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Self-dysregulation in Borderline Personality Disorder - a Contextual-behavioral Account

Doctoral thesis supervised by prof. dr hab. Paweł Ostaszewski

Keywords: borderline personality disorder, self-dysregulation, contextual-behavioral science, relational frame theory

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To my grandparents, Cecylia, Hilary, Irmina, and Zofia,

for always nurturing my hunger for knowledge.

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Statement on the Use of Artificial Intelligence Tools

In preparing this dissertation, I made use of ChatGPT (developed by OpenAI) as a writing-assistance tool. The software was employed exclusively for the purpose of improving the clarity, fluency, and readability of the English text. This included refining grammar, style, and word choice in certain sections of the dissertation. At no stage was the tool used to generate research ideas, to analyze data, to interpret findings, or to construct arguments. All intellectual content, including the formulation of research questions, design and execution of the study, analysis of results, and drawing of conclusions, is entirely my own. The responsibility for the accuracy, interpretation, and originality of the work remains solely with me as the author.

A Note on the Terminology Used

This study concerns Borderline Personality Disorder (coded as 301.83 in DSM-5-TR, F60.3 in ICD-10 and 6D11.5 in ICD-11) — a term rooted in the latent disease model, which frames various forms of psychological suffering as pathological, with the suffering seen merely as a symptom of an underlying hidden disease. However, in line with functional contextualism (Hayes, 1993), I conceptualize BPD not as a syndrome signifying a latent disease, but as a behavioral adaptation characterized by a regularly occurring cluster of functionally interconnected difficulties. These difficulties do not reside solely "within the individual" and their assumed "internal structure" but consist of interactions with interpersonal, cultural, and historical contexts. While behavioral adaptations may be a source of distress and suffering, they are understandable when their function in specific context is taken into account. Therefore, I use the terms "Borderline Personality Disorder" (or any other psychiatric diagnostic term) and "psychopathology" solely for the sake of scientific communication, without any intention to reinforce the notion that there is something "disordered" or "pathological" about people who were given this label.

List of Abbreviations

ACT – Acceptance and Commitment Therapy

APA – American Psychological Association

BSL-23 – Borderline Symptoms List – Short Version

BPD – Borderline Personality Disorder

BPDCL – Borderline Personality Disorder Checklist

CBS – Contextual Behavioral Science

CBT – Cognitive Behavioral Therapy

DAG – Directed Acyclic Graph

DBT – Dialectical Behavior Therapy

DERS – Difficulties in Emotion Regulation Scale

DRR – Deictic Relational Responding

DSM – Diagnostic and Statistical Manual of Mental Disorders

GPM – Good Psychiatric Management

ICD – International Classification of Diseases

MAAS – Mindful Attention and Awareness Scale

MBT – Mentalization-Based Therapy

NSSI – Non-Suicidal Self-Injury

RFT – Relational Frame Theory

RFT-PT – RFT Perspective-Taking Protocol

SB-APP – Sequential Brief–Adlerian Psychodynamic Psychotherapy

SCCS – Self-Concept Clarity Scale

SCS-SF – Self-Compassion Scale – Short Form

SEM – Structural Equation Modeling

SES – Subjective Emptiness Scale

SEQ – Self Experiences Questionnaire

SEQ_D – Self-as-Distinction Subscale (SEQ)

SEQ_H – Self-as-Hierarchy Subscale (SEQ)

SFT – Schema-Focused Therapy

STEPPS – Systems Training for Emotional Predictability and Problem Solving

TFP – Transference-Focused Psychotherapy

Abstract

One of the core symptom clusters in Borderline Personality Disorder (BPD) is self-dysregulation, which includes difficulties such as identity disturbance and chronic feelings of emptiness. Although BPD has received sustained academic attention, self-dysregulation remains underexplored in empirical research. This gap has limited the development of targeted interventions and hindered understanding of the mechanisms that drive therapeutic change. A major factor behind this neglect is the conceptual ambiguity of "self" in psychology. The lack of a coherent philosophical foundation has impeded theoretical integration, empirical validation, and the translation of self-related constructs into clinical practice. I propose that a contextual-behavioral account of self offers a promising alternative. Grounded in clearly articulated and well-established philosophical principles of functional contextualism, this framework provides a coherent set of concepts that are rooted in basic science, operationally defined, and clinically applicable.

The primary aim of this thesis was to investigate the contextual-behavioral model of self in relation to BPD symptoms. This was accomplished through two empirical studies. The first study tested the predictive power of the tripartite self model—comprising Self-as-Content, Self-as-Process, and Self-as-Context—in explaining overall BPD symptom severity via emotion regulation difficulties. Path analysis was conducted on a community sample including individuals with high and low levels of BPD symptom endorsement. The second study examined the role of fundamental behavioral processes—specifically deictic, hierarchical, and distinctive relational responding—in chronic feelings of emptiness and identity disturbance. A series of regression analyses was performed on a general population sample, as well as a subsample of individuals diagnosed with BPD.

Results from Study 1 indicated that all three self repertoires significantly predicted symptom severity. This relationship was mediated by nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, and limited access to emotion regulation strategies, but not by lack of emotional clarity or lack of emotional awareness. Study 2 revealed that hierarchical and distinctive relational responding, along with deictic relational responding, were significantly associated with self-dysregulation symptoms. However, in the final models, only hierarchical responding consistently predicted symptoms of chronic emptiness and identity disturbance across both the general and BPD subsamples.

These findings contribute to the growing body of literature supporting the contextual-behavioral account of self and help address a key gap in empirical research. They further clarify the proposed mechanisms underlying self-dysregulation in BPD—specifically, deficits in self-as-context abilities, including hierarchical self-responding. Implications are discussed for contextual-behavioral science, philosophical debates surrounding the concept of self in psychology, contemporary post-DSM classifications of psychopathology, and established treatments for BPD—including Dialectical Behavior Therapy, Transference-Focused Therapy, Mentalization-Based Treatment, and Schema-Focused Therapy.

Dysregulacja Ja w Pogranicznym Zaburzeniu Osobowości

– Ujęcie Kontekstualno-behawioralne

Streszczenie

Objawy pogranicznego zaburzenia osobowości (BPD) można podzielić na pięć obszarów dysregulacji: dysregulację afektywną, poznawczą, behawioralną, interpersonalną oraz dysregulację Ja. Dotychczasowe badania nad BPD koncentrowały się głównie na dysregulacji afektywnej i behawioralnej. Z kolei zainteresowanie badawcze dysregulacją Ja, obejmującą objawy zaburzeń tożsamości i chronicznego poczucia pustki, było relatywnie niskie. Zdaniem wielu autorów, jedną z przyczyn niewielkiej liczby badań na temat dysregulacji Ja jest brak spójnych ram teoretycznych dotyczących pojęcia Ja w psychologii, a także fakt, że poznawcze, społeczne, rozwojowe i neurobiologiczne modele Ja rozwijały się w dużej mierze niezależnie od siebie. Ta fragmentacja teoretyczna i konceptualna utrudnia zarówno rozwój skutecznych interwencji terapeutycznych, jak i zrozumienie mechanizmów zmiany w procesie terapii.

Jednym z podejść, które może być odpowiedzią na te problemy, jest kontekstualny behawioryzm. Oferuje on spójny teoretycznie zestaw pojęć zakorzenionych w naukach podstawowych i oparty jest na jasno określonych założeniach filozoficznych. Podejście to pozwala na formułowanie hipotez możliwych do empirycznej weryfikacji oraz implementacji w praktyce klinicznej. Z perspektywy kontekstualno-behawioralnej Ja rozumiane jest jako działanie, a nie struktura albo zestaw cech. W tym ujęciu Ja możemy badać na dwóch poziomach szczegółowości: jako zbiór trzech repertuarów behawioralnych tzw. poziomu pośredniego[1] –

[1]W kontekstualnym behawioryzmie terminy poziomu pośredniego to pojęcia pełniące funkcję skrótów, które łączą podstawowe procesy behawioralne z procedurami klinicznymi. Temat ten omówiony jest bardziej szczegółowo w rozdziale trzecim.

Skonceptualizowanego Ja, Ja-jako-Proces i Ja-jako-Kontekst, oraz na poziomie podstawowych procesów behawioralnych – deiktycznego reagowania relacyjnego, dystynktywnego reagowania relacyjnego i hierarchicznego reagowania relacyjnego. Kontekstualno-behawioralne ujęcie Ja było dotychczas aplikowane do opisywania różnego rodzaju trudności psychologicznych, np. depresji lub chronicznego bólu, jednak nie dysregulacji Ja w BPD.

Głównym celem niniejszej pracy było zbadanie kontekstualno-behawioralnego ujęcia Ja w odniesieniu do objawów BPD, ze szczególnym uwzględnieniem objawów dysregulacji Ja. Cel ten zrealizowałem poprzez dwa badania empiryczne. W pierwszym sprawdziłem, w jakim stopniu umiejętności w zakresie trzech behawioralnych repertuarów Ja – Skonceptualizowanego Ja, Ja-jako-Proces i Ja-jako-Kontekst – przewidują nasilenie objawów BPD oraz na ile relacje te są mediowane przez trudności w regulacji emocji. Aby to zbadać, przeprowadziłem analizę ścieżkową i mediacji na próbie obejmującej osoby o zróżnicowanym stopniu nasilenia objawów BPD. W drugim badaniu, obejmującym grupę osób z diagnozą BPD oraz osoby bez diagnozy, zbadałem rolę podstawowych procesów behawioralnych, w szczególności deiktycznego, hierarchicznego i dystynktywnego reagowania relacyjnego, w przewlekłym poczuciu pustki oraz niestabilnym poczuciu tożsamości. Przeprowadziłem szereg analiz regresji zarówno na próbie ogólnej populacji, jak i na podpróbie osób zdiagnozowanych z BPD.

Wyniki pierwszego badania pokazały, że wszystkie trzy repertuary Ja (Skonceptualizowane Ja, Ja-jako-Proces oraz Ja-jako-Kontekst) były istotnymi predyktorami objawów BPD. Nieakceptowanie doświadczanych emocji i ograniczony dostęp do strategii refgulacji emocji były mediatorami między wszystkimi trzema predyktorami, a objawami BPD, natomiast problemy z angażowaniem się w zachowania nakierowane na cel i trudności w kontroli impulsów były mediatorami tylko dla relacji między Ja-jako-Proces i Ja-jako-Kontekst,

a objawami BPD. Brak jasności co do przeżywanych emocji oraz brak świadomości emocji nie były statystycznie istotnymi mediatorami. Wyniki drugiego badania pokazały, że hierarchiczne, dystynktywne oraz deiktyczne reagowanie relacyjne były istotnie powiązane z objawami dysregulacji Ja. Jednak w ostatecznych modelach jedynie hierarchiczne reagowanie relacyjne konsekwentnie przewidywało objawy przewlekłego poczucia pustki oraz zaburzeń tożsamości zarówno w próbie ogólnej, jak i w podpróbie osób z BPD.

Wyniki moich badań sugerują, że kontekstualno-behawioralne ujęcie Ja jest perspektywą wartą dalszego rozwijania w kontekście badań nad BPD i dysregulacją Ja. Wskazują także na potencjalne mechanizmy leżące u podstaw dysregulacji Ja oraz istotne cele interwencji psychoterapeutycznych – w szczególności deficyty związane z hierarchicznym reagowaniem relacyjnym. Wyniki te mają znaczenie dla dalszego rozwoju kontekstualnego behawioryzmu, dla dyskusji filozoficznych nad pojęciem Ja w psychologii, dla nowych klasyfikacji psychopatologii wykraczających poza DSM, a także dla praktyki klinicznej, w tym terapii stosowanych w leczeniu BPD: terapii akceptacji i zaangażowania (ACT), terapii dialektyczno-behawioralnej (DBT), psychoterapii skoncentrowanej na przeniesieniu (TFP), terapii opartej na mentalizacji (MBT) i terapii schematu (SFT).

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(...) my therapist asked me, well, who are you? I looked at him, really puzzled, and I said, "Well, who do you mean? Is it Katrine as in when I'm with my parents, or Katrine as a friend or as a mother? I mean, which one of them are you talking about?" He looked at me, smiled and said, "If you are just you, who are you then?" And I said to him, "Well, she doesn't exist.

— person diagnosed with BPD cited in Jørgensen & Bøye (2022; p. 51)

I was standing in my room and I said – I think out loud – I said, "I love myself." And the minute, the very minute the word "myself" came out of my mouth, I knew I had been completely transformed. Because up to that point, I would have never said that. I would have said, "I love you." Because I had no sense of self. I thought of myself as you. And the minute the word "myself" came out of my mouth, I knew and I've always known ever since – I would never, ever cross that line again – to being crazy.

— Marsha Linehan (2011; 1:23)

Chapter 1: General Introduction

Clinical Characteristics of Borderline Personality Disorder

Personality disorder is defined by Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5; American Psychiatric Association, 2013) as an enduring, inflexible, and pervasive pattern of inner experience and behavior that begins in late adolescence or early adulthood, and that goes on to impede functioning in work and relationships over many years (Cierpiałkowska & Soroko, 2014). The DSM categorizes personality disorders into three clusters (A, B, and C) based on similar characteristics (Cierpiałkowska, 2013). Within cluster B, one of the diagnostic entities is Borderline Personality Disorder (BPD), characterized by meeting at least five of the following nine criteria (APA, 2013): 1) frantic efforts to avoid abandonment, 2) unstable and intense interpersonal relationships, 3) identity disturbance (unstable self-image or sense of self), 4) impulsivity, 5) self-harm/suicidality, 6) affective instability, 7) chronic feelings of emptiness, 8) intense anger, 9) dissociative states. According to Linehan (1993, see also: Echevarría-Escalante et al., 2023), these symptoms can be further clustered into five domains of dysregulation: interpersonal dysregulation (criteria 1 and 2), affective dysregulation (criteria 6 and 8), behavioral dysregulation (criteria 4 and 5), cognitive dysregulation (criterion 9) and self-dysregulation (criteria 3 and 7) (table 1).

Table 1

Comparison of Linehan's (1993) conceptualisation of borderline personality disorder (BPD) with DSM-5 diagnostic criteria (APA, 2013)

Linehan's (1993) conceptualisation of BPD	Corresponding DSM-5 criteria of BPD (APA, 2013)
interpersonal dysregulation	• frantic efforts to avoid abandonment • unstable and intense interpersonal relationships
affective dysregulation	• affective instability • intense anger
behavioral dysregulation	• impulsivity • self-harm/suicidality
cognitive dysregulation	• dissociative states
self-dysregulation	• identity disturbance (unstable self-image or sense of self) • chronic feelings of emptiness

BPD has a lifetime prevalence of approximately 2.7% in the United States (Tomko et al., 2014) and around 7% in Poland (Gawda & Czubak, 2017). It is the most common personality disorder in clinical populations, with prevalence rates of approximately 10–12% in outpatient settings and 20–22% in inpatient settings (Ellison et al., 2018). Approximately 80% of individuals diagnosed with BPD report suicidal ideation, and 52% have a history of non-fatal suicidal behavior (Lak et al., 2025). Individuals with BPD are at elevated risk of premature death due to recurrent suicidal behavior, with about 6% of suicidal acts resulting in fatal outcomes (Lak et al., 2025). Tomko et al. (2014) report that roughly 75% of individuals with BPD engage

with mental health services, and 63% have been prescribed psychotropic medication to address mental health issues—rates higher than those observed in individuals with other personality disorders, mood disorders, or anxiety disorders (Ansell et al., 2007).

Individuals with BPD also show substantial comorbidity with other psychiatric diagnoses. Compared to individuals without BPD, those diagnosed with BPD are approximately 4.5 times more likely to be diagnosed with any lifetime substance use disorder, 14.9 times more likely to be diagnosed with any mood disorder, 14.3 times more likely to be diagnosed with any anxiety disorder, and 15.9 times more likely to be diagnosed with another personality disorder (Tomko et al., 2014). Furthermore, individuals with BPD exhibit significant functional impairments across multiple domains, irrespective of other personality disorder diagnoses, current Axis I conditions, sociodemographic factors, and relevant medical conditions. BPD is associated with pronounced difficulties in social functioning, role-emotional functioning, and overall mental health, as well as with poorer general health and reduced vitality (Tomko et al., 2014). The disorder is also associated with a significant economic burden (Wagner et al., 2022).

Clinical Models of BPD and Treatment Modalities

There are few well established clinical models of BPD that gave rise to effective treatment packages (Popiel, 2021). These models are: identity diffusion model, failed mentalization model, interpersonal hypersensitivity model, emotion dysregulation model, and early maladaptive schemas model (Gunderson et al., 2018). Each model to various extent includes knowledge about biological, social, and psychological factors that contribute to BPD symptoms.

A psychodynamically-oriented identity diffusion model (Kernberg, 1967) posits that BPD symptoms result from the lack of integration of negative and positive concepts of self and

significant others (split object relations), as well as from being entrenched in unconscious maladaptive coping efforts, commonly referred to as “defense mechanisms”. This model has been translated into Transference-Focused Psychotherapy (TFP, Clarkin et al., 1999, 2023), which aims to enhance clients’ capacity for reflecting on their motives, thoughts, and feelings about themselves and others, thereby fostering the development of more nuanced and coherent self- and other-representations.

Another psychodynamically-oriented account, failed mentalization model (Fonagy, 1989), posits that BPD symptoms arise from a diminished capacity to mentalize, which involves understanding oneself and others in terms of their subjective experiences and intentional mental states (e.g., needs, desires, feelings, beliefs, and goals). This impairment in mentalization is often transient, occurring particularly during challenging social interactions. It renders individuals diagnosed with BPD susceptible to rapid shifts in emotional states and maladaptive coping behaviors. The model has been translated into Mentalization-Based Treatment (MBT) (Fonagy & Luyten, 2009; Luyten et al., 2020), which aims to initially stabilize emotional expression and subsequently restore and maintain mentalizing abilities in relevant contexts. As a result of improved mentalizing abilities, individuals are then better equipped to regulate their emotions and interpersonal interactions.

The interpersonal hypersensitivity model (Gunderson & Lyons-Ruth, 2008) integrates psychodynamic perspective with some cognitive insights. It posits that symptoms of BPD stem from rejection sensitivity, which triggers a cascade of states including threat, loneliness, and despair, accompanied by maladaptive coping strategies. Conceived from the outset as a framework for use in general clinical practice rather than as a research program, the model has seen limited application in empirical studies. Nevertheless, it has been effectively translated into

Good Psychiatric Management (GPM) (Gunderson et al., 2018), a structured, present-focused clinical approach that draws on the model to help patients recognize their interpersonal vulnerabilities and use this awareness to regulate their responses in challenging relational situations.

Schema model (Young, 1999) is based on cognitive perspective enhanced by psychodynamic ideas. It posits that BPD is characterized by inadequate perceptions of oneself, others, and the environment (schemas) that were formed partially in response to difficult early experiences (Mącik, 2018; Talarowska & Kobza, 2021). To cope with these schemas, individuals develop sets of reactions that further solidify as "schema modes" and can perpetuate psychological problems. Schema model has been further developed into Schema-Focused Therapy (SFT, Kellogg & Young, 2006). Schema-Focused Therapy utilizes a range of cognitive, behavioral, and emotion-focused techniques to facilitate the acquisition of more effective emotional regulation strategies, foster the development of healthier schema modes, and ultimately transform maladaptive schemas into more adaptive ones.

The emotion dysregulation model (Linehan, 1993), informed by radical behaviorism and social-cognitive theory, posits that BPD symptoms result from repeated interactions wherein individuals are invalidated by their social environment. Rather than aiding individuals in recognizing, labeling, and regulating their emotions, these interactions reinforce extreme emotional expressions and lead to chronic heightened emotional sensitivity, an inability to regulate intense emotional responses, and a slow return to emotional baseline. The emotion dysregulation model served as the foundation for Dialectical Behavior Therapy (DBT) (Linehan, 1993; Mehlum, 2021), which focuses on teaching individuals diagnosed with BPD strategies to effectively manage their emotional reactions: mindfulness skills, distress tolerance skills,

emotion regulation skills, interpersonal effectiveness skills. DBT aims to initially contain life-threatening behaviors and ruptures in therapeutic relationship, and subsequently facilitate the development of a fulfilling life.

While one section in the introduction may provide a brief overview of various psychotherapeutic models, it is insufficient to fully elucidate the richness and complexity of the empirical body of knowledge, present interventions' evidence base, and describe therapeutic strategies. It is important to note that the focus of this dissertation does not center on any specific aforementioned models. Instead, it delves into a trans-theoretical issue concerning the conceptualization of self-dysregulation and its significance for clinical practice. This issue will be introduced and elaborated upon later in this chapter. Additionally, I will come back to the topic of psychotherapy in the General Discussion (Chapter 4.), where I will discuss results of my research in the light of some treatment models. In the following section, I present empirical evidence concerning domains of dysregulation in BPD.

Empirical Research on BPD

Affective Dysregulation

Yen et al. (2002) reported that the level of perceived emotional intensity is associated with the number of BPD symptoms, even after controlling for symptoms of depression. Compared to non-BPD controls, people with BPD report elevated negative affect intensity at baseline (Feliu-Soler et al., 2013; Kuo et al., 2016). Moreover, BPD patients more often experience persistent anxiety and sadness and less often experience joy (Reisch et al., 2008). BPD is associated with emotional lability, for example oscillating between sadness and anxiety (Reisch et al., 2008). The meta-analytic review performed by Bortolla et al. (2020) suggests that the aforementioned differences between people with BPD and non-BPD controls are seen only

on self-report, but not psychophysiological level. Therefore, the most important difference seems to be in the subjective experience of emotions - compared to the control group, BPD clients tend to appraise emotional stimuli as more negative and overestimate their levels of physiological arousal (Bortolla et al., 2020). Results from Suvak et al. (2011) also suggest that when labeling emotions, people with BPD may overly focus on valence (positive vs. negative), while not being able to discriminate between different arousal levels (high vs. low arousal). These findings implicate a general tendency in people with BPD to struggle with identifying and nuancing different levels of emotional intensity, which decreases the likelihood of adaptive responses. Based on these findings, Dick & Suvak (2018) hypothesize that the aforementioned specific pattern of labeling emotional experience is not only a symptom of, but actually an important contributor to emotional dysregulation.

Interpersonal Dysregulation

In their meta-analysis, Smith & South (2020) underscore the maladaptive attachment patterns in people with BPD. Both attachment avoidance and attachment anxiety correlate with levels of BPD symptoms ($r = .48$ for attachment anxiety, $r = .30$ for attachment avoidance), suggesting that people with BPD exhibit patterns of attachment disorganisation, experiencing their close relationships as sources of both nurturance and terror. Additionally, reviewing studies in the domain of interpersonal functioning, Lazarus et al. (2014) report that compared to people without psychiatric diagnoses, people with BPD view others more negatively and have more negative expectations for relationships. They also have difficulties in social problem-solving. They have stronger reactions to social stressors than other types of stressors. While they have normative or even enhanced affective empathy scores, they struggle with cognitive understanding and contextualizing mental states of others. Dinsdale & Crespi (2013) suggest that

increased attention to social stimuli combined with difficulties in socio-cognitive processing may partially account for reduced overall social functioning. Additionally, Grzegorzewski et al. (2019) speculate that diminished cognitive empathy may be linked to decreased altruism in individuals with BPD, offering further insight into the interplay between socio-cognitive impairments and relational difficulties.

Cognitive Dysregulation

Individuals with BPD show higher levels of dissociative symptoms including depersonalization, derealization and memory fragmentations than those with other psychiatric diagnoses (excluding dissociative disorders and posttraumatic stress disorder) (Scalabrini et al., 2017). Severity of dissociative symptoms is related to overall BPD symptom severity. It is also related to difficulties in executive functioning, attention, long-term verbal memory, working memory and general cognition (Al-Shamali et al., 2022) as well reduced pain perception and altered pain threshold. Dissociation severity is also a function of the severity of traumatic experiences (Krause-Utz, 2022). Higher levels of dissociation predict poorer treatment response (Krause-Utz et al., 2021). Although Linehan's conceptualization of cognitive dysregulation in BPD primarily refers to symptoms of dissociation, there is also evidence of altered neurocognitive functioning in individuals with BPD (Unoka & Richman, 2016). Compared to control groups, people with BPD tend to perform worse on measures of decision-making, memory, executive functioning, visuospatial abilities, attention, verbal intelligence, and processing speed, while showing comparable performance on measures of non-verbal intelligence and language functions. Notably, findings across studies are highly heterogeneous, with some reporting no significant cognitive differences. This variability may be explained by

not controlling for current affective state in the majority of studies, as affective dysregulation can significantly impact cognitive performance in BPD (Mosiołek et al., 2018).

