPD. In this case and any similar case for that matter, I decided on either directionality and transformed the other scores to that directionality. I make an effort to ensure this process is clear for each variable this is applicable to, when analyzing it later.

### **Limitations and Biases**

On the grounds of this project being confined by the boundaries of a bachelor's thesis, only one reviewer was able to assess the articles. I acknowledge that this ultimately makes the current research more prone to bias, as no inter-rater reliability for study inclusion can be assessed. To control for biases in the assessment of results, I aimed only to check for the mention of relevant terms not significant numbers. This was to include both significant and insignificant findings. Moreover, if possible, effect size and the number of participants were assessed and will be included in the analysis. Lastly, it is important to mention, that few studies examined both the relation between BPD and Relationship Dysfunction and Emotion Dysregulation and BPD. Therefore, the outcome variable Relationship Dysfunction and its relation with BPD was focused on mostly. Where possible data concerning ER and its relationship with RD were consulted

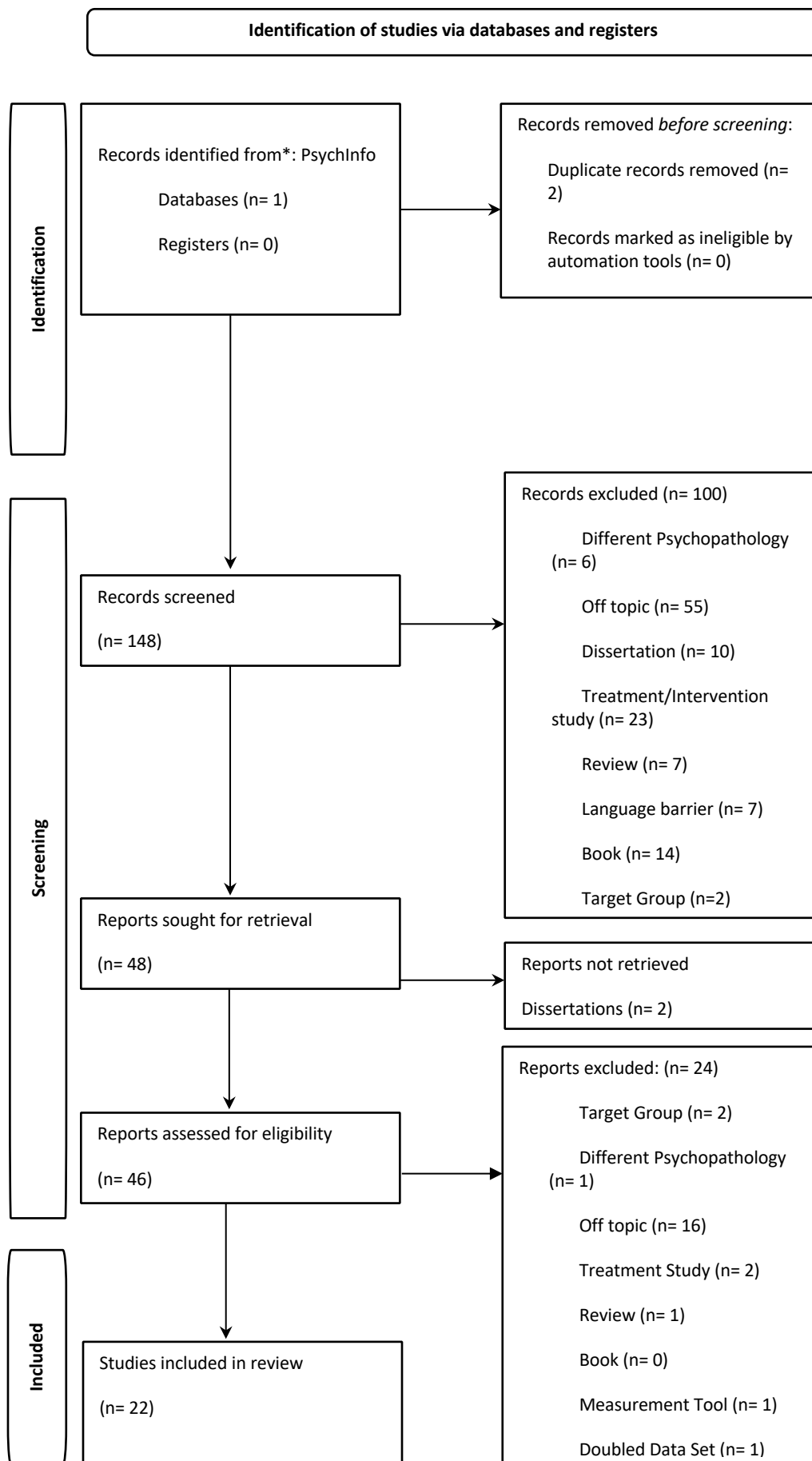
## Results

### Final Paper Count

The search string presented 150 results, of which 2 were excluded pre-screen as they were duplicates of the same book. After the initial Title and Abstract Screen, I excluded 100 studies on the above-mentioned terms, and 48 studies were sought for retrieval (Table 1). Of those 48 papers, two studies could not be retrieved. Both studies were dissertations, and on the grounds of previous exclusionary rules, their inaccessibility was, therefore, a lessened concern. After assessing the remaining papers two more had to be excluded because they did not distinguish between genders in their dataset. Another one was removed from the analysis because it focuses on only healthy participants and no psychopathology. Additionally, sixteen more papers had to be excluded because although they appeared to fit the topic at first glance, they ultimately had a variety of different focal points that did not align with the current research. Most often these studies did not present data on any of my concrete definitions of relationship functioning, or simply no data on this topic at all. Moreover, there were another two treatment studies that had to be ruled out, after they did not provide data specifically on pre-treatment levels of relationship functioning. Additionally, one review was only identified in this stage and therefore excluded. Another study examined the usefulness of a measurement tool and was therefore excluded. Lastly, one study was a follow-up paper examining the same sample as Lazarus et al. 2015 with a longitudinal assessment. Therefore, this paper was also excluded. Ultimately, out of 46 papers scanned in their entirety, 22 studies remained for further analyses (Fig. 2).

