‘Chronic Feelings of Emptiness’ – a Useful Criterion in the Diagnosis of Borderline Personality Disorder?

Results from a large clinical sample

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Abstract

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Borderline personality disorder (BPD) is often considered the very prototype of personality pathology. DSM-V currently includes nine different criteria for diagnosing BPD, with five required to fulfill the diagnostic threshold. *Chronic feelings of emptiness* are among the most controversial diagnostic criteria for BPD, based on studies indicating that the emptiness criterion has weak discriminative ability (specificity) and is a poor predictor for BPD. Furthermore, research shows that *chronic feelings of emptiness* occur across various personality disorders (PDs) and psychopathology in general, postulating that it is a transdiagnostic construct and perhaps a more general experience (rather than specific for BPD). Consequently, some suggest that feelings of chronic emptiness should be replaced or removed from the list of diagnostic criteria for BPD. Hence, it seems relevant to investigate how chronic emptiness is linked to BPD. The candidate was provided with data from the Norwegian Network for Personality Disorders (The Network). **Methods:** 1702 patients with various PDs were included in the study. All patients were diagnosed according to the DSM-IV, using M.I.N.I for symptom disorders and SCID-II for PDs. Diagnostic assessments were performed according to LEAD-principles. NEO-PI-R was administered to measure neuroticism in terms of the Five Factor Model (FFM).

Results: The majority of patients who fulfilled the emptiness criterion had other PDs (not BPD); however chronic feelings of emptiness occurred almost twice as often among patients with BPD than among patients with other PDs. Presence of chronic feelings of emptiness predicted a higher risk for BPD (rather than other PDs) among both women and men. Chronic emptiness was a more robust indicator of BPD (versus Another PD) among men than among women. Women with BPD and concurrent depression reported higher levels of chronic emptiness than women with BPD who did not have concurrent depression. There was a positive correlation (0.19) between chronic emptiness and neuroticism. **Conclusion:** Chronic feelings emptiness appears to be a hallmark of BPD; however, experiences of chronic emptiness are not reserved for BPD patients only and can also be observed in other PDs.

Preface

Thank you (you know who you are) for sharing your personal history of dealing with chronic feelings of emptiness for a long time. I've seen the pain it causes, as well as the desperation that comes from trying to feel *something other* than emptiness. This thesis cannot (unfortunately) answer how to successfully treat chronic emptiness, but I hope it can shed light on an important topic that appears to have received little attention so far and inspire to more research.

Without the assistance, support, and guidance of others, this thesis would not have been possible. I would like to thank those who contributed and helped me throughout this process. Firstly, a HUGE thanks to Kristin Gustavson and Espen Jan Folmo, my supervisors, for your insightful discussions and advice on this thesis. It's been a pleasure working with both of you! In addition, I'd like to thank Benjamin Hummelen and Geir Pedersen for assisting me at the start of this project by introducing me to the theme and providing me with access to the data material. I am grateful for the opportunity to use your excellent data material.

To my amazing friends and family, a big thanks for always showing an immense amount of support. Special thanks to Ingvild and Mari for your assistance with proofreading. Last, but not least, to Simon: I am forever grateful for your advice, patience and support, but especially for bringing me to Farris Bad *only* in order to have your name motioned here.

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1. INTRODUCTION

The first section of the introduction will cover the more general characteristics of personality pathology, with a particular focus on Borderline Personality Disorder (BPD), including diagnostic criteria, different treatment approaches, and studies of long-term prognosis. Furthermore, the introduction will focus on feelings of emptiness and why it is important in the context of BPD, and in other contexts, as well as why it happens to be difficult to understand and operationalize.

1.1 Borderline Personality Disorder

Stern introduced the concept of "Borderline" in 1983 after witnessing patients in a psychiatric state that straddled the line between psychosis and neurosis (Gunderson, 2009b; National Collaborating Centre for Mental, 2009). Kernberg (1967) came up with the term *Borderline Personality Organization* to describe a group of patients characterized by failed or weak identity formation, primitive defenses (i.e. splitting and projective identification), and recurring pattern of insecure behavior that he believed represented a dysfunctional psychological self-organization (Gunderson, 2009a; Heim & Westen, 2013). O. Kernberg (1967) considered splitting as a central characteristic of the borderline structure resulting from a lack of awareness in infancy, leading to immature representations and self-disturbances later in life. *The borderline condition* was characterized by recurrent mood swings and fluctuations between high self-esteem and overwhelming despair, persistent fear of rejection, a markedly unstable self-image, and suicidal thoughts and actions (Gunderson, 2008). Transient psychotic symptoms could also occur, including delusions and hallucinations (Gunderson, 2009b; National Collaborating Centre for Mental, 2009). Grinker completed the first empirical study of borderline patients and finished his publication *The Borderline Syndrome* in 1968 (Gunderson, 2009a). When the American Psychiatric Association (APA) published DSM-III in (1980), Borderline was listed as a personality disorder for the first time (Gunderson, 2008).

DSM-V defines personality disorder (PD) as “an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual’s culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to

distress or impairment." (American Psychiatric Association, 2013, p. 645). PDs are linked to a wide range of struggles in self-appraisal, interpersonal relationships and self-regulation (Skodol, 2013). BPD is one of the most common personality disorders in health care settings (Zimmerman, Chelminski, & Young, 2008a) and represents a key feature of personality pathology. BPD is characterized by a persistent pattern of dysfunction in affect regulation, interpersonal relationships, self-image, and impulsive control (Lieb, Zanarini, Schmahl, Linehan, & Bohus, 2004). In clinical settings, this pattern can manifest as emotional dysregulation, impulsivity, self-harming behavior, and suicidal ideation (Lieb et al., 2004).

The cause of BPD is unknown, but it appears to be the result of a complex interaction between genetic factors and stressful life events (Leichsenring, Leibing, Kruse, New, & Leweke, 2011). The environmental stressors that contribute to the diagnosis vary significantly between individuals; however, for many, childhood neglect or trauma play a significant role (Gunderson, 2008). Neuroimaging studies indicate that the amygdala (the brain's emotional gateway) is hyperactive, whereas the prefrontal cortex (the brain's inhibitory system) is hypoactive (Gunderson, 2008, p. 28). Patients with BPD account for approximately 20% of all psychiatric outpatients (Zimmerman, Rothschild, & Chelminski, 2005), and 10% of all psychiatric inpatients (Zimmerman, Chelminski, & Young, 2008b). BPD is associated with a high suicide rate, severe functional impairment, occupational difficulties, a variety of comorbid mental disorders, intensive use of treatment, and a high societal cost (Gunderson, Herpertz, Skodol, Torgersen, & Zanarini, 2018). Approximately 10 % of patients with BPD commit suicide leading to a high mortality rate (Paris, 2019). The risk of committing suicide among patients with BPD is 50 times higher than in the general population (American Psychiatric Association, 2001). BPD is linked to cognitive and psychosocial impairments, creating challenges both for patients and their interpersonal relationships (Elsner, Broadbear, & Rao, 2018).

BPD appears to be a severe disorder with complex consequences in several aspects of life. Hence, it becomes crucial to reach out to those in need of help and offer them adequate treatment. Correct diagnostics are a central component of the initial phase of treatment, and there is a need to better understand the diagnostic criteria and the underlying pathology of BPD (A.W. Bateman & Fonagy, 2006; Langjord et al., 2021).

1.2 Diagnostics

Craddock and Mynors-Wallis (2014) highlights some important aspects of psychiatric diagnosis, both benefits and drawbacks. When it comes to the benefits of diagnosis, they firstly mention how important it is for communication, both with patients and among professionals. Secondly, diagnosis can be important in deciding further treatment or interventions. Thirdly, diagnosis can be helpful for the patients, by reassuring them that their symptoms or experience is not mysterious and inexplicable, and assuring that there exists knowledge and experience which can be used to provide help. Fourthly, diagnosis facilitates communication between professionals and the general public, for example regarding the need for support or services. For instance, diagnosis can induce important rights such as medical treatment or economic assistance (Høstmælingen, 2016). When used correctly, diagnosis is important for patients to be able to make informed decisions about their treatment, as well as ensure more effective help (Craddock & Mynors-Wallis, 2014).

However, psychiatric diagnosis also has some drawbacks. For instance, the diagnosis is unable to draw conclusions about the etiology of the disorder – two patients with the identical diagnosis may have two distinct stories about what caused and triggered their current symptoms, although there might be some overlaps (Høstmælingen, 2016). Rather than measurements directly related to brain function, psychiatric diagnoses are derived from descriptive data of clinical observations (Craddock & Mynors-Wallis, 2014). Consequently, patients with the same diagnosis may benefit differently from treatment, necessitating individual adjustments (Høstmælingen, 2016). The DSM classification system has some important limitations. According to Craddock and Mynors-Wallis (2014):

> The DSM is underpinned by a research culture that has sought to have diagnoses as homogeneous as possible for the investigation of treatment and prognosis. This inevitably excludes many patients who do not meet strict diagnostic criteria and creates the need for multiple 'comorbid' diagnoses when, for example, patients with a depressive disorder are also diagnosed as having a range of anxiety disorders. (p. 93).

Overall knowledge at group-level should be combined with knowledge of the individual patient, in a way that maximizes the benefits of diagnosis while minimizing their disadvantages (Høstmælingen, 2016). A.W. Bateman and Fonagy (2006) claims that "uncertainty and doubt about the value of diagnosis may be appropriate but avoidance and

lack of clarity is likely to induce distrust in the patient about the competence of the practitioner and make the development of a therapeutic alliance more difficult" (p.39).

1.2.1 Diagnostic criteria for Personality Disorder

Every edition of the American Psychological Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) has included PDs (Oldham, 2014). The DSM-V includes a total of 10 different PDs, which are further classified into 3 different clusters based on their descriptive similarities (American Psychiatric Association, 2013). Cluster B is characterized by dramatic, emotional or erratic appearance and includes BPD, Antisocial PD, Histrionic PD, and Narcissistic PD (American Psychiatric Association, 2013). The diagnostic approach in DSM-V is categorical, assuming that the various PDs are qualitatively distinct from one another (American Psychiatric Association, 2013). This approach is highly debated, and a more dimensional approach has been suggested by many (i.e. Livesley, 2006; Verheul, 2005; Westen & Arkowitz-Westen, 1998). DSM-V includes an Alternative Model for Personality Disorders (AMPD), which is a hybrid of both PD dimensions and diagnostic categories (American Psychiatric Association, 2013; Hummelen et al., 2020).