Behavioral Dysregulation

Behavioral dysregulation encompasses various behavioral problems, such as substance misuse, suicidal behaviors, non-suicidal self-injury (NSSI), impulsive behaviors (e.g., problematic gambling, shopping, or driving), and out-of-control sexual behaviors. Reichl and Kaess (2021) suggest that NSSI can serve as a marker for identifying individuals at risk of developing Borderline Personality Disorder (BPD). There is a strong link between emotional and behavioral dysregulation in both conceptual and empirical literature (e.g., Selby & Joiner, 2013). For example, difficulties in emotion differentiation contribute to impulsive behaviors and NSSI in individuals with high levels of BPD symptoms and those diagnosed with BPD (Dixon-Gordon et al., 2014; Tomko et al., 2015; Zaki et al., 2013) as well as to risky sexual behaviors (Wyrzykowski et al., 2025). Additionally, many individuals with BPD who struggle with difficult emotions use rumination as a coping strategy, which paradoxically leads to emotional escalation and episodes of dysregulated behavior (Selby et al., 2021). On the other hand, studies on impulse control in BPD have yielded mixed results. For instance, compared to individuals without BPD, those with BPD score higher on self-report measures of impulsivity (Sebastian et al., 2013). Behavioral measures, however, show less impact in BPD, with findings suggesting that individuals with BPD may only experience impulse control problems when the impulses have a strong affective component (“hot” impulses) (Sebastian et al., 2013).

Self-dysregulation

Unfortunately, while some BPD symptom domains, e.g. emotional dysregulation, or interpersonal dysregulation have been studied extensively, self-dysregulation did not attract the

same level of research interest (Kaufman & Meddaoui, 2021; Miller et al., 2020). It is also true for intervention studies - in the majority of psychotherapy trials, the outcome measures are concerned mostly with either general symptom levels, suicidal and parasuicidal behaviors or health services use, but not symptom of self-dysregulation (Cristea et al, 2018, Oud et al., 2018). This gap in knowledge is not only a theoretical problem - it directly hinders psychotherapists' abilities to help their clients. Even with specialized BPD treatments, there is an almost 50% non-response rate (Woodbridge et al., 2021). Furthermore, emerging evidence suggests that clients with different BPD symptom presentations respond to treatment differently (Sleuwaegen et al., 2018), and individuals with a BPD subtype characterized by high levels of self-dysregulation may benefit less from psychotherapy (Wolf et al., 2023). Additionally, baseline level of self-dysregulation is a predictor of change in psychosocial functioning (Lenzenweger et al., 2012) and is a unique risk factor for suicide ideations (Meddaoui et al., 2025). These studies underscore the need to fill the gap in knowledge regarding self-dysregulation.

In this dissertation, I adopt a behavioral framework as presented by Linehan (1993), Fruzetti et al. (2005), and Echevarría-Escalante et al. (2023), conceptualising self-dysregulation as consisting of DSM-5 symptoms of chronic emptiness and identity disturbance. The rest of the chapter is structured as follows: (1) review of empirical work on chronic emptiness and identity disturbance in BPD, (2) description of conceptual and methodological problems with the notion of self-dysregulation in psychology, (3) advantages of contextual-behavioral account of self, (4) rationale for my studies included in the dissertation.

Chronic Emptiness. Chronic feelings of emptiness are defined as the experience of profound hollowness and disconnection from self and others, lack of fulfillment and an absence of meaning (Price et al., 2022). According to Fruzetti et al. (2005), chronic emptiness reflects

inability to contact and describe one's own experience. This struggle may originate from a history marked by the invalidation of one's sense of self and self-initiated behaviors. The upbringing within a social milieu that responds to the expression of personal wants, needs, or emotions with indifference, misunderstanding or cruelty can lead to profound self-mistrust on the part of the developing child, subsequently impacting the individual in adulthood.

Empirical work shows that chronic feeling of emptiness is a symptom of very high clinical significance. In a study focusing on individuals endorsing only one symptom of BPD, those experiencing only chronic emptiness exhibited the poorest psychological outcomes, as measured by the number of days out of work and level of social functioning (Ellison et al., 2016). Other studies identify this symptom as an antecedent to impulsive and dysregulated behaviors (self-harm and suicidal tendencies) as well as depression (Harford et al., 2019; Klonsky, 2008; Miller et al., 2018). According to Miller et al. (2020), instances of self-harm and impulsive actions often represent attempts to alleviate chronic emptiness. When these attempts prove ineffective, individuals may escalate their efforts, resorting to suicidal ideations and behaviors as a final means of escape. Moreover, longitudinal investigations suggest that, compared to other BPD symptoms, chronic emptiness exhibits high temporal stability, with relatively low remission rates and elevated recurrence rates (Zanarini et al., 2007, 2016).

Several studies have reported significant improvements in chronic emptiness following psychological treatment for BPD. The interventions employed in these studies belong to either psychodynamic (Supervised Team Management plus Sequential Brief Adlerian Psychodynamic Psychotherapy (SBAPP, Amianto et al., 2011), Transference-Focused Psychotherapy (TFP, Giesen-Bloo et al., 2006)) or cognitive-behavioral approaches (Systems Training for Emotional Predictability and Problem Solving (STEPPS, Black et al., 2018), Dialectical Behaviour Therapy

(DBT, Yen et al., 2009) and Schema-Focused Therapy (SFT, Giesen-Bloo et al., 2006). However, the specific interventions responsible for this symptomatic improvement and mechanisms by which they operate remain speculative. Yen et al. (2009) suggested that mindfulness skills, central to DBT, may be particularly effective for addressing chronic emptiness symptoms. Nonetheless, the DBT-informed formulation of mindfulness comprises various skills, and it may not be evident which specific skill is crucial. In their cross-sectional study, Natividad et al. (2023) found that skills associated with the description and clarification of internal experiences, integral components of DBT mindfulness training, mediate the relationship between chronic emptiness and self-harm. These findings suggest that enhancing emotional awareness could be a crucial target in the treatment of chronic emptiness. Both studies (Natividad et al., 2023; Yen et al., 2009) closely align with various behavioral perspectives (Echevarría-Escalante et al., 2023; Fruzetti et al., 2005; Linehan, 1993), indicating that chronic emptiness may stem from insufficient or disrupted training in recognizing and understanding a one's own internal experiences.

Identity Disturbance. Identity disturbance in BPD is defined as "markedly and persistently unstable self-image or sense of self" (American Psychiatric Association [APA], 2013, p. 663). According to Wilkinson-Ryan & Weston (2000)'s investigation, identity disturbance has four defining features: (1) overidentification with a specific role or group membership, to the exclusion of other characteristics, (2) distress about identity incoherence or lack of a coherent sense of self, (3) disconnection between various aspects of functioning (e.g. engaging in actions that contradict one's beliefs) and (4) difficulties in committing to goals or maintaining a constant set of values. Individuals with BPD perceive their identity as more fluctuating and generally more negative compared to people without BPD (Beeney et al.,

2016).They also often struggle with body image disturbances—an experience that may be considered another important dimension of self-related functioning (Wayda-Zalewska et al., 2021).

From a behavioral perspective (Fruzetti et al., 2005; Linehan, 1993), it is proposed that similar environments contribute to both chronic emptiness and identity disturbance. In order for healthy identity to emerge, a child needs to be taught to notice and label their own internal experience, and treat it as an important source of information about personal identity (what I like? what I need? what do I prefer?). Typically, this learning occurs if the child's expressions of internal experience are validated by other people. If a child's invalidating environment doesn't provide them with such learning opportunities, the child will look for external cues about how to act, feel and think - their identity becomes overly controlled by external factors. Linehan (1993) also adds that emotional dysregulation may contribute to identity disturbance - intense and unpredictable emotional reactions make it challenging to build a stable, predictable sense of self.

The empirical evidence points to identity disturbance as a central feature of BPD (Kaufman & Crowell, 2018; Richetin et al., 2017). This symptom is linked to many other difficulties such as prescription opioid misuse (Reynolds et al., 2021), out-of-control internet use, depression, suicidality (Chen et al., 2019), and paraduisicide (Scala et al., 2018). Identity disturbance allows for the most efficient discrimination between BPD and other diagnoses with similar symptom manifestations, such as bipolar affective disorder (Bayes & Parker, 2020). What is more, longitudinal data suggests that identity disturbance in adolescence may actually be a precursor for BPD symptoms in adulthood (Carlson et al., 2009). There is also some data suggesting links between identity disturbance and self-disgust, which may be conceptualized as representing both self-dysregulation and emotion dysregulation dimensions (Kot et al., 2023).

Preliminary evidence suggests that identity disturbance may improve in the course of cognitive-behavioral therapies, e.g. STEPPS (Black et al., 2018), and DBT (Roepke et al., 2011), SFT (Giesen-Bloo et al., 2006) and psychodynamic therapy, namely TFP (Giesen-Bloo et al., 2006). Similar to chronic emptiness, both the specific interventions and the mechanisms of change responsible for improvement are not fully understood. However, some hypotheses emerged from the literature. Roepke et al. (2011) suggest that validation that client receives during the course of DBT may stabilize the identity, because it provides steady and reliable feedback from the environment (therapist). Additionally, in another DBT intervention study Stepp et al. (2008) found that increased use of mindfulness and emotion regulation skills (components of DBT skills training) predicted a significant improvement in identity disturbance. These results are consistent with Linehan's notion about emotional dysregulation as one of the sources of identity disturbance. The results are also consistent with suggestions that mindfulness skills may be crucial for building a stable sense of self (Roepke et al., 2011; Kaufman & Crowell, 2018). Specifically, Kaufman & Crowell (2018) argue that one of the mindfulness skills, non-judgmental attitude, is crucial, because it loosens the impact of self-critical thoughts and increases self-validation.

Conceptual Challenges in Self-Dysregulation Research

"Ideally, clinical science seeks to clarify all components of the intervention–process–outcome triad (Kazdin, 2007). In the context of my dissertation topic, outcomes refer to self-dysregulation symptoms, interventions are the therapeutic techniques or treatments designed to reduce these symptoms, and processes are the underlying psychological or behavioral mechanisms that interventions target to induce change in outcomes. While self-dysregulation symptoms have been well documented, the lack of clarity around effective interventions and the

processes they engage poses a significant barrier to advancing treatment development. This gap is further compounded by the atheoretical and descriptive nature of the DSM, which limits its utility for intervention scientists seeking to identify and target functional mechanisms.

At the same time, more specific theory-based formulations of the self are plagued with many conceptual and methodological problems. Kaufman & Crowell (2018) point out conceptual incoherence as one of the main problems hindering investigations of self-dysregulation. Social, developmental, behavioral, clinical, and neuroscientific accounts of self remain poorly integrated with each other, not taking into account multiple factors that influence self-functioning. This fragmentation is exemplified by Leary and Tangney's (2003) article. In their review of the literature, they found 66 psychological theories related to the self, each using different sets of constructs, such as ego, identity, self-esteem, self-awareness, and self-concept. The majority of these accounts of the self are not embedded in wider theoretical paradigms; they often lack ecological validity, posing numerous problems when it comes to integrating them into evidence-based treatments (Kanter et al., 2001).

Another barrier to advancing the field of self-dysregulation research is the reliance on mainstream accounts of the self, which involve creating hypothetical, internalized entities believed to cause or mediate behavior (Kaufman & Crowell, 2018). This leads to circular reasoning, as best described by Kanter et al. (2001, p.199): "*positing some form of the self to explain a person's experience of self is not an explanation at all in that it does not account for what, in turn, directs the self. A proposed self could never be found adequate as a theory because an additional explanation is always necessary*". These hypothetical mental entities cannot be directly observed or experimentally influenced, yet they create an illusion of explanation.

The type of reasoning criticized by Kanter et al. (2001) is also observed in modern neuroscience, where hypothetical entities are replaced with neurophysiological activity. The last decades bring an explosion of research on neural correlates of various constructs described as self (Davey et al. 2016; Herpetz et al., 2018). This has led some academics to pursue the goal of "*localizing the self in the brain*" (Feinberg & Keenan, 2005) and to describe the self as "*a collection of diverse neural components that provide us with our beliefs, memories, desires, personality, emotions, etc.*" (Klein, 2012, pp. 1). However, to what extent neural activity can be treated as an explanation of behavior, remains a controversial issue. Some authors claim that neurobiological data should complement rather than substitute understanding at the behavioral level (Hayes et al., 2012). Furthermore, neurobiological data cannot singularly resolve the issue of terminological inconsistency (Hayes et al., 2012). As Skinner noted, *"What is generally not understood by those interested in establishing neurological bases [of behavior] is that a rigorous description at the level of behavior is necessary for the demonstration of a neurological correlate…both must be quantitatively described and shown to correspond in all their properties"* (Skinner, 1938, p. 422).

Addressing the conceptual and methodological limitations outlined above may open new avenues for conceptualizing and treating self-related problems. An in-depth understanding of self-functioning in BPD requires theoretical accounts of the self that are coherent and orient research toward empirically testable processes. Advancing the field may therefore depend on carefully examining how models of the self are constructed and on clarifying their philosophical foundations. In the following section, I discuss the philosophical and theoretical underpinnings of my PhD project and their relevance for this approach.

Scientific Worldviews in Psychology

Science is inherently a social enterprise, intricately connected to specific values, beliefs, and practices, much like any other facet of human culture. Early days of psychology were marked by debates between different paradigms in psychology: Functionalism, Structuralism, Gestalt Psychology, Psychoanalysis and Methodological Behaviorism (Fuchs, & Kawash, 1974). Each paradigm was embedded in a distinct philosophical worldview. A philosophical worldview is "*the coherent set of interrelated assumptions that provides the preanalytic framework that sets the stage for scientific or therapeutic activity"* (Hughes, 2018, p. 26). These assumptions pertained to the purpose of psychology, its primary unit of analysis, the nature of knowledge and evidence, and the optimal methods for investigating psychological phenomena. Following the cognitive revolution in the 1950s and the rise of cognitivism, earlier paradigmatic differences persisted, albeit diminishing in prominence within academic psychology. Unfortunately, not paying adequate attention to basic questions about ontology, epistemology and axiology in science comes with a cost. Implicit or taken-for-granted assumptions may be a big barrier for science-making and implementation, leading psychologists to engage in fruitless arguments over which theory is "true", when in fact, there is no agreement over what "true" even means. This oversight may result in the formulation of nonparsimonious or overly abstract theories and may drive clinicians toward unsystematic eclecticism—employing techniques derived from incompatible psychotherapeutic approaches without a contextual understanding of their intended use and design (Lazarus & Beutler, 1993).

To articulate my pre-analytic assumptions, I will employ the system proposed by Stephen C. Pepper in his work *World hypotheses: A study in evidence* (Pepper, 1942) and later elaborated on by Hayes et al. (1988) and Hayes (1993). One main idea in Pepper's work is that individuals'

understanding of the world tends to align with one of six conceptual systems (world hypotheses or worldviews). These worldviews include mysticism, animism, formism, organicism, mechanism, and contextualism. Each worldview can be described by a common-sense metaphor (a simple analogy explaining how the world works) and a truth criterion (how do we know that our models/theories of phenomena are valid). Pepper argued that mysticism and animism are not suitable for scientific inquiry; thus, only the remaining four were applied to categorize psychological theories (Table 2) (Berry, 1984; Hayes et al., 1988).

Table 2

Four scientific worldviews according to Pepper (1942) and extended by Hayes (1993)

	Formism	**Organicism**	**Mechanism**	**Functional contextualism**
Metaphor	similarity	living organism	machine	act in context
Ontological stance	reality exists independently from an observer	reality exists independently from an observer	reality exists independently from an observer	questions about reality need not be answered (a-ontological stance)
Task of the scientist	identification and labeling of similar forms	identification and understanding of the phases of development	identification and understanding of working parts that make up the whole	prediction-and-influence of behavior with precision, scope, and depth
Truth criterion	correspondence	coherence	correspondence	workability
Application to self	Markus and Nurius' (1986) possible selves	Rochat's (2021) stages of self-awareness development	Gallagher's (2000) Minimal self	Contextual-behavioral model of self (Hayes, 1995)

Formism is a scientific worldview based on the premise that the world can be understood by assigning observed phenomena to types or classes. Its root metaphor is similarity, the recurrence of recognizable forms. The task of the scientist using this worldview is the

identification and labeling of similarity that exists in the world, creating a comprehensive classification system. The truth criterion in this worldview is correspondence - the theory or model is true if there is a similarity between the description and its object of reference. An example of formism applied to self can be found in Markus and Nurius' (1986) concept of possible selves. According to this theory, the self can be understood as a set of categories representing what a person might become, hopes to become, or fears becoming. Each possible self—hoped-for, feared, or expected—functions as a distinct type, allowing researchers to classify patterns of self-concept across individuals. From a formist perspective, understanding the self is a matter of identifying and mapping these categories; the focus is on the structure of self-representations rather than the underlying mechanisms or developmental processes. This worldview is not concerned with predicting or influencing self-development directly, which limits its practical application for clinical intervention, but may provide a framework for organizing and comparing different ways of experiencing oneself.

Mechanism is a scientific worldview based on the premise that phenomena can be reduced into discrete parts that interact with each other in a cause-and-effect manner. Its root metaphor is machine (such as computer or steam engine). The task of the scientist using this worldview is to identify and localize "working parts", relationships between them and understand how they respond to environmental stimuli (input - internal operation - output). The truth criterion in this worldview is, just as in formism, correspondence - the theory or model is true to the extent it mirrors the real world. Majority of modern psychological theories are built on more or less sophisticated mechanistic tenets. Examples of mechanism in theories of self can be found in neurocognitive accounts, such as Gallagher's (2000) concept of the minimal self. The minimal self is defined as a first-person, pre-reflective experience rooted in bodily sensorimotor

processes. It is responsible for fundamental capacities such as maintaining a first-person perspective, distinguishing self from other, and sustaining a sense of body-ownership (Gallagher, 2013). From a mechanistic perspective, these capacities are understood as the outcome of underlying causal mechanisms, much like the parts of a machine produce its overall function. Mechanistic theories aim to map and explain how each component contributes to the overall experience of self, providing precise, testable accounts but often abstracting away from context, social factors, and holistic integration.

Organicism is a scientific worldview based on the premise that the phenomena are parts of some larger unfolding whole that is in the process of developing toward some final end state of complete integration. Its root metaphor is living organism (such as plant). The task of the scientist using this worldview is to identify and understand the phases of organism's development over time and context, and basic rules that govern this development. The truth criterion in this worldview is coherence - something is true if there is no contradiction between the part and the whole. The examples of organicism in theories of self are developmental accounts of self-awareness, such as Rochat's (2021) account. According to Rochat, self-awareness developes in seven stages, from implicit embodied self-awareness at birth, through self-consciousness aroun age of two, to an explicit, conceptualized, and normative awareness of self around the age of five. These stages are not isolated milestones but parts of a continuous process in which each new stage integrates the achievements of the earlier ones into a richer, more complex whole. From an organicist perspective, the self is not a fixed entity but an evolving system that becomes increasingly integrated over time. This means that new capacities of self-awareness do not simply accumulate as separate abilities; rather, they transform and reorganize the meaning of earlier forms of self-experience.

Contextualism is a scientific worldview grounded in the premise that all psychological events are inherently complex, consisting of interconnected activities that form continuously changing patterns. Its central metaphor is the "act in its context." Several versions of contextualism exist, but here I focus on functional contextualism as described by Hayes et al. (1988) and Hayes (1993). According to functional contextualism, human functioning is more usefully described in terms of actions (e.g., remembering) rather than static structures (e.g., memory). These actions are not reified; they do not exist a priori but are instead constructed by the scientist to meet the goals of the analysis. The task of the scientist within this worldview is to predict and influence behavior with precision, scope, and depth. The hyphen in "predict-and-influence" emphasizes the inseparability of these two goals: only accounts that can both predict and influence behavior qualify as functional-contextual. Precision refers to using a minimal number of concepts, scope denotes the applicability of each concept across a wide range of cases, and depth ensures coherence across levels of analysis (e.g., psychological, sociocultural, neurobiological). In functional contextualism, the criterion of truth is successful working: a theory or model is considered true insofar as it achieves its pre-stated goal—in this case, predicting and influencing behavior. Consequently, contextualists aim to develop models that consist of the minimal number of factors necessary to influence a phenomenon, rather than attempting to describe every detail of it in exhaustive richness.

From a contextual perspective, the self is understood as a dynamic and context-dependent set of self-related actions, whose function can be analyzed and influenced in relation to the particular situation. Contextualism focuses on how self-related behaviors operate in context to produce outcomes, rather than on classifying types based on their form (formism), mapping causal parts (mechanism), or tracing integrative development (organicism). This perspective can

be illustrated through historical and contemporary functional-contextual accounts of self, which I will describe in the following sections.

It is important to emphasize that Pepper's classification of worldviews was never intended to rank them in terms of superiority or inferiority. Nevertheless, because scientific worldviews differ in their goals and methods for establishing knowledge, their usefulness for addressing particular research questions may vary. The goal of this PhD project is to enhance understanding of self-dysregulation in BPD in a way that is directly applicable to clinical practice. Among Pepper's four worldviews, only functional contextualism explicitly focuses on the prediction and influence of behavior, and it will therefore serve as the guiding paradigm for this work. Specifically, this project is grounded in contextual-behavioral science, a scientific program rooted in the philosophy of functional contextualism (Hayes et al., 2012).

Contextual-behavioral Account of Self

Early Behavioral Views

Early contributions to the functional-contextual understanding of self were made by Burrhus Frederic Skinner (1974). As an intellectual heir to pragmatic philosophers, he sought to develop an account of human functioning based on interactions with the environment, including both publicly observable behavior and privately experienced events such as thoughts, emotions, rather than treating these private events as independent causal entities. He rejected common conceptualizations of the self in psychology: (1) the experience of the self as the "I"; (2) the self as an originator of action; (3) the self as a source of spontaneous gestures; and (4) the self as a personal identity (Kohlenberg & Tsai, 1991). In one of his seminal works, Skinner (1974) wrote:

> "*There is a difference between behaving and reporting that one is behaving or reporting the causes of one's behavior. In arranging conditions under which a person describes the*

> *public or private world in which he lives, a community generates that very special form of behavior called knowing. ... Self-knowledge is of social origin. It is only when a person's private world becomes important to others that it is made important to him. It then enters into the control of the behavior called knowing*" (pp. 34–35).

In line with the functional-contextual perspective, in Skinnerian view, the self (self-knowledge) is not an internal structure but an action, and is therefore sometimes referred to as "selfing." Skinner defined the self as (1) differentiating between our behaviors and other phenomena, (2) responding to our own behaviors, and (3) providing others with verbal descriptions of our behaviors. By behaviors, he meant not only physical movements but also thinking, feeling, sensing, talking, remembering, etc. Furthermore, for him the self(ing) was not innate but could be trained by the social environment. For instance, by saying to a toddler, "You haven't eaten for a while; you're probably very hungry" or "Oh, the dog barked and made you scared?"; by asking questions such as "What are you doing?" or "How are you?"; "What do you need?" and by responding with warmth and interest, the verbal community trains children to recognize their internal states and later talk about them. This training is crucial for both the child and its community because when internal states are properly communicated, a child can get their needs met, and the community gains access to the child's personal experiences. Even though Skinnerian account of self was validated in laboratory settings with both human and nonhuman subjects (Dymond & Barnes, 1997), some scholars have argued that it is too simplistic to account for relational, symbolic, or higher-order cognitive complexity (Hayes & Wilson, 1993). When Hayes et al. (2001) extended Skinner's model using Relational Frame Theory, it provided a more systematic framework for understanding a broader range of psychological problems in verbally competent adults.