Figure 2

## Flow Diagram of Search



### **BPD and Relationship Dysfunction**

All studies included for analysis of the relationship between BPD and relationship dysfunction can be found in Table 3. Out of 22 studies that were included, 16 provided relevant data for analyzing relationship dysfunction in BPD women. Most of the studies subscribe to either of the following two study designs. They either compare a BPD group and a Healthy Control group (HC), or they investigate BPD severity/features and its correlation with relationship dysfunction. After collecting all relevant data, it became apparent that terms used to describe Relationship Dysfunction mostly fit five major categories of Relationship Functioning- Relationship Quality (RQ), Relationship Closeness (RC), Relationship (In-)stability (RIS/RS), Relationship Satisfaction (RSF) and Relationship Conflict/Problems (Conflict). To present the findings, I calculated Cohen's  $d$  for all studies that provided respective data. When data were presented for BPD and HC Cohen's  $d$  was calculated by use of means and standard deviations. In these cases, it was also possible to calculate 95% confidence intervals. In the case of BPD severity studies, there were no separate sample sizes available. Therefore, I translated the correlations that were presented in these cases, to effect sizes. As a result of this method, I could not identify CIs for the effect sizes for studies in this category. Lastly, some sample sizes are based on couples, therefore one data point means one couple and two participants per couple, whereas some are the simple number of individual participants. Those based on couples will be marked (Table 3).



**Table 3***BPD and Relationship Function*

Study	Design	Definitions	Results
Howard and Cheavens, 2022	BPD features x Relationship Status x IER	Relationship Quality (RQ)/ Closeness (RC), IER frequency, efficacy, willingness	N= 149, PAI-BORxRQ $r = -.56$ ; PAR-BORxRC $r = -.43$
Miano et al., 2020	BPD vs. HC	RQ, Relationship Stability (RS), Conflict, Attachment Styles	N= 67 <sup>c</sup> , RS BPD women M (SD)= 5.28 (1.97) RS HC women M (SD)= 6.62 (1.79), RQ BPD women M (SD)= 19.26 (5.06) RQ HC women M (SD)= 22.11 (4.34), unresolved conflicts BPD women M (SD)= 6.74 (6.20) HC women= 1.67 (2.55)
Miano et al., 2021	BPD vs. HC relationship threat	RQ, RC, Couples Functioning, Support Seeking	N= 68 <sup>c</sup> , RQ M (SD)= 18.37 (5.07) HC M (SD)= 20.92 (4.34)
Bouchard et al., 2009	BPD vs. HC couple functioning	IPV, Relationship Instability (RIS), Intimacy, Relationship satisfaction (RSF), communication styles	N= 70 <sup>c</sup> , episodic RIS (68.7%, $n = 22/32$ ), avoidance of intimacy $t (59.31) = 5.03, p < .001$ , RSF $t(68) = 4.58, p < .001$
Beeney et al., 2019	BPD severity x DAS	Dyadic adjustment- Satisfaction	N= 130 <sup>c</sup> , DAS Satisfaction x BPD $r = -.42, p < .01$
Haliczer et al., 2021	BPD severity x ER and conflict	Negative relationships, ER, Conflict	N= 173, BPD x maladaptive ER $r = .21$ , BPD x conflict $r = .33$
Miano et al. 2017	BPD vs. HC relationship feelings and communication beh.	RC, Relationship Insecurity (RI) in threat conditions, Hostility	N= 64 <sup>c</sup> , RC rel. Threat cond. BPD M (SD)= 3.90 (2.14) HC M (SD)= 4.68 (1.57), RI at baseline BPD M (SD)= 3.04 (0.90) HC M (SD)= 1.91 (0.75) rel. Threat cond. BPD M (SD)= 3.41 (1.15) HC M (SD)= 1.90 (0.75)
Lavner et al., 2015	BPD severity x Marital satisfaction	Marital satisfaction, Marital problems, Social support, Problem solving	N = 172 <sup>c</sup> , marital satisfaction $t ratio = -2.75$ $r = .21$ / $t ratio = -3.62$ $r = .27$ , main effect $t ratio$ linear slope 6.51 $r = .45$ marital problems $t ratio = 5.57$ $r = .40$ / $t ratio 4.77$ $r = .34$
Hill et al., 2011	BPD vs. APD vs. HC romantic social dysfunction	Social domain disorganization	N= 116, dysfunction in romance x BPD $r = .55$ , dysfunction romantic BPD M (SD)= 8.1 (.9),

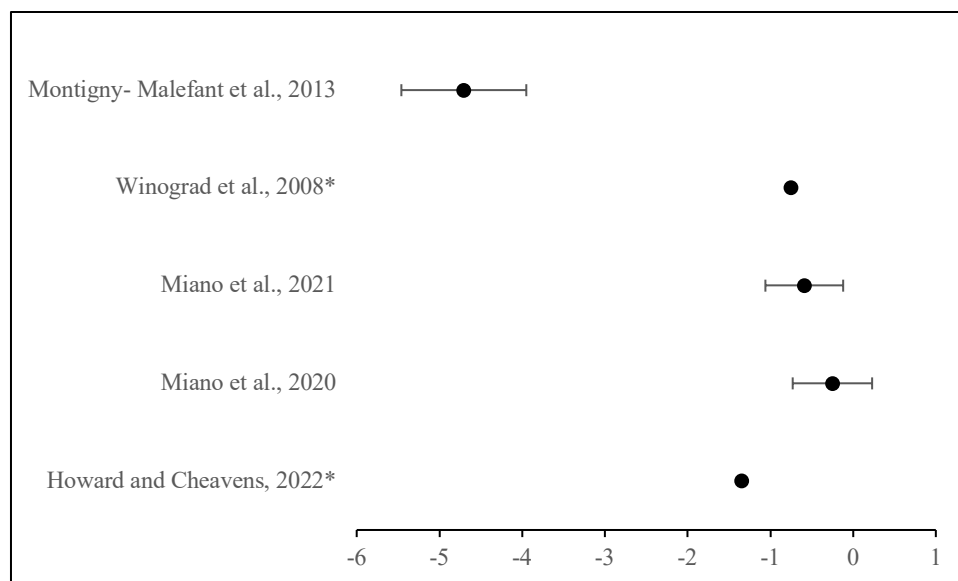
			dysfunction romantic HC M (SD)= 6 (1.8)
Winograd et al., 2008	Longitudinal BPD severity x role function	RQ, Longitudinal trajectory BPD symptoms	N= 748, relationship quality x BPD features $r = .345$
Bhatia et al., 2012	BPD feature x DREs*	*Daily Romantic experiences, RSF	N= 228 <sup>c</sup> , BPD x relationship satisfaction $r = -.04$ , negative impact to negative Daily Romantic Experiences- self initiated x BPD $r = .22$
Abdevali et al., 2021	BPD vs. HC interpersonal distance	Interpersonal distance to a romantic partner	N= 76, optimal interpersonal distance BPD M (SD)= 14.32 (10.12)/17.54 (11.80) HC M (SD) = 6.57 (9.14)/7.78 (12.84)
Lazarus and Cheavens, 2017	BPD vs. HC social network	RC, RSF, Conflict	N= 53, RSF BPD M (SD)= 4.35 (1.12) HC 5.68 (.73), RC BPD M (SD)= 4.87 (.98) HC 5.22 (.81), Conflict BPD M (SD)= 3.03 (.82) HC 2.18 (.61)
Kuhlken et al., 2014	BPD severity x relationship satisfaction x neg. affect	RSF, affect	N= 111, RSF $b = -.19$
Montigny-Malefant et al., 2013	BPD vs. HC couple functioning	RQ, couple functioning	N= 110 <sup>c</sup> , RQ BPD M (SD) 0.81 (0.08) HC 0.56 (0.04)
Ross et al., 2017	BPD severity x interpersonal dynamics	ER, Invalidation	N= 67 <sup>c</sup> , BPD x invalidation $r = .21$