The following diagnostic criteria are applicable for *General Personality Disorder*. Patients must meet these criteria in order to be considered for one of the specific PDs (i.e., BPD).

Diagnostic criteria for General Personality Disorder

A. An enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture. This pattern is manifested in two (or more) of the following areas:
    1. Cognition (i.e., ways of perceiving and interpreting self, other people, and events)
    2. Affectivity (i.e., the range, intensity, lability, and appropriateness of emotional response)
    3. Interpersonal functioning.
    4. Impulse control.
B. The enduring pattern is inflexible and pervasive across a broad range of personal and social situations.

C. The enduring pattern leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning.
D. The pattern is stable and of long duration, and its onset can be traced back at least to adolescence or early adulthood.
E. The enduring pattern is not better explained as manifestation or consequence of another mental disorder
F. The enduring pattern is not attributable to physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition (e.g., head trauma)

(American Psychiatric Association, 2013, pp. 646-647)

1.2.2 Diagnostic criteria for Borderline Personality Disorder

Furthermore, DSM-V defines BPD as "a pervasive pattern of instability of interpersonal relationships, self-image and affects, and marked impulsivity beginning by early adulthood and present in a variety of contexts". The diagnosis of BPD is further determined by a minimum of five of the following nine criteria:

Diagnostic Criteria for Borderline Personality Disorder

(1) Frantic efforts to avoid real or imagined abandonment (Note: Do not include suicidal or self-mutilating behavior covered in Criterion 5.)
(2) A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.
(3) Identity disturbance: markedly and persistently unstable self-image or sense of self.
(4) Impulsivity in at least 2 areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating). (Note: Do not include suicidal or self-mutilating behavior covered in Criterion 5.)
(5) Recurrent suicidal behavior, gestures or threats, or self-mutilating behavior.
(6) Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability or anxiety usually lasting a few hours and only rarely more than a few days).
(7) Chronic feelings of emptiness
(8) Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights).
(9) Transient, stress-related paranoid ideation or severe dissociative symptoms.

(American Psychiatric Association, 2013, p. 663)

Since the nine criteria are equally weighted, there are a variety of potential combinations and individual variations in terms of symptoms, functioning, and severity (Karterud, Wilberg, & Urnes, 2017) - 256 different diagnostic combinations, to be exact (Biskin & Paris, 2012). Implications of the equal weighting will be accounted for in paragraph 1.5.

1.3 Evidence-based practice (EBPP) and specialized evidence-based treatments for BPD

The American Psychological Association (APA) defines *Evidence-based practice in psychology* (EBPP) as "the integration of the best available research with clinical expertise in the context of patient characteristics, culture and preferences" (American Psychological Association, 2006). Furthermore, APA states that the purpose of EBPP is to "promote effective psychological practice and enhance public health by applying empirically supported principles of psychological assessment, case formulation, therapeutic relationship, and intervention" (American Psychological Association, 2006).

For a long time, BPD was considered an untreatable condition (Choi-Kain, Finch, Masland, Jenkins, & Unruh, 2017). However, today a growing number of evidence based psychotherapeutic treatments have been proved effective in treating BPD (Choi-Kain et al., 2017). The following four treatments, sometimes referred to as the "big four", have been established as specialized evidence based treatments for BPD; Dialectical Behavior Therapy (DBT), Mentalization-Based Treatment (MBT), Schema-Focused Therapy (SFT), and Transference-Focused Psychotherapy (TFP) (Taubner, 2018). A recent systematic review found no difference in treatment effect when comparing the four treatments, but all of them showed better effects compared to ordinary treatment (Oud, Arntz, Hermens, Verhoef, & Kendall, 2018). The Cochrane review of psychological therapies for BPD analyzed 28 studies published until 2011 and concluded that disorder-specific treatments should be used (Stoffers et al., 2012).

1.3.1 Dialectical behavioral therapy

DBT is the most well-known and well-studied treatment for BDP (Choi-Kain et al., 2017; Kliem, Kröger, & Kosfelder, 2010). It is based on behavioral science, dialectic philosophy and Zen practice (Bohus, 2013; Lynch, Trost, Salsman, & Linehan, 2007). BPD is considered a result of being born with high emotional sensitivity, combined with caregivers who are unable to perceive, understand and respond to the vulnerability (Lynch et al., 2007). The therapy purpose that individuals with BPD can acquire more constructive and effective strategies to deal with their sensitivities, by using mindfulness skills and systemic strategies to enhance stress tolerance, interpersonal behavior, and emotional regulation (Lynch et al., 2007). Change occurs through learning and applying skills to be more emotionally regulated, mindful, and effective in meeting with individual sensitivities (Fassbinder, Schweiger, Martius, Brand-de Wilde, & Arntz, 2016). Moreover, the idea is that these skills will strengthen the ability to contain difficult feelings in more constructive ways (Fassbinder et al., 2016).

1.3.2 Mentalization-based therapy

MBT is based on elements from the psychoanalytic tradition (A. Bateman & Fonagy, 1999; Kalleklev & Karterud, 2018). Mentalization refers to a complex capacity to imagine one's own and other's thoughts and feelings to understand interpersonal interactions. It refers to a preconscious, imaginative mental activity, as well as a social construct (A.W. Bateman & Fonagy, 2006, p. 1). The theoretical understanding of BPD is based on Bowlby's attachment theory (1988), which states that the development of the self takes place in an affect regulatory context of early relationships. In line with this, disorganized attachment most certainly leads to some sort of disorganized self-structure, as seen in BPD. As suggested by Winnicott (1956), children develop self-representations through the internalization of caregivers (A.W. Bateman & Fonagy, 2006, p. 11).

BPD is considered as a result of the inability to mentalize, leading to difficulties with understanding other's motives, disconnection from both self and others, and a desperate need for proof of feelings through action (Choi-Kain et al., 2017). Furthermore, this leads to hyperactivated attachment interactions, resulting in distress and difficulties with coping, rather than providing safety and security. A.W. Bateman and Fonagy (2006) describe the objective of MBT as "for the patient to find out more about how he thinks about himself and others, how that dictate his responses to others and how 'errors' in understanding himself and

others lead to actions in an attempt to retain stability and to make sense of incomprehensible feelings" (p. 37). The therapy purposes that changes occur by increasing the reflective or mentalizing capacity so that the patients can understand and recognize the feelings they evoke in others and the feelings they experience themselves (A. W. Bateman & Fonagy, 2004). The goal is to strengthen the patient's ability to mentalize, making it easier to understand oneself and others.

1.3.3 Schema-focused therapy

SFT is an integrative cognitive therapy, using a variety of behavioral, experimental, and cognitive techniques to generate structural changes to a patient's personality (Young, Klosko, & Weishaar, 2003). SFT is based on elements from both behavioral and psychoanalytic theories and is concerned with the therapeutic relationship, traumatic experiences in the past, and daily life outside therapy (Choi-Kain et al., 2017). Change is possible through changing dysfunctional schemas or negative patterns of thinking, feeling, and behaving and replacing them with healthier and more constructive alternatives (Fassbinder et al., 2016). The therapy encourages an attachment between the therapist and the patient, a process called "limited re-parenting" (Fassbinder et al., 2016). SFT is especially focused on the following five schema modes of BPD: the detached protector, the punitive parent, the abandoned/abused child, the angry/impulsive child and the healthy adult modes (Young et al., 2003). The desired outcome is that the patient learns to identify when self-defeating core themes arise from unmet emotional needs in childhood as maladaptive strategies in adulthood (Young, Klosko, & Weishaar, 2006). Through this learning process, patients can learn how to get their needs met, both from themselves and others (Young et al., 2006).

1.3.4 Transference-focused psychotherapy

TFP is based on Kernberg's conceptualization of *borderline personality organization* and uses psychoanalytic concepts and techniques in treatment and understanding of BPD (Clarkin, Yeomans, & Kernberg, 1999; O. Kernberg, 1984). As previously mentioned, the borderline personality organization included key constructs like identity diffusion, primitive defense mechanisms (e.g., splitting), internally and externally expressed aggression, unstable reality testing, and conflicted internal working models of relationships (O. F. Kernberg, Yeomans, Clarkin, & Levy, 2008). TFP is inspired by object relation theory, assuming that psychological structures are a result of early interactions with caregivers, which are

internalized during the process of development (O. F. Kernberg et al., 2008). TFP, similarly to most prominent theories of BPD, hypothesizes an interaction between a constitutional emotional vulnerability and environmental experiences (K. N. Levy et al., 2006).

BPD is considered a result of a lack of identity integration and a lack of coherence in the experience and understanding of both self and others (Yeomans, Levy, & Caligor, 2013). The lack of an integrated self can lead to internal emptiness and distress, potentially leading to desperate attempts to relive distress through impulsive acts (Yeomans et al., 2013). During therapy, primitive object relations (for example split) may be transformed to mature ones (integrated, differentiated) (O. F. Kernberg et al., 2008). The interpersonal dynamic emerges in interactions with the therapist, via transference in the therapeutic relationship (Karterud et al., 2017, p. 428; O. F. Kernberg et al., 2008). Analysis of the transference within the therapeutic relationship is essential for working with the instabilities in affects and relationships. Change is achieved by helping the patient to adapt more coherent, balanced, and integrated ways of thinking about oneself and others (Karterud et al., 2017, p. 428; O. F. Kernberg et al., 2008).

1.4 Prognosis

Two large-scale, prospective studies of the long-term cause of BPD – the McLean Study of Adult Development and the Collaborative Longitudinal Personality Disorder Study – both sponsored by the National Institute of Mental Health (NIMH) indicate high rates of BPD recovery after ten years of follow-up (Gunderson et al., 2000; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2005). The findings have led to a more positive and constructive outlook on BPD's long-term prognosis, which is good news for patients, their families, and clinicians alike. However, the rate of remission varies depending on the type of BPD symptom.