Relational Frame Theory

Relational Frame Theory (RFT) markedly differs from mainstream psychological accounts of cognition that focus on structure. As with other concepts viewed from a functional-contextual perspective, in RFT, cognition is considered an action of an organism, and it is analyzed in terms of its function. From the RFT perspective, cognition is the learned behavior of building and responding to relations among objects and events based, in part, on socially established cues (Hayes et al., 2001). It is trained in childhood through operant learning - children are exposed to multiple natural-language interactions with other humans, and their relational responses are reinforced until they become generalized (McHugh et al., 2019). One of the earliest forms of relational responding[2] occurs when children learn to relate labels (words) to objects or events. For example, when a child sees their parent pointing out a dog and hears "this is a dog," they learn to relate an object (an animal with particular characteristics) with a sound (the word "dog") and, in turn, to associate a sound with an object. Later, they learn to relate stimuli in many other ways, with the most common relations (relational frames) including opposition, distinction, comparison, hierarchical, and causal (Table 3). Another type of relational frames, called deictic frames, specifies relationships in terms of the speaker's perspective. This type involves interpersonal frames (I-YOU), spatial frames (HERE-THERE), and temporal frames (NOW-THEN).

[2]In the literature, the terms *relational framing* and *relational responding* are frequently used interchangeably. In this dissertation, I have chosen the latter, as it highlights the interactional nature of relational activity within RFT. In other words, humans do not engage in relational responding in isolation from their environment—this activity always occurs in relation to the individual's learning history and current context.

Table 3

The most common types of relational frames

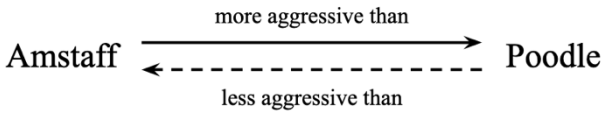
Relational frame	Contextual cue	Example
Coordination	is; same as; like; name of	This is a dog.
Distinction	different from; not; distinctive	A horse is not a rabbit.
Opposition	unlike; opposite to	Warm is the opposite of cold.
Comparison	more than; less than; better than; worse than	Monkeys are smarter than snakes.
Hierarchy	contains; includes; type of	Yoghurt is a type of dairy product.
Causality	causes; is caused by	Fire causes smoke.
Deictic - temporal	now, then	Then I felt good, now I feel bad
Deictic - spatial	here, there	I am here, the dog is there
Deictic - interpersonal	I, you	I am hungry, you are thirsty

Three defining features of relational responding are: (1) mutual entailment, (2) combinatorial entailment, (3) transformation of function. Mutual entailment refers to a relation between two stimuli that automatically gives rise to a corresponding, second relation in the opposite direction. For example, if a verbally able child learns that amstaff is more aggressive than poodle, then they may derive that poodle is less aggressive than amstaff. The first relation (*is more aggressive than*) entails the second one (*is less aggressive than*) and whichever one is

trained, the other one is derived as well (i.e. it is mutual) (Fig. 1). As previously discussed, the child's capacity to establish non-trained relations stems from numerous prior interactions with the verbal community, during which the child learns to build bidirectional relations among objects and events. This capacity then generalizes across contexts and becomes automatic.

Figure 1

An example of mutual entailment

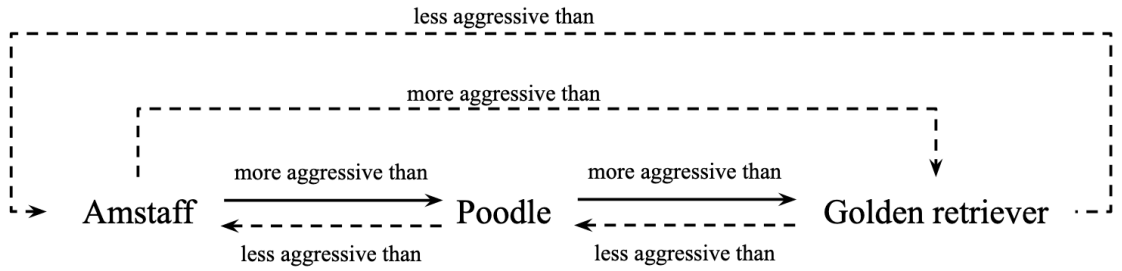


Note. The continuous line refers to a directly trained relation, and the dashed line refers to a derived relation (i.e., not directly trained).

Combinatorial entailment involves the combination of two relations to form a third. For example, if a verbally able child learns that amstaff is more aggressive than poodle and poodle is more aggressive than golden retriever, the child can derive that a golden retriever is less aggressive than an amstaff, and that an amstaff is more aggressive than a golden retriever (fig. 2). Just like mutual entailment, combinatorial entailment emerges as a function of multiple interactions with the verbal community.

Figure 2

An example of combinatorial entailment

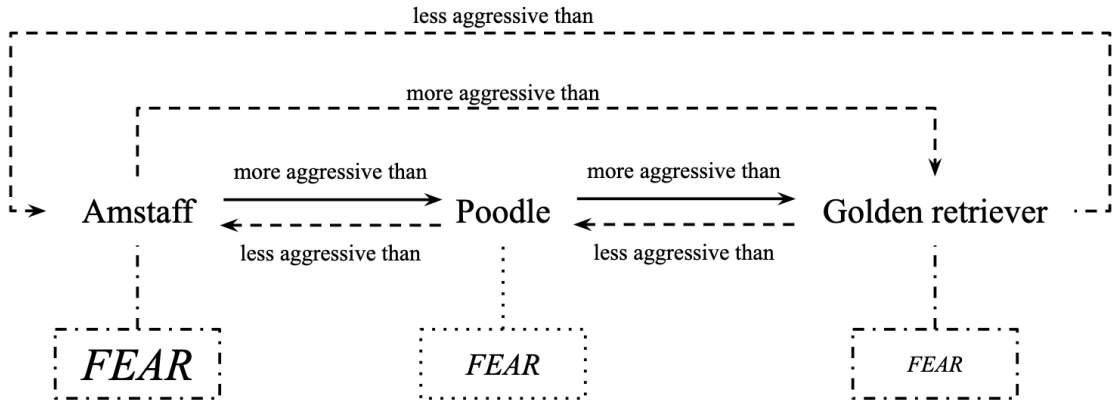


Note. The continuous lines represent directly trained relations, and the dashed lines represent derived relations (i.e., not directly trained).

Transformation of function is the change in the functions of one stimulus participating in a relation, which results in spontaneous changes in the functions of other stimuli in this relation. For example, if a child is bitten by a poodle, it will probably react with fear next time they encounter a poodle (classical conditioning). However, if a child already knows that amstaff is more aggressive than poodle, amstaff may evoke even greater fear and avoidance than the poodle, even though amstaff never bit a child. The function of one stimulus (amstaff) was transformed in accordance with a function of another stimulus (poodle) (fig. 3). The same thing can happen with a golden retriever - it will evoke less fear and avoidance than a poodle, because it was previously derived that it is less aggressive than a poodle. This transformation of function occurs without any direct aversive or pleasant experiences with amstaff or golden retriever.

Figure 3

An example of transformation of function



Note. The dotted line represents the function acquired via direct training. Dash-dot lines represent functions acquired through transformation of function (i.e., not directly trained). The size of the italicized font indicates the relative intensity of fear evoked by each stimulus.

This example illustrates how a seemingly simple situation—three stimuli related through two relational frames, with one acquiring a fear function—can lead humans to derive four additional relations and transform the functions of the two remaining stimuli. Mutual entailment, combinatorial entailment, and transformation of function apply not only to relations between two or three stimuli, but also to more complex levels of relational development, such as relating many stimuli or relating relations among these stimuli (Barnes-Holmes et al., 2020). As a result, humans respond not only to stimuli they directly encounter, but also to complex relational networks derived from direct contact with a stimulus. In other words, the same three processes—mutual entailment, combinatorial entailment, and transformation of function—operate at every level of complexity, which makes this theory highly parsimonious.

Even though on the surface this functional-contextual account of language and cognition may seem similar to mechanistic accounts, these accounts differ significantly. RFT explains cognition as arising from an organism's interactions with the environment, without using any nonphysical internal constructs such as memory, mental representations or cognitive processing. Since its inception in 1985, RFT has gathered a large body of evidence in both basic and applied areas (Montoya-Rodriguez et al., 2017; O'Connor et al., 2017; Dymond & May, 2018). Research suggests that mechanisms of change postulated by RFT are responsible for clinical improvement even in psychotherapies embedded in a mechanistic paradigm, such as second-wave cognitive-behavioral therapies (Eustis et al., 2020). Clinical interventions based on RFT are now recommended and implemented by the World Health Organisation (Tol, 2020; WHO, 2020). There is also a growing body of evidence that RFT-based interventions are effective in areas where mechanistic models failed, e.g. in raising IQ (McLoughlin et al., 2021; McLoughlin et al., 2020).

Introducing the concept of relational responding sheds new light on Skinner's model of the self. According to RFT, selfing is not limited to responding to one's own behavior in the Skinnerian sense; it also involves the capacity to respond relationally to one's own behavior (Hayes & Wilson, 1993). Put simply, humans respond not only to their immediate behavior, but also to everything relationally framed with that behavior. As RFT posits,

> "the very experience of self is a symbolic activity that is created by and evolves in parallel with the acquisition of increasingly complex use of language (...) We use verbal behavior not only to relate to the external world, but also to relate to whatever is inside our experiential world" (Strosahl et al., 2015; p. 39).

The difference between Skinnerian and RFT-based perspectives on the self can be illustrated with an example. Consider a scenario in which an individual hears an unexpected dog bark. This may trigger immediate reactions such as muscle stiffening, jumping, shrieking, and a subjective experience of fear. From a Skinnerian standpoint, the self might involve recognizing and labeling this complex reaction as "fear." In contrast, the RFT perspective suggests that the individual responds to a much broader set of stimuli, extending beyond the immediate fearful reaction. For instance, if the person is a male socialized in a Western society, he might associate fear with weakness. Consequently, he could interpret his reaction to the dog bark as a sign of weakness. This relational responding may then generalize into his self-concept through combinatorial entailment, potentially evoking feelings of shame whenever he recalls this situation or thinks about himself more generally. If this association between self and worthlessness becomes sufficiently strong, it can influence behavior via transformation of function. For example, later the individual might avoid intimacy due to feelings of inadequacy. This scenario illustrates how relational responding allows even minor events to profoundly shape self-experience and subsequent behavior.

In order to translate the RFT account of self into a pragmatic clinical model, a tripartite contextual-behavioral model of self was developed. RFT suggests that when an individual is properly trained with recognizing their internal states as well as both deictic and non-deictic relational responding, three functionally different types of self can be established: (1) self as the content of verbal relations (Self-as-Content); (2) self as an ongoing process of verbal relations (Self-as-Process); and (3) self as the context of verbal relations (Self-as-Context) (Hayes, 1995). I will provide a brief description of each type of self below, with a more detailed account of this topic presented in the context of my empirical studies in the following chapters.

Self-as-Content. Self-as-Content (the conceptualized self) involves responding to one's behavior by describing and/or evaluating oneself and one's history, e.g., "I am a bad person," "I am a firefighter," "I am a mother," or "I am competent" (Hayes, 1995; Foody et al., 2012). It is sometimes called “self-as-story”, which reflects the activity of creating self-narratives (Torneke, 2010).

Self-as-Process. Self-as-Process (also known as experiential self) involves responding to one’s own behavior by ongoing experiencing and describing one’s thoughts, behaviors, feelings, bodily sensations, urges etc (Foody et al., 2012). All of it is perceived from a present moment perspective as an ever-changing stream of experiences. A number of authors drew parallels between Self-as-Process and mindfulness as conceptualized in clinical psychology (Fletcher & Hayes, 2005; Foody et al., 2012).

Self-as-Context. Self-as-Context (the transcendent self) is the ability to observe the ongoing stream of experience while maintaining a distinction between the act of observing and the content of observation (Hayes, 1995; Foody et al., 2012). Self-as-Context entails the experience of self that is bigger than and containing one’s thoughts, feelings, and sensations.

Implications of Contextual-behavioral Account of Self

The contextual-behavioral account of self carries significant implications for clinicians working with individuals experiencing self-dysregulation. It redirects our focus from modifying hypothetical internal psychological structures of the self to understanding self-dysregulation as a maladaptive way of relating to one's own experience. Simultaneously, it highlights potential deictic and non-deictic relational responding under-rehearsal as sources of these difficulties. The subsequent chapters will elaborate on possible contextual-behavioral conceptualizations of self-dysregulation in the context of BPD.

Aims of This Project

Despite the direct conceptual relevance of the contextual-behavioral account of the self to self-dysregulation in BPD, there is virtually no empirical work explicitly linking these areas. The aim of this thesis is to address this gap. The overarching goal is to investigate the relationship between the contextual-behavioral model of the self and symptoms of self-dysregulation in BPD using multiple levels of analysis. This objective is pursued through two studies. In the first study, I examine the predictive ability of a tripartite contextual-behavioral model of the self (Self-as-Content, Self-as-Process, Self-as-Context) in relation to BPD symptoms in a community sample, while also exploring which facets of emotion regulation may mediate these relationships. Building on these findings, the second study provides a more nuanced analysis, investigating the role of different patterns of self-responding in chronic emptiness and identity disturbance in a general sample, as well as in a subsample of individuals diagnosed with BPD.

Chapter 2: Study 1

Introduction

As noted in the previous chapter, despite the significance of self-dysregulation in BPD, this topic remains understudied. This gap in knowledge contributes to uncertainty regarding the mechanisms underlying psychotherapy and the interventions targeting them, which, in turn, limits the effectiveness of psychotherapeutic approaches for individuals with BPD.

Because of its pragmatic orientation, contextual-behavioral science may offer some insight into mechanisms of self-dysregulation in BPD. From this perspective, self is viewed as an action - a person's behavior interacting in and with a context (Hayes et al., 2012). Hayes et al. (2001) defined the self as verbal responding to one's behavior and proposed three functional types of self that develop as a consequence of interactions with the verbal community - namely, Self-as-Content, Self-as-Process, and Self-as-Context. This conceptualization is validated by scientific research (Atkins & Styles, 2016; Moran et al., 2018; Styles & Atkins, 2018) and orients clinicians to processes that can be manipulated via psychological interventions (McHugh et al., 2019). Empirical evidence suggests the link between three types of self and mental health (Atkins & Styles, 2016; Moran et al., 2018; Yu et al., 2017a).

Self-as-Content involves responding to one's behavior by describing or/and evaluating oneself and one's history, e.g., "I am a bad person," "I am a firefighter," "I am a sibling," or "I am competent" (Hayes, 1995; Foody et al., 2012). While in many psychotherapeutic models (e.g. cognitive therapy), positive and stable content of our self-descriptions and self-evaluations is an indicator of mental health, contextual-behavioral perspective is more interested in the function of these evaluations and descriptions - how people respond to this content as it arises. Treating these descriptions and evaluations as literal truth (rigid Self-as-Content) may lead to maladaptive

outcomes because people start to act rigidly following these evaluations. For example, rigid relationship with self-description “I am a good parent” may in fact make a person less sensitive towards moments in which they are not treating their child warmly, therefore making them less able to adapt their parenting to their child’s needs. Similarly, treating self-evaluation “I am a loser” literally may make a person less likely to pursue important goals in their life and less likely to acknowledge inevitable moments of small successes. In contrast, treating our self-descriptions and self-evaluations just as byproducts of our thinking (flexible Self-as-Content) increases the possibility of adaptive behavior leading to fulfilling life (McHugh et al., 2019). For example, a person experiencing a self-evaluation “I am socially awkward and lame” as just a thought may choose to still pursue what is important to them - for example to seek other people’s company or treat themselves with kindness - even in the presence of this thought.

Self-as-Process involves responding to one’s behavior by ongoing experiencing and naming one’s thoughts, feelings, bodily sensations, urges etc. (Hayes, 1995; Foody et al., 2012). Fletcher & Hayes (2005) and Foody et al. (2012) drew parallels between Self-as-Process and mindfulness because both concepts involve paying attention to an ever-changing stream of experiences in the present moment, as they arise. Difficulties with intentional sustaining or switching focus, difficulties with noticing and making sense of one’s ongoing experience (e.g. not being able to differentiate emotions and bodily sensations), repetitive negative thinking (brooding, worrying) and acting impulsively may indicate Self-as-Process difficulties.

Self-as-Context is the ability to observe the ongoing stream of experience while maintaining a distinction between the act of observing and the content of observation (Hayes, 1995; Foody et al., 2012). Difficulties in Self-as-Context may be reflected in e.g. fear of annihilation in the face of difficult experiences, sense of self being dominated by difficult

experiences (as in chronic pain, complex PTSD or complicated grief), lack of continuity of self over time, and empathy deficits.

Contextual-behavioral Model of Self in BPD

From the contextual-behavioral point of view, healthy self involves highly developed Self-as-Context, highly developed Self-as-Process and high Self-as-Content flexibility. Indirect evidence suggests that people diagnosed with BPD may have deficits in all three behavioral repertoires related to self.

Self-as-Content in BPD. Individuals diagnosed with BPD report unstable and low self-esteem (Winter et al., 2017). From a contextual-behavioral perspective, instability per se may not be problematic; however, research suggests that in BPD, an unstable sense of self predicts maladaptive behaviors, such as self-harm (Spitzen et al., 2020). Compared to the non-clinical group, BPD group has a higher tendency to describe themselves using negative attributes (Vater et al., 2015) and is more likely to treat statements such as “I am inherently unacceptable” as highly believable (Giesen-Bloo & Arntz, 2005). These studies were not conducted using the contextual-behavioral account, but according to Merwin et al. (2020), they may suggest low Self-as-Content flexibility in people with BPD - treating self-evaluations and self-descriptions as literal truth. Specific ways in which low Self-as-Content flexibility might manifest in BPD was brilliantly described in van Schie et al.’s (2024) study. In this experiment, individuals with moderate to high BPD features were divided into a “more negative self-view” group and a “more positive self-view” group, and were presented with negative, neutral, and positive feedback alternately during the Social Feedback Task.Compared to “more positive self-view” group, in “more negative self-view” group, positive feedback resulted in lower mood and in less desire to affiliate with positive feedback senders. In this case, people with more negative self-view

behaved in coherence with their self-evaluations, in spite of friendly signals from their environment. Another example of low Self-as-Content flexibility may, for example, self-harming in the presence of the thought “I’m a fundamentally bad person and I need to be punished” or making contradictory life decisions in reaction to sudden shifts in thoughts related to self-concept.

Self-as-Process in BPD. Some scholars voiced opinions that under-rehearsal of Self-as-Process may be a core feature of BPD (Gaynor & Baird, 2007). Compared to the control group, individuals diagnosed with BPD have more difficulties in sustaining attention focused on ever-shifting bodily sensations associated with breathing (Scheibner et al., 2016). Cross-sectional studies have suggested that the ability to monitor one's moment-to-moment experience is inversely related to BPD symptoms and remains a unique predictor of BPD symptoms, even after controlling for passive and impulsive emotion regulation strategies, neuroticism, and interpersonal effectiveness (Wupperman et al., 2009; Wupperman et al., 2008). Moreover, this ability mediates the relationship between BPD features and behavioral dysregulation and self-injury (Wupperman et al., 2013). Time spent on formal and informal practices engaging present-moment awareness (Feliu-Soler et al., 2014; Stepp et al., 2008) and increases in present-moment awareness (Mitchell et al., 2019; Zeifman et al., 2020) are associated with positive BPD treatment outcomes. Increases in Self-as-Process throughout interventions for BPD are associated with decreased likelihood of treatment drop-out (Stratton et al., 2020). To my best knowledge, these outcomes have not been previously interpreted in light of the contextual-behavioral model of self, but they may be indicative of Self-as-Process deficits. This deficit may manifest in BPD as difficulty with sustaining focus on one’s intense emotions and bodily

sensations, or with noticing and naming the urge to engage in values-inconsistent behaviour without immediately acting on it.

Self-as-Context in BPD. To the best of my knowledge, the relationship between Self-as-Context and BPD features has not been investigated empirically. However, some authors suggest that BPD is related to the Self-as-Context deficit (Morton & Shaw, 2012), and that inability to experience one's self as different from or more than one's current emotions, thoughts, or impulses may be responsible for an unstable sense of self and high distress intolerance (Bailey et al., 2009). In both behavioral and psychodynamic formulations (Clarkin & De Panfilis, 2013; Kohlenberg et al., 2009), people with BPD diagnosis are described as having difficulties with contacting an overarching and stable "I" perspective, so they experience themselves as fragmented, incoherent, unstable or without continuity over time.

Contextual-behavioral View of Emotion Regulation Skills

As mentioned previously, the most prominent behavioral account of BPD conceptualizes this diagnosis as primarily a problem of emotion dysregulation (Linehan, 1993). From a functional-contextual perspective, at its core, emotion regulation can be defined as responding adaptively (ie. in service of one's needs or values) and adequately to situational context in the presence of emotions, whether positive or negative (Ciarrochi et al., 2022; Gratz, & Tull, 2010). In line with this perspective, Gratz & Roemer (2004) proposed a pragmatic clinical model consisting of four key emotion regulation facets: (a) being aware of and understanding one's emotions, (b) accepting emotions rather than trying to suppress or avoid them, (c) managing emotional impulses and maintaining goal-directed behavior in the presence of strong emotions, and (d) accessing and applying strategies that help regulate emotions effectively in different situations. In numerous studies, these facets were found to be closely linked to BPD symptoms

(e.g. Aleva et al., 2023; Schaich et al., 2021) and were identified as mechanisms of psychological interventions (e.g. Slee et al., 2008) and as treatment targets per se (e.g. Gratz, et al., 2014). Given that self-related processes shape how individuals interpret, respond to, and regulate emotions, difficulties in Self-as-Content, Self-as-Process, and Self-as-Context may be closely linked to emotion dysregulation in BPD and may even contribute to its persistence. For instance deficits in Self-as-Process may reduce awareness of emotional and physiological cues necessary for effective regulation. Furthermore, underdeveloped Self-as-Context may contribute to emotional overwhelm, limiting one's ability to take a broader perspective on transient emotional states. To date, no study has directly examined how the contextual-behavioral model of self relates to specific aspects of emotion regulation. Linking these two concepts may be particularly valuable in the *bench to bedside* process, wherein research findings inform clinical practice. In this study, I test the hypothesis that emotion dysregulation mediates the relationship between contextual-behavioral aspects of self and BPD symptoms.

The Present Study

A contextual-behavioral model of self may offer a new perspective on the development, maintenance, and treatment of symptoms experienced by many people with BPD. The aim of this study is to examine whether the contextual-behavioral model of self can predict BPD symptoms and to determine whether specific emotion dysregulation skills mediate this relationship. Specifically, based on the contextual-behavioral account of self and empirical findings on self-dysregulation in BPD, I formulate the following hypotheses:

H1: Higher levels of Self-as-Content Flexibility, Self-as-Process and Self-as-Context will predict lower BPD symptom severity.

H2. Difficulties in emotion regulation will mediate the relationship between the contextual-behavioral model of self and BPD symptoms, such that lower levels of Self-as-Content Flexibility, Self-as-Process, and Self-as-Context will predict higher levels of emotion regulation difficulties, which will predict higher levels of BPD symptoms.

Given limited prior research on the specific mechanisms involved, the mediating role of individual emotion dysregulation dimensions (i.e., DERS subscales) will be examined in an exploratory manner. By addressing this gap, the study seeks to clarify the mechanisms through which self-related processes contribute to BPD symptoms, offering insights that may enhance both theoretical models and clinical interventions.

Method

Ethics

Ethical approval was granted from the SWPS University Faculty of Psychology in Warsaw Ethics Committee (decision nr: 16/2020). Information about potential impact on mood was included in the informed consent (see Appendix A). In case participants needed more intensive psychological support, contact details of public crisis intervention services were provided.

Participants and Procedures

The present study was conducted online using Qualtrics software. I recruited participants from the general public through BPD-themed Facebook groups. The initial sample consisted of 357 adults. I aimed to investigate possible relationships across the full range of functioning, so I did not ask participants to report a BPD diagnostic status (i.e., whether they had a diagnosis or not), nor did I assume it. According to Trull (1995) and Trull et al. (1997), recruiting participants

from the community captures a broader range of functioning, including subclinical symptom levels, making the sample more representative of individuals struggling with BPD symptoms. I also chose this approach to facilitate interpreting results in light of the modern perspective that views BPD as a continuum rather than a categorical disorder (Arntz et al., 2009; Rothschild et al., 2003; Zimmermann et al., 2019).

Ten participants were excluded from the analysis due to not completing the whole procedure. Eight participants were excluded from the analysis due to invariant responses, which was operationalized as selecting the same answer in all questions of at least one questionnaire. One participant was excluded due to their response time indicating random answers (less than 3 seconds per question). The final sample consisted of 338 participants (207 women and 131 men). Participants mean age was M =27.45, Max=52, Min=18, SD=7.87).