<sup>c</sup> sample size of couples not individuals

In the following figures, I present the effect sizes in form of forest plots. Additionally, I include the 95% CIs where possible. Five studies fit the definition RQ (Fig. 3). Except for one study with a marginally larger effect size of  $d = -4.71$ , 95% CI [-5.46, -3.95] (Montigny-Malefant et al., 2013) all others lie between  $d = -0.25$ , 95% CI [-0.73, 0.23] (Miano et al., 2020) and  $d = -1.35$  (Howard & Cheavens, 2022). In accordance with Cohen's guidelines, three out of these five studies present large negative effect sizes, whilst one has a medium effect size and one is small.

### Figure 3

*Effect sizes (Cohen's d) and 95% CI for Relationship Quality*

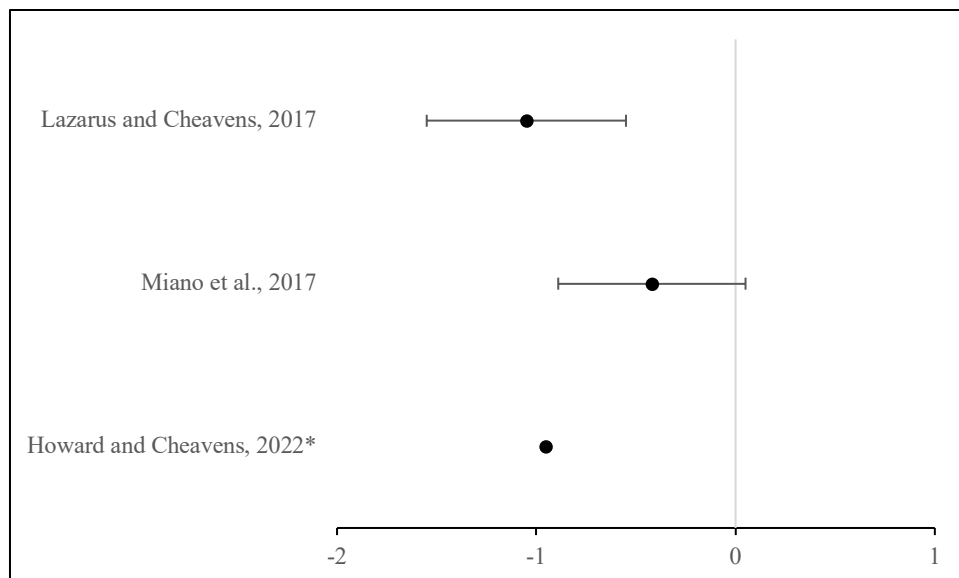


\* not enough data to compute a CI

When examining RC in the literature, three studies fit this definition (Fig. 4). Their effect sizes are  $d = -1.05$ , 95% CI [-1.55, -0.55] (Lazarus & Cheavens, 2017),  $d = -0.42$  95% CI [-0.89, 0.05] (Miano et al., 2017) and  $d = -0.95$  (Howard & Cheavens, 2022). In consulting Cohen's guidelines this means there are two large effects and one medium.

**Figure 4**

*Effect Sizes (Cohen's d) and 95% CI for Relationship Closeness*



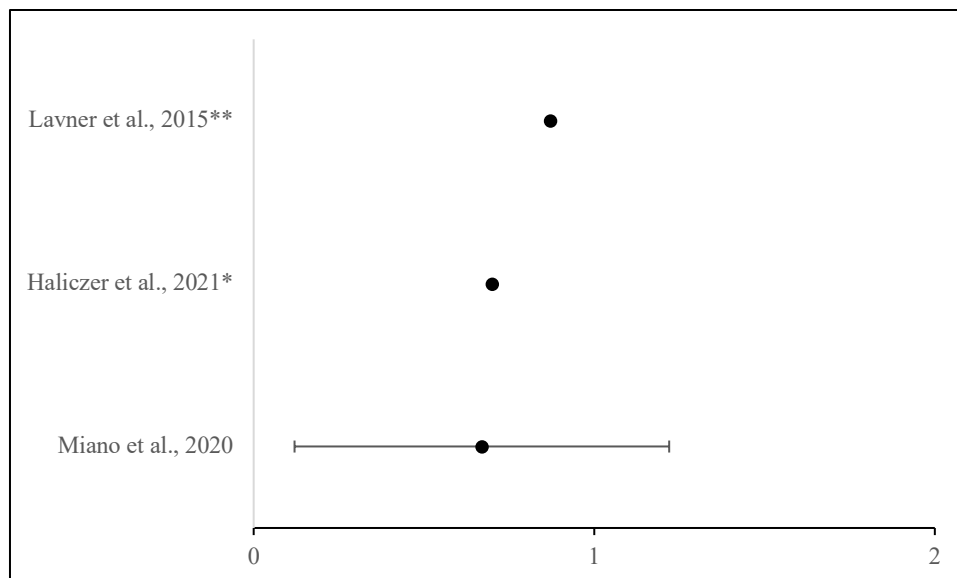
\* not enough data to compute a CI

There are three studies that fit the concept of RS/RIS (Fig. 5). Miano et al. report RS, which I transferred into RIS, whereas Haliczzer et al. used negative relationships as their definition, which I categorized under RIS. Lavner et al. use marital problems as a definition, which I added into the RIS category. Lastly, I could not include Bouchard et. Al, although they reported RIS, their data could not be transformed to Effect sizes.