Previous research have suggested that there is a disparity between temperamental - and acute symptoms for BPD (Hopwood, Donnellan, & Zanarini, 2010). Temperamental symptoms, including chronic feelings of emptiness, can be explained as a "hyperbolic" predisposition to emotional distress and negative cognitions (Hopwood et al., 2010). Zanarini and Frankenburg (2007) define hyperbolic temperament as “a tendency to easily take offense and to try to manage the resulting sense of perpetual umbrage by persistently insisting that others pay

attention to the enormity of one's inner pain" (p. 520). Furthermore, Hopwood, Thomas, and Zanarini (2012) describes it as a general tendency to experience negative emotions. Acute symptoms, such as drug abuse and self-harm, are often attributed to maladaptive responses to emotionally triggering events (Hopwood et al., 2010). According to Zanarini and colleagues (2007), BPD can be understood as "hyperbolic" temperamental characteristics that are dealt with ineffectively, resulting in acute symptoms when exposed to triggering contextual events.

Temperamental symptoms takes longer time to remit, compared to acute symptoms, according to previous research (Hopwood et al., 2010). It is hypothesized that acute symptoms resolve more quickly, perhaps due to a stronger connection to dynamic changes in the environment, or even treatment effects (Hopwood et al., 2010). Zanarini and colleagues (2007) discovered that feelings of chronic emptiness took the longest to remit, taking an average of 8–10 years. A 16-year follow-up study showed that chronic emptiness had poor remission rates compared to other symptoms, as well as high reoccurrence rates (Zanarini, Frankenburg, Reich, & Fitzmaurice, 2016). In general, research focusing on long-term prognosis finds that acute symptoms remit faster than temperamental symptoms. The latter is associated with widespread difficulties, such as interpersonal relationships, work-related difficulties, and overall reduced life quality (Bøye & Kjølbye, 2012, p. 64), indicating that it is a big concern for people suffering from BPD (Miller, Townsend, Day, & Grenyer, 2020).

1.5 'Chronic feelings of emptiness'

The fact that all criteria in the diagnostic process are equally weighted is based on an assumption that each criterion has the same severity level and ability to differentiate between those with and without BPD. However, research into this subject shows a more complicated picture. The nine criteria seem to indicate varying degrees of severity, and the emptiness criterion is regarded as the most troublesome of all BPD criteria (Karterud et al., 2017). This assumption is supported by Johansen and colleagues (2004), and Sharp and colleagues (2014), who concluded that chronic feelings of emptiness conveyed the least severity of all BPD criteria, and was the weakest indicator for BPD. In a recent study, Langjord et al. (2021) used Item Response Theory to evaluate the psychometric properties of the nine BPD criteria and determine which criteria had the best discriminative parameters and which criteria conveyed the highest and lowest severity level. According to the results of this study, chronic feelings

of emptiness was the weakest marker of BPD, as shown by low discriminative ability (low specificity), suggesting it is as a weak indicator for BPD (Langjord et al., 2021).

A study by Ellison, Rosenstein, Chelminski, Dalrymple, and Zimmerman (2016) investigated whether four BPD criteria (impulsivity, affective instability, emptiness and anger) each related to psychosocial dysfunction when met in the absence of the other eight criteria. They found that each (of the four) criteria were associated with dysfunction in comparison with a control group meeting no diagnostic criteria for BPD. Moreover, they found that chronic emptiness was most consistently associated with psychosocial dysfunction (Ellison et al., 2016). In fact, it was the only criterion associated with all indicators of psychosocial dysfunction, including suicidality, history of suicide attempts and psychiatric hospitalizations, social and work dysfunction, Axis I comorbidity, and global functioning (Ellison et al., 2016). The study states that chronic emptiness is "a good marker of poor psychological functioning" (Ellison et al., 2016). In summary, chronic emptiness appears to be associated with a variety of psychosocial outcomes; however, the findings cannot tell us whether the experience is specific for BPD.

1.6 Difficulties in defining emptiness and transdiagnostic relevance

Although emptiness is most commonly studied in the context of BPD, it is found to be a transdiagnostic construct associated with for example anxiety (Klonsky, 2008), depression (Klonsky, 2008), agoraphobia (Milrod, 2007), dissociation (Rallis, Deming, Glenn, & Nock, 2012) and narcissistic and antisocial PD (Gunderson & Ronningstam, 2001; Zerach, 2016). Chronic emptiness has been part of the BPD construct ever since DSM-III was introduced (Gunderson, 2009b). The initial criteria included "chronic feelings of emptiness or boredom", however boredom was eliminated from DSM-IV because it was a less discriminating criterion, and it proved to be more characteristic of narcissistic PD (Gunderson, 2008, p. 12; Klonsky, 2008). According to preliminary research, higher levels of emptiness are associated with a variety of negative outcomes, including impulsive and self-harming behavior (Ellison et al., 2016; Rallis et al., 2012), social dysfunction (Peteet, 2011), emotional dysregulation (LaFarge, 1989), and problems with identity and self-concept (O. Kernberg, 1967; Kohut, 1977).

Psychological theories have mentioned emptiness frequently also before the DSM inclusion, and Levy argues that the concept of emptiness is used as it has "some generally understood meaning" (1984). However, the experience of emptiness still remains poorly understood and operationalized. As compared to other diagnostic criteria for BPD, like impulsivity, suicidal/self-mutilative behavior, and affective instability, little empirical attention has been paid to the understanding of chronic emptiness (Klonsky, 2008; Miller et al., 2020). There appear to be large differences in how both researchers, clinicians and people in general understand the concept of emptiness (Miller et al., 2020).

Brown (1998) writes that "emptiness is difficult to define because it can only be described in comparison with the presence of something" (p. 87). Feelings of emptiness have for example been described as feeling "swallowed", a "hole" or "vacuum", "isolation", "deadness" and "nothingness" (Cary, 1972). Klonsky (2008) defines emptiness as "without meaning, purpose or substance". Whereas D'Agostino, Pepi, Rossi Monti, and Starcevic (2020) highlights the following characteristics of feelings chronic of emptiness; a realm of negative emotions and an unpleasant experience, involving a physical or bodily component, an experience of personal unfulfillment or lack of purpose, and a component involving social disconnectedness and some sort of loneliness or isolation. The distinction between feelings of chronic emptiness and similar constructs like loneliness, boredom, and hopelessness is somewhat unclear (Blasco-Fontecilla et al., 2013), and both researchers and clinicians often refer to them interchangeably (Miller et al., 2020). However, there might be a risk of getting away from the core of the experience by defining emptiness in terms of closely related constructs such as loneliness and numbness (Hazell, 2003). Due to Brown (1998), feelings of emptiness can be described in this manner:

> To visualize the terrors of emptiness, picture yourself in outer space. There is no up or down, no familiar landmarks; you are floating secure in your space suit but realize there is no air available except the little you carry and there is no space ship for safety, as you look around, you see nothing, and while you know you are floating in the absence of gravity, you feel as if you are falling and it is dark and cold. You cannot orient yourself because there is nothing. You cannot direct your movements; nor do you have any sense of where you could move to be safe. There is nothing. No human contact, no familiar things such as a sun or horizon, no direction, no stability, no noise, no thing – just the vast, seemingly endless, empty universe.

> The terror occurs because there is no way to know who or where one is, to be safe, or to control events in any way. Even a hole is defined by its surroundings, no matter how large it might be. Emptiness has no defining parameters and, for that reason, is terrifying. (Brown, 1998, p. 87)

Without a doubt, emptiness can be described in a variety of ways. Price and colleagues (2019) developed a unidimensional measure, the Subjective Emptiness Scale (SES), to better understand the nature of subjective emptiness. Their study is based on the assumption that emptiness is a transdiagnostic experience, that is relevant for a variety of psychological diagnoses. Furthermore, they are concerned with the fact that emptiness is problematic to understand and measure. To gather more information about the feeling of emptiness they created a questionnaire. The patient is presented for 7 statements and is asked to rate each item according to how true it is for his/hers feeling and behaviors the last two weeks. The questionnaire includes statements such as "I feel as though I am disconnected from the world", "No matter what I do, I still feel unfulfilled" and "I feel like I am forced to exist". Results from their study suggested that subjective emptiness is characterized by "hollowness, disconnection and unfulfillment and is strongly associated with a variety of internalizing features involving negative affect, interpersonal detachment, and identity problems" (Price et al., 2019).

Difficulties in understanding and operationalize *exactly* what emptiness is might be due to the complex nature of the feeling, making it challenging to capture in a theoretical framework or definition, furthermore less available for research – at least within the realm of "objective science" (Habermas, 1986). Feelings of chronic emptiness is a vague construct in many ways and refer to some kind of absence of experience (Brown, 1998). The experience is highly subjective, which makes it difficult to define more generally. As this thesis is quantitative, I am left to the domain of subjective sincerity (subjective phenomena can also be investigated scientifically) and theoretical reasoning. However, I will still argue that there is a need to understand the experience of chronic emptiness better, in the subsequent discussion. The complexity makes it hard for clinicians and researchers, to capture, understand, and treat chronic emptiness.

The aim of this thesis is not to answer to what emptiness is, but to get a better understanding of its diagnostic relevance for BPD. However, the understanding of feelings of chronic

emptiness is somewhat essential for understanding its relationship to BPD, or personality pathology in general.

1.7 Ways of understanding emptiness

Interestingly, chronic feelings of emptiness are not a specific focus in any of the "big four" specialized treatments, but TFP seems to be the one that is closest to bringing most awareness to such ideas. The psychodynamic traditions (MBT and TFP) may address such issues according to theories of mentalizing, attachment, and/or OR. The more skill-based treatments (DBT and SFT) would perhaps target the maladaptive behavior such chronic emptiness may cause.

Chronic feelings of emptiness are often understood as part of a self-disturbance, resulting in disconnectedness both from self and others (Elsner et al., 2018; Miller et al., 2020). The theories of object relations (OR; internalized representations of relational patterns, or scripts, that (in)form our psychic reality), and attachment, may both inform us why some individuals experience a painful inner emptiness. The lack of internalized objects or secure attachment figures could make inner reality unknown, dangerous, lonely, repressed, or unaware. The major theoretical division in OR theory is between those who hold that there are at least prototypical object relations from the beginning, and those who claim that "true" object relations grow out of and supplant the infant's earlier dependency relationship with his mother (Ainsworth, 1969, p. 969). The human infant, according to Freud, Piaget, and many other famous theorists, actually begins life in a state of such serious confusion that the infant could not differentiate herself from the world, if adualism, as it is called, were the normal state of human neonates, action itself would be impossible. To act implies knowing that there is a world out there in relation to, and different from, my body and my actions (Reddy, 2010, p. 123). However, for Fairbairn, the individual starts as a whole, no matter how deficient or primitive: "Fairbairn believed that we must be primarily aware of the fundamental dynamic wholeness of the human being as a person, which is the most important natural human characteristic" (Guntrip, 1973, p. 93). Fairbairn applies the theory of object relations to his understanding of why some people withdraw from the world and he writes that it:

> Is the great tragedy of the schizoid individual that his love seems to destroy; and it is because his love seems so destructive that he experiences such difficulty in directing

> libido towards objects in outer reality. […] In proportion as libido is withdrawn from outer objects it is directed towards internalized objects; and, in proportion as this happens, the individual becomes introverted. […] It is essentially in inner reality that the values of the schizoid individual is to be found. (Fairbairn, 1952, p. 50)

In modern psychology, the theory of attachment has influenced the understanding and treatment of BPD, and an inner object, or attachment figure, is considered essential for both inner and outer exploration (Fonagy & Target, 2002). The pattern of secure attachment, in which the individual is confident that his parent (or parent figure) will be available, responsive, and helpful should he encounter adverse or frightening situations. With this assurance, he feels bold in his explorations of the world (Bowlby, 1988, p. 124).