After providing informed consent, participants completed a demographic questionnaire and four psychometric measures: the Borderline Personality Disorder Checklist (BPDCL), the Self-Compassion Scale – Short Form (SCS-SF), the Mindful Attention and Awareness Scale (MAAS), the Self Experiences Questionnaire (SEQ), and the Difficulties in Emotion Regulation Scale (DERS). The content of these measures is provided in Appendix B.

Measures

Predictor Variables.

Self-Compassion Scale - Short Form. Self-Compassion Scale - short form (SCS-SF; Raes et al., 2011; Polish version: Holas et al., 2024) is a 12-items self-report questionnaire designed to assess how often people behave kindly towards themselves, despite judgmental thoughts. Items are rated on 5 points Likert scale ranging from 1 (*almost never*) to 5 (*almost*

always). As no self-report measures of Self-as-Content flexibility exist, I used a methodological approach similar to Moran et al. (2018). Self-as-Content flexibility was measured using a combined score from three subscales of SCS-SF (SCSSelf): self-judgment, isolation, and over-identification. These subscales were chosen because they seem to capture inflexibility in responding to harsh self-related judgments. They also highly correlate with measures anticipated to correlate with an overly rigid Self-as-Content (cognitive fusion, dysfunctional attitudes, etc.) (Gillanders, 2017; after Moran et al., 2018). Higher scores were indicative of more flexible Self-as-Content. In the present study, the reliability coefficient for combined score from three subscales was $\alpha = 0.89$.

Mindful Attention and Awareness Scale. Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003; Polish version: Radoń, 2014) is a 15-items self-report questionnaire designed to measure open and receptive attention to and awareness of ongoing events and experiences. Items are rated on 6 points Likert scale ranging from 1 (*almost always*) to 6 (*almost never*). I used the measure of mindful attention and awareness as an indicator of Self-as-Process because these constructs are conceptually overlapping (Foody et al., 2012, Fletcher & Hayes, 2005). Higher scores on the MAAS were indicative of a more developed Self-as-Process repertoire. This approach to Self-as-Process measurement was previously used by Moran et al. (2018). In the present study, the reliability coefficient for total score on the scale was $\alpha = 0.88$.

Self Experiences Questionnaire. Self Experiences Questionnaire (SEQ; Yu et al., 2017b; Polish version: Baran et al., 2019) is a 15-item self-report measure of Self-as-Context - the ability to take the perspective of being distinct from, bigger than, and/or containing one's thoughts, feelings, urges, and bodily sensations. Items are rated on 7 points Likert scale ranging

from 0 (*never true*) to 6 (*always true*). Higher scores on this scale were indicative of more developed Self-as-Context repertoires. In the present study, the reliability coefficient for total score on the scale was $\alpha = 0.94$.

Mediating Variables.

Difficulties in Emotion Regulation Scale. Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004; Polish version: Dragan, 2016) is a 36-item self-report measure designed to assess emotion regulation difficulties. Its subscales refer to Gratz & Roemer's (2004) clinical model of emotion regulation and include: (1) nonacceptance of emotional responses, (2) difficulties engaging in goal-directed behavior, (3) impulse control difficulties, (4) lack of emotional awareness, (5) limited access to emotion regulation strategies, and (6) lack of emotional clarity. Items are rated on a 5-point Likert scale, ranging from 1 (*almost never*) to 5 (*almost always*). Higher scores indicate greater difficulties in specific emotion regulation facets. In my dissertation, I focused on specific, clinically distinguishable aspects of emotion regulation rather than the overall construct. Therefore, I did not calculate the full scale score and used only the subscale scores. In the present study, the reliability coefficients for the subscales were good: $\alpha = 0.87 - 0.93$.

Dependent Variables.

Borderline Personality Disorder Checklist. Borderline Personality Disorder Checklist (BPDCL; Bloo et al., 2017) is a 47-items self-report questionnaire designed to assess BPD symptoms during the last month. Items are rated on 5 points Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). The measure is consistent with DSM-IV and DSM-5 criteria for BPD. Higher scores indicate a higher burden of BPD symptoms. At the time of collecting data, I was not aware of attempts to validate the scale in Polish (Grzegorzewski, in preparation), therefore I

conducted a preliminary adaptation for research purposes. Its details can be found in Appendix C. In the present study, the reliability coefficient total score on the scale was $\alpha = 0.97$.

Data Analytic Strategy

This study examined the mediating effect of six variables on the relationship between three predictors and one dependent variable while controlling for two additional independent demographic covariates. Due to the complex interrelationships among variables, simple statistical methods such as regression analysis were insufficient. To account for these complexities, I employed path analysis to examine both direct effects and formally test mediation through the proposed mediators.

Path analysis, a subset of structural equation modeling (SEM), allows for the simultaneous examination of directional relationships among variables (Byrne, 2010). It begins with theoretically and empirically derived assumptions about these relationships, often visualized as a directed acyclic graph (DAG; Sonis & Jiang, 2023). The model estimates regression coefficients for each specified relationship and assesses their statistical significance. Following the initial model assessment, multiple iterations are conducted—removing non-significant paths and incorporating additional paths based on modification indices—to identify the most parsimonious and best-fitting model.

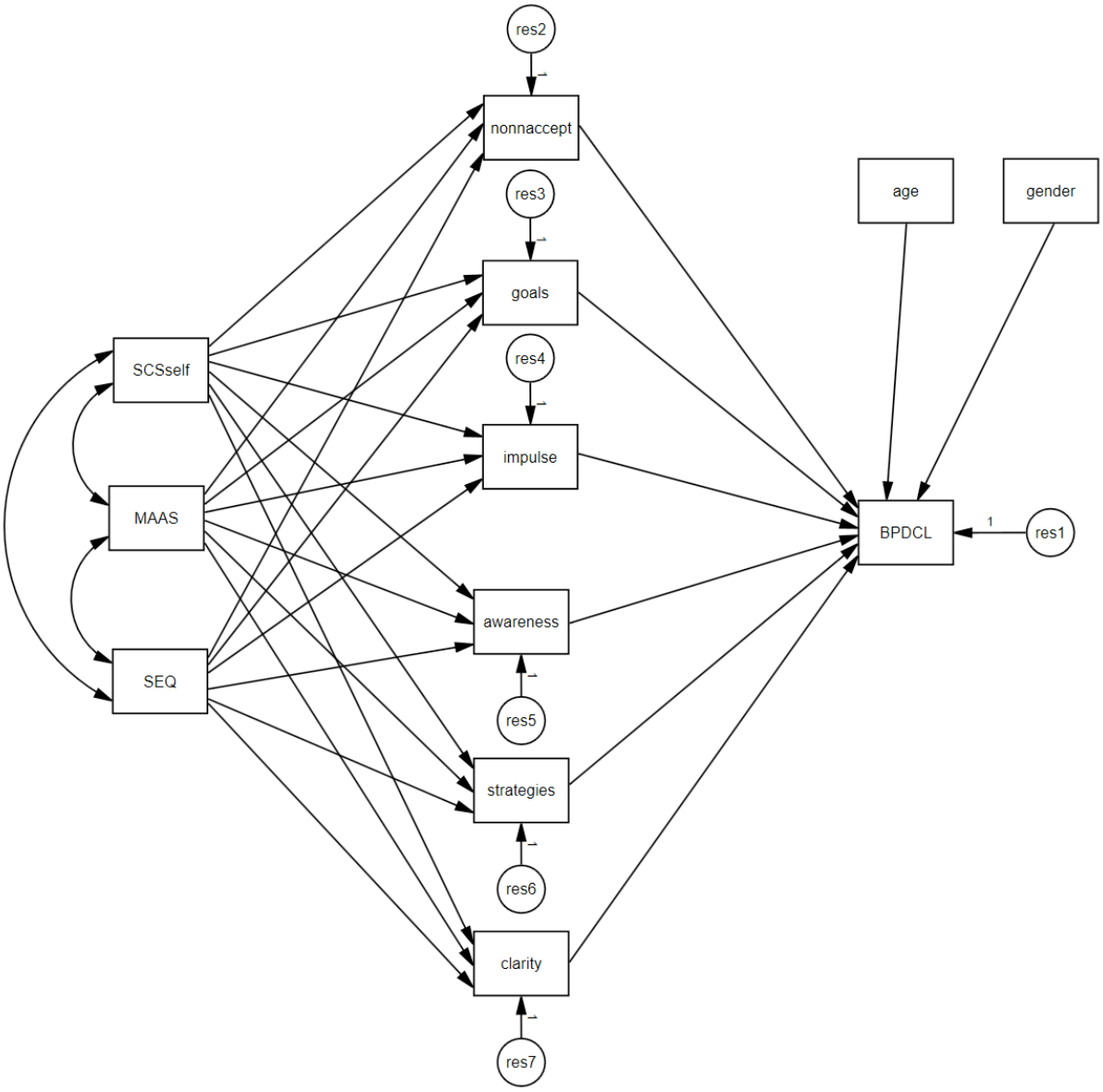
First, I constructed a directed acyclic graph (DAG, fig. 5) to formally represent my assumptions about the relationships among the study variables. After creating the DAG, I assessed the bivariate correlations between the key study variables using SPSS to examine their preliminary associations. Due to the large number of pairwise comparisons, I applied False Discovery Rate (FDR) correction to the correlation results using the Benjamini-Hochberg procedure in SPSS 29.0.2.0 to control for Type I errors. Subsequently, I used path analysis based

on the maximum likelihood method, implemented in AMOS 28.0, to examine the model. In my study, I used Comparative Fit Index (CFI; Bentler, 1990), Normed-Fit Index (NFI; Bentler & Bonett, 1980), Root Mean Square Error of Approximation (RMSEA; Browne & Cudeck, 1993) and Standardized Root Mean Squared Residual (SRMR; Hu & Bentler, 1999) as model fitness indices. CFI and TLI values of > 0.94 and RMSEA values < 0.06 indicate good fit (Hu & Bentler, 1999).

Although path analysis estimates indirect effects through specified mediators, it does not formally test their statistical significance. Therefore, I conducted mediation analysis to determine whether the indirect effects were statistically significant, rather than inferring them from individual path coefficients. This approach allowed me to more accurately evaluate whether the mediators explained the relationship between the independent and dependent variables, using bootstrapping (5,000 resamples) to generate bias-corrected confidence intervals for the indirect effects.

Figure 5

The preliminary model of the relationship between the analyzed variables.



Note. SCSself - self-subscale from SCS-SF, MAAS - Mindful Awareness and Attention Scale, SEQ - seqriences questionnaire, Nonnaccept - Nonacceptance of Emotional Responses, Goals - Difficulties Engaging in Goal-Directed Behavior, Impulse - Impulse Control Difficulties, Awareness - Lack of emotional awareness, Strategies - Limited Access to Emotion Regulation Strategies, Clarity - Lack of emotional clarity, BPDCL - Borderline Personality Disorder Checklist; res1, res 2 … symbolize residual terms.

Statistical Power. Determining an appropriate sample size for path analysis remains a subject of debate among researchers. A widely cited guideline suggests a minimum of 5 to 10 observations per freely estimated parameter (Bentler & Chou, 1987; Schreiber et al., 2006). However, Jackson (2003) recommends a more conservative ratio of 20:1. Similarly, Kline (2016) emphasizes that a sample size of at least 200 is generally advisable, particularly for models of moderate complexity. In light of these recommendations, and given that there are 48 freely estimated parameters, the current sample size of 338 may be considered adequate for path analysis.

Results

Descriptive and Correlation Analysis

Participants mean BPD symptoms level was 95.79 (SD=33.65). BPDCL scores above 100, indicating clinically significant levels of BPD symptoms (Bloo et al., 2017), were found in 38.46% of participants. These results suggest that my sample consisted of people with both high and low BPD symptoms endorsement.

Table 4 presents the correlation matrix among all study variables. Several significant associations were observed. All correlations reported in the table were computed with False Discovery Rate (FDR) correction applied using the Benjamini-Hochberg procedure to control for multiple comparisons. Higher levels of BPDCL were significantly associated with lower levels of SCSself ($r = –.48$, $p < .01$), MAAS ($r = –.61$, $p < .01$), and SEQ ($r = –.59$, $p < .01$). Higher levels of SCSself were significantly associated with higher levels of MAAS ($r = .37$, $p < .01$) and SEQ (Self-as-Context) ($r = .60$, $p < .01$). Additionally, higher levels of MAAS were significantly associated with higher levels of SEQ ($r = .57$, $p < .01$). All facets of difficulties in emotion regulation were negatively correlated with the three contextual behavioral self variables and

positively correlated with BPDCL. These patterns informed the hypothesized path model tested below.

Table 4

Descriptive Statistics and Correlation Matrix (based on FDR-adjusted p-values)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1.BPDCL	95.79	33.92	-											
2.SCSself	5.69	2.12	-.48**	-										
3.MAAS	58.51	11.73	-.61**	.37**	-									
4.SEQ	51.28	16.67	-.59**	.60**	.57**	-								
5.Nonaccept	16.99	6.72	.75**	-.44**	-.53**	-.51**	-							
6.Goals	15.54	6.15	.63**	-.39**	-.49**	-.52**	.54**	-						
7.Impulse	16.47	5.84	.64**	-.43**	-.51**	-.60**	.54**	.57**	-					
8.Awareness	14.14	5.15	.50**	-.41**	-.53**	-.57**	.47**	.50**	.52**	-				
9.Strategies	18.03	8.56	.69**	-.48**	-.54**	-.62**	.49**	.52**	.50**	.35**	-			
10.Clarity	18.47	7.52	.29**	-.36**	-.27**	-.40**	.41**	.45**	.49**	.49**	-0.05	-		
11.Age	27.43	7.89	-.20**	.11*	.17**	.13*	-.21**	-.16**	-.12*	-.11*	-0.08	-.14**	-	
12.Gender	-	-	-.18**	.11*	0.05	.31**	-0.08	-.17**	-.26**	-.17**	-.19**	-.13*	-0.03	-

Note. SCSself - self-subscale from SCS-SF, MAAS - Mindful Awareness and Attention Scale, SEQ – Self experiences questionnaire, Nonnaccept - Nonacceptance of Emotional Responses, Goals - Difficulties Engaging in Goal-Directed Behavior, Impulse - Impulse Control Difficulties, Awareness - Lack of emotional awareness, Strategies - Limited Access to Emotion Regulation Strategies, Clarity - Lack of emotional clarity, BPDCL - Borderline Personality Disorder Checklist;

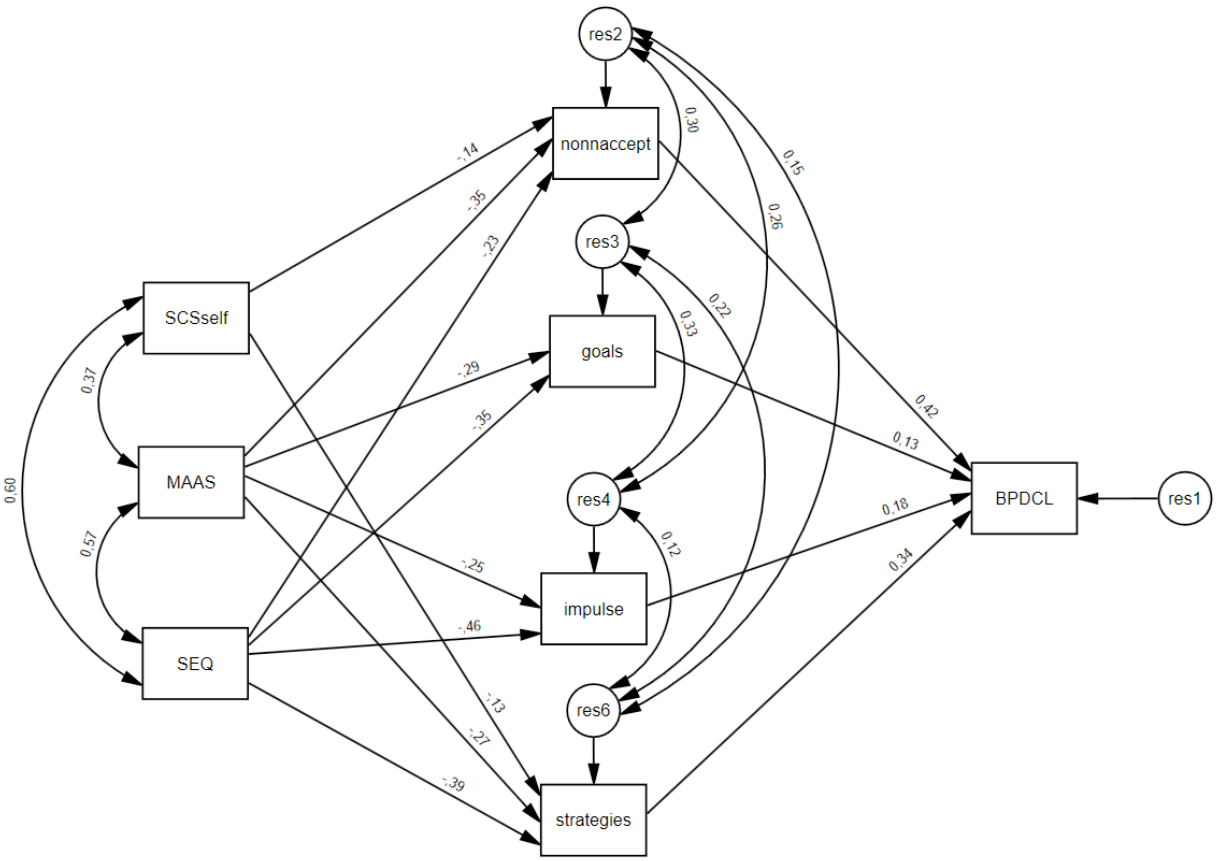
* $p < .05$, ** $p < .01$

Path Analysis

To assess the adequacy of the proposed model, I examined several fit indices. The initial model demonstrated poor fit to the data, $\chi^2(37) = 426.770$, p =.000, CFI=.80, TLI= .64, RMSEA = .18, 90% CI [.169, .200], SRMR =.12. To improve the analyzed model firstly I removed non-statistical paths and secondly, I added paths that improved the model fit on the basis of modification indices, which resulted in an improved final model fit: $\chi^2(5)=13.514$, p=.019, CFI=.99, TLI=.97, RMSEA=.07, 90% CI [.026, .118], SRMR=.02. The final model is depicted in Fig. 5. Table 5 depicts standardized regression coefficients and correlation coefficients acquired in the final path model.

Figure 5

The final model of the relationship between the analyzed variables.



Note. SCSself - self-subscale from SCS-SF, MAAS - Mindful Awareness and Attention Scale, SEQ – Self experiences questionnaire, Nonnaccept - Nonacceptance of Emotional Responses, Goals - Difficulties Engaging in Goal-Directed Behavior, Impulse - Impulse Control Difficulties, Strategies - Limited Access to Emotion Regulation Strategies, BPDCL - Borderline Personality Disorder Checklist; res1, res 2 … symbolize residual terms.

Table 5

Standardized regression coefficients and correlation coefficients acquired in the final path model

Relationship	beta	p
SCSself → Nonacceptance	-0.143	0.005
SCSself → Strategies	-0.129	0.009
MAAS → Nonacceptance	-0.349	***
MAAS → Goals	-0.29	***
MAAS → Impulse Control	-0.246	***
MAAS → Strategies	-0.268	***
SEQ → Nonacceptance	-0.227	***
SEQ → Goals	-0.352	***
SEQ → Impulse Control	-0.46	***
SEQ → Strategies	-0.392	***
Nonacceptance → BPDCL	0.417	***
Goals → BPDCL	0.13	***
Impulse Control → BPDCL	0.175	***
Strategies → BPDCL	0.337	***
	r	p
SCSself ↔ MAAS	0.365	***
MAAS ↔ SEQ	0.571	***
SCSself ↔ SEQ	0.601	***
res3 ↔ res2	0.297	***

res3 ↔ res4	0.335	***
res2 ↔ res4	0.264	***
res6 ↔ res2	0.151	0.006
res6 ↔ res4	0.123	0.025
res3 ↔ res6	0.225	***

Note. SCSself - self-subscale from SCS-SF; MAAS - Mindful Awareness and Attention Scale; SEQ – Self experiences questionnaire; BPDCL - Borderline Personality Disorder Checklist; Nonacceptance - Nonacceptance of Emotional Responses; Goals - Difficulties Engaging in Goal-Directed Behavior; Impulse Control - Impulse Control Difficulties; Strategies - Limited Access to Emotion Regulation Strategies; res1, res 2 … symbolize residual terms.

*** p<.001

Mediation Analysis

Results of mediation test based on the bootstrap method are depicted in Table 6.

Indirect Effects via Nonacceptance of Emotional Responses. SCSself was found to exert a strong negative indirect effect on BPDCL through Nonacceptance of Emotional Responses (Beta= -.95, 95% CI [-1.73, -0.24], p=.008). Similarly, MAAS (Beta=-.42, 95% CI [-0.61, -0.26], p=.003) and SEQ (Beta=-.19, 95% CI [-0.30, -0.10], p=.001) also showed moderate negative indirect effects through Nonacceptance of Emotional Responses.

Indirect Effects via Difficulties engaging in goal-directed behavior. Both MAAS and SEQ demonstrated significant indirect effects on BPDCL via Difficulties engaging in goal-directed behavior. MAAS showed a moderate negative indirect effect (Beta= -.11, 95% CI [-

0.21, -0.05], p=.001), while SEQ had a similarly moderate effect (Beta=-.09, 95% CI [-0.16, -0.05], p=.001).

Indirect Effects via Impulse Control Difficulties. MAAS and SEQ also had indirect effects on BPDCL through Impulse Control Difficulties. Specifically, MAAS showed a small negative indirect effect (Beta= -.12, 95% CI [-0.23, -0.06], p =.001), and SEQ demonstrated a moderate negative indirect effect (indirect effect = -.16, 95% CI [-0.25, -0.09], p=.001).

Indirect Effects via Limited access to emotion regulation strategies. Finally, SCSself exhibited a strong negative indirect effect on BPDCL through Limited access to emotion regulation strategies (Beta=-.69, 95% CI [-0.35, -0.16], p=.008). Both MAAS (indirect effect = -.26, 95% CI [-.40, -.14], p = 0.002) and SEQ (indirect effect = -.27, 95% CI [-.37, -.18], p=.002) also demonstrated moderate indirect effects through Limited access to emotion regulation strategies.

Table 6

Summary of Mediated Paths with Bootstrap Confidence Intervals

Indirect Effect	Estimate	Lower CI	Upper CI	p-value
SCSself → Nonacceptance → BPDCL	-0.95	-1.73	-0.24	0.008
MAAS → Nonacceptance → BPDCL	-0.42	-0.61	-0.26	0.003
SEQ → Nonacceptance → BPDCL	-0.19	-0.3	-0.1	0.001
MAAS → Goals→ BPDCL	-0.11	-0.21	-0.05	0.001
SEQ → Goals→ BPDCL	-0.09	-0.16	-0.05	0.001
MAAS → Impulse Control → BPDCL	-0.12	-0.23	-0.06	0.001
SEQ → Impulse Control → BPDCL	-0.16	-0.25	-0.09	0.001
SCSself → Strategies → BPDCL	-0.69	-1.35	-0.16	0.008
MAAS → Strategies → BPDCL	-0.26	-0.4	-0.14	0.002
SEQ → Strategies → BPDCL	-0.27	-0.37	-0.18	0.002

Note. SCSself - self-subscale from SCS-SF; MAAS - Mindful Awareness and Attention Scale; SEQ – Self experiences questionnaire; BPDCL - Borderline Personality Disorder Checklist; Nonacceptance - Nonacceptance of Emotional Responses; Goals - Difficulties Engaging in Goal-Directed Behavior; Impulse Control - Impulse Control Difficulties; Strategies - Limited Access to Emotion Regulation Strategies

Discussion

Self-dysregulation is a central feature of BPD (Kaufman & Crowell, 2018), yet this topic is still understudied. To the best of my knowledge, the present study was the first to examine the relationship between BPD symptoms and three components of a contextual-behavioral model of

self. I followed the rationale first reported in Moran et al. (2018), using three subscales of SCS-SF as a proxy measure for Self-as-Content flexibility and MAAS as a proxy measure for Self-as-Process, together with SEQ to measure Self-as-Context. Consistent with H1, the findings of this study suggest that higher levels of Self-as-Content Flexibility, Self-as-Process, and Self-as-Context predict lower severity of BPD symptoms, supporting the relevance of these constructs for understanding BPD.