Effect sizes ranged from  $d = 0.67$ , 95% CI [0.12, 1.22] (Miano et al., 2020),  $d = 0.7$  (Haliczer et al., 2021), up to  $d = 0.87$  (Lavner et al., 2015). Therefore, effects range from medium to a large positive effect size, according to Cohen's guidelines.

## Figure 5

*Effect Sizes (Cohen's d) and 95% CI for Relationship Instability*



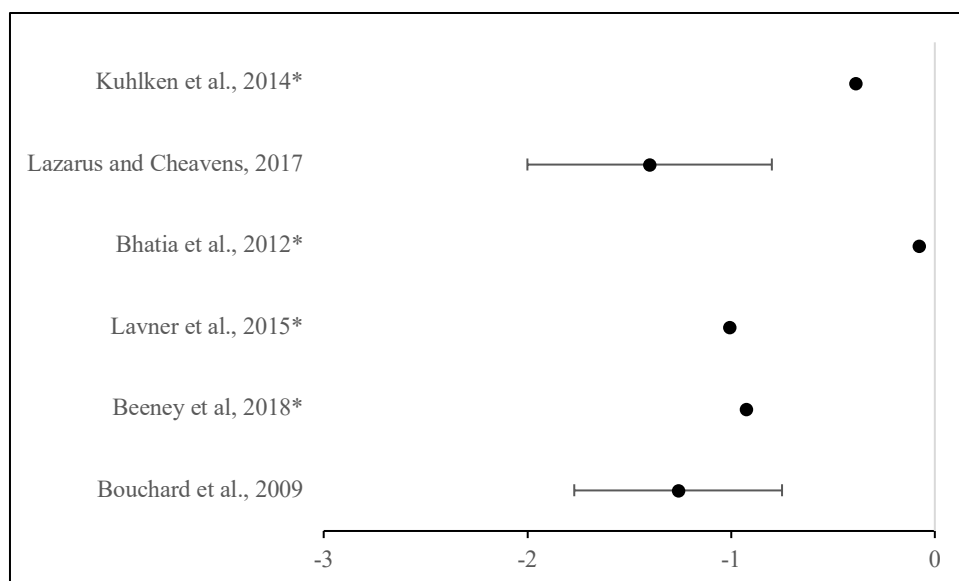
\* not enough data to compute a CI

\*\* differing definitions included in RS/RIS

Most data were identified for the definition RSF, and I could include six studies of which only two 95% CIs could be calculated (Fig. 6). The effect sizes show a negative relationship and range from small,  $d = -0.08$  (Bhatia et al., 2012) to medium  $d = -0.39$  (Kuhlken et al., 2014), and the largest number of papers identified large effect sizes between  $d = -0.93$  (Beeney et al., 2018) and  $d = -1.4$ , 95% CI  $[-2.0, -0.8]$  (Lazarus and Cheavens, 2017).

### Figure 6

*Effect Sizes (Cohen's d) and 95% CI for Relationship Satisfaction*

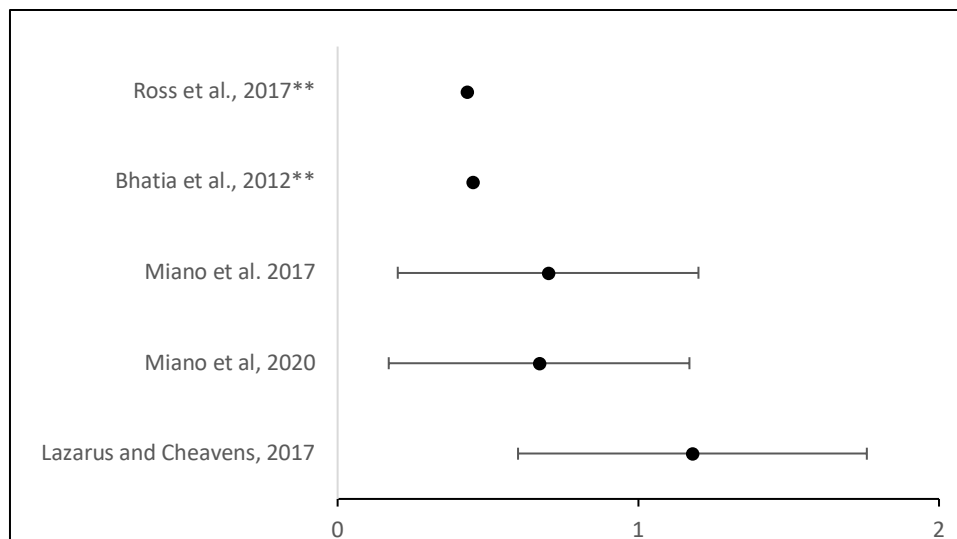


\* not enough data to compute a CI

I identified five studies that fit the “Conflict” definition. Two of them did not make use of this exact definition (Fig. 7). Ross et al. called their variable “partner invalidation”, which I decided to include in this analysis. Moreover, Bhatia et al. identified the variable “marital problems” that I included in this plot. Effect sizes show a positive relationship and range from medium  $d = .43$  (Ross et al., 2017), which notably had a slightly differing definition, to large  $d = 1.18$ , 95 % CI [0.6, 1.76] (Lazarus and Cheavens, 2017).