Through gradual maturation of cognitive abilities, children develop representations of the self, objects, and the external world (Gullestad & Killingmo, 2005). The representations are organized in categories or schemes and contribute to perceiving new stimuli or thoughts and adding meaning by placing them in a context (Gullestad & Killingmo, 2005). Self-representations consist of perceptual, conceptual, and emotional components and refer to how an individual perceives itself (either conscious or unconscious) (Gullestad & Killingmo, 2005). An individual can operate with several self-representations, which can be limited, coherent, or stable. Self-representations can either be accepted, averted, or be in opposition to each other, whereas the latter is an expression of *splitting* (Gullestad & Killingmo, 2005). Object-representations also consist of perceptual, conceptual, and emotional components and refer to how individuals perceive an object (either conscious or unconscious) (Gullestad & Killingmo, 2005). Object-constancy obtains when an object-representation can exist relatively independent of the object's physical presence and independent of internal shifts of need (Gullestad & Killingmo, 2005). Object-representation can also be in opposition to each other as an expression of splitting (Gullestad & Killingmo, 2005). A "split mind" lacks an intermediate step between the two opposites, disallowing the individual or the object to be just "good enough" (Gullestad & Killingmo, 2005). Kernberg (1967) considered feelings of emptiness due to loss or disturbance in the relationship to essential object relations, leading to difficulties with integrating representation of self and others, and hence an absence of self-feeling.

Bøye and Kjølbye (2012) claims that emptiness is part of a disturbance in the ability to affect regulate, as exemplified by difficulties in controlling and expressing one's own emotions. This inability leads to difficulties in controlling or accommodates feelings, potentially resulting in high levels of emotional stress. Furthermore, causing decreased attention, making it easier to commit impulsive acts to escape or alleviate emotional stress. Impulsivity can manifest as intense dysphoria, irritability or anxiety, intense anger, and feelings of emptiness. Feelings of emptiness are often described as extremely painful resulting in desperate actions, such as self-harm, in order to escape the emptiness (Bøye & Kjølbye, 2012).

1.8 Emptiness and depression

Overall, people diagnosed with BPD have a high prevalence of depressive symptoms (Silk, 2010; Gunderson 1991). Depressive disorders are among the most frequently comorbid diagnosis, with 41–83% of BPD patients reporting a history of major depression, and lifetime prevalence of dysthymia ranging between 12–39 % (Lieb et al., 2004). Although depressive symptoms are common, they do not occur more frequently in BPD than in other PDs (Karterud et al., 2017). However, some have questioned whether there is a unique "borderline depression" that is qualitatively distinct from primary depressive disorder. Köhling, Ehrenthal, Levy, Schauenburg, and Dinger (2015) conducted a meta-analysis in which they questioned whether or not there is a specific depression quality among BPD patients. In their study, they conclude that "our findings point toward a distinct quality of depression in BPD with respect to some, but not all symptom domains" (Köhling et al., 2015). In depressive disorders, feelings of guilt are a core feature. However, a typical "borderline depression" is characterized by boredom, loneliness, anger, impaired self-concept, and feelings of chronic emptiness (Stanghellini & Rosfort, 2013), and is related to insecure and negative self-identity, intensified by emotional dysregulation (Stanghellini & Rosfort, 2013). Cary (1972) describes it as a "feeling of isolation and angry demandingness rather than true depression" (p. 36). Some designate feelings of chronic emptiness as a discriminating factor between borderline depression and depressive disorders (Gunderson & Phillips, 1991).

The relationship between chronic emptiness and depression has been studied, with various findings indicating a link between the two. For example, Johansen and colleagues (2004) discovered that patients who met the emptiness criterion experienced more severe depression

than patients who did not meet the emptiness criterion. A study by Klonsky (2008) found a strong correlation (r=.50) between feelings of emptiness and depression and concluded that feelings of emptiness "exhibited a robust and unique relationship with depression". Furthermore, the same study reported that 67% of the participants felt "empty inside" previous to self-harm behaviors. Klonsky (2008) found that among all nine BPD criteria, emptiness was strongest correlated to suicidal ideation (except for the suicide/self-mutilation criteria). However, the correlation between emptiness and suicidal attempts was weak. The results suggest that emptiness is central in the process of suicidal ideation, but is a weak indicator for suicide attempts (Klonsky, 2008).

1.9 Gender and age differences

Johnson and colleagues (2003) state that "men and women with BPD are more similar in their clinical presentations than they are different". Men and women are believed to have the same prevalence of BPD (Torgersen, Kringlen, & Cramer, 2001). Clinicians may be surprised by this, as female patients dominate in mental health care settings (Karterud et al., 2017). Hence, the majority of BPD research has focused on female patients or has not investigated gender differences at all (M. Johansen et al., 2004). Furthermore, the research literature has a strong gender bias, with approximately 80% of the samples in the leading treatment studies in recent years being women. Most of what we know about BPD applies to women, but it does not necessarily apply to men (Karterud et al., 2017).

Men are less likely to experience feelings of chronic emptiness (Hoertel, Peyre, Wall, Limosin, & Blanco, 2014). In addition, the same study discovered that feelings of chronic emptiness appeared to discriminate better BPD severity in women than in men (Hoertel et al., 2014). Using a latent variable method, Benson, Donnellan, and Morey (2017) discovered that women appeared to meet the emptiness criterion more frequently than men. Interestingly, chronic emptiness has been linked to decreased functioning in women, but not in men, according to one study (Benson et al., 2017).

Age may also have an impact on the experience of chronic emptiness in BPD. According to one study, 84.8 % of adults aged 45–68 experienced chronic feelings of emptiness, compared

to 64.9 % of those aged 18–25 (Morgan, Chelminski, Young, Dalrymple, & Zimmerman, 2013).

1.10 Emptiness and neuroticism

Costa and McCrae (1987) define neuroticism as "a broad dimension of individual differences in the tendency to experience negative, distressing emotions and to possess associated behavioral and cognitive traits." (p. 301). According to Torgersen (2009) all PDs correlate with neuroticism. More generally, temperamental symptoms (i.e., feelings of chronic emptiness) have been associated with normal personality traits and some theorists argue that temperamental symptoms associated with BPD should be replaced by more continuous measures of personality, particularly neuroticism. Supportive of this, previous research suggest the emptiness criterion is associated with a high neuroticism score (Wilberg, Urnes, Friis, Pedersen, & Karterud, 1999). The Alternative DSM-V Model for Personality Disorders (AMPD), includes a hybrid of both PD dimensions and diagnostic categories (Hummelen et al., 2020), whereas chronic emptiness falls under the identity disturbance domain.

Fonagy, Luyten, Allison, and Campbell (2017) assumes that all psychopathology stems from a p factor. Neuroticism as measured by the NEO-PI-R is strongly associated with such a p factor, or psychopatholgy (Ormel, Rosmalen, & Farmer, 2004). Hence, when debating the specificity of chronic emptiness for BPD, it may be interesting to probe the correlation between neuroticism and chronic emptiness.

1.11 Aims of the current study

Most of the studies that have been mentioned so far seem to agree that emptiness is a complex experience that been difficult to place in a theoretical framework and universal definition. Moreover, many seem to agree that emptiness is a painful experience, associated with various negative outcomes. Furthermore, in the context of BPD, feelings of chronic emptiness seem to persist for a particularly long time. However, the relationship between the emptiness criterion and the BPD diagnosis is controversial, and many have questioned its psychometric properties. For example, previous research claims chronic feelings of emptiness are a weak indicator for BPD (M. Johansen et al., 2004; Langjord et al., 2021; Sharp et al., 2014), and

happens to be a transdiagnostic construct rather than restricted to BPD (Konjusha, Hopwood, Price, Masuhr, & Zimmermann, 2021). One possibility is that it is a more general experience, not specific to BPD. Miller and colleagues (2020) reached the following conclusion in their systematic review:

> Results demonstrated that while there remains many gaps in our knowledge about chronic emptiness, it is clear that as a whole, studies point to it as a signal symptom to consider in conceptualization and treatment of BPD. Further studies are needed to provide a deeper understanding of chronic emptiness and its clinical significance in order to develop effective interventions.

Thus, it seems relevant to explore the diagnostic relevance of the emptiness criterion for BPD in order to contribute to a better understanding of its clinical value. So far, the emptiness criterion has received little empirical attention and we wanted to study the diagnostic relevance in a large clinical sample.

The current study included 1702 patients with various PDs, as measured by SCID-II administered by experienced clinicians. We wanted to examine if (and to which degree) chronic feelings of emptiness occurred across different PDs in a large clinical sample. We hypothesized that chronic feelings of emptiness were a more general factor across different PDs, and hence a poor predictor of BPD. To gather information about potential gender differences, we performed separate analysis for men and women. We used chronic feelings of emptiness as predictor for BPD, to get more information about the criterion's diagnostic relevance. In addition, we hypothesized an association between chronic feelings of emptiness and clinical depression, and between feelings of chronic emptiness and neuroticism (assessed by NEO-PI-R).

2. METHODS

2.1 Sample characteristics

This study comprised data from 1702 patients consecutively admitted to 16 different treatment units participating in the Norwegian Network for Personality Disorders (The Network) (Karterud et al., 1998) from 2002 to 2008. The units are specialized in the treatment of patients with PD and provided intensive group-oriented, 18-week treatment programs consisting of a mixture of psychodynamic and cognitive-behavioral groups.