Additionally, the mediation analysis revealed several significant indirect pathways through which these components of the contextual-behavioural model of self impact BPD symptoms. Specifically, the Self-as-Content flexibility (SCSself), Self-as-Process (MAAS), and Self-as-Context (SEQ) were found to have significant indirect effects on BPD symptoms (BPDCL) through various facets of emotion regulation difficulties, including Nonacceptance of Emotional Responses, Difficulties in goal-directed behavior, Impulse Control Difficulties, and Lack of use of context-sensitive emotion regulation strategies. These findings partially support H2, indicating that certain emotion regulation difficulties mediate the relationship between self-related processes and BPD symptoms.

The fact that Self-as-Process was a significant negative predictor of BPD symptoms is in line with studies showing that difficulties in monitoring one's moment-to-moment experience contribute to clinical presentation in this population (Wupperman et al., 2009; Wupperman et al., 2013). At the same time, this skill seems to be a key target and mechanism of change in interventions for BPD (Bliss & McCardle, 2014) and interventions targeting solely this skill are effective in improving the symptoms (Feliu-Soler et al., 2014; Schmidt et al., 2024; Stepp et al., 2008).

The effect of Self-as-Process on BPD symptoms was mediated by four domains of emotion regulation difficulties: nonacceptance of emotions (moderate magnitude), impulse control difficulties (moderate magnitude), and lack of use of context-sensitive emotion regulation strategies (moderate magnitude), difficulties in goal-directed behavior (small magnitude), but not by awareness of emotions and emotional clarity. It may suggest that, even though Self-as-Process per se entails mindful observation of ongoing emotional experience, in case of BPD, the act of observation enables one to contact the distressing emotions more fully, while staying flexible and intentional with one's actions. It is consistent with contextual-behavioral understanding on mental health in general. According to this perspective, the main measure of mental health is the ability to flexibly respond to one's environment in a way that aligns with personal values and long-term goals, rather than being rigidly controlled by immediate emotional experiences or maladaptive thought patterns (Hayes, Strosahl, & Wilson, 2012). Based on my findings, it seems that Self-as-Process contributes to lower BPD symptoms level by promoting more emotional acceptance, better impulse control, use of more context-sensitive emotion regulation strategies and goal-oriented actions.

My findings related to Self-as-Content flexibility align with previous research suggesting that individuals with high BPD symptoms tend to fuse with negative self-judgments in general (Giesen-Bloo & Arntz, 2005; Vater et al., 2015), as well as specifically in interpersonal situations (Schie et al., 2024). Moreover, a qualitative study by Jørgensen and Bøye (2022) suggests that BPD clients' experience of themselves and their overt behavior is highly contingent on their current emotional state, further indicating fusion with emotions. The effect of Self-as-Content flexibility on BPD symptoms was mediated by two domains of emotion regulation difficulties: nonacceptance of emotions (high magnitude) and difficulties in goal-directed behavior (high

magnitude). Individuals who can view self-judgments as transient mental events rather than absolute truths may find it easier to regulate their emotions, ultimately leading to a reduction in BPD symptoms. This finding aligns with the broader contextual-behavioral perspective, which posits that psychological distress arises not merely from negative thoughts or emotions but from rigid attachment to them (Hayes et al., 2006). These results suggest that being able to view judgments about the self as a byproduct of the mind rather than as literal truths may help individuals experience difficult emotions as less threatening while also enhancing persistence in goal-directed behaviors despite emotional distress.

The fact that Self-as-Context was a significant negative predictor in my model suggests that BPD symptoms may be related to an underdeveloped Self-as-Context. This result aligns with the predictions made by Bailey et al. (2009) and Morton & Shaw (2012). It is also consistent with the study by Jørgensen & Bøye (2022), in which "lacking an inner core" emerged as one of the main themes in participants' experiences. From a contextual-behavioral perspective, having an "inner core" is not necessarily a sign of good mental health. However, Self-as-Context involves the ability to access an overarching perspective from which all experiences, including fluctuating and unstable self-perceptions, can be safely observed.

The effect of Self-as-Context on BPD symptoms was mediated by four domains of emotion regulation difficulties: nonacceptance of emotions (moderate magnitude), impulse control difficulties (moderate magnitude), lack of use of context-sensitive emotion regulation strategies (moderate magnitude), and difficulties in goal-directed behavior (small magnitude). These findings suggest that a well-developed Self-as-Context, characterized by the ability to observe one's experiences without becoming entangled in them, may play an important role in reducing emotion regulation difficulties, which in turn leads to lower BPD symptoms.

Specifically, individuals with a stronger Self-as-Context may find it easier to defuse from distressing emotions and view them as temporary experiences rather than defining aspects of the self. This detachment may facilitate greater acceptance of emotions, reducing the tendency to react impulsively or suppress emotional experiences, both of which are common difficulties in BPD (Gratz et al., 2006). Additionally, a well-developed Self-as-Context may enhance the ability to select and apply adaptive emotion regulation strategies that are responsive to situational demands rather than relying on rigid or ineffective coping mechanisms (context insensitivity, Kashdan et al., 2006). Moreover, by fostering a sense of separation between the observer and the observed experience, Self-as-Context may support persistence in goal-directed behavior in presence of emotional distress. My results align with the findings of Godbee & Kangas (2022), whose analogue study demonstrated that Self-as-Context can enhance the regulation of negative affect.

In the end, some limitations and strengths of the study should be mentioned. The main limitation of my study is its cross-sectional nature, which does not allow me to assume causality. Another limitation is reliance on proxy measures of Self-as-Content flexibility and Self-as-Process. It is worth mentioning that my study was exploratory in nature, as there was no previous attempt to examine the relationship between a contextual-behavioral model of self and BPD symptoms. A similar method was previously used by Moran et al. (2018) as the first step in the line of research on healthy self in adolescents. The strength of my research was that I could reach people with different levels of functioning, which increased the ecological validity of my study. According to contextual-behavioral science, the processes contributing to psychological suffering can be observed in everyone, regardless of their level of functioning. Therefore, this

study can inform not only contextual-behavioral interventions for people with BPD, but also for people who struggle with self-dysregulation, but not necessarily meet all of the criteria for BPD.

In conclusion, my study suggests that the contextual-behavioral model of self offers a robust and meaningful framework for understanding and predicting BPD symptoms. Additionally, it provides valuable insights into the relationship between self-related repertoires and the facets of emotion dysregulation commonly observed in individuals with BPD. Notably, the findings highlight the significant role of Self-as-Context—the most under-researched component of the contextual-behavioral model—in predicting BPD symptoms.

Building on these findings, it is important to acknowledge that different behavioral processes may contribute to distinct BPD symptom topographies. Therefore, investigating self-related behavioral repertoires separately—particularly in relation to specific symptoms such as identity disturbance or chronic feelings of emptiness—may significantly advance our understanding of the mechanisms underlying BPD and inform the development of more targeted and effective interventions.

Chapter 3: Study 2

Introduction

Contextual-behavioral Account of Self - Two Levels of Analysis

Contextual-behavioral science emerged as a conscious effort to create a coherent set of philosophical assumptions, scientific principles and research strategies. One of its explicit goals was to resolve a tension between basic and applied areas of scientific inquiry - the fact that only too often basic science findings are difficult to translate into effective interventions, and real-life interventions are not fully embedded in science-based understanding of human functioning. It can be seen in the field of research on self-dysregulation in BPD. For example, even though some investigators reported self-dysregulation amelioration after psychotherapeutic interventions (e.g. Black et al., 2018; Giesen-Bloo et al., 2006; Roepke et al., 2011; Yen et al., 2009), neither of them provided an explanation of the improvement using basic scientific findings.

In order to close the gap between basic and applied science, CBS introduced the so-called middle-level terms (MLTs). Barnes-Holmes et al. (2015) define the MLTs as "*a theoretically-specific, non-technical term that has not been generated within basic scientific research. (...) describing something as a middle-level term is a way of placing it on a continuum between the analytic units of the basic science (of psychology) and folk psychological terms (e.g., emotion, memory, stress, etc.) within a given domain*." (pp. 4-5). In other words, middle-level terms can be seen as simplifying "shortcuts", linking basic behavioral principles to complex psychotherapeutic interventions. The three selves described in previous chapters (Self-as-Content, Self-as-Process, Self-as-Context) as well as emotion regulation are middle level terms (table 7). However, middle level terms have been criticised inside the CBS community (Barnes-Holmes et al., 2015; Assaz et al., 2022). Criticism consists of pointing out that the relationship

between MLTs and basic science is not clear and that middle level terms can actually hinder the development of functional-contextual accounts of mental health. At the same time, from the very beginning CBS supported multi-level investigation of phenomena of interest - addressing not only middle-level but also basic behavioral terms. In the case of contextual-behavioral account of self, focus on behavioral terms mean directly focusing on the role of relational responding in self-related problems.

Table 7

Continuum of Self-Related Constructs in Contextual-Behavioral Science

Level of specificity	**Constructs**
Non-theory specific terms	E.g. self-esteem, self-image, identity etc.
Middle level terms	Self-as-Context Self-as-Process Self-as-Context
Basic behavioral terms embedded in relational frame theory	Deictic relational responding Hierarchical relational responding Distinctive relational responding

Healthy Self as Seen Through Relational Responding Lens

According to relational frame theory, basic sense of self requires the development of deictic relational responding (DRR). DRR is defined as responding to stimuli using a specific interpersonal (I vs. YOU), temporal (NOW vs. THEN) and spatial (HERE vs. THERE)

perspective. Only when a person can respond to their own experiences from a perspective of I-HERE-NOW and differentiate these experiences from experiences happening to other people (e.g. YOU-THERE-THEN), can a self develop. Research suggests that deictic relational responding skills develop from early childhood to adulthood (McHugh et al., 2004) and that these skills underlie complex sociocognitive abilities such as theory of mind and perspective taking (Montoya-Rodríguez et al., 2017). According to Stapleton & McHugh (2021), there are several environmental features that stimulate deictic relational responding acquisition - frequent warm interactions focusing on the content of child's internal experiences as well as internal experience of others, and providing many examples of deictic frames (e.g. "Look, sweetie, you were energetic THEN, but NOW you are tired", "I am wearing a blue t-shirt, but YOU are wearing a yellow one").

Even though deictic relational responding skills are an important building block for a healthy self, these skills can set the stage for another set of problems with mental health. Specifically, once a sense of self is established, we start to treat our "self" as a thing (reification) that could be threatened by our aversive experiences, e.g. thoughts, feelings, body sensations, urges etc. E.g. we treat our thoughts as signifying deep truth about ourselves (e.g. "I am lazy", "I am unlovable", "I am weak"), experience our anxiety or sadness as all-encompassing or experience our urge to engage in problematic behavior as having control over us - in other words, we use a frame of coordination. Contextual-behavioral science suggests that the key to mental health is not about changing the content of our experience (e.g. replacing the thought "I am weak" with a thought "I am strong"), but rather changing the relationship we have with our experience. According to Relational Frame Theory, this shift can be obtained through changing the way we relationally respond to our experiences: shifting from using a frame of coordination

(I equals weak) to using a frame of distinction (I is distinct from the thought “I am weak”) or hierarchy (I contains the thought “I am weak”). Both types of responding - distinctive and hierarchical - have important, yet slightly different relationships with mental health outcomes. In the studies done by numerous authors (Foody et al., 2013; Foody et al., 2015; Gil-Luciano et al., 2017; Lopez-Lopez & Luciano, 2017; Luciano et al., 2011, Moran & McHugh, 2019) responding to self hierarchically was related to better outcomes than responding to self distinctively. However, in investigations authored by Yu et al. (2017b; 2021), responding to self distinctively was related to better outcomes than responding to self hierarchically.

None of the studies described in the two paragraphs above, however, were done in the context of self-dysregulation or borderline personality disorder. We know from numerous other studies that there is a strong correlation between early childhood adversity and BPD symptoms in adulthood. Specifically, adult BPD patients report childhood adversity almost 14 times more often than non-psychiatric controls and 3 times more often than other psychiatric groups (Porter et al., 2020). Among the types of childhood adversity experienced by people with BPD diagnosis, emotional abuse and neglect seem to be the most widespread (Hernandez et al., 2012; Scheffers et al., 2019). Since emotional abuse and neglect creates an environment that is the opposite of what Stapleton & McHugh (2021) name as required for sufficient deictic relational responding training, we may assume that people with BPD would have their deictic relational responding capacities diminished. However, the only existing study on deictic relational responding in BPD (Walton et al., 2024) suggests that individuals with BPD are as fluent in deictic relational responding as people without BPD.

Similarly, to my best knowledge, no research has been published pertaining hierarchical and distinctive self-responding skills in BPD clients. However, there are some assumptions that

can be made using available data. For example, compared to healthy controls and psychiatric controls, people with BPD agree more frequently with statements such as “I experience my emotions as overwhelming and out of control”, “When I’m upset, I become out of control”, “When I’m upset, I lose control over my behaviours” (Ibraheim, et al., 2017; Steenkamp et al., 2015), which signals that they respond to their experience using frame of coordination (I equals my difficult experiences) not frames of hierarchy or distinction.

The Present Study

Even though chronic emptiness and identity disturbance were not investigated through the lens of contextual-behavioral science, both the theory and indirect evidence suggest the CBS perspective may shed a new light on these symptoms. Results from my previous study focusing on middle-level terms suggest that Self-as-Context is a significant predictor of overall BPD symptoms above and beyond Self-as-Context flexibility and Self-as-Process. Another step, consistent with Contextual Behavioral Science strategies, is to investigate self-dysregulation in BPD more directly and using basic behavioral terms embedded in relational frame theory. My aim was (1) to examine the relative contribution of two types of self-responding (Self-as-Distinction and Self-as-Hierarchy) to different aspects of self-dysregulation (chronic emptiness and identity disturbance), while controlling for deictic relational responding and (2) to explore whether these associations hold within a clinically diagnosed BPD group as well as in the general sample. Specifically, based on the contextual-behavioral account of self and empirical findings on self-dysregulation in BPD as well as results of my first study, I formulate the following hypotheses:

H1: In the general sample, higher levels of Self-as-Distinction and Self-as-Hierarchy will predict lower severity of chronic emptiness and higher levels of self-concept clarity, even after controlling for deictic relational responding, age, and gender.

H2: In the BPD subgroup, higher levels of Self-as-Distinction and Self-as-Hierarchy will also predict lower severity of chronic emptiness and higher levels of self-concept clarity, even after controlling for deictic relational responding, age, and gender.

Method

Ethics

Ethical approval was granted from the SWPS University Faculty of Psychology in Warsaw Ethics Committee (63/2021/2). Taking into consideration that people with BPD may need additional psychological support when filling measures of a sensitive nature (questions about difficult psychological states and mental health in general), extensive precautions were undertaken. Information about potential impact on mood was included in the informed consent. In case participants needed more intensive psychological support, they were provided with telephone numbers to 2 psychologists trained in crisis intervention (including the author). Additionally, contact details of public crisis intervention services were provided.

Participants and Procedures

In accordance with viewing BPD as a continuum instead of category (Arntz et al., 2009; Rothschild et al., 2003; Zimmermann et al., 2019), I recruited participants both with a BPD diagnosis (BPD group) and without a BPD diagnosis (non-BPD group). Following the suggestions of Trull (1995) and Trull et al. (1997), I chose this approach in order to capture a

broader spectrum of functioning and provide insights into a group that includes a wider range of BPD symptoms. Participants were recruited via mental health- and research-related Facebook groups. Exclusion criteria for both groups included: (1) a lifetime or current diagnosis of bipolar disorder, (2) a lifetime or current diagnosis of a psychotic disorder, (3) schizotypal or schizoaffective personality disorder, and (4) autism spectrum disorder. Inclusion criteria for the BPD group were: (1) having an official BPD diagnosis made by a mental health professional, and (2) a Borderline Symptom List-23 (BSL-23; Kleindienst et al., 2020) score indicating moderate to extremely high BPD symptom endorsement. Inclusion criteria for the non-BPD group were: (1) reporting no mental health diagnoses or significant distress, (2) not using psychiatric services, and (3) a BSL-23 score indicating none to mild BPD symptom endorsement. Participants completed the measures online using Qualtrics (Qualtrics Labs Inc., 2009). After finishing the procedure, participants received reimbursement of 25 PLN (non-BPD group) or 50 PLN (BPD group). The higher reimbursement for the BPD group was based on the assumption that participation in a study concerning self-dysregulation may be more emotionally demanding. Five participants were excluded because their BSL-23 scores indicated that they did not meet the inclusion criteria for either group. The final sample included 94 participants in the BPD group and 77 participants in the non-BPD group (Table 8).

After providing informed consent (see Appendix D), participants completed a demographic questionnaire and measures Self Experiences Questionnaire (SEQ), RFT Perspective-Taking Protocol (RFT PT), Subjective Emptiness Scale (SES) and Self-Concept Clarity Scale (SCCS). The content of these measures is provided in Appendix B.

Table 8

Demographic Characteristics of Participants by Group

	BPD (n=94)		nonBPD (n=77)		Full sample (n=171)	
Age	**M**	**SD**	**M**	**SD**	**M**	**SD**
	29.27	6.75	31.05	8.11	30.07	7.42
Gender	n	**%**	**n**	**%**	**n**	**%**
Men	13	13.8	12	15.6	25	14.6
Women	81	86.2	65	84.4	146	85.4
Education	**n**	**%**	**n**	**%**	**n**	**%**
Higher	30	31.9	41	52.3	71	41.5
Student	37	39.4	25	32.5	62	36.3
Secondary	22	23.4	11	14.3	33	19.3
Primary	5	5.3	0	0	5	2.9

Measures

Predictor Variables.

Self Experiences Questionnaire. Self Experiences Questionnaire (SEQ; Yu et al., 2017b; Polish version: Baran et al., 2019). SEQ is a measure of Self-as-Context consisting of two

subscales: Self-as-Distinction (distinctive relational responding to self) and Self-as-Hierarchy (hierarchical relational responding to self). As this study was concerned only with basic behavioral terms, the subscales were used separately and full score was not calculated.

Self-as-distinction subscale (SEQ_D) consists of 7 items such as "Although I can get caught up with my own thoughts, emotions and sensations, I can also separate myself from them" and "I can experience a distinction between my experiences and the "I" who notices these experiences". Items are rated on a 7-point Likert ranging from 0 (*never true*) to 6 (*always true*). The scores range from 0 to 42, with higher scores indicating more developed Self-as-distinction repertoire. In this study, SEQ_D had high internal consistency (α = .92).

Self-as-hierarchy subscale (SEQ_H) subscale consists of 8 items, such as "My roles change depending on time, place and setting, but the sense of my self who has the roles stays the same" and "The health, appearance, and feelings of my body change, but the sense of my self who is aware of these changes is the same". Items are rated on a 7-point Likert ranging from "Never True" to "Always True". Items are rated on a 7-point Likert ranging from 0 (*never true*) to 6 (*always true*). The scores range from 0 to 48, with higher scores indicating more developed Self-as-observer repertoire. In this study, SEQ_H had high internal consistency (α = .95).

RFT Perspective-Taking Protocol (RFT PT). RFT Perspective-Taking Protocol (RFT-PT; McHugh et al., 2004) was used to assess deictic relational responding. This behavioral measure assesses shifting perspective (deictic relational responding) in three dimensions: spatial (HERE vs. THERE), interpersonal (I vs. YOU), temporal (NOW vs. THEN). The 20-item protocol contains 5 types of items - three types of simple reversal (spatial, interpersonal or temporal) as well as two types of double reversal (interpersonal-spatial, and spatial-temporal). The example of simple temporal reversal is "Yesterday you were watching television, today you

are reading. If NOW was THEN and THEN was NOW: What would you be doing THEN? What would you be doing NOW?" and the example of double interpersonal-spatial reversal is "I am sitting HERE on the blue chair and you are sitting there on the black chair. If I was YOU and YOU were ME and if HERE was THERE and THERE was HERE, Where would I be sitting? Where would you be sitting?". Higher accuracy on trials (as measured by a lower number of errors) indicates higher deictic relational responding ability. This type of deictic relational responding measurement has been used reliably across a range of samples (Montoya-Rodríguez, Molina, & McHugh, 2017). It is worth noting that this measure assesses deictic relational responding functionally rather than topographically; the specific content of the items (e.g., blue chair, black chair) is irrelevant. What matters is the relational frame being targeted (e.g., HERE vs. THERE). Because the measure relies on the function of verbal behavior rather than language-specific content, only minor linguistic adaptation was needed for use in Polish. No additional validation of the measure was required for the present study.

Outcome Variables.

Subjective Emptiness Scale (SES). Subjective Emptiness Scale (Price et al., 2022) is a 5-item self-report questionnaire designed to measure chronic feeling of emptiness, one of the core criteria for Borderline Personality Disorder in the DSM-5. SES items include statements such as "No matter what I do, I still feel unfulfilled" and "I feel absent in my own life". They are rated on a Likert-type scale ranging from 1 (*Not at all true*) to 4 (*Very true*). The result scores range from 5 to 20, with higher scores indicating a more intense feeling of emptiness. Since this scale has not been officially validated in Polish, I conducted a preliminary validation for research purposes. Its details can be found in Appendix E. In this study, SES had high internal consistency ($\alpha = .92$).

Self-concept clarity scale (SCCS). Self-concept clarity scale (Campbell et al., 1996; Polish version: Suszek et al., 2018) is a 12-item self-report measure assessing the extent to which the content of an individual's self-concept is stable over time, internally consistent and clearly defined. SCCS items include statements such as "My beliefs about myself often conflict with one another" (reversed item) and "In general. I have a clear sense of who I am and what I am". Items are rated on a five-point Likert scale: from 1 (*strongly disagree*) to 5 (*strongly agree*). The scores range from 12 to 60, with higher scores indicating higher self-concept clarity. In this study, SCCS had high internal consistency ($\alpha = .93$). In this study, I used SCCS to measure identity disturbance - with lower SCCS scores signifying higher identity disturbance.

Other Variables.

Borderline symptoms list - short version (BSL-23). Borderline symptoms list - short version (Bohus et al., 2009) is a 23-items self-report measure to assess Borderline Personality Disorder symptom severity in the course of last week. BSL-23 includes items such as "My mood rapidly cycled in terms of anxiety, anger, and depression" and "I felt as if I was far away from myself". Items are rated on a five-point Likert scale ranging from 0 (*not at all*) to 4 (*very strong*). The result scores range from 0 to 92, with higher scores indicating a higher BPD symptoms severity. I used a classification of severity levels proposed by Kleindienst et al. (2020) and based on mean scores: none or low: 0–0.28; mild: 0.28–1.07; moderate: 1.07–1.87; high: 1.87–2.67; very high: 2.67–3.47; and extremely high: 3.47–4. In this study, BSL-23 was used exclusively to validate the diagnostic status; its relationship with other variables has not been investigated.

Data Analytic Strategy

In order to examine the relative contribution of two types of Self-as-Context (Self-as-Distinction and Self-as-Hierarchy) to different aspects of self-dysregulation (chronic emptiness and identity disturbance), while controlling for deictic relational responding, age, and gender, I performed a series of regression analyses with deictic relational responding, age, gender, and Self-as-Context repertoire as predictors, and self-dysregulation symptoms as the dependent variable.

First, I conducted a regression analysis on the general group, which included both BPD and control participants. This initial analysis provided an overall view of how the predictors relate to self-dysregulation symptoms across the entire sample, allowing for a broader understanding of the associations that might be present in the general population. Following this, I performed a separate regression analysis specifically for the BPD-only group to investigate whether the same predictors influenced self-dysregulation symptoms in individuals with clinically elevated levels of symptoms. This two-step approach enables a more nuanced understanding: it first examines whether the predictors are generally relevant across both groups, and then delves into whether the relationships hold or differ in a clinical context, where symptom severity might amplify or alter these associations. By analyzing the BPD group separately, I am able to focus on the specific dynamics within this clinical population without the potential confounding effects of the control group.

To account for multiple comparisons across the regression and correlation analyses, I applied the Šidák correction to adjust for dependencies among tests. In this study, a total of 48 tests were performed. These included 30 correlation tests (15 correlations conducted on both the whole group and the BPD subgroup) and 18 regression tests (6 regression models for both the

whole group and the BPD subgroup). Since these tests are based on the same dataset, with the BPD subgroup being a subset of the full group, they are considered dependent.