### Figure 7

*Effect Sizes (Cohen's d) and 95% CI for Conflict*



\* not enough data to compute a CI

\*\* differing definitions

### **BPD and Emotion Dysregulation**

In the second step of my analysis, I investigated the relationship between Emotion (Dys-)Regulation and BPD. Additionally, where possible I sought data on a three-way relationship between BPD, Emotion Dysregulation, and Relationship Dysfunction. I identified thirteen studies that fit my investigation into either of these relationships (Table 4). Just as in the last analysis, most papers in the following subscribe to either of the following two study designs. They either compare a BPD group and a Healthy Control group (HC), or they investigate BPD severity/features and its correlation with one of the following terms that describe ER. The first cluster consists of studies that describe ER directly. More specifically, I include the terms Interpersonal Emotion Regulation (IER) (Howard & Cheavens, 2022), maladaptive emotion regulation (Haliczer et al., 2021), difficulties with ER (Herr et al., 2013), dysfunctional ER strategy use (Fitzpatrick, 2016), passivity/impulsivity emotion regulation (Wupperman et al., 2008) and emotion dysregulation (Ross et al., 2017). I expect the relationship to be negative for IER, and positive for all other definitions. Additionally, I also include Lavner et al. in this category as they employ the concept of negative problem solving and support seeking., which borders on the more obvious definitions of dysfunctional ER.

This relationship should in turn also be negative in nature. The second cluster focuses on some form of Hostility, presentation of violence or other externalizing behaviors- this includes the terms physical/psychological violence (Bouchard et al., 2009), Hostility (Miano et al., 2017), IIP and negative emotional intensity (Herr et al., 2013), IPV and reasons for violence (Ross et al., 2011). I anticipated the relationship to be positive, as these terms describe a dysfunctional form of emotion regulation, something I expected to be used more often by BPD individuals. The third cluster is all about communication strategies- definitions include communication ratings (Miano et al., 2020), which is negatively related, negative support seeking (Miano et al., 2021), which is positively related, constructive mutual communication and demand/withdraw communication (Bouchard et al., 2009), of which the former is negatively related and the latter positively, and interpersonal effectiveness (Wupperman et al., 2008), which shows a negative directionality. The fourth cluster focuses on attachment behavior- Miano et al. give extensive reports on attachment (Miano et al. 2020). In this review I focus on data they present about avoidant and anxious attachment as these styles are shown to be most related to BPD. In line with this, both forms should be positively related to BPD, as they are dysfunctional in nature. Moreover, Miano et al. also report fluctuation between creating closeness and distance, which I also include in this cluster on attachment behavior (Miano et al., 2021). This relationship is positive in nature as greater fluctuations in attachment lean towards being dysfunctional. Lastly Kleindienst et al. report a relation with rejection sensitivity, that I include in this cluster. I expect the ratings by BPD individuals to be higher, therefore showing a positive relation between this variable and BPD.



**Table 4***BPD and Emotion Dysregulation*

Study	Design	Definitions	Results
Howard and Cheavens, 2022	BPD features x Relationship Status x IER	RQ, RC, IER frequency, efficacy, willingness	N= 149, IERfrequency x RQ $r = -.05$ , IERefficacy x RQ $r = .56$ , IERwillingness x RQ $r = .48$ ; IERfrequency x RC $r = .19$ , IERefficacy x RC $r = .50$ , IERwillingness x RC $r = .37$
Miano et al., 2020	BPD vs. HC	RQ, Relationship Stability (RS), Conflict, Attachment Styles	N= 67 <sup>c</sup> , Attachment Anxiety x Conflict $b = 3.26$ , Attachment Anxiety BPD M (SD)= 4.84 (.99) HC 2.73 (1.20), Attachment Avoidance BPD M (SD)= 3.68 (1.15) HC 2.13 (.83), Attachment Anxiety BPD x RS $b = -.40$ , Attachment Avoidance BPD x RS $b = -.61$ , Attachment Avoidance BPD x RQ $b = -1.54$ , Communication M (SD) BPD 6.16 (2.22), M (SD) HC 7.14 (1.74)
Miano et al., 2021	BPD vs. HC relationship threat	RQ, RC, Couples Functioning, Support Seeking	N= 68 <sup>c</sup> , negative support seeking $d = 0.84$ , fluctuation between creating closeness and distance $d = 0.64$
Bouchard et al., 2009	BPD vs. HC couple functioning	IPV, Relationship Instability (RIS), Intimacy, Relationship satisfaction (RSF), communication styles	N= 70 <sup>c</sup> , physical violence $z(35) = 3.06$ , $p < .01$ , $d = 0.47$ , psychological violence, $z(35) = 4.40$ , $p < .001$ , $d = 1.08$ , constructive mutual communication $t(68) = 2.68$ , $p < .01$ $d = 0.636$ , probability of demand/withdraw

			communication t (68) = 2.14, $p < .05$ , $d = 0.51$
Haliczer et al., 2021	BPD severity x ER and conflict	Negative relationships, ER, Conflict	N= 173, BPD features x maladaptive ER $r = .21$ , maladaptive ER x negative relationships $rpb = .22$
Miano et al. 2017	BPD vs. HC relationship feelings and communication behavior	RC, RS in threat conditions, Hostility	N= 64 <sup>c</sup> , Hostility in relationship threat situations $d = 0.50$ , Hostility $d = 0.51$ ; Stress in Rel. threat M (SD) BPD 4.27 (1.39), M (SD) HC 3.17 (1.11)
Lavner et al., 2015	BPD severity x Marital satisfaction	Marital satisfaction, Marital problems, social support, Problem-solving	N= 172 <sup>c</sup> , BPD x negative problem-solving skills $r = .15/.19$ , BPD x negative social support behavior $r = .19/.22$
Herr et al., 2013	BPD severity x ER x Interpersonal Problems	Interpersonal Problems, ER	N= 124, BPD x difficulties with ER scale $r = .75$ , BPD x IIP total $r = .62$ , BPD x IIP aggression $r = -.53$ , BPD x IIP sensitivity $r = .67$
Fitzpatrick et al., 2016	BPD severity x ER	ER strategies, neg. emotional intensity	N= 154, neg. emotional intensity x BPD $r = .31$ , ER strategy use x BPD $r = .36$ , frequency dysfunctional er strategy use x BPD $r = .44$ , functional ER strategy effectiveness x bpd $r = -.29$
Kleindienst et al., 2019	BPD vs. HC intensity of anger	rejection sensitivity	N= 98, rejection sensitivity $d = 1.64$
Wupperman et al., 2008	BPD severity x Mindfulness x ER	Mindfulness, ER strategies	N = 342, BPD x interpersonal effectiveness $r = -.30$ , BPD x passivity/impulsivity emotion regulation $r = .26$