Table 1: Demographic and clinical variables

	Patients (N=1702)
Age in years	35 (SD 9.1)
Gender	1233 women (72 %) and 469 men (28 %)
Neuroticism (t-score)	68 (SD 9.9)
Depression (ongoing depressive disorder)	792 (46.5 %)
Personality disorder	
Avoidant PD	787 (46.2 %)
Borderline PD	425 (25 %)
Dependent PD	181 (10.6 %)
Paranoid PD	174 (10.2 %)
Obsessive-compulsive PD	151 (8.9 %)
Antisocial PD	28 (1.6 %)
Schizotypal PD	24 (1.4 %)
Narcissistic PD	14 (0.08 %)
Schizoid PD	8 (0.05 %)
Histrionic PD	6 (0.04 %)

Abbreviations: SD = Standard Deviation, PD = Personality Disorder

Table 1 summarizes relevant demographic and clinical variables, including age, gender, neuroticism, depression, and the prevalence of the different PDs. There is a predominance of women in the sample (72%). The overall mean age is 35 years, ranging from 17 to 64 years. All of the patients in the sample were diagnosed with at least one PD. All ten PD subtypes are represented, but Avoidant PD and Borderline PD account for 71 % of the total sample. Almost half of the patients (46.5%) included in the study have an ongoing depressive disorder. Mean score (t-score) for neuroticism is 68. Additional details regarding sociodemographic and diagnostic characteristics were reported by Karterud et al. (2003) and Pedersen and Karterud (2007).

All participating patients from each treatment unit gave their written consent to use anonymous, clinical data for research purposes. Anonymized data from each treatment unit was collected and transferred to a common research database. The collection procedures were

approved by the local data protection officer for each contributing unit. Data security procedures for the research database were approved by data protection officer at the responsible center for the research (Network for Personality disorders, Section for Personality Psychiatry and specialized treatments, Oslo University Hospital). Since the data are anonymous, formal approval from the Norwegian State Data Inspectorate and Regional Committee for Medical Research and Ethics is not required.

2.2 Measures

2.2.1 SCID-II (The Structured Clinical Interview for DSM Axis-II PDs)

SCID-II is a semistructured clinical interview consisting of 90 items, measuring the 10 different PD categories in DSM (Paap et al., 2021). The clinician scores the answer on a scale from 1 to 3, with 1 indicating no presence, 2 indicating subthreshold, and 3 indicating threshold (Karterud et al., 2017).

2.2.2 M.I.N.I (The Mini International Neuropsychiatric Interview)

M.I.N.I is a short structured clinical interview developed for Axis-I disorders, corresponding to both DSM-IV and ICD-10 (Sheehan et al., 1994). The interview assesses 17 of the most prevalent mental health disorders - in total 27 past and current disorders. M.I.N.I is organized into diagnostic sections and is based on yes/no responses (Gundersen, 2007). There are 2-4 screening questions for each condition, and further symptom questions are only asked if the screening questions are confirmed (Gundersen, 2007).

2.2.3 NEO-PI-R (The Revised Neuroticism, Extroversion, Openness - Personality Inventory)

The NEO-PI-R is a self-administered 240-item questionnaire developed to measure the Five Factor Model (FFM) (Costa & McCrae, 2008). It focuses on the five major personality domains: neuroticism, extroversion, agreeableness, openness, and conscientiousness (Costa & McCrae, 2008). Furthermore, each domain has 6 facets, providing a total of 5 domain scales and 30 facet scales (Costa & McCrae, 2008). It is well established, over a wide variety of samples, that the five-factor model is highly valid and reliable (McCrae, Harwood, & Kelly, 2011).

2.2. Assessment

All patients were diagnosed according to the DSM-IV, using Mini International Neuropsychiatric Interview (Sheehan et al., 1994) for symptom disorders and Structured Clinical Interview for DSM-IV Axis II Disorders for PDs (First, Gibbon, Spitzer, Benjamin, & Williams, 1997) for PD. For depression, we used the "Ongoing Depressive Disorder" in M.I.N.I. A PD not otherwise specified (PDNOS) diagnosis was assigned to patients who met the general diagnostic criteria for a PD in DSM-IV but had features below the threshold for any of the 10 specified PD diagnoses. Diagnostic reliability was not investigated. However, diagnostic assessments were performed in each unit by clinical staff who had received systematic training in diagnostic interviews and principles of the LEAD-procedure (Longitudinal, Expert, All-Data) (Pedersen, Karterud, Hummelen, & Wilberg, 2013; Spitzer, 1983). This means that diagnoses were based on all available information including referral letters, self-reported history and complaints, and overall clinical impression, in addition to diagnostic interviews. In addition, NEO-PI-R was administered to measure personality traits in terms of the Five Factor Model (FFM) (Costa & McCrae, 1992).

The original SCID-II protocols were reviewed upon discharge from day treatment. At a clinical conference, therapists went through the original PD criteria, i.e., criteria established at admission. In order to be retained, the criteria should be confirmed by clinical observations across a variety of clinical situations during the approximately 18 weeks of day treatment. For a criterion to be fulfilled, it should have a clinical consensus when present, i.e., it was clearly and repeatedly observed, and fulfill the claims of clinical impairment. For example, when addressing the emptiness criterion for BPD, the patient is asked whether he/she feels empty inside and is asked to elaborate. For the emptiness criterion to be considered fulfilled in our study, the score had to be 3 (threshold). Scores of both 1(not present) and 2 (subthreshold) was both regarded as not present. Moreover, the treatment programs were characterized by a combination of different types of group therapies, including psychodynamic, cognitive, art and body awareness groups. The therapists acquired extensive knowledge of the patients' cross-situational behaviors and symptoms within the framework of a therapeutic setting.

2.3 Statistical analyses

SPSS version 27 (IBMCorp, 2020), Stata version 16 (StataCorp, 2019), and R Studio version 1.3 (RStudioTeam, 2020) were used for statistical analyses. SPSS was used to conduct descriptive analyses. In Stata, tetrachoric correlations between chronic emptiness and the various diagnoses were calculated. Because the variables were dichotomous (and assuming that they represented underlying continuous phenomena), tetrachoric correlations were performed (Cohen, Cohen, West, & Aiken, 2003). Neuroticism as a trait was dichotomized (at t-score = 70) and included in the tetrachoric correlation matrix. In Stata, bivariate tetrachoric correlations was estimated using an iterative maximum likelihood estimator, assuming that the underlying risk for the dichotomously observed variables has a latent normal distribution (StataCorp, 2019). The multinominal logistic regression and logistic regression analyses were carried out using RStudio. The "nnnet" package was used to perform multinominal logistic regression (Venabels & Ripley, 2002).

We wanted to estimate associations between the predictor (chronic feelings of emptiness) and the risk of developing BPD versus Another PD, after adjusting for age and gender. Linear regression analysis is based on the assumption of a linear relationship between predictors and outcome, which is frequently violated when the outcome is binary (Cohen et al., 2003). Additionally, linear regression may produce results that are outside the range of possible values for binary outcomes. As a result, a logistic regression analysis was conducted. Logistic regression analysis makes no assumptions about the linear relationship between predictor and outcome, nor does it make any assumptions about the multivariate normal distribution of variables (Cohen et al., 2003). At various levels of the predictor, logistic regression analysis provides estimates of the relative odds of scoring 1 (versus 0) on the outcome (i.e., having BPD versus Another PD). The odds of having BPD at each predictor level are calculated by dividing the number of individuals with BPD by the number of individuals without BPD. Alternatively, logistic regression can be used to estimate relative risks. In RStudio, relative risk estimates are produced by using the log-link rather than the default logit-link in the analyses. The log-link uses the logarithm of the risk of having BPD as a link between predictor and outcome, while the logit link uses the logarithm of the odds of having BPD. The risk differs from the odds in that the total number of people is used as the denominator instead of the number of people not having BPD. Estimates of risk may be more straightforward to interpret than odds, and we therefore report relative risk estimates from the logistic regression rather than odds ratios.

Separate logistic regression models were then run for men and women. Next, the difference in relative risk estimates for men and women was tested for statistical significance in an analysis that included both men and women, controlling for gender and with an interaction term consisting of gender times chronic emptiness. This interaction term's statistical significance was interpreted as the statistical significance of the gender difference in relative risk (Aiken, West, & Reno, 1991)

We also wanted to examine associations between chronic feelings of emptiness and an outcome with four categories (BPD without depression, BPD with depression, another PD without depression, and another PD with depression). Multinomial logistic regression was used, as this analysis produces relative risk for belonging to each of several outcome categories compared to a reference category at different levels of the predictor (Cohen et al., 2003). BPD without depression was used as reference category in these analyses, to which the three other categories were compared.

Both dichotomous and multinomial logistic regression models assume that the data are independent (Cohen et al., 2003; Hox, Moerbeek, & Van de Schoot, 2018). This implies that the sampled individuals were selected independently and that the error terms are uncorrelated. The current study enrolled participants from a number of different clinics. As a result, observations may be dependent on one another because participants from the same clinic may be more similar than participants from different clinics. This type of dependency can result in deflated standard errors (Hox et al., 2018). Unfortunately, because we did not know which participants belonged to which clinic, we were unable to adjust for data dependency using multilevel modeling or generalized estimating equations – which could have accounted for the increased correlation between participants from the same clinic (Hox et al., 2018).

To examine the degree to which data were clustered within the 16 clinics included in the study, we used Stata's latent class analysis (Masyn, 2013; StataCorp, 2019). This analysis looks for unobserved classes of participants who are statistically similar in terms of study variables. If such classes are discovered in the data, we have no way of knowing what caused them – latent classes may be completely unrelated to the clinics. However, the absence of a large number of latent classes in the data may imply that participants from different clinics

were not significantly more similar to one another than to other participants, and thus that intraclass correlations and dependency in the data would not be a significant issue.

Latent class analysis was used to determine the number of latent classes associated with the four-category outcome variable (BPD without depression, BPD with depression, Another PD without depression, and Another PD with depression) and chronic feelings of emptiness. The strategy was to start with a one-class solution and compare its fit to a two-class solution, and then increasing the number of classes until the model's fit deteriorated. For more details on this, see the Appendix.

3. RESULTS

3.1 Latent class analysis

The latent class analyses revealed that a solution with two latent classes fitted the data best. Hence, there was no evidence of latent clusters corresponding to the 16 clinics included in the study, and thus no evidence of intraclass correlations due to data dependency caused by clinic-based sampling.