To calculate the corrected significance threshold, the Šidák method was used, which adjusts the alpha level by taking into account the number of comparisons made. Using an initial significance level of 0.05, the corrected threshold for statistical significance was calculated as $p < 0.0011$. This correction ensures that the risk of committing a Type I error (false positive) is properly controlled, considering the dependencies between the tests.

I did not use The Bonferroni correction in this case because it assumes complete independence between tests, which does not hold in this study due to the overlap in data between the whole group and the BPD subgroup. The Šidák correction, being slightly less conservative than Bonferroni, provides a more appropriate adjustment while still reducing the likelihood of Type I errors. Thus, in this study, I considered results statistically significant if the p-value was less than 0.0011 for all tests.

Statistical Power. Tabachnick and Fidell (2007) suggest that for multiple regression the number of participants included in a sample should be the number of predictors times 8, plus 50. The final sample consisting of 171 participants (including 94 in the BPD group) exceeded this number, allowing me to perform regression analyses both on the whole group and BPD subgroup.

Results

Descriptive Statistics

I entered the data into SPSS (Statistical Package for the Social Sciences) Version 28 and calculated descriptive statistics including means, standard deviations, ranges, skewness and kurtosis (table 9). Skewness for all variables fell within the acceptable range of -1 to +1. While some variables exhibited platykurtic distributions, with kurtosis values slightly below -1 (e.g., BSL-23 = -1.359, SES = -1.348), the large sample size (N = 171) supports the use of parametric tests, as the Central Limit Theorem ensures that the sampling distribution of the mean will approximate normality (Field, 2024).

Table 9

Descriptive Statistics for Study Variables in the Whole Sample

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SEQ_H	171	0	6	2.71	1.48	0.12	0.19	-0.86	0.37
SEQ_D	171	0	5.86	2.96	1.47	-0.11	0.19	-0.82	0.37
PT	171	7	40	25.11	6.94	0.13	0.19	-0.27	0.37
SES	171	1	4	2.27	1.01	0.26	0.19	-1.35	0.37
SCCS	171	1	5	2.59	1.17	0.42	0.19	-1.13	0.37
BSL-23	171	0	92	36.09	27.48	0.23	0.19	-1.36	0.37

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale, BSL-23 - Borderline Symptom List-23

Correlational Analysis

Partial correlations across study variables, controlling for gender and age, are reported in Table 10 (for correlation coefficients without controlling for demographic variables, please consult Appendix F). SEQ_H was positively correlated with SEQ_D (r=.79), and with RFT-PT (r=.27), SCCS (r=.63), and negatively with SES (r=-.60). SEQ_D was positively correlated with RFT-PT (r=.31), SCCS (r = .52), and negatively with SES (r=-.54). RFT-PT was positively correlated with SCCS (r=.28) and negatively with SES (r=−.28). SES was negatively correlated

with SCCS (r=-.78). All correlations were statistically significant at the Šidák-corrected threshold ($p < .0011$).

Partial correlations among study variables in the BPD subgroup, controlling for gender and age, are reported in Table 11 (for correlation coefficients without controlling for demographic variables, please consult Appendix F). SEQ_H was positively correlated with SEQ_D ($r = .56$), and with SCCS ($r = .36$), and negatively correlated with SES ($r = -.49$). SES was also negatively correlated with SCCS ($r = -.43$). Other correlations, including those involving PT, were not statistically significant at the Šidák-corrected threshold ($p < .0011$).

Table 10

Partial Correlations Controlling for Age and Gender in the Whole Sample

Variable	N	1	2	3	4	5
1. SEQ_H	171	—				
2. SEQ_D	171	.79*	—			
3. RFT-PT	171	.27*	.31*	—		
4. SES	171	−.60*	−.54*	−.28*	—	
5. SCCS	171	.63*	.52*	.28*	−.78*	—

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale.

* p<.0011, Šidák-corrected significance threshold for multiple comparisons (adjusted from α= .05).

Table 11

Partial Correlations Controlling for Age and Gender in the BPD Subgroup

Variable	N	1	2	3	4	5
1. SEQ_H	94	—				
2. SEQ_D	94	.56*	—			
3. RFT-PT	94	.09	.19	—		
4. SES	94	−.49*	−.32	−.05	—	
5. SCCS	94	.36*	.15	−.04	−.43*	—

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale.

* p<.0011, Šidák-corrected significance threshold for multiple comparisons (adjusted from α= .05).

Regression Analysis

SES: the Whole Sample. I conducted a hierarchical multiple regression analysis to examine the predictive power of two types of self-responding (Self-as-Distinction and Self-as-Hierarchy) on subjective emptiness in the whole sample (table 12). I entered predictors in three steps based on theoretical and conceptual rationale. Step 1 included demographic variables (gender and age), which were controlled for as potential covariates. In the first model, gender and age were entered as predictors. This model did not significantly predict SES, $F(2, 168) = 0.71$, $p = .492$. Neither gender ($\beta = .001$, $p = .993$) nor age ($\beta = -.09$, $p = .235$) were significant predictors of SES. In the second model, RFT-PT was added to the predictors. This significantly improved the model, $\Delta R^2 = .076$, $\Delta F(1, 167) = 13.86$, $p < .001$, and the overall model became

statistically significant, $F(3, 167) = 5.13$, $p = .002$, $R^2 = .084$, Adjusted $R^2 = .07$. PT significantly predicted SES ($\beta = -.28$, $p < .001$), with higher deictic relational responding associated with lower levels of subjective emptiness. Gender and age remained non-significant. The final model included Self-as-Distinction and Self-as-Hierarchy. This model significantly improved prediction of SES, $\Delta R^2 = .303$, $\Delta F(2, 165) = 40.77$, $p < .001$, and explained a substantial portion of the variance, $R^2 = .387$, Adjusted $R^2 = .369$. The overall model was highly significant, $F(5, 165) = 20.85$, $p < .001$. In this final step, SEQ_H (Self-as-Hierarchy) emerged as the strongest predictor ($\beta = -.48$, $p < .001$), indicating that a greater hierarchical self-view is associated with lower SES. PT ($\beta = -.11$, $p = .095$) and SEQ_D ($\beta = -.12$, $p = .228$) were no longer significant when SEQ_H was included. Gender ($\beta = -.03$, $p = .671$) and Age ($\beta = .02$, $p = .705$) remained non-significant.

Table 12

Hierarchical Regression Predicting SES in the Whole Sample

Step	Predictor	β (Standardized)	B (Unstandardized)	SE	t	p	Adj. R^2	ΔR^2
1	Gender	.001	0.002	0.22	0.01	.993	-0.003	—
	Age	-.09	-0.012	0.01	-1.19	.235		
2	Gender	-.01	-0.044	0.21	-0.21	.836	0.068	.076*
	Age	-.09	-0.013	0.01	-1.26	.209		
	RFT-PT	-.28	-0.040	0.01	-3.72	<.001*		
3	Gender	-.03	-0.074	0.17	-0.42	.671	0.369	.303*
	Age	.02	0.003	0.01	0.38	.705		
	RFT-PT	-.11	-0.016	0.01	-1.68	.095		
	SEQ_D	-.12	-0.086	0.07	-1.21	.228		
	SEQ_H	-.48	-0.329	0.07	-4.71	<.001*		

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale

* $p < .0011$, Šidák-corrected significance threshold for multiple comparisons (adjusted from $\alpha = .05$).

SES: the BPD subgroup. I conducted a hierarchical multiple regression analysis to examine the predictive power of two types of self-responding—Self-as-Distinction and Self-as-

Hierarchy—on subjective emptiness (SES) in individuals with borderline personality disorder (BPD) (table 13). Predictors were entered in three steps based on theoretical and conceptual rationale. Step 1 included demographic variables (gender and age), which were controlled for as potential covariates. This model did not significantly predict SES, $F(2, 91) = 0.705$, $p = .497$. Neither gender ($\beta = -.113$, $p = .284$) nor age ($\beta = .067$, $p = .523$) significantly predicted SES. In the second model, deictic relational responding (RFT-PT) was added. This did not significantly improve model fit, $\Delta R^2 = .002$, F change$(1, 90) = 0.19$, $p = .663$, and the overall model remained non-significant, $F(3, 90) = 0.518$, $p = .671$, $R^2 = .017$, Adjusted $R^2 = -.015$. PT was not a significant predictor of SES ($\beta = -.046$, $p = .663$). Gender and age remained non-significant. The final model included SEQ_D and SEQ_H. This significantly improved prediction of SES, $\Delta R^2 = .233$, F change$(2, 88) = 13.64$, $p < .001$, and explained a substantial portion of the variance ($R^2 = .250$, Adjusted $R^2 = .207$). The overall model was statistically significant, $F(5, 88) = 5.87$, $p < .001$. In this final step, SEQ_H (Self-as-Hierarchy) emerged as the only significant predictor ($\beta = -.449$, $p < .001$). All other predictors, including PT ($\beta = .008$, $p = .933$), SEQ_D ($\beta = -.064$, $p = .575$), gender ($\beta = -.136$, $p = .148$), and age ($\beta = .111$, $p = .240$), were not significant.

Table 13

Hierarchical Regression Predicting SES in the BPD subgroup

Step	Predictor	β (Standardized)	B (Unstandardized)	SE	t	p	Adj. R^2	ΔR^2
1	Gender	−.11	−0.239	0.22	−1.08	.284	−.006	—
	Age	.07	0.007	0.01	0.64	.523		
2	Gender	−.11	−0.239	0.22	−1.07	.286	−.015	.002
	Age	.06	0.007	0.01	0.61	.545		
	PT	−.05	−0.005	0.01	−0.44	.663		
3	Gender	−.14	−0.287	0.20	−1.46	.148	.207	.233*
	Age	.11	0.012	0.01	1.18	.240		
	RFT-PT	.01	0.001	0.01	0.08	.933		
	SEQ_D	−.06	−0.039	0.07	−0.56	.575		
	SEQ_H	−.4	−0.309	0.08	−4.00	<.001*		

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale

* p<.0011, Šidák-corrected significance threshold for multiple comparisons (adjusted from α = .05).

SCCS: the Whole Sample. I conducted a hierarchical multiple regression analysis to examine the predictive power of two types of self-responding—Self-as-Distinction and Self-as-Hierarchy—on self-concept clarity (SCCS) (table 14). Predictors were entered in three steps based on theoretical and conceptual rationale. Step 1 included demographic variables (gender

and age), which were controlled for as potential covariates. This model did not significantly predict SCCS, $F(2, 168) = 4.76$, $p = .010$. Although age was a nominally significant predictor, it did not meet the corrected significance threshold. Neither Age ($\beta = .228$, $p = .003$), nor Gender were significant predictors ($\beta = -.049$, $p = .514$). In the second model, deictic relational responding (RFT-PT) was added. This significantly improved the model, $\Delta R^2 = .072$, F change$(1, 167) = 13.71$, $p < .001$. The overall model was also statistically significant, $F(3, 167) = 7.98$, $p < .001$, $R^2 = .125$, Adjusted $R^2 = .110$. PT significantly predicted SCCS ($\beta = .268$, $p < .001$), with higher deictic relational responding associated with greater self-concept clarity. Age ($\beta = .230$, $p = .002$) did not remain significant after correction, and gender remained non-significant ($\beta = -.034$, $p = .644$). In the final model, SEQ_D and SEQ_H were added. This significantly improved model fit, $\Delta R^2 = .312$, F change$(2, 165) = 45.74$, $p < .001$, and the overall model explained a substantial portion of the variance, $R^2 = .437$, Adjusted $R^2 = .420$, $F(5, 165) = 25.65$, $p < .001$. In this step, SEQ_H (Self-as-Hierarchy) emerged as the strongest and only statistically significant predictor ($\beta = .569$, $p < .001$). This suggests that a greater hierarchical view of the self is strongly associated with higher self-concept clarity. PT ($\beta = .106$, $p = .086$), SEQ_D ($\beta = .031$, $p = .755$), age ($\beta = .109$, $p = .071$), and gender ($\beta = -.020$, $p = .734$) were no longer significant.

Table 14

Hierarchical Regression Predicting SCCS in the whole sample

Step	Predictor	β (Standardized)	B (Unstandardized)	SE	t	p	Adj. R^2	ΔR^2
1	Gender	−.049	−0.162	0.247	−0.655	.514	.042	—
	Age	.228	0.036	0.012	3.036	.003		
2	Gender	−.034	−0.110	0.239	−0.463	.644	.110	.072**
	Age	.230	0.036	0.011	3.172	.002		
	PT	.268	0.045	0.012	3.703	<.001*		
3	Gender	−.020	−0.066	0.193	−0.340	.734	.420	.312**
	Age	.109	0.017	0.009	1.815	.071		
	PT	.106	0.018	0.010	1.725	.086		
	SEQ_D	.031	0.024	0.078	0.312	.755		
	SEQ_H	.569	0.448	0.077	5.791	<.001*		

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale.

* p<.0011, Šidák-corrected significance threshold for multiple comparisons (adjusted from α = .05).

SCCS: the BPD subgroup. I conducted a hierarchical multiple regression analysis to examine the predictive power of two types of self-responding—Self-as-Distinction (SEQ_D) and Self-as-Hierarchy (SEQ_H)—on self-concept clarity (SCCS) in individuals with borderline

personality disorder (BPD) (table 15). Predictors were entered in three steps based on theoretical and conceptual rationale. Step 1 included demographic variables (gender and age), which were controlled for as potential covariates. This model did not significantly predict SCCS, $F(2, 91) = 2.11$, $p = .128$. Neither gender ($\beta = .033$, $p = .754$) nor age ($\beta = .203$, $p = .053$) were significant predictors. In the second model, deictic relational responding (RFT-PT) was added. This did not significantly improve the model, $\Delta R^2 = .001$, F change$(1, 90) = 0.13$, $p = .722$, and the overall model remained non-significant, $F(3, 90) = 1.43$, $p = .238$. PT was not a significant predictor ($\beta = –.037$, $p = .722$), nor were gender ($\beta = .033$, $p = .755$) or age ($\beta = .201$, $p = .057$). In the final model, SEQ_D and SEQ_H were added. This step improved model fit, $\Delta R^2 = .131$, F change$(2, 88) = 6.98$, $p = .002$. The full model was significant, $F(5, 88) = 3.77$, $p = .004$. After applying a Šidák correction for multiple comparisons across predictors (adjusted $\alpha = .0011$), only SEQ_H emerged as a significant individual predictor ($\beta = .40$, $p < .001$). Gender ($\beta = .05$, $p = .598$), age ($\beta = .16$, $p = .113$), PT ($\beta = –.06$, $p = .530$), and SEQ_D ($\beta = –.06$, $p = .600$) were not significant.

The summary of main findings is provided in Table 16.

Table 15

Hierarchical Regression Predicting SCCS in the BPD subgroup

Step	Predictor	β	B	SE	t	p	Adj. R^2	ΔR^2
1	Gender	.033	.049	.157	0.314	.754	.023	.044
	Age	.203	.016	.008	1.964	.053		
2	Gender	.033	.049	.157	0.314	.755	.014	.001
	Age	.201	.016	.008	1.925	.057		
	PT	-.037	-.003	.008	-0.356	.722		
3	Gender	.052	.078	.148	0.529	.598	.129	.131
	Age	.158	.012	.008	1.601	.113		
	PT	-.062	-.005	.008	-0.631	.530		
	SEQ_D	-.062	-.027	.052	-0.526	.600		
	SEQ_H	.396	.196	.058	3.366	.001*		

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale.

* $p<.0011$, Šidák-corrected significance threshold for multiple comparisons (adjusted from $\alpha = .05$).

Table 16

Summary of Main Findings: Associations Between Self-Responding and Target Variables

Predictor	Outcome	Whole Sample	BPD Subgroup
Self-as-Hierarchy (SEQ_H)	Chronic Emptiness (SES)	negative correlation (r = –.60); significant predictor (β = –.48)	negative correlation (r = –.49); significant predictor (β = –.45)
	Self-Concept Clarity (SCCS)	positive correlation (r = .63); significant predictor (β = .57)	positive correlation (r = .36); significant predictor (β = .40)
Self-as-Distinction (SEQ_D)	Chronic Emptiness (SES)	negative correlation (r = –.54); not a significant predictor (β = –.12)	no significant correlation or prediction
	Self-Concept Clarity (SCCS)	positive correlation (r = .52); not a significant predictor (β = .03)	no significant correlation or prediction
Deictic relational responding (RFT-PT)	Chronic Emptiness (SES)	negative correlation (r = –.28); significant predictor in Step 2 (β = –.28), but not in final model	no significant correlation or prediction

	Self-Concept Clarity (SCCS)	positive correlation (r = .28); significant predictor in Step 2 (β = .27), but not in final model	no significant correlation or prediction
	Self-as-Hierarchy (SEQ_H)	positive correlation (r = .27)	not significant at corrected threshold
	Self-as-Distinction (SEQ_D)	positive correlation (r = .31)	not significant at corrected threshold

Discussion

The present study aimed to investigate a Relational Frame Theory-informed conceptualization of self-dysregulation in Borderline Personality Disorder. I specifically focused on the relationships between Self-as-Hierarchy, Self-as-Distinction, chronic emptiness, and identity disturbance, while also considering the role of deictic relational responding and controlling for demographic variables (age and gender). In line with modern dimensional approaches to personality disorders (Cierpiałkowska, & Soroko, 2014; Zimmermann et al., 2019), I conducted analyses on participants across the full spectrum of functioning. I also repeated all analyses in a subgroup of participants with a formal BPD diagnosis.

Correlation analyses showed that, in the whole sample, deictic relational responding was weakly positively associated with both Self-as-Hierarchy and Self-as-Distinction, as well as with self-concept clarity. It was also weakly negatively associated with chronic emptiness. In regression analyses (step 2), deictic relational responding significantly predicted lower levels of

chronic emptiness and higher levels of self-concept clarity. However, these effects were not significant within the BPD subgroup.

The results from the full sample align with the contextual-behavioral account of the self (Hayes et al., 2001), as well as specific predictions regarding deficits in deictic relational responding as constitutive of self-dysregulation (Bailey et al., 2009; Morton & Shaw, 2012). According to Relational Frame Theory, the ability to respond to self hierarchically (Self-as-Hierarchy) or distinctively (Self-as-Distinction) depends on more foundational deictic relational responding—using I–YOU, HERE–THERE, and NOW–THEN frames, as reflected in correlation findings. My results also reinforce RFT's notion that self-dysregulation is related to deictic relational responding under-rehearsal. Specifically, difficulties in distinguishing between I-YOU, HERE-THERE, NOW-THEN perspectives may impair one's ability to create a sense of self (I-HERE-NOW and I-THERE-THEN) that is consistent and stable over time. Similarly, deictic relational responding difficulties may impair one's ability to recognize and name one's own mental states, leaving individuals feeling "hollow" or "incomplete" (Kohlenberg et al., 2009).

The fact that, in the BPD subgroup, there were no significant relationships between deictic relational responding (DRR) and either self-dysregulation symptoms or Self-as-Hierarchy and Self-as-Distinction can be interpreted in at least two ways. First, it is possible that for individuals experiencing clinical levels of psychological suffering, perspective-taking abilities may simply not play a central role in self-related difficulties. However, correlation analyses in the non-BPD subgroup (see Appendix F) also revealed no significant associations with DRR. This pattern suggests that the absence of effects in the subgroups is likely not driven by diagnostic differences but rather by reduced statistical power. The relationship between deictic

relational responding and other constructs may be genuine but subtle, becoming statistically detectable only when examined in the larger, combined sample.

Additionally, in both the whole sample and BPD subsample, regression analyses demonstrated that Self-as-Hierarchy (hierarchical relational responding to self) emerged as a significant predictor of both self-dysregulation aspects, rendering other predictors (deictic relational responding, Self-as-Distinction, age, gender) insignificant, which is partial. These findings are partially consistent with H1 and H2 and warrant further elaboration, as they represent the central focus of this study.

Firstly, the fact that Self-as-Hierarchy was a stronger predictor of both self-dysregulation symptoms than Self-as-Distinction corresponds with some previous research on the effects of different ways of responding to self (distinctive vs. hierarchical). In investigations authored by Yu et al. (2017b; 2021), Self-as-Distinction had higher correlation with depression, yet Self-as-Hierarchy was more strongly linked to social functioning. On the other hand, studies by numerous authors (Foody et al., 2013; Foody et al., 2015; Gil-Luciano et al., 2017; Lopez-Lopez & Luciano, 2017; Luciano et al., 2011, Moran & McHugh, 2019; Carvalho et al., 2021) suggest that hierarchical self-responding may yield better outcomes than distincive self-responding. This variability in findings is not surprising and can be partially attributed to differences across studies, including diverse participant samples (e.g., general population, university students, chronic pain patients), varying study designs (experimental vs. correlational), and different outcome measures. Additionally, it reflects the broader reality that distinct psychological processes may underlie and maintain different symptoms depending on the context. At the same time, in the case of people with BPD, hierarchical self-responding may facilitate a way of relating with their experiences that is more safe and accepting (I can embrace all of my painful

experiences and there's more to me than them) than distinctive self-responding (I am not my experiences). This interpretation would be consistent with contextual-behavioral accounts of emotion regulation (Ciarrochi et al., 2022; Gratz, & Roemer, 2004) as well as with modern behavioral approaches to BPD treatment, mainly Dialectical Behavior Therapy (Linehan, 1993) that emphasise the importance of acceptance. It is also consistent with results of the study 1 in this dissertation, in which the relationship between Self-as-Context and BPD symptoms was mediated by nonacceptance of emotional experience.

Secondly, the fact that deictic relational responding abilities became insignificant predictor when adding Self-as-Hierarchy to the regression model points to relative strength of association between different relational frames contributing to healthy self and self-dysregulation symptoms. This result may mean that even though distinguishing between interpersonal, spatial and temporal characteristics of self-relevant stimuli is an important part of healthy self-functioning (e.g. De Meulemeester et al., 2021), ability to notice these experiences from a wider, all-encompassing perspective may be even more central to alleviating self-dysregulation. This interpretation aligns with findings by Walton et al. (2024), who reported no significant differences between individuals with and without BPD in deictic relational responding abilities.

Finally, some limitations and strengths of the study warrant comment. One of the main limitations is the cross-sectional design, which prevents the establishment of causal relationships between contextual–behavioral factors and BPD symptoms. Nonetheless, examining baseline variables without experimental manipulation remains valuable—particularly given the absence of prior research on the contextual–behavioral model of self in BPD. Another limitation concerns the gender composition of the sample, which consisted predominantly of women. This raises questions about the generalizability of the findings to men with BPD. However, this imbalance

arguably reflects the clinical reality: women are more frequently diagnosed with BPD and referred for treatment, while men with similar difficulties are often assigned alternative diagnoses or follow different treatment pathways (e.g., Sansone & Sansone, 2011).

On the other hand, the study offers several notable strengths. It explores an extremely under-researched area and employs novel research methods. To the best of my knowledge, this is the first study in Poland to apply the Relational Frame Theory–Perspective-Taking (RFT-PT) protocol to investigate deictic relational responding in adults. While Pomorska et al. (2021) previously used this protocol in research with children, no prior studies have examined its application in adult clinical populations, particularly individuals diagnosed with BPD. This methodological innovation enables a developmentally and clinically relevant extension of earlier work. Furthermore, due to the structure of the sample and design, the study contributes to both biomedically derived categorical models of mental health and more contemporary transdiagnostic, dimensional approaches. This theoretical flexibility increases the relevance of the findings across different conceptual frameworks. A synthesis of these contributions within modern perspectives on psychopathology will be presented in the following chapter.

Chapter 4: General Discussion

There is nothing so practical as a good theory.

— Lewin, 1951, p. 169

The self was never meant to be a solid object like a stone, a horse or a weed, nor even a concept to be considered as semantically tantamount to changes in blood flow or test scores.