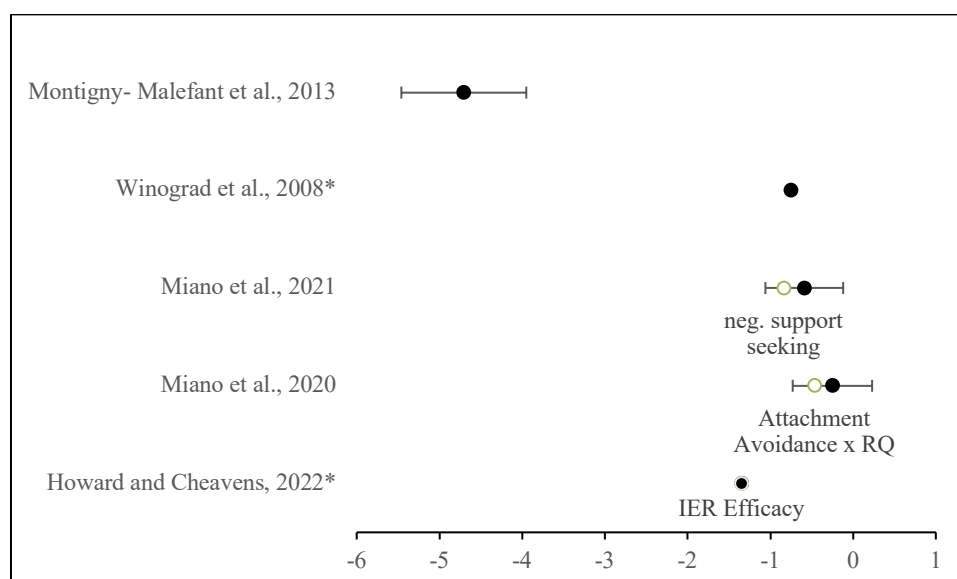
Ross et al., 2017	BPD severity x interpersonal dynamics	ER, Invalidation	N= 67, BPD x emotion dysregulation $r= .61$ , emotion dysregulation x partner invalidation $r= .18$ , avoidance of affect x BPD $r= .39$
Ross et al., 2011	BPD vs. Other PDs x IPV	IPV, ER, reasons for IPV	N=30, emotion dysregulation and IPV in BPD women $B= .67$ , reasons for violence of women with BPD x ER $r= .44$

<sup>c</sup> sample size of couples not individuals

Firstly, I plot some of the most relevant findings onto existing plots, as their concepts were related (Fig. 3.1) Miano et al. investigated the relationship between Attachment Avoidance in BPD individuals and its relationship with RQ ( $b= -1.54$ ,  $d= -0,47$ ). There appears to be a medium negative effect between Attachment Avoidance in BPD and RQ. Moreover, Howard and Cheavens investigated Interpersonal Emotion Regulation (IER) and its relationship with BPD and RQ ( $r= .56$ ,  $d= -1,35$ ). This relationship shows a large negative effect.

### Figure 3.1

*Effect Sizes (Cohen's d) Relationship Quality and ER Strategies*

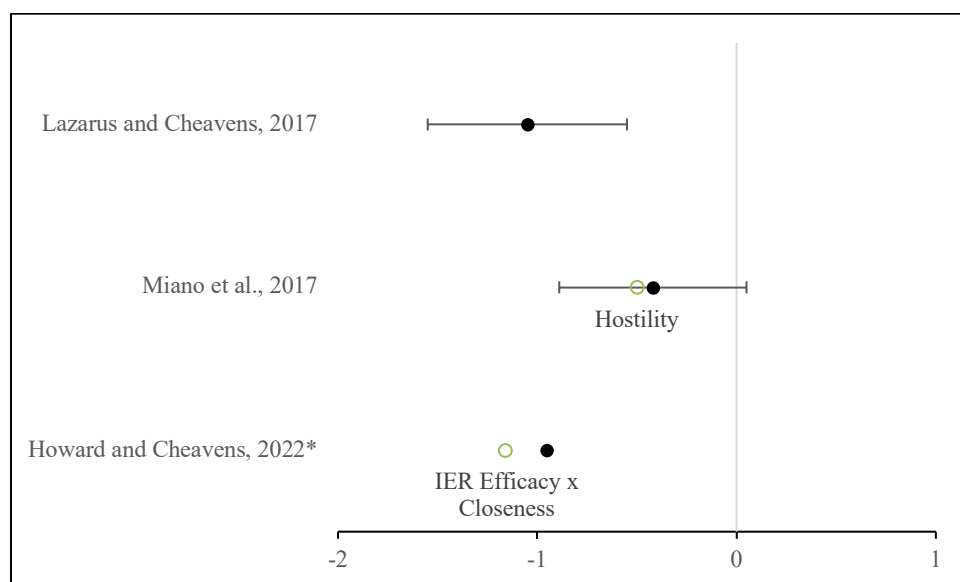


\* not enough data to compute a CI

When it comes to examining ER and RC, Howard and Cheavens present another IER x BPD x RC statistic ( $r=.5$ ,  $d= - 1.16$ ), which shows a large negative effect size. Miano et al. investigated “Hostility” in relationship threat situations and BPD ( $d= 0.50$ ). I added this to the RC plot as hostility toward someone creates distance. This relationship appears to have a medium effect (Fig. 4.1)

**Figure 4.1**

*Effect Sizes (Cohen's d) Relationship Closeness and ER Strategies*



\* not enough data to compute a CI

### Additional ER Analyses

Outside of these investigations bound by the question of a three-way relationship including RD other relevant data on ER and BPD is also present. One aspect analyzed can be summarized by as discussing “Communication”. In this vein, Miano et al. mention the relationship between how couples rate their communication, comparing HC and BPD ( $M$  (SD) BPD= 6.16 (2.22),  $M$  (SD) HC= 7.14 (1.74)) (Miano et al., 2020). In 2021, Miano et al. reported a relationship between negative support seeking and BPD symptomatology with a

large effect size ( $d = 0.84$ ) (Miano et al, 2021). Keeping in line with reviewing data on communication strategies and BPD, Bouchard et al. present data on the relationship between BPD severity and constructive mutual communication  $t(68) = 2.68, p < .01, d = -0.636$ , which shows a medium to high effect size. Moreover, they also investigated the probability of demand/withdrawal communication between HC and BPD ( $t(68) = 2.14, p < .05, d = -0.51$ ), which shows a medium effect size (Bouchard et al, 2009).