3.2 'Emptiness' – a more general factor in PDs?

Table 2: Occurrence of chronic feelings of emptiness

Group	Criterion not present or subthreshold score	Criterion present	Sum
Another PD	796 (62 %)	481 (38 %)	1277 (100 %)
Women	532 (61.2 %)	337 (38.8 %)	869
Men	264 (64.7 %)	144 (35.3 %)	408
BPD	128 (30%)	297 (70%)	425 (100 %)
Women	144 (31.3 %)	250 (68.7 %)	394
Men	14 (23 %)	47 (77 %)	61
Sum	924	778	1702

Abbreviations: PD = Personality Disorder, BPD = Borderline Personality Disorder

Chronic emptiness was experienced by individuals with a variety of PDs. It was, however, most prevalent in patients diagnosed with BPD. As shown in Table 2, 70% of BPD patients met the threshold criterion for chronic emptiness (score > 2). Additionally, 38% of patients diagnosed with other PDs (Another PD) met the threshold criterion. Thus, chronic emptiness occurred nearly twice as frequently in patients with BPD as in other PDs.

The emptiness criterion had a sensitivity of 0.70, indicating that it correctly identified 70% of patients with a BPD diagnosis. Specificity was 0.62, indicating that 62% of patients without BPD were correctly classified based on the absence of chronic emptiness.

	Emptiness	Schizoid PD	Schizotypal PD	Paranoid PD	Antisocial PD	Narcissistic PD	Borderline PD	Histrionic PD	Avoidant PD	Dependent PD	Obsessive PD	Depression
Schizoid PD	0.18											
Schizotypal PD	0.15	-1.00										
Paranoid PD	**0.14***	0.19	**0.25***									
Antisocial PD	**0.17***	-1.00	0.18	**0.40***								
Narcissistic PD	0.08	**0.46****	-1.00	0.20	**0.42***							
Borderline PD	**0.55***	0.01	0.09	**0.25***	**0.57***	**0.33***						
Histrionic PD	0.10	-1.00	-1.00	-1.00	-1.00	-1.00	0.28**					
Avoidant PD	**0.11***	0.20	0.02	**0.20***	-0.11	**-0.37***	**-0.16***	**-1.00****				
Dependent PD	**0.11***	-1.00	-1.00	**0.12***	-0.06	-1.00	**0.21***	**0.32****	**0.21***			
Obsessive PD	0.07	**0.42***	-0.11	**0.37***	0.05	**0.31***	0.04	-1.00	**0.08****	0.08		
Depression	**0.06****	-0.07	-0.09	0.03	-0.01	-0.13	-0.05	-0.12	0.05	-0.00	**0.11***	
Neuroticism	**0.19***	0.11	0.06	**0.20***	**0.17****	0.17	**0.29***	0.16	**0.29***	**0.26***	0.08	**0.13***

Table 3. Correlations; PD's, emptiness, depression and neuroticism. Correlations marked in **bold** is statistically significant, whereas the rest is not statistically significant. *p<.05 **p<.10

The tetrachoric correlations between the emptiness criterion and the different PDs, depression, and the dichotomized neuroticism variable are depicted in Table 3. In comparison to other PDs, BPD had a particularly strong tetrachoric correlation with chronic emptiness (Rho = .55). However, chronic emptiness was also present in other PDs such as Antisocial PD (Rho =.17), Paranoid PD (Rho =.14), Avoidant PD (Rho =.11), and Dependent PD (Rho =.11). Additionally, emptiness had a positive correlation with neuroticism (Rho =.19).

3.3 Logistic regression to estimate relative risk

Table 4: Relative risk of having BPD versus another PD from logistic regression analyses

	Relative Risk	Standard Error	P-value	Confidence Interval
Emptiness (dichotomized)	2.39	0.09	<.001	[2.01 – 2.88]
Gender	1.89	0.12	<.001	[1.55 – 2.44]
Age	0.96	0.00485	<.001	[0.95 – 0.97]

Logistic regression analyses were used to examine the extent to which chronic emptiness predicted having BPD versus another PD (and not BPD) when adjusted for age and gender.

Table 4 summarizes the findings. When compared to those who did not report chronic emptiness, the presence of chronic emptiness predicted more than a twofold increased risk of having BPD rather than Another PD. Being female predicted a higher risk of having BPD, while high age predicted a slightly lower risk for BPD compared to other PDs.

3.4 Gender difference

The potential gender difference in associations between chronic emptiness and risk of having BPD rather than Another PD was then examined. To begin, we examined the association between chronic emptiness and the risk of developing BPD (versus Another PD) in men and women separately, controlling for age. Table 5 summarizes the results of the two regression analyses conducted on men and women, as well as the third analysis's interaction term. When the emptiness criterion was present, both men and women had a greater risk of having BPD, rather than Another PD, compared to when the emptiness criterion was not present. The relative risk was higher in men than in women, and this difference was statistically significant at $p < 0.05$).

Table 5: Gender differences between chronic emptiness and risk of having BPD rather than Another PD

	Relative Risk	Standard Error	P-value	Confidence Interval
Emptiness (dichotomized)				
Women	2.18	0.10	<.001	[1.81 – 2.64]
Men	4.66	0.29	<.001	[2.73 – 8.57]
Interaction (emptiness x gender) *	0.48	0.30	.02	[0.26 – 0.85]

Note: Men are coded 0, and women are coded 1. The table shows results from three separate logistic regression analyses: One analysis including only women, one including only men, and one including men and women, controlled for gender and with an interaction term of gender times chronic emptiness. All analyses were controlled for age.

3.5 Multinomial logistic regression to estimate relative risk in four groups

Table 3 shows that depression was not significantly associated with chronic emptiness. However, we wanted to examine the degree to which chronic emptiness was associated with

depression in combination with BPD or Another PD. Therefore, we created four categories: (0) Another PD without depression, (1) Another PD and depression, (2) BPD without depression, (3) BPD and depression. We then used multinomial logistic regression to examine associations with chronic emptiness and these four diagnostic categories, with category (2) BPD without depression as reference category. Emptiness *not present* was used as reference category for the emptiness variable. Hence, results show a relative risk of being in each of the three categories (Another PD without depression, Another PD with depression, and BPD with depression) versus BPD without depression when the emptiness criterion was fulfilled. As previous findings indicated that the associations between chronic emptiness and BPD versus another PD varied by gender, we conducted separate analyses for men and women. We did not have enough statistical power to examine statistical significance of gender differences in these analyses.

Tabel 6: MEN. Multinomial logistic regression using group (2) BPD without depression as reference group for the outcome and emptiness not present as reference level for the emptiness criterion

Predictor	Relative Risk	Standard Error	P- value	Confidence Interval
(0) Another PD without depression				
Emptiness	0.13	0.41	<.001	[0.06 – 0.28]
Age	1.05	0.02	.02	[1.01 – 1.10]
(1) Another PD and depression				
Emptiness	0.24	0.41	<.001	[0.11 – 0.53]
Age	1.06	0.02	<.01	[1.02 – 1.11]
(2) BPD without depression				
	REF.	REF.	REF.	REF.
(3) BPD and depression				
Emptiness	1.05	0.64	.94	[0.30 – 3.67]
Age	1.05	0.03	.14	[0.99 – 1.11]

Abbreviations: BPD = Borderline Personality Disorder, PD = Personality Disorder, REF = Reference Group
The analysis was controlled for age.

Tabel 7: WOMEN. Multinomial logistic regression using group (2) BPD without depression as reference group for the outcome and emptiness not present as reference level for the emptiness criterion,

Predictor	Relative Risk	Standard Error	P- value	Confidence Interval
(0) Another PD without depression				
Emptiness	0.43	0.18	<.001	[0.30 – 0.60]
Age	1.07	0.01	<.001	[1.05 – 1.10]
(1) Another PD and depression				
Emptiness	0.48	0.18	<.001	[0.34 – 0.68]
Age	1.09	0.01	<.001	[1.07 – 1.12]
(2) BPD without depression				
	REF.	REF.	REF.	REF.
(3) BPD and depression				
Emptiness	2.67	0.24	<.001	[1.66 – 4.30]
Age	1.01	0.01	.33	[0.99 – 1.04]

Abbreviations: BPD = Borderline Personality Disorder, PD = Personality Disorder, REF = Reference Group
The analysis was controlled for age.

We discovered similar patterns in both groups; the presence of chronic emptiness predicted lower likelihood of having Another PD than BPD without depression. This applied to both Another PD without depression, as well as Another PD with depression. Among men, the relative risk of Another PD without depression was lower than the relative risk of Another PD with depression. Thus, chronic emptiness distinguished between Another PD without depression and BPD without depression more precisely than it did between Another PD with depression and BPD without depression. Among women, the relative risk estimates for Another PD with and without depression were similar. In women, the presence of chronic emptiness predicted a higher risk of having BPD and depression compared to BPD without depression. This distinction was not observed in men.

4. DISCUSSION

Our main findings were:

(1) Chronic feelings of emptiness occurred across various PDs; however, it occurred almost twice as often among patients with BPD than among patients with Another PD.
(2) Chronic feelings of emptiness predicted BPD among both genders. However, it was a more robust indicator for BPD among men than among women and might be particularly relevant for categorizing males with BPD
(3) Chronic feelings of emptiness were more pronounced among women with BPD and concurrent depression than women with BPD without concurrent depression, meaning that chronic emptiness typically coexisted with depression among women.
(4) Chronic feelings of emptiness seemed to differ between Another PD and depression versus Another PD without depression among men
(5) Chronic feelings of emptiness were positively correlated to neuroticism

4.1 Patients with BPD are more likely to experience emptiness

The current study looked at a large clinical sample and discovered that patients with BPD experienced chronic emptiness nearly twice as often as patients with other PDs. Hence, indicating that patients with BPD are more likely to experience chronic emptiness than patients with other PDs. Nevertheless, the results in our study show that the majority of the patients in our sample who fulfill the emptiness criterion do not have BDP but another PD. This was because chronic emptiness was also present in other PDs, and other PDs (n=1277) were more common than BPD (n=425) in our sample. Table 2 shows that the emptiness criterion was fulfilled by 38% (n=481) of patients with other PDs, supporting the assumption that it is a more general experience by patients with a variety of PDs. However, in comparison, 70% (n=297) of BPD patients met the criterion, indicating that chronic feelings of emptiness are more common for patients with BPD than for patients with other PDs. Moreover, when using multinomial logistic regression, we found that chronic feelings of emptiness predicted a higher risk for having BPD rather than Another PD. Suggesting that the emptiness criterion may be a good predictor of BPD, but it is not without false predictions.