— Berrios & Markova, 2003, p. 10

According to philosopher Roy Bhaskar (2010), the role of philosophy of science is to "underlabour" social sciences - to ask questions about the most basic and overlooked aspects of knowledge production and providing tools for scientists to make their work as refined, sharp and rigorous as possible. This role is especially important when philosophical inconsistencies clearly limit the abilities of scientists to produce knowledge that could help alleviate human suffering. As I argued in Chapter 1, the concept of self in psychology is one example of such an issue: reification, circular reasoning and lack of conceptual clarity inhibited progress in designing effective, scientifically validated psychological interventions for people struggling with self-dysregulation. In 2003, Berrios & Markova (2003; p. 9) wrote "*during the last 30 years new techniques have encouraged researchers to reify the self further. Unfortunately, no new conceptualization has arisen and hence no interesting questions are being asked.*". However, more or less at the same time, the functional-contextual perspective on self was being refined

(Hayes et al, 2001; Kantor et al., 2001), inspiring new conceptualisations and interesting questions. This philosophical perspective avoided reification by its process view (treating mental phenomena, including self as actions, not as "things"), focus on pragmatic theory of truth (creating concepts that are useful for the specified goal, not assigning them ontological status); avoided circular reasoning by analyzing every action in its present and historical context, taking into account its function; and avoided conceptual chaos by proposing a basic process (relational responding) that could account for various forms of phenomena labeled as self.

In this dissertation, I employed a contextual-behavioral account of the self to address a gap in the literature regarding self-dysregulation in borderline personality disorder (BPD). Within contextual behavioral science, the self is conceptualized as symbolic action—that is, as self-responding—which can be analyzed using either middle-level terms (repertoires such as Self-as-Content, Self-as-Process, and Self-as-Context) or basic behavioral terms (including deictic, hierarchical, and distinctive relational responding). In the first study, I used middle-level terms to investigate the relationship between three self-related repertoires, emotion dysregulation, and BPD symptoms. In the second study, I employed basic behavioral terms to examine the relationship between deictic, hierarchical, and distinctive relational responding and symptoms of self-dysregulation.

The results of my first study suggest that all three self-related repertoires (Self-as-Content, Self-as-Process, Self-as-Context) are significant predictors of BPD symptoms and that this relationship was mediated by lack of emotional acceptance, difficulties in goal-related behaviours, impulse control difficulties and lack of context-sensitive emotion regulation strategies. The results of my second study suggest that hierarchical and distinctive self-responding as well as deictic relational responding are related to self-dysregulation, and that

hierarchical self-responding is an important predictor of both chronic emptiness and identity disturbance in both whole sample and BPD subsample.

My studies add to the body of research supporting contextual-behavioral model of self, both at the middle level and basic level of analysis. They also support the notion that so far has been more salient in psychodynamic literature, that dysregulation on the level of self may underlie various symptoms of BPD. While I have discussed the implications of my results in the previous chapters, I would now like to situate these findings within a broader theoretical and clinical context.

Implications for Theory and Practice

My research is consistent with attempts to create new approaches to conceptualizing psychopathology and transdiagnostic psychotherapeutic processes more broadly. Examples of such attempts include the Hierarchical Taxonomy of Psychopathology (HiTOP; Kotov, et al., 2021), the Research Domain Criteria (RDoC; Cuthbert, 2022), the Power Threat Meaning Framework (PTMF; Johnstone & Boyle, 2018), and the Extended Evolutionary Meta-Model (EEMM). Everyone of them reject the strict binary of mental health vs. mental disorder and appreciate the dimensionality and complexity of human functioning, constantly looking for ways of understanding human suffering that could guide the most effective interventions. I will discuss my findings in light of EEMM, as it shares with my studies a foundation in functional contextualism.

The Extended Evolutionary Meta-Model (EEMM) is an effort to create a meta-theoretical psychodiagnostic framework capable of accommodating a wide range of salutogenic and pathogenic biopsychosocial processes—regardless of theoretical orientation—in a coherent structure that can guide context-sensitive clinical interventions. Its authors argue that the

prevailing biomedical approach, which encourages the development of standardized therapeutic protocols for specific psychiatric syndromes (e.g., interpersonal psychotherapy for depression), while somewhat beneficial, is insufficient to meet the complex needs of individuals seeking psychological help. They emphasize that similar symptom presentations can arise from different psychological processes in different individuals, and that the same psychological mechanisms can result in diverse symptom patterns. As such, the goal of a diagnostic framework, in their view, should be to help clinicians answer a more flexible and individualized guiding question: instead of "*What is this client's disorder and what psychotherapeutic protocol should be used?*", the question is *"What core biopsychosocial processes should be targeted with this client, given this goal, in this situation, and how can they most efficiently and effectively be changed?"* (Hofmann & Hayes, 2019, p. 38). This perspective mirrors the intervention–process–outcome triad (Kazdin, 2007) discussed in the first chapter. To support their process-based approach to formulation, Hofmann and Hayes (2019) propose organizing psychological phenomena into six pragmatic domains: Affect, Cognition, Attention, Motivation, Overt Behavior, and Self and crossing them with evolutionary principles of variation, selection, and retention to model how psychological processes develop, adapt, and persist across time and context.

Approaching self-dysregulation from an EEMM perspective would mean focusing less on categorical diagnosis and more on specific transdiagnostic processes underlying symptom constellations. After all, e.g. experience of subjective emptiness (outcome in intervention–process–outcome triad) is present in people meeting criteria for different psychiatric diagnoses, e.g. BPD, prolonged grief disorder, depressive disorder. At the same time, it is still not clear if these experiences are borne of the same mechanisms (processes in intervention–process–outcome triad) - it may be entirely possible that in depression and prolonged grief, the main

processes responsible for emptiness is avoidance (behavioral domain) and rumination (attention domain), but in BPD it may be lack of emotional clarity (affective domain) and, as my studies suggest, low Self-as-Context abilities (self domain). Moreover, there are already treatment procedures that specifically target Self-as-Context (interventions in intervention–process–outcome triad). From this perspective, the EEMM functions as a unifying framework that can connect currently fragmented areas of clinical knowledge—linking interventions to processes, processes to outcomes, and interventions to outcomes. In doing so, it provides a more coherent and context-sensitive understanding of the role of the self in mental health and helps bridge the gap between research and clinical practice, as well as across differing theoretical orientations.

A clear example of how such a process-based approach can be applied in clinical practice—specifically targeting the Self domain—is found in Acceptance and Commitment Therapy (ACT), which is inspired by RFT and identifies Self-as-Context as a central mechanism of change. The core aim of ACT is to support clients in building a meaningful and fulfilling life, rather than focusing exclusively on symptom reduction. A major obstacle to this process is the rigid and excessive attempts to control or eliminate unwanted internal experiences (experiential avoidance), as well as the tendency to relate to one's thoughts as literal truths and to behave in accordance with them (cognitive fusion). By teaching hierarchical self-responding, ACT therapists want to help their clients "*create glimpses of the felt sense that I/HERE/NOW awareness extends across time, place, and person and then uses that kind of awareness in the service of the other flexibility processes such as deliberately augmenting attention to the present moment, internally and externally, in a way that is flexible, fluid, and voluntary"* (Hayes et al., 2022, p.5). ACT therapists use a lot of strategies to support hierarchical self-responding, such as modeling, using metaphors, experiential exercises or narrative techniques. Facilitating

hierarchical responding to self is intended to restore the client's ability to engage in patterns of meaningful action, even when doing so involves coming into contact with psychological suffering in the moment. As RFT theorists suggest: *"In the context of therapy, it is this kind of stability and constancy that allows a client to confront extreme psychological pain and trauma, knowing in some deep way that no matter what comes up, the client's Self-as-Context will not be changed.*" (Barnes-Holmes et al., 2001). These words are also backed-up by studies showing e.g. that ACT decreases pain-related interference, as well as improves work functioning, social functioning, and mood in people with chronic pain by improving Self-as-Context (Yu et al., 2017a).

While ACT makes Self-as-Context an explicit target of intervention—and there is already some evidence supporting its effectiveness in decreasing overall BPD symptoms (Morton et al., 2012)—insights from the EEMM framework may also illuminate how other, more established treatments for BPD, might implicitly engage similar processes. For instance, an EEMM perspective may highlight treatment components of Dialectical Behavior Therapy, transference-focused therapy (TFP), Mentalization-Based Treatment (MBT) and Schema-Focused Therapy (SFT) that are already aligned with this Self-as-Context, even if not labeled as such.

According to DBT, self-dysregulation is a secondary characteristic developing from emotion dysregulation and should be alleviated when emotion dysregulation is successfully targeted by teaching strategies of mindfulness, interpersonal effectiveness, emotion regulation and distress tolerance. However, DBT also includes specific interventions—particularly within its mindfulness module—that resemble Self-as-Context work. According to Linehan, observing skill taught in the mindfulness module "*requires a corresponding ability to step back from the event; observing an event is separate or different from the event itself (observing walking and*

walking are two different responses, for example)" (Linehan, 1993; p.145). From the RFT perspective, the ability described above is not only about noticing and naming the ongoing flow of experience, but also about distinctive responding to self (I *is distinct from* the flow of my experiences). Additionally, another skill from the mindfulness module, Wise Mind, refers to accessing a perspective that transcends and integrates various emotional and cognitive states a person might find themselves in. In her seminal work, Linehan (1993) compares accessing Wise Mind to accessing an underground ocean (wide, centered, stable perspective) instead of focusing only on the surface water in the well (transient states of mind). From the RFT perspective, this can be understood as hierarchical responding to self (I *contains* different experiences). My interpretations might add some nuance to the speculations of Yen et al. (2009), Roepke et al. (2011), and Kaufman and Crowell (2018). All of these authors hypothesize that mindfulness skills taught in DBT are central to improving self-dysregulation. However, they focus on specific mindfulness skills, such as noticing, naming, and adopting a non-judgmental attitude, whereas my results may suggest that another key process enabling the development of these skills is the hierarchical and distinctive responding to self.

Psychodynamic approaches such as Transference-Focused Psychotherapy (TFP) and Mentalization-Based Treatment (MBT) may also implicitly target Self-as-Context, offering further opportunities for theoretical integration. While TFP explicitly aims to promote the integration of contradictory views of self and others (Levy et al., 2006), rather than simply acknowledge incoherent or painful experiences, the underlying mechanism may still involve cultivating a form of Self-as-Context. In TFP, focusing on the clarification, confrontation, and transference interpretations helps notice and reflect on shifting perceptions of self and others (e.g., "I as victim" vs. "I as perpetrator," or "YOU as caring" vs. "YOU as cold") (Clarkin et al.,

1999, 2023). This process may implicitly foster the capacity to hold multiple, often conflicting internal states within a broader, stable sense of self without being enmeshed with them— a process functionally similar to the Self-as-Context described in ACT. Thus, the work of noticing, identifying and integrating these fragmented states in TFP could be understood as one pathway through which patients develop an overarching, reflective perspective.

A related psychodynamic model, MBT, likewise targets reflective self-awareness. One of the main aims of MBT is to help move from psychic equivalence mode to mentalizing mode, in other words, move from treating content of our thoughts as reality to adopting a broader, observer perspective on one's own and other's experiences as variable, yet having a consistent source across time (Bateman & Fonagy, 2016). MBT therapists help their clients cultivate a reflective self-awareness that allows for the observation of one's own and other people's transient thoughts and feelings as products of minds, without becoming wholly identified with them (Fonagy & Luyten, 2009; Luyten et al., 2020. As such, these skills might be based on ability to frame self hierarchically, because without it it would be impossible to differentiate between transient mental content and the stable awareness that observes it (even if MBT doesn't make experience of this stable awareness explicit).

Additionally, some elements of Schema-Focused Therapy may be interpreted as implicitly fostering Self-as-Context. One of the primary aims in the early stages of SFT is helping clients recognize different modes—moment-to-moment clusters of emotional states, beliefs, and coping responses that are activated in response to specific situations (Arntz & Van Genderen, 2020; Kellogg & Young, 2006). In later stages, therapists and clients collaboratively work through mode-specific strategies (Arntz & Van Genderen, 2020). A core component of therapy is the use of experiential exercises that rely heavily on the client's ability to adopt an

observer stance toward emotional and cognitive content, as well as perspective-taking skills. For instance, imagery rescripting techniques help clients revisit painful past experiences from the perspective of the Healthy Adult mode, overriding emotional numbing typically produced by the Detached Protector mode, while also connecting with the perspective of the younger self (e.g., Abandoned/Abused Child mode, Angry and Impulsive Child mode, or Happy Child mode) to recognize, name, and empathize with the child's emotions and needs. Similarly, chairwork techniques assign different modes to separate chairs (e.g., Abandoned/Abused Child mode, Punitive Parent mode, and Healthy Adult mode) to allow clients to enact, differentiate, and engage in dialogue between internal states, facilitating communication, conflict resolution, and strengthening of adaptive modes. Both the early stage of recognizing modes and the more advanced phase of consciously shifting between modes and facilitating internal dialogues appear to depend on responding hierarchically and flexibly to one's momentary experiences. Notably, the connection between Self-as-Context and schema modes is made explicit in Contextual Schema Therapy (CST), an approach integrating the Schema-Focused Therapy framework with principles from Acceptance and Commitment Therapy. In CST, Self-as-Context is explicitly recognized as a key facet of the Healthy Adult mode, and specific strategies are used to facilitate access to this mode, thereby strengthening clients' ability to observe, differentiate, and respond adaptively to their internal experiences (Roediger, Stevens, & Brockman, 2018).

To sum up, my results suggest that functional contextualism, and the contextual-behavioral model of self nested within it, provide a viable and meaningful framework for investigating self-dysregulation. Furthermore, the processes proposed within this model may have relevance not only for the development of new interventions but also for deepening our understanding of the mechanisms of change in existing therapeutic approaches. At the same time,

I acknowledge that the extent to which DBT, MBT, TFP, and SFT reduce BPD symptoms and specifically self-dysregulation through Self-as-Context remains an empirical question and further research should clarify whether the parallels outlined above reflect functional equivalence or merely topographical similarity.

Limitations and Strengths

One limitation of my studies is the absence of behavioral measures specifically assessing Self-as-Context. Although there have been attempts to develop such measures (e.g., Styles & Atkins, 2018), these efforts have been primarily qualitative and were unable to capture instances of hierarchical self-responding, likely due to the rarity of such expressions in natural language. The availability of a reliable behavioral measure for this process would have significantly enhanced the precision and interpretability of my findings. Developing such measures lies beyond the scope of this project but represents a crucial next step for future research.

A second limitation is the cross-sectional design, which restricts the ability to draw causal inferences between variables related to the contextual behavioral model of self and clinical outcomes such as identity disturbance or feelings of emptiness. However, this limitation is typical of early-stage model-building research, where the primary aim is to explore associations between variables of interest. The decision to use a cross-sectional design was therefore intentional and appropriate, given the study's focus on examining process-level variables at a baseline level across a diverse sample. While longitudinal or experimental designs would be necessary to establish temporal or causal mechanisms, such approaches were beyond the scope of this project due to logistical and resource constraints.

At the same time, several strengths of the research deserve mention. First, the studies are firmly grounded in a coherent philosophy of science, which enhances their conceptual clarity and

theoretical relevance, while helping to avoid common pitfalls in the empirical investigation of complex psychological constructs such as the self. Second, the inclusion of participants across a broad spectrum of functioning—while also accounting for diagnostic status—allows the findings to be situated within both traditional diagnostic frameworks and more recent dimensional, process-based approaches. Third, the use of a behavioral measure of deictic relational responding offers a rare and valuable empirical lens on processes closely aligned with Self-as-Context, thereby strengthening the methodological contribution of the work. Fourth, the studies address an important yet under-researched topic, employing novel theoretical frameworks (CBS, RFT, EEMM) and innovative measurement strategies (SEQ, RFT-PT) to advance understanding in this area.

Future Directions

Since the area of self-dysregulation in BPD remains underresearched, there are many questions that must be answered empirically. With this in mind, I propose several future directions inspired by the Report of the ACBS Task Force on the Strategies and Tactics of Contextual Behavioral Science Research (Hayes et al., 2021), as well as by the Extended Evolutionary Meta-Model (EEMM) literature, which are likely to offer strong conceptual and methodological grounding. Firstly, it would be important to develop a behavioral measure of different contextual-behavioral self repertoires, so that researchers are not forced to rely exclusively on self-report proxies. Secondly, Self-as-Context should be investigated as part of larger networks of interactive, progressive, and non-linear processes—in other words, as a process that is always in complex interaction with other processes, that unfolds over time as a function of these interactions, and that relates to outcomes of interest in a non-linear fashion. As a result, innovative analytic methods may be required—such as Group Iterative Multiple Model

Estimation (GIMME; Sanford et al., 2022) or related approaches (e.g. Sahdra et al., 2024) —to analyze intensive longitudinal data. Because Self-as-Context is a behavioral process that may appear briefly or subtly across time, the temporal density of measurement should be sufficient to capture its dynamic expression.

Another recommendation, aligned with current research trends, would be to examine how psychedelic-assisted interventions may facilitate hierarchical responding to the self in individuals with self-dysregulation. Some authors (e.g. Hayes et al., 2020; Whitfield, 2021) already pointed out that psychedelic experiences tend to facilitate hierarchical self-responding. Moreover, Zeifman & Wagner (2020) speculated that psychedelic-assisted therapy may be especially beneficial for people with BPD, as it tends to improve emotion dysregulation and self-related functioning. Investigating the effects of psychedelics within a contextual-behavioral framework may yield significant insights into mechanisms of change and inform the development of effective treatment augmentations. Nevertheless, a general question remains as to whether psychedelic-assisted therapy offers specific or enhanced benefits for individuals with BPD, compared to established psychotherapeutic and pharmacological interventions. Addressing this question represents another important direction for future research.

Finally, the contextual-behavioral account of self was developed with the intention of addressing various forms of self-dysregulation, including those typically associated with diagnostic entities other than BPD. Preliminary conceptual and empirical work has explored this framework in contexts such as depression (Carvalho et al., 2021), pain disorders (Yu & McCracken, 2025), schizophrenia (Villatte et al., 2010), traumatic brain injury (Stapleton et al., 2024), and autism (Pomorska et al., 2021). However, significantly more empirical research is needed for the contextual-behavioral model of self to realize its full potential. In particular, the

role of hierarchical and distinctive self-responding across different types of psychological suffering remains insufficiently investigated. Addressing this gap—by applying the conceptual and methodological innovations described in the previous paragraphs—may significantly advance our understanding of self-dysregulation and its treatment across diverse clinical populations.

Final Conclusions

In summary, the findings of this dissertation contribute to the growing body of literature indicating that self-related processes, as conceptualized within the contextual-behavioral tradition, play a meaningful role in the development and maintenance of BPD symptoms—particularly self-dysregulation. Contrary to folk-psychological intuitions, and consistent with the contextual-behavioral framework, the goal of effective intervention may not necessarily be to change the content of one's self-experience, but rather to transform the way one relates to that experience. In other words, the aim is not to "fill" inner emptiness or to "stabilize" an unstable identity, but about cultivating the capacity to hold these experiences from a broader, more flexible perspective. By grounding this work in functional contextualism, drawing on Relational Frame Theory, and situating it within the Extended Evolutionary Meta-Model, this dissertation not only contributes to the clarification of important mechanisms underlying self-dysregulation but also points toward promising new directions for assessment, intervention, and future scientific inquiry.

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Appendix A: Study 1 Informed Consent Form

ŚWIADOMA ZGODA NA UDZIAŁ W BADANIU NAUKOWYM

Tytuł projektu: Intensywne emocje i doświadczanie siebie

Instytucja odpowiedzialna: SWPS Uniwersytet Humanistycznospołeczny, 03-815 Warszawa, ul. Chodakowska 19/31

Osoba odpowiedzialna: mgr Jan Topczewski, jtopczewski@swps.edu.pl

Projekt zaopiniowany pozytywnie przez Komisję ds. Etyki Badań Naukowych Wydziału Psychologii w Warszawie Uniwersytetu SWPS w Warszawie. Opinia nr: 18/2020

Opis realizowanych badań: Badanie ma na celu poznanie zależności pomiędzy przeżywaniem intensywnych emocji i impulsów, a różnymi aspektami doświadczania siebie. Badanie składa się z kwestionariuszy dotyczących przeżywania silnych emocji (w tym trudnych doświadczeń emocjonalnych), angażowania się w impulsywne zachowania, niepewności co do swojej tożsamości oraz podejścia do siebie samego/samej.

Badanie potrwa około 30 minut. W naszym badaniu nie ma ani dobrych ani złych odpowiedzi. Prosimy abyś odpowiadał(a) zgodnie ze swoim przekonaniem.

Twój udział w badaniu może przyczynić się do lepszego zrozumienia relacji pomiędzy intensywnymi emocjami i poczuciem tożsamości oraz tworzenia skuteczniejszych sposobów wsparcia osób z trudnościami psychologicznymi, dostępnych niezależnie od statusu ekonomicznego.

Informacja dla uczestnika/uczestniczki:

Uczestnictwo jest dobrowolne, a odmowa nie wiąże się z żadnymi konsekwencjami. Również po wyrażeniu zgody, w trakcie trwania badania, możesz wycofać się bez podawania przyczyny. Istnieje też możliwość wycofania zgody na przetwarzanie uzyskanych danych po zakończeniu

udziału.

Uzyskane wyniki są poufne, to znaczy że indywidualne dane uzyskane od uczestnika nie będą rozpowszechniane w sposób umożliwiający identyfikację osoby, a jedynie przetwarzane w celu opracowania naukowego.

W przypadku pytań lub wątpliwości, na każdym etapie badania, a także po jego zakończeniu, proszę kontaktować się z osobą odpowiedzialną za projekt. Osobie tej można również zgłosić chęć zapoznania się ze zbiorczymi wynikami projektu.

Zgoda na udział w badaniu:

Oświadczam, że zaznajomiłem/am się z informacją dla osoby badanej. Z własnej i nieprzymuszonej woli zgadzam się uczestniczyć w tym badaniu.

Appendix B: Measures

BPD Checklist (Lista kontrolna objawów zaburzenia osobowości z pogranicza)

Bloo et al., 2017

Instrukcja: Wskaż, w jakim stopniu w ciągu ostatniego miesiąca dany problem sprawiał Ci trudności.

Możliwe odpowiedzi: 1 – Wcale 2 – W niewielkim stopniu 3 – Umiarkowanie 4 – W znacznym stopniu 5 – Krańcowo

1. Spontaniczne wydawanie zbyt dużych sum pieniędzy
2. Gwałtowne zmiany nastroju
3. Napady złości
4. Poczucie obserwowania samego siebie z zewnątrz, jak w filmie lub śnie
5. Uderzanie innych lub rzucanie w nich przedmiotami
6. Celowe kaleczenie się (cięcie, kłucie, przypalanie)
7. Niepewność co do orientacji seksualnej
8. Hazard
9. Pragnienie samobójstwa
10. Niepewność, kim naprawdę jesteś
11. Poczucie znudzenia lub wewnętrznej pustki
12. Nadużywanie alkoholu
13. Obawa przed opuszczeniem przez innych

14. Bycie bardzo różną osobą w różnych sytuacjach

15. Niepewność co do swojej drogi życiowej

16. Przekonanie o niesprawiedliwym traktowaniu przez innych

17. Zażywanie narkotyków

18. Silne zmiany uczuć wobec innych

19. Nieufność wobec innych ludzi

20. Brak odwagi w uznaniu swoich złych stron

21. Lęk przed odrzuceniem, jeśli inni poznają prawdziwe „ja”

22. Niebezpieczna jazda (samochodem, motocyklem, rowerem)

23. Poczucie odmienności świata i ludzi, jakby był nierealny

24. Zachowania zagrażające życiu

25. Uczucia rozpaczy

26. Próby samobójcze

27. Odchodzenie od zmysłów z powodu lęku przed porzuceniem

28. Grożenie samouszkodzeniem w obecności innych

29. Napady obżarstwa

30. Postrzeganie siebie jako osoby złej i nieakceptowanej

31. Przekonanie o prześladowaniu

32. Niepewność co do bliskich i znajomych

33. Uczucia trudne do przyjęcia

34. Niepewność co jest dla Ciebie ważne

35. Kradzież sklepowa

36. Nagłe niepokoje, depresje i drażliwość
37. Napady złości prowadzące do niszczenia przedmiotów
38. Niepamiętanie ważnych rzeczy (bez wpływu leków/narkotyków)
39. Duża podejrzliwość
40. Poczucie ogromnego zawodu wobec osoby, którą podziwiałeś/podziwiałaś lub kochałeś/kochałaś
41. Spontaniczny kontakt seksualny, którego później żałowałeś/żałowałaś
42. Nagła utrata zaufania do innych osób
43. Przekonanie, że nie jesteś w stanie samodzielnie poradzić sobie z życiem
44. Nienawiść do siebie, do wszystkich i do świata
45. Rozpaczliwe próby powstrzymania innych osób przed odejściem
46. Niepewność co do swoich faktycznych standardów i wartości
47. Nieświadomość tego, co zrobiłeś/zrobiłaś lub gdzie jesteś (bez wpływu leków/narkotyków)

Self Experiences Questionnaire (Kwestionariusz Doświadczania Siebie)

Yu et al., 2017b; Polish version: Baran et al., 2019

Instrukcja: Poniżej znajduje się lista stwierdzeń. Proszę ocenić, jak prawdziwe są poszczególne stwierdzenia w odniesieniu do Pani, zakreślając przy każdym z nich odpowiedni numer.