When investigating definitions of ER in the reviewed literature, Haliczzer et al. provide data on maladaptive ER and its correlation with negative relationships ( $r_{pb} = .22$ ), finding a small correlation between the two. Based on their research there is a correlation between BPD and the use of such maladaptive strategies ( $r = .21$ ) (Haliczer et al., 2021). Herr et al. also investigated this concept and found a high correlation between BPD and difficulties with the ER scale ( $r = .75$ ). Moreover, they reported a correlation between the frequency of dysfunctional ER strategy use and BPD ( $r = .44$ ) (Herr et al., 2013). In line with those findings, Ross et al. also reported a large correlation between BPD and emotion dysregulation ( $r = .61$ ) (Ross et al., 2017). To build upon these findings, they also investigate a concept I include in the “Hostility/Violence” cluster. Namely, they show that emotion dysregulation and IPV perpetrated by BPD women were related ( $B = .67$ ) (Ross et al., 2011). Additionally, they also show that reasons for violence perpetrated by women with BPD are correlated with ER ( $r = .44$ ) (Ross et al., 2011). Herr et al. also report on aggression and BPD, presenting a relation between interpersonal problems, BPD and aggression ( $r = -.53$ ) (Herr et al., 2013).

The last cluster that I add to this additional analysis is that concerning attachment. Kleindienst et al report rejection sensitivity, and show a large effect size ( $d = 1.64$ ) (Kleindienst et al., 2019). Miano et al. report on a variety of attachment variables. I have previously presented their result of attachment on RQ, but they also report data for Attachment Anxiety in general, compared between BPD and HC ( $M (SD) = 4.84 (.99)$  HC

2.73 (1.20)), with a large effect size ( $d= 1.91$ ). They report the same for Attachment Avoidance (BPD  $M (SD)= 3.68 (1.15)$  HC (.83)), with an effect size of  $d= 1.56$ , also large by Cohen's guidelines. Moreover, they present the relation between Attachment Anxiety and Conflict ( $b= 3.26$ ). Lastly the same is done for Attachment Anxiety in BPD on the RS spectrum ( $b= -.40$ ) and Attachment Avoidance in BPD on the RS spectrum ( $b= -.61$ ) (Miano et al., 2021).

## **Discussion**

### **Interpretation of Results**

The overarching question that I aimed to investigate with this review was whether BPD symptomatology causes stress in form of relationship dysfunction in the life of BPD women. Moreover, I inquired whether the specific symptom of ER can explain this link. Lastly, I sought to validate the feedback arrow of the Stress Response Network Model by investigating this relationship.

Firstly, I found BPD to be a significant predictor of RD regardless of the definition of RD. This finding is in support of the hypothesis that BPD relates to Interpersonal Dysfunction in intimate relationships. Further this finding helps to validate the feedback arrow from Psychopathology to Stressor. In more detail, I observed the strongest effect for ratings of relationship satisfaction (RSF). BPD women always rated RSF significantly lower than HC woman did. Interestingly males engaged in relationships with BPD women also expressed more dissatisfaction than their HC counterparts did. In sum, this means females experience more stress in form of relationship dissatisfaction than their HC counterparts. Additionally, so do their partners, which in turn may uphold the dysfunctional dynamic. Another variable that showed support for this hypothesis was "Conflict". Conflict was rated as occurring more often by BPD women than HC women or the variable ratings increased with severity/number of

items endorsed on BPD. Firstly, this is additional evidence that BPD experience more relationship stress due to their disorder. To extrapolate, I believe that the variable “Conflict” could be argued to posit a link between RD and ER. I previously defined conflict as an outcome variable for relationship dysfunction, as I believe partners who more frequently face conflict will experience more stress related to their relationship. However, conflict may also be a result of maladaptive ER. Therefore, this variable may actually shine some light on the three-way relationship between BPD, ER and RD I sought to investigate.

There were more variables for which I could confirm the hypothesized relation between RD and BPD. I found a positive effect between RIS and BPD and, respectively, a negative effect of BPD on RS. These findings further support the hypothesis that BPD is negatively related to Relationship Function, or opposingly positively related to dysfunction in intimate relationships. Moreover, BPD is negatively related to Relationship Closeness and Relationship Quality, the last two definitions of Relationship Functioning I employed. Overall, one can therefore conclude that there is strong evidence in favor of the hypothesis that RD is positively associated with BPD, or RF respectively is negatively related with BPD.

The second aspect of my investigation is the relation between BPD, ER and RD. Few studies investigate this three-way relationship, with ER acting as an explanatory variable between BPD and RD. Therefore, I also examined the relationship between ER and BPD only, without RD. Generally, all definitions of dysfunctional ER were related to BPD with medium to large effect sizes. These findings are in support of my hypothesis, in such as BPD individuals display more dysfunction in regulating their emotions. I examined the data for all different definitions of ER I included. As a result, I found that BPD is a predictor of the use of many maladaptive communication strategies. It appears BPD females employ these strategies more frequently than HC women do. They seem to struggle with finding fruitful ways of communicating their needs and desires, as well as their frustrations with their partners. In

detail this statement is supported the following findings. BPD women show an increased usage of negative support seeking, they fluctuate more between communicating desire for closeness or distance, there are more reports of psychological violence perpetrated by them, they show a heightened demand/withdraw communication strategy and display more aggression. Overall, these findings support the hypothesis that maladaptive ER and BPD are in fact related. Moreover, one can argue that poor communication strategies can be seen as a bridge between BPD and RD. I have so far defined maladaptive communication as a form of dysfunctional ER. I believe there is ground to argue that it can provoke relationship dysfunction directly, as functional communication is key between partners. If absent or dysfunctional, as evident in BPD women, this may directly cause interpersonal problems in intimate relationships especially. Lastly, Intimate Partner Violence (IPV) might also function as a construct bridging dysfunctional ER and Relationship Dysfunction. I found BPD to be a predictor of IPV. Additionally, however, the same study by Ross et al. also showed a three-way relationship between BPD, RD and ER (Ross et al., 2011). They report that reasons for violence perpetrated by BPD women were positively correlated with ER, posing evidence for IPV being a bridging variable to my research.