Our finding is supported by Zanarini and colleagues (1992) study, who concluded that chronic feelings of emptiness were more common and more severe in BPD patients. A recent study by Konjusha and colleagues (2021) also found that emptiness was *strongest* correlated to BPD in a mixed sample of both non-clinical and clinical participants. The current study cannot draw conclusions about whether chronic feelings of emptiness occurs more frequently across different PDs compared to the remaining eight diagnostic criteria. In other words, we don't know if 38 % is higher than it would be for the other BPD criteria if they were applied to the same analysis. However, previous studies have found that the emptiness criterion has weak discrimination ability (M. Johansen et al., 2004; Langjord et al., 2021), which might lead us to hypothesize that percentage would have been lower for some of the other diagnostic criteria.

4.2 A transdiagnostic experience?

People describe feelings of emptiness in various ways, and there might be something unique to each individual's experience (D'Agostino et al., 2020). In the current study, we cannot know *what kind* of emptiness the patients are referring to. Brown (1998) states that when people say they are empty, they frequently refer to feelings and concepts such as loneliness, numbness, and depression. Brown (1998) further claims that "depression is accompanied by feelings which, although negative, provide something, whereas in emptiness there is nothing".

Considering our findings, a question that arises is why chronic feelings of emptiness occur across various PDs. One possible explanation is that it is a transdiagnostic experience that is not unique to BPD. Another explanation is that insufficient operationalization of chronic emptiness, makes it difficult to distinguish from similar transdiagnostic constructs. Hence, leading to incorrect diagnostic assessment by treating chronic emptiness and similar constructs (i.e., hopelessness, loneliness, boredom) interchangeably. Furthermore, resulting in that empirical approaches struggle to capture the "correct" feeling of chronic emptiness – the one that is especially relevant in the context of BPD pathology.

These two possibilities account for different approaches. Suppose feelings of chronic emptiness actually is a more general experience. In that case, it seems reasonable to replace or eliminate the emptiness criterion from the list of specific diagnostic criteria for BPD, as

suggested by Karterud and colleagues (2017). Moreover, the general tendency can be interpreted as support for a more dimensional, rather than categorical, approach in diagnosing PDs. As illustrated in Tabel 2, the tetrachoric correlation between the emptiness criterion and neuroticism (0.19) can be interpreted as supporting a more dimensional approach to personality disorders. However, if the transdiagnostic tendency occurs due to poor operationalization, we might risk overlooking clinically important information by eliminating emptiness from the list of diagnostic criteria.

4.3 Findings of gender differences

Findings from our analysis demonstrate that chronic feelings of emptiness predicted BPD (rather than Another PD) for both men and women. However, the relative risk for BPD versus Another PD was stronger for men than for women, suggesting that it is particularly relevant for categorizing males with BPD. A study by Benson and colleagues (2017), concluded that chronic feelings of emptiness was *less strongly* related to BPD for men than women. Their study included 337 patients with various PDs, a smaller sample size than our study. As shown in Table 2, 61 men in our sample were diagnosed with BPD, with 77% (n=47) meeting the emptiness criterion. In comparison, 68.7 % of the women diagnosed with BPD met the emptiness criterion. As stated in the introduction, most BPD research has been conducted using samples in which women are overrepresented, with much of current research being representative primarily of women (Karterud et al., 2017). Our sample also has a significantly higher proportion of women than men. However, the finding may serve as a reminder to pay special attention to chronic feelings of emptiness among men, as it appears to yield important diagnostic information.

Furthermore, chronic feelings of emptiness predicted a higher risk for BPD *without* depression versus Another PD (with or without depression) for both men and women. Hence, suggesting that chronic feelings of emptiness are particularly relevant in the context of BPD. Among men, chronic feelings of emptiness were better in distinguishing between Another PD without depression and BPD compared to Another PD with depression and BPD. We did not find this pattern among women.

The findings suggest that there are gender differences in the relationship between emptiness and depression and that chronic emptiness tend to be associated with depression and BPD among women. Women fulfilling the emptiness criterion have a higher risk for BPD and depression than BPD without depression, as shown in Table 7. Interestingly, a previous study concluded that the emptiness criterion were associated with decreases in women's functioning, but not with comparable declines in men's functioning (Benson et al., 2017). This finding may serve as a possible explanation of our results. If emptiness is associated with decreased function in women, they may be more prone to developing depression due to their overall functional impairment. Explained in the framework of a diathesis-stress model of depression (Colodro-Conde et al., 2018), suggesting that emptiness is related to more stress (due to decreased functioning) among women leading to an increased risk for comorbid depression.

However, causality may also be viewed in the opposite direction. Perhaps the co-occurrence of BPD and depression exacerbates the feeling of emptiness, resulting in decreased functioning. The functional decline observed in women may be explained by the fact that women are more likely to experience co-occurring depression. If this is the case, Benson and colleagues (2017) finding (the emptiness criterion was associated with decreases in women's functioning, but not with comparable declines in men's functioning) may be explained by the co-occurrence of depression in women. Moreover, it may also be that women (at group-level) experience emptiness different from men. Perhaps chronic emptiness among women is associated with higher severity rates for women, reducing their overall functioning and making them more prone to other psychological problems (i.e., depression) as well. From theory, depression can be argued as a way to avoid own feelings or a product of escaping, denying, and/or avoiding psychic pain (negative emotions; Nolen-Hoeksema, 1991). Further, in general, women may be more identified with their feelings than men and consequently may report chronic emptiness when depressed.

4.4 An overlooked symptom in clinical treatment?

The longitudinal studies mentioned in the introduction demonstrate that chronic feelings of emptiness are among the slowest remitting symptoms and that the experience lasts for a particularly long time. According to Ellison and colleagues (2016), the presence of chronic

emptiness alone is associated with impaired function in a various areas, including work and interpersonal relationships. However, the direction of the association is unclear. The impaired function and lack of meaningful activities and relationships may contribute to chronic feelings of emptiness. The slow remittance rates of chronic emptiness can be interpreted due to clinicians paying little attention to chronic emptiness in treatment or misinterpreting the symptom and treating it incorrectly as similar constructs. Considering the latter and given that chronic emptiness is qualitatively distinct from similar constructs, current treatment programs may fall short of adequately addressing the chronic feelings of emptiness.

Until now, specialized evidence-based treatments for BPD have placed little attention on chronic feelings of emptiness. There are no direct, empirically validated treatments for chronic emptiness (Elsner et al., 2018), and only a few studies have addressed treatment for chronic feelings of emptiness (Miller et al., 2020). In their systematic review, Miller and colleagues (2020) claim that only three studies (out of a total of 99) mentioned treatment of emptiness, indicating the need for additional research to understand how to treat feelings of chronic emptiness clinically. Nonetheless, one study using DBT discovered that treatment reduced feelings of emptiness (Yen, Johnson, Costello, & Simpson, 2009). The researchers postulate that the improvement can be attributed to the use of mindfulness interventions. Additionally, the patients in the study were part of a validating group comprised of engaged clinicians and other members who had experienced similar feelings of isolation during their suffering. The validating group fostered a sense of belonging to both self and others (Yen et al., 2009). Assisting patients in developing their mindfulness skills within a validating community may reduce feelings of emptiness. Gunderson (2008) claims that:

> After years with improved functioning, some borderline patients do report that it [feelings of emptiness] bothers them less or that they feel it less often. This change seems to be a gradual process that, in theory, relates to the internalization of good experiences of being cared for, either within intensive therapy or in relationships without therapy. (p. 78)

Focusing more on the chronic feelings of emptiness may result in even more optimistic treatment outcomes and shorter remittance times. Patients with BPD present with a diverse range of symptoms and respond to treatment in various way (Yen et al., 2009). It appears reasonable to focus on both acute and temperamental symptoms when treating and

understanding BPD (Bøye & Kjølbye, 2012), even if acute symptoms appear to be the primary target for behavior change, including self-destructive behaviors such as cutting, substance abuse, or eating disorders.

Moreover, it might be exhausting for the therapist to focus on emptiness, which might be a tiring topic. Lamprell (1994) describes how focusing on feelings of emptiness might affect the therapist:

> The therapist may begin to feel he has noting inside him of value to the patient, or even sense that from the patient's point of view he is not there at all except sometimes as a concrete object. There is a pressure to avoid 'staying with it' by imposing meaning or to change it from a state of emptiness to being a feeling which is denies. Sometimes there is a feeling of great anxiety in the therapist which may partly belong to the patient who maintains an aura of feeling nothing or being vaguely disturbed because they seem to feel nothing and think they should be. (Lamprell, 1994, p. 331)

One should be aware of the therapist's resistance and avoid allowing it to steer the treatment away from potentially significant material. Regardless of how exhausting it may be, the primary consideration in therapy should be the patient.

4.5 Cultural variations in the understanding and experience of emptiness

When investigating broad, universal concepts such as emptiness, it is considered a sound scientific practice to look across cultures (Passer & Smith, 2004). Within other cultures, emptiness has been denoted for instance sunyata (Buddhism), black latifa (Sufism), and the dark night of the Soul (Christianity). In such wisdom traditions, inner emptiness is typically regarded as the ultimate challenge facing our identity and a catalyst for inner development. However, with its focus on the individual, such experiences of inner emptiness may be experienced as deeply problematic for the Western mind. It makes sense that this would be particularly pronounced in BPD pathology, as a lack of inner structures may make it hard to tolerate inner emptiness or even cause chronic feelings of emptiness. Hence, in a psychodynamic setting, focusing on such experiences, especially with BPD patients, may have greatly value. Killingmo, Varvin, and Strømme (2014) suggests that "Psychopathology

is primarily understood in an individual context where what is crucial for therapeutic planning and practice is not diagnostic classification but differentiated description of the personality structure and dynamics of the individual patient." (p.2).

The inner emptiness experienced by the Buddhist meditator may be utterly different from that experienced by a BPD patient. However, the presence of such "universal" (i.e., cross-cultural) phenomena also question some core assumptions about what it means to improve one's inner state. According to Bion (1977):

> All helpful endeavors have a foundation which is, like most foundations, unobserved – the belief that things can be improved. Even psychoanalysis is tainted with ideas of cure that imply a better state. I think it is 'better' to know the truth about one's self and the universe in which I exist. But I do not wish to imply that it is 'nicer,' or 'pleasanter.' Whether it is 'better' is a matter of opinion which each individual has to arrive at for himself: his opinion and only his. (p. ii)

Hence, in some cultures, inner emptiness (e.g., sunyata) is seen as a hallmark of inner transition and maturation. At the same time, it is experienced as problematic in other settings or by other individuals.

One interpretation of this phenomenon is that lack of internal object representation may color an experience of a "meditative state" as a symptom. It may also be that our narrative of this emptiness constitutes a large part of how it is experienced. However, this may also mean that "emptiness" is not necessarily the same as "emptiness": In his argument for a differential epistemology, S. E. Johansen (2008) argues that the first "I" and the second "I" are not identical in Descartes' "indubitable" statement "I think therefore I am" ("je pense, donc je suis"; 1960). Moreover, signaling that the *chronic emptiness* construct has clinical relevance as long as it is significant for the patient, and that each patient is indeed a unique individual, and is the final arbiter in any clinical setting (Habermas, 1986, p. 261). Our results indicate that *chronic emptiness* has particular relevance for BPD patients, but slow remittance indicates that current treatments may fail to adequately address this problem.

4.6 Understanding chronic emptiness in a different theoretical framework

One possible way to better understand chronic emptiness is to continue the work on trying to conceptualize it in a more objective definition and clarify what is meant by emptiness. A way of doing so could be to continue developing standardized measurement tools (i.e., self-report schemas like SES) to address a more generalizable understanding to reach a more operationalizable concept. However, a different way of understanding the current lack of operational definition is that the experience of chronic emptiness is too complex to fit in such a theoretical framework. In such a case, it may be an idea to look beyond the terms of "objective science" in trying to understand chronic emptiness. From different theories of human development, chronic emptiness may be considered an essential feature for the inner experience of BPD patients (O. Kernberg, 1967), regardless if other patients may use similar words to describe their inner reality. According to (Habermas, 1968) there are three different ways of collecting scientific knowledge within three different realms or domains of science. Quantum theory (It), literature (I), and the laws of a government (we) must be understood and investigated by completely different methods. When performing research on Hamlet, *my* expertise and sincerity (I domain) is the basis for *my* epistemic trust, or scientific quality. Chronic emptiness may in fact occupy the "I" domain, rather, than the "It" domain in the epistemological models presented by Habermas (1968) and Wilber (e.g., K. Wilber, 2001).

Consequently, the lack of quantifiable, or operationalizable, attributes of emptiness means that an "objective" science may be an inappropriate method. Furthermore suggesting that a subjective approach may be the best way to approach this phenomenon – "exterior surfaces can be seen, but interior depth must be interpreted" (K Wilber, 2000, p. 184). L. Wittgenstein (2001) famously stated that "The limits of my language mean the limits of my world" (§5.6). However, the main message in his *Tractatus Logico-Philosophicus* is that there are indeed experiences about which we can not, at least logically, speak. Hence, an idiosyncratic approach, where each individual must be met in their own experience, implies that "there is not a single philosophical method, though there are indeed methods, different therapies, as it were" (L. Wittgenstein, 2009, §133d).

4.7 Clinical implications and further research

So far, research has shown that feelings of chronic emptiness can be understood in various ways. There is no universal understanding of the experience, which may demonstrate its complexities. However, little empirical attention, compared to other diagnostic criteria of BPD, might also explain the confusion and variability.

Our findings indicate that patients with BPD experience chronic emptiness twice as frequently as patients with other PDs. As a result, it seems reasonable to regard chronic feelings of emptiness as particularly relevant for BPD but not as a distinctive feature of the disorder. Additionally, this raises the question of how specific a diagnostic criterion should be and the amount of transdiagnostic variation that is acceptable for the criterion to remain useful as a specific diagnostic criterion. Further research should be conducted to determine how the other diagnostic criteria for BPD vary across PDs.

A clinically relevant implication of our study is the finding suggesting that chronic feelings of emptiness is particularly relevant for identifying males with BPD. There has been no prior research indicating the same. Additional research should be conducted to determine whether the finding can be replicated, thereby providing additional clinical support. Another clinically relevant implication of our study is that chronic emptiness indicates a higher risk for BPD and depression among women. Hence, suggesting that emptiness typically coexisted with depression among women. More studies investigating the association between emptiness and depression, with a focus on potential gender differences, seem indicated.

Importantly, as long a chronic emptiness is such a long-lasting symptom, it may be a crucial element to address in B(PD) treatments, which makes sense also from a theoretical standpoint. Hence, there is a general need for qualitative studies investigating chronic feelings of emptiness So far, there have been no qualitative studies looking specifically at the experience of chronic emptiness. The review by Miller and colleagues (2020) provided an overview of studies addressing chronic emptiness. Only 2 of the 99 studies included in the review employed qualitative methods (Miller et al., 2020). Furthermore, neither of the two studies explicitly addressed the concept of emptiness. Hence, more detailed and close-to-experience research will be beneficial, as this basis of knowledge appears to be absent by now. There is a need to comprehend the chronic feelings of emptiness, as there appears to be confusion regarding how it manifests clinically. Several studies have attempted to

operationalize chronic emptiness by trying to capture its essence. It has proven to be complicated. Perhaps findings from qualitative research can help to understand better how chronic emptiness differs from (or relates to) similar constructs and whether the emptiness experienced by patients with BPD is distinct from that experienced by patients with other PDs.

Future case studies seem indicated. Such studies may investigate whether inner emptiness may cease to be a problematic experience due to a more robust psychic structure, *or* because general symptom reduction increases the tolerance for this inner emptiness, *or* because the nature of the emptiness changes (e.g., suppressed feelings are brought to awareness).

4.8 Strengths and limitations

The large sample size is a significant strength of our study, adding high power to our analysis and strengthening the representativeness of our results. Compared to several other studies on the same topic, the size of our sample is seemingly large. Another advantage is the high quality of the PD diagnosis, as determined by extensive diagnostic procedures according to the LEAD-procedure.

Our multinominal analysis did not have enough statistical power to test the significance of the gender differences. Hence, we do not know if the different patterns found for men versus women in these analyses were due to random sampling error or could be generalized to the population.

An important note is that our study is limited to a clinical population and all of the patients included have a PD diagnosis. Hence, our study cannot conclude how chronic emptiness is related to BPD in people who do not seek treatment or between people with BPD versus people without personality disorders. More research is needed to see how feelings of chronic emptiness predict BPD versus Axis-I disorders. However, this study appears to be reasonably representative of populations with PD patients seeking treatment, and the study's conclusions must be viewed in this context.

As mentioned in the discussion, we don't know *what kind* of emptiness the patients refer to. The SCID-II single-item question is used to assess emptiness. However, as the theoretical introduction of this thesis indicates, emptiness is understood in various ways by both patients and clinicians. Clinicians may interpret the emptiness criterion differently, leading to individual interpretations of the meaning of the criteria and, as a result, different diagnostic procedures. In addition, we were unable to investigate how chronic feelings of emptiness predicts change in BPD (or other PDs) over time. More research is required on this topic.

Furthermore, our sample includes many patients with Avoidant PD (APD) (n=787) and BPD (n=425); in total, they make up over 70 percent of the sample. This is most likely because APD and BPD are the two most common PDs in mental health care settings (Karterud et al., 2017). However, different results are possible if the various PD categories were more evenly distributed, at least to some extent. According to previous research, emptiness is especially relevant for Narcissistic PD and Schizoid PD (Zandersen & Parnas, 2019). These patients constitute only a small portion of our sample. In the current study, 14 patients with Narcissistic PD and 8 patients with Schizoid PD were included. This accounted for 1.3% of the total sample. A relevant question to consider is whether the results would have been different if these diagnoses had made up a more significant proportion of the total sample.

Last, a limitation is that we have no information about which clinics the data come from. Potentially the different clinics have some variations when it comes to diagnostic practice, leading to clusters in the data material. However, without the information about which data belong to which clinics, we could not control for this. We performed some analyses to search for latent clusters of observations in the latent class analyses and did not find evidence for such clusters. This is not solid evidence but suggest that dependency in the data was not a major problem in the current sample (see appendix for more details).

4.9 Conclusion

Findings from the current study show that most of patients who meet the emptiness criterion have Another PD (not BPD). However, it is important to note that most of the patients included in the study had Another PD, and the finding should be interpreted in light of this. Chronic feelings of emptiness occurred nearly twice as often in patients with BPD compared

to patients with Another PD. Furthermore, chronic feelings of emptiness predicted a higher risk of having BPD rather than Another PD, among both men and women. Hence, our findings suggest that chronic feelings of emptiness have a particular but not exclusive clinical relevance for BPD. Additionally, we found some gender differences. Firstly, chronic feelings of emptiness were a stronger predictor of BPD in men than women, suggesting that it is especially relevant for categorizing males with BPD. Secondly, chronic feelings of emptiness were associated with an increased risk of co-occurring BPD and depression in women with BPD, implying a gender-specific relationship between chronic emptiness and depression in women with BPD. Among men, chronic feelings of emptiness distinguished better between Another PD without depression and BPD than Another BPD with depression and BPD.

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APPENDIX

The log likelihood, the Akaike information criterion (AIC), and the Bayesian information criterion (BIC) were used to compare models (Kline, 2016) The log likelihood values indicate the probability of obtaining the observed data in the given model. As a result, higher values indicate a more accurate fit to the data. AIC and BIC evaluate model fit to data while also taking model complexity into account, such that a simpler model is preferred over a more complex model when both models fit the data equally well. This is accomplished through the inclusion of a penalty for more complex models (Kline, 2016). This penalty is stronger in BIC than in AIC, and it increases as the sample size increases in BIC (Chen, Luo, Palardy, Glaman, & McEnturff, 2017). Reduced values indicate a more accurate fit to the data. None of these fit measures provide information about the fit of a single model – they only provide information for comparison of different models.

Table 1 shows the fit indices for the latent class models.

Tabel 1: Fit indices from the latent class models

	Log likelihood	AIC	BIC
One class	-4214.9516	8437.903	8461.297
Two latent classes	-4121.1529	8260.306	8312.943
Three latent classes	-4121.1529	8262.306	8320.791

Abbreviations: AIC = Akaike information criterion, BIC = Bayesian information criterion

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