Three studies examined the three-way relationship between BPD, ER and RD. The paper by Howard & Cheavens showed a strong negative relation between IER efficacy in BPD women and RQ and RC (Howard & Cheavens 2022). Miano et al. present a correlation between attachment avoidance, BPD and RQ (Miano et al. 2020). Moreover, in Miano et al. also showed that hostility as a definition of dysfunctional ER was higher in BPD women than HC women in their relationship threat condition (Miano et al., 2017). Lastly, applicable to the Stress Response Network Model, women with BPD rated stress levels higher than HC women in relationship threatening conditions. In conclusion it appears that women with BPD



experience relationship problems at least in part due to their dysfunctional ER strategies and maladaptive communicative patterns.

Overall, I cannot concretely conclude to what extent ER mediates the relationship between BPD and RD but in the studies that included this variable, researchers reported significant effects. However, all included studies do show that relationships are under stress when women have a BPD diagnosis.

### **Limitations of Included Papers**

The papers included were generally of good quality. The researchers used samples of at least over 50 participants and provided sound rationales for their research. The first aspect that limits my research is that all couples included were in heterosexual relationships. Whilst some individuals in these relationships may identify as anything but heterosexual, no other pairings were investigated. This is a limitation to my research as researchers have shown that there is a larger number of women with BPD who identify as anything but heterosexual. Therefore, although likely important, I cannot compare the relationship dynamics of heterosexual couples with partners in non- heterosexual relationships.

A second limitation of the papers included is that, often, male partners of women with BPD were identified as having a diagnosed mental disorder themselves. This can for example be seen in the study by Miano et al., who's sample included male partners with mood disorders, PTSD, anxiety disorders and even Axis II diagnoses (Miano et al., 2021). The male partner's diagnosis may potentially confound female ratings of RD. I can therefore not ensure that the effects seen are only due to the women's BPD diagnosis, they may also rate their relationships lower than HC due to the influence of their partner's mental conditions. Therefore, it would be highly relevant to control for this variable in future research.

Two additional limitations are that a few authors reappear frequently, and Miano et al. even reuse the same sample over the course of multiple studies. They could still be included, as they employed different methods in each paper and answered separate research questions in each paper.

Lastly, the paper by Montigny-Malefant et al. indicated a much larger effect size compared to all other studies, both in the RQ category and in all other categories (Montigny-Malefant et al., 2013). Based on a lack of evidence one speculative reason for this may be the large sample size it employs, which is by far the largest of the BPD vs. HC studies. Moreover, it presents significantly smaller standard deviations than other studies, strongly affecting the calculation of effect size. If I excluded this study, only two instead of three studies in the RQ category would present me with large effect sizes.

### **Limitations of Current Review**

Limitations of this paper overarchingly stem from it being a thesis project. The most obvious limitation of this review is that there was only one reviewer. This dissolves the ability to establish inter-rater reliability to ensure the exclusion process is agreed on and all studies that can theoretically be included end up actually being included. Moreover, biases in reviewing the numerical results of each paper can also not be checked by establishing inter-rater reliability. Secondly, I could not include articles written in any other language than English as I did not have the resources to have people with an understanding of those language read through the texts. This limits the cultural perspective of my research. Moreover, I did not include any dissertations, however some did seem to fit the criteria relevant for the present paper. If I had more resources I could have checked with the authors if these dissertations had been peer-reviewed.

## **Future Implications**

For the future this review indicates that investigating the inclusion of partners of BPD women in therapeutic approaches, should take center stage. I believe it could largely benefit therapy and potentially help prevent relapses after the end of therapy. Especially for patients who underwent inpatient treatment, they may be underequipped to re-enter their relationship dynamic without falling back into harmful habits.

Several studies support the inclusion of partners in therapy for BPD (Del Rio, 2022; Kamalabadi et al., 2012). Results suggested improvements in RSF for the BPD individual and their partner (Del Rio, 2022). Overall it appears efficacy treatment in reducing BPD symptoms, increasing mental health well-being and RQ of patients are increased by adding the partner into treatment approaches. Moreover, some researchers suggest that introducing an interpersonal component to BPD treatment also improves outcomes (Bozzatello et al., 2016; Popolo et al., 2019).

## **Future Research**

In the future, research should investigate the potential feedback loop between BPD and Relationship dysfunction. It appears that just as BPD causes stress in form of relationship troubles in the individual's life, the relationship dysfunction in turn could result in spiking BPD symptomatology. I believe that it could directly impact the use of ER strategies, but also impact the fear of abandonment many individuals with BPD struggle with. In turn this feared abandonment could actually influence ER strategies and increase the use of maladaptive strategies to avoid such abandonment. Moreover, researchers should investigate ER as a mediator between BPD and RD to broaden the very few existent findings on this three-way relationship, so we can come to a more conclusive analysis of the network that upkeeps stress in the lives of individuals diagnosed with BPD.

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## Appendix

### *Appendix 1: Initial Searchstring*

*“BPD or borderline personality disorder AND interpersonal functioning or interpersonal dysfunction or relationship quality or romantic relationship or intimate relationship or partner or couple AND emotional stability or emotional liability or emotion dysregulation or emotion regulation”*

### *Appendix 2: Inclusion Link*

[https://docs.google.com/spreadsheets/d/1t7sfgmD\\_YIVZjpi883HqTwUOjxQuYZ2TdLzEWE\\_wZnw/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1t7sfgmD_YIVZjpi883HqTwUOjxQuYZ2TdLzEWE_wZnw/edit?usp=sharing)