Skala: 0 – Zawsze nieprawdziwe 1 – Bardzo rzadko prawdziwe 2 – Rzadko prawdziwe 3 – Czasem prawdziwe 4 – Często prawdziwe 5 – Prawie zawsze prawdziwe 6 – Zawsze prawdziwe

1. Mimo, że myśli, emocje i odczucia mogą mnie pochłaniać, jestem także w stanie się od nich zdystansować
2. Potrafię spojrzeć z boku na swoje emocje i obserwować je z innego punktu widzenia
3. Jestem w stanie zdystansować się od moich myśli i uczuć
4. Mam myśli i uczucia, ale nie tylko one definiują kim jestem
5. Potrafię doświadczać różnicy między moimi doświadczeniami, a moim ja, które ich doświadcza
6. Jestem w stanie rzeczywiście zobaczyć, że nie jestem swoimi myślami
7. Doświadczam siebie jako kogoś więcej niż moje myśli i uczucia
8. Zdrowie, wygląd i odczucia mojego ciała zmieniają się, ale poczucie siebie, świadomej tych zmian, pozostaje niezmienne
9. Kiedy jestem zestresowana, potrafię bez poczucia przytłoczenia dostrzec to, co się ze mną dzieje
10. Jestem w stanie zauważyć, co myślę i czuję, bez zbytniego zatracania się w tych przeżyciach
11. Ponad wszystkimi doświadczeniami jest poczucie mojego ja, które te doświadczenia zauważa
12. Jestem w stanie zauważać z chwili na chwilę, co mój umysł myśli
13. Potrafię obserwować doświadczenia w moim ciele i umyśle jako zjawiska, które przychodzą i odchodzą

14. Jestem w stanie utrzymać świadomość moich doświadczeń z chwili na chwilę
15. Moje role zmieniają się zależnie od czasu, miejsca i okoliczności, ale poczucie siebie, jako kogoś pełniącego te role, pozostaje niezmienne

Mindfule Attention and Awareness Scale (Skala Świadomej Obecności)

Brown & Ryan, 2003; Polish version: Radoń, 2014

Instrukcja: Poniżej znajduje się zbiór stwierdzeń dotyczących twoich codziennych doświadczeń. Korzystając ze skali 1-6 oceń, jak często je obecnie doświadczasz. Prosimy, abyś oceniał je bardziej, jak je odczuwasz, a nie jakie one powinny być. Każde stwierdzenie traktuj osobno.

Skala: 1 – Prawie zawsze 2 – Bardzo często 3 – Dość często 4 – Rzadko 5 – Bardzo rzadko 6 – Prawie nigdy

1. Potrafię doświadczać pewnych emocji i nie być ich świadomym przez pewien czas.
2. Psuję lub rozlewam różne rzeczy z powodu nieostrożności, braku uwagi lub myślenia o czymś innym.
3. Mam trudności w koncentrowaniu się na tym, co dzieje się w teraźniejszości.
4. Mam tendencje do szybkiego zmierzania do celu bez zwracania uwagi na to, co przytrafia mi się po drodze.
5. Mam tendencję do nieodczuwania napięcia fizycznego lub dyskomfortu aż do momentu aż zawładną moją uwagą.

6. Zapominam imienia osoby zaraz po tym, jak usłyszę je po raz pierwszy.
7. Funkcjonuję jak automat, nie uświadamiając sobie tego, co robię.
8. Pochopnie angażuję się w różne czynności bez zwracania na nie uwagi.
9. Jestem tak skoncentrowany/a na celu, jaki chcę osiągnąć, że tracę kontakt z tym, co obecnie robię, aby go zdobyć.
10. Wykonuję zadania i prace automatycznie bez uświadamiania sobie tego, co robię.
11. Łapię się na tym, że słucham kogoś „jednym uchem" robiąc coś innego w tym samym czasie.
12. Jeżdżę w przeróżne miejsca i czasem dziwię się, dlaczego tam się znalazłem/am.
13. Uważam, że ciągle jestem zajęty/a rozważaniem na temat przyszłości i przeszłości.
14. Uważam siebie za kogoś, kto robi pewne rzeczy bez zwracania na nie uwagi.
15. Jem nie będąc świadomym tego, że jem.

Self-compassion scale – short forme (Jak zazwyczaj reaguję na siebie w trudnych momentach)

Raes et al., 2011; Polish version: Holas et al., 2024

Instrukcja: Przed odpowiedzią przeczytaj uważnie każde ze zdań. Odnosząc się do poniższej skali, zaznacz jak często zachowujesz się w dany sposób.

Skala: 1 – Prawie nigdy 2 – 3 – 4 – 5 – Prawie zawsze

1. Kiedy nie powiedzie mi się coś ważnego, ogarnia mnie uczucie, że nie jestem taki jak trzeba.
2. Staram się być wyrozumiały i cierpliwy w stosunku do tych aspektów mojej osoby, których nie lubię.
3. Kiedy zdarza się coś bolesnego, staram się zachować wyważony ogląd sytuacji.
4. Gdy jestem przygnębiony, mam zwykle poczucie, że inni ludzie są prawdopodobnie szczęśliwsi ode mnie.
5. Staram się patrzeć na swoje wady lub błędy, jako na nieodłączny aspekt bycia człowiekiem.
6. Kiedy przechodzę przez bardzo trudny okres, staram się być łagodny i troskliwy w stosunku do siebie.
7. Kiedy coś mnie denerwuje, staram się zachować równowagę emocjonalną.
8. Kiedy nie powiedzie mi się coś ważnego, zazwyczaj czuję się w tym osamotniony.
9. Kiedy czuję się przygnębiony, nadmiernie skupiam się na wszystkim, co idzie źle.
10. Kiedy czuję się jakoś gorszy/a, staram się pamiętać, że większość ludzi tak ma.
11. Jestem krytyczny i mało wyrozumiały wobec moich własnych wad i niedociągnięć.
12. Jestem nietolerancyjny i niecierpliwy wobec tych aspektów mojej osoby, których nie lubię.

Difficulties in Emotion Regulation Scale (Skala Trudności w Regulacji Emocji)

Gratz & Roemer, 2004; Polish version: Dragan, 2016

Instrukcja: Proszę, używając poniższej skali, wskazać jak często podane niżej stwierdzenia odnoszą się do Pani/Pana. Przy każdym zdaniu proszę wpisać cyfrę, która najlepiej oddaje to co Pan/i czuje.

Skala: 1 – Prawie nigdy (0-10%) 2 – czasami (11-35%) 3 – przez połowę czasu (36-65%) 4 – przez większość czasu (66-90%) 5 – zawsze (91-100%)

1. Mam jasność co do moich uczuć.
2. Zwracam uwagę na to co czuję.
3. Doświadczam moich emocji jako przytłaczających i poza kontrolą.
4. Nie mam pojęcia jak się czuję.
5. Mam trudności w zrozumieniu tego co czuję.
6. Zwracam uwagę na moje uczucia.
7. Dokładnie wiem co czuję.
8. To, co czuję ma dla mnie znaczenie.
9. Nie potrafię zrozumieć tego, co właściwie czuję.
10. Kiedy jest mi źle, potrafię rozpoznać swoje emocje.
11. Kiedy jest mi źle, złoszczę się na siebie, że tak czuję.
12. Kiedy jest mi źle, czuję się zakłopotany/a tym, że tak właśnie czuję.
13. Kiedy jest mi źle, mam trudności z wykonywaniem pracy.
14. Kiedy jest mi źle, tracę nad sobą kontrolę.
15. Kiedy jest mi źle, wydaje mi się, że ten stan będzie się utrzymywał przez długi czas.
16. Kiedy jest mi źle, jestem przekonany/a, że to się skończy depresją.
17. Kiedy jest mi źle, wierzę, że moje uczucia są uzasadnione i ważne.

18. Kiedy jest mi źle, mam trudności w skoncentrowaniu się na innych rzeczach.
19. Kiedy jest mi źle, czuję że tracę nad sobą kontrolę.
20. Kiedy jest mi źle, nadal mogę robić inne rzeczy.
21. Kiedy jest mi źle, wstydzę się tego, że tak się czuję.
22. Kiedy jest mi źle, wiem, że mogę znaleźć sposób, żeby w końcu poczuć się lepiej.
23. Kiedy jest mi źle, czuję, że jestem słaby/a.
24. Kiedy jest mi źle, czuję, że nadal jestem w stanie kontrolować moje zachowanie.
25. Kiedy jest mi źle, mam poczucie winy, że tak się czuję.
26. Kiedy jest mi źle, trudno jest mi się skoncentrować.
27. Kiedy jest mi źle, mam trudności w kontrolowaniu swojego zachowania.
28. Kiedy jest mi źle, jestem przekonany, że nie ma nic, co mógłbym/mogłabym zrobić, żeby poczuć się lepiej.
29. Kiedy jest mi źle, złoszczę się na siebie samego/samą, że tak czuję.
30. Kiedy jest mi źle, zaczynam czuć się bardzo źle sam/a ze sobą.
31. Kiedy jest mi źle, wierzę, że pogrążanie się w tych uczuciach to jedyne co mogę robić.
32. Kiedy jest mi źle, tracę kontrolę nad moimi zachowaniami.
33. Kiedy jest mi źle, mam trudności, żeby myśleć o czymkolwiek innym.
34. Kiedy jest mi źle, daję sobie czas na zrozumienie tego co właściwie czuję.
35. Kiedy jest mi źle, dużo czasu zajmuje mi to, żeby poczuć się lepiej.
36. Kiedy jest mi źle, emocje mnie przytłaczają.

Lista Symptomów Borderline 23 (BSL-23)

Bohus et al., 2009

Instrukcja: W poniższej tabeli znajdziesz zestaw trudności i problemów, które mogą Cię opisywać. Przeczytaj kwestionariusz i zdecyduj, jak mocno dotknął Cię każdy z tych problemów w trakcie ostatniego tygodnia. Jeżeli w tym momencie nie masz żadnych odczuć, odpowiedz zgodnie z tym, jak sądzisz, że mógłbyś się czuć. Odpowiadaj szczerze. Wszystkie pytania odnoszą się do ostatniego tygodnia. Jeżeli czułeś się różnie w różnych momentach tygodnia, oceń jak przeciętnie odczuwałeś te rzeczy. Upewnij się, że odpowiedziałeś na wszystkie pytania.

Skala: 0 – wcale 1 – słabo 2 – trochę 3 – mocno 4 – bardzo mocno

1. Miałem trudności z koncentracją.
2. Czułem się bezsilny.
3. Byłem nieobecny myślami i nie byłem w stanie zapamiętać co właściwie robiłem.
4. Czułem wstręt.
5. Myślałem o samookaleczeniu.
6. Nie ufałem innym ludziom.
7. Nie wierzyłem w swoje prawo do życia.
8. Byłem samotny.
9. Odczuwałem przejmujące wewnętrzne napięcie.
10. Miałem wyobrażenia, których bardzo się bałem.
11. Nienawidziłem siebie.
12. Chciałem się ukarać.

13. Odczuwałem wstyd.
14. Mój nastrój gwałtownie przechodził z niepokoju w złość i depresję lub na odwrót.
15. Cierpiałem z powodu głosów i dźwięków w mojej głowie lub dochodzących z zewnątrz.
16. Słowa krytyki bardzo mnie dotykały.
17. Czułem się bezradny.
18. Myślenie o śmierci było dla mnie w pewien sposób fascynujące.
19. Nic nie miało dla mnie sensu.
20. Bałem się utraty kontroli.
21. Czułem do siebie wstręt.
22. Czułem jak gdybym był daleko od siebie samego.
23. Czułem się nic nie warty.

RFT Perspective-Taking Protocol

McHugh et al., 2004

Instrukcja: To zadanie zawiera 20 pytań, które wymagać będą od Ciebie przyjmowania różnych perspektyw. Za każdym razem wyobrażaj sobie dany scenariusz oraz zmianę perspektywy. Zadanie składa się z krótkich opisów sytuacji, np.: Ty trzymasz żółte nożyczki, a ja trzymam fioletową taśmę. Do każdego opisu zadane zostanie pytanie, które wymagać będzie od Ciebie wyobrażenia sobie sytuacji oraz zmiany przyjmowanej perspektywy, np.: Gdybym ja była tobą, a ty był mną, co ja bym trzymała? a) Żółte nożyczki b) Fioletową taśmę. Twoim zadaniem będzie jak najszybsze udzielenie prawidłowej odpowiedzi.

Czasami pytanie wymagać będzie od Ciebie zmiany perspektywy przestrzennej, np. Gdyby tu było tam, a tam było tu.

Czasami pytanie dotyczyć będzie perspektywy czasowej, np. Gdyby teraz było wtedy a wtedy było teraz.

Czasami będziesz proszona o zmianę jednocześnie dwóch perspektyw, np. czasowej i interpersonalnej, np. Gdyby teraz było wtedy, a wtedy było teraz i gdybym ja była Tobą, a Ty byłabyś mną.

Czytaj uważnie pytania. Pamiętaj, że Twoim zadaniem jest jak najszybsze udzielenie prawidłowej odpowiedzi.

1. Ja trzymam niebieski długopis, a ty trzymasz czarne pióro.

   Gdybym ja była tobą, a ty była mną: Co ja bym trzymała? Czarne pióro / Niebieski długopis

   Co ty byś trzymała? Czarne pióro / Niebieski długopis

2. Ja trzymam czarne pióro, a ty trzymasz niebieski długopis.

   Gdybym ja była tobą, a ty była mną: Co ja bym trzymała? Czarne pióro / Niebieski długopis

   Co ty byś trzymała? Niebieski długopis / Czarne pióro

3. Ja siedzę na szarym krześle, a Ty siedzisz na zielonym fotelu.

   Gdybyś ty była mną, a ja byłabym tobą: Na czym Ty byś siedziała? Na zielonym fotelu / Na szarym krześle

   Na czym ja bym siedziała? Na zielonym fotelu / Na szarym krześle

4. Ja siedzę na zielonym fotelu, a Ty siedzisz na szarym krześle.

   Gdybym ja była tobą, a ty była mną: Na czym ty byś siedziała? Na szarym krześle / Na zielonym fotelu

   Na czym ja bym siedziała? Na zielonym fotelu / Na szarym krześle

5. Ty siedzisz tutaj na zielonym fotelu, a ja siedzę tam na szarym krześle.

   Gdyby tutaj było tam, a tam było tutaj: Na czym ty byś siedziała? Na zielonym fotelu / Na szarym krześle

   Na czym ja bym siedziała? Na zielonym fotelu / Na szarym krześle

6. Ja siedzę tutaj na zielonym fotelu, a ty siedzisz tam na szarym krześle.

   Gdyby tutaj było tam, a tam było tutaj: Na czym ty byś siedziała? Na szarym krześle / Na zielonym fotelu

   Na czym ja bym siedziała? Na szarym krześle / Na zielonym fotelu

7. Wczoraj spałam tam na tapczanie, a dziś śpię tutaj na sofie.

   Gdyby tutaj było tam, a tam było tutaj: Gdzie spałabym wczoraj? Na tapczanie / Na sofie

   Gdzie spałabym dzisiaj? Na sofie / Na tapczanie

8. Wczoraj spałam tam na sofie, a dziś śpię tutaj na tapczanie.

   Gdyby tutaj było tam, a tam było tutaj: Gdzie spałabym wczoraj? Na sofie / Na tapczanie

   Gdzie spałabym dzisiaj? Na tapczanie / Na sofie

9. Wczoraj oglądałam telewizję, a dzisiaj czytam książkę.

   Gdyby wczoraj było dzisiaj, a dzisiaj było wczoraj: Co bym robiła dzisiaj?Oglądała telewizję / Czytała książkę

Co bym robiła wczoraj? Oglądała telewizję / Czytała książkę

10. Wczoraj czytałam książkę, a dzisiaj oglądam telewizję.

    Gdyby wczoraj było dzisiaj, a dzisiaj było wczoraj: Co bym robiła dzisiaj? Oglądała telewizję / Czytała książkę

    Co bym robiła wczoraj? Oglądała telewizję / Czytała książkę

11. Dzisiaj uprawiam sport, a jutro będę odpoczywać.

    Gdyby jutro było dzisiaj, a dzisiaj było jutro: Co bym robiła dzisiaj? Odpoczywała / Uprawiała sport

    Co bym robiła jutro? Odpoczywała / Uprawiała sport

12. Ty siedzisz tutaj na niebieskim fotelu, ja siedzę tam na czarnym krześle.

    Gdybyś ty była mną, a ja była tobą i gdyby tutaj było tam, a tam było tutaj: Gdzie ty byś siedziała? Na niebieskim fotelu / Na czarnym krześle

    Gdzie ja bym siedziała? Na niebieskim fotelu / Na czarnym krześle

13. Ty siedzisz tutaj na czarnym krześle, ja siedzę tam na niebieskim fotelu.

    Gdybyś ty była mną, a ja była tobą i gdyby tutaj było tam, a tam było tutaj: Gdzie Ty byś siedziała? Na niebieskim fotelu / Na czarnym krześle

    Gdzie ja bym siedziała? Na niebieskim fotelu / Na czarnym krześle

14. Ty śpisz tutaj na czerwonej sofie, a ja śpię tam na brązowym tapczanie.

    Gdybyś ty była mną, a ja była tobą i gdyby tutaj było tam, a tam było tutaj: Gdzie ty byś spała? Na brązowym tapczanie / Na czerwonej sofie

    Gdzie ja bym spała? Na brązowym tapczanie / Na czerwonej sofie

15. Ty śpisz tutaj na brązowym tapczanie, a ja śpię tam na czerwonej sofie.

Gdybyś ty była mną, a ja była tobą i gdyby tutaj było tam, a tam było tutaj: Gdzie ty byś spała? Na czerwonej sofie / Na brązowym tapczanie

Gdzie ja bym spała? Na czerwonej sofie / Na brązowym tapczanie

16. Wczoraj siedziałam tam na czarnym fotelu, a dzisiaj siedzę tutaj na niebieskim krześle.

    Gdyby tutaj było tam, a tam było tutaj i gdyby teraz było wtedy, a wtedy było teraz:

    Gdzie siedziałabym teraz? Na niebieskim krześle / Na czarnym fotelu

    Gdzie siedziałabym wczoraj? Na niebieskim krześle / Na czarnym fotelu

17. Wczoraj siedziałam tam na niebieskim krześle, a dzisiaj siedzę tutaj na czarnym fotelu.

    Gdyby tutaj było tam, a tam było tutaj i gdyby teraz było wtedy, a wtedy było teraz:

    Gdzie siedziałabym teraz? Na czarnym fotelu / Na niebieskim krześle

    Gdzie siedziałabym wczoraj? Na niebieskim krześle / Na czarnym fotelu

18. Wczoraj spałam tam na brązowym tapczanie, a dziś śpię tutaj na czerwonej sofie.

    Gdyby tutaj było tam, a tam było tutaj i gdyby teraz było wtedy, a wtedy było teraz:

    Gdzie spałabym wczoraj? Na brązowym tapczanie / Na czerwonej sofie

    Gdzie spałabym dzisiaj? Na brązowym tapczanie / Na czerwonej sofie

19. Wczoraj spałam tam na czerwonej sofie, a dziś śpię tutaj na brązowym tapczanie.

    Gdyby tutaj było tam, a tam było tutaj i gdyby teraz było wtedy, a wtedy było teraz:

    Gdzie spałabym wczoraj? Na czerwonej sofie / Na brązowym tapczanie

    Gdzie spałabym dzisiaj? Na czerwonej sofie / Na brązowym tapczanie

20. Wczoraj siedziałam tam na niebieskim krześle, a dzisiaj siedzę tutaj na czarnym fotelu.

    Gdyby tutaj było tam, a tam było tutaj i gdyby teraz było wtedy, a wtedy było teraz:

    Gdzie siedziałabym teraz? Na niebieskim krześle / Na czarnym fotelu

Gdzie siedziałabym wczoraj? Na niebieskim krześle / Na czarnym fotelu

Self-concept Clarity Scale

Campbell et al., 1996; Polish version: Suszek et al., 2018

Instrukcja: Proszę ustosunkować się do poniższych stwierdzeń, zaznaczając, w jakim stopniu się z nimi zgadzasz.

Skala: 1 – Zdecydowanie się nie zgadzam 2 – Nie zgadzam się 3 – Nie mam zdania / średnio 4 – Zgadzam się 5 – Zdecydowanie zgadzam się

1. Moje przekonania na swój temat często są sprzeczne jedne z drugimi.
2. Jednego dnia mogę mieć jakąś opinię o sobie, a drugiego dnia odmienną.
3. Spędzam dużo czasu na zastanawianiu się, jakiego rodzaju osobą rzeczywiście jestem.
4. Czasem czuję, że nie jestem w rzeczywistości osobą, którą wydaję się być.
5. Kiedy myślę o sobie z przeszłości, nie jestem pewien/na, jaki/a naprawdę byłem/am.
6. Rzadko doświadczam konfliktów pomiędzy różnymi stronami mojej osobowości.
7. Czasami myślę, że znam innych ludzi lepiej, niż samego/ą siebie.
8. Moje przekonania na temat samej/go siebie wydają się zmieniać bardzo często.
9. Gdyby poproszono mnie o opisanie swojej osobowości, mój opis mógłby różnić się z dnia na dzień.
10. Nawet gdybym chciał/a, nie sądzę, żebym potrafił/a opowiedzieć komuś, jaki/a naprawdę jestem.
11. Ogólnie mam jasne poczucie tego, kim i czym jestem.

12. Często trudno jest mi zdecydować się na coś, ponieważ tak naprawdę nie wiem, czego chcę.

Subjective Emptiness Scale (Skala poczucia pustki)

Price et al., 2022; Polish version: Topczewski, unpublished materials (Appendix E)

Poniżej znajduje się lista stwierdzeń opisujących różne uczucia lub zachowania. Określ, na ile każde ze stwierdzeń było prawdziwe w odniesieniu do Twoich uczuć i zachowań z ostatnich dwóch tygodni.

Twoje odpowiedzi powinny odzwierciedlać to, czy doświadczyłeś/aś tych odczuć lub zachowań, a nie jak często ich doświadczałeś/aś.

Udziel odpowiedzi, która jako pierwsza przychodzi Ci do głowy.

Skala odpowiedzi:

1 – Całkowicie nieprawdziwe

2 – Do pewnego stopnia prawdziwe

3 – W dużej mierze prawdziwe

4 – Bardzo prawdziwe

1. Czuję wewnętrzną pustkę 1 2 3 4

2. Czuję, że jestem nieobecny/a w moim życiu 1 2 3 4

3. Czuję się niespełniona/y bez względu na to, co robię 1 2 3 4

4. Czuję, jakbym był/a zmuszony/a do istnienia 1 2 3 4

5. Czuję, że jestem całkowicie sam/a na tym świecie 1 2 3 4

Appendix C: Preliminary validation of BPDCL

A Polish version of the BPDCL had previously been published, though without formal psychometric validation. For this study, the existing translation was used as a basis for preliminary reliability assessment. No items were linguistically modified, allowing fidelity to the original content and facilitating comparisons with the original scale.

I conducted a preliminary study to assess the scale's validity in a Polish-speaking population. The sample consisted of 294 participants: 93 men, 192 women and 9 non-binary persons. Participants completed the BPDCL along with other psychological measures, including the BPI (Borderline Personality organisation), AAQ-2 (Experiential Avoidance), PHQ-9 (depression).

To assess the internal consistency of the scale, Cronbach's alpha was calculated, yielding a value of .951, which indicates good reliability.

An Exploratory Factor Analysis (EFA) was performed on the Subjective Emptiness Scale using Principal Axis Factoring (PAF). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .915, indicating excellent sampling adequacy, and Bartlett's Test of Sphericity was statistically significant ($\chi^2(1081) = 7716.05$, $p < .001$), indicating that the data were suitable for factor analysis.

The scree plot revealed a distinct "elbow" after the first factor, followed by a gradual decline, suggesting a potential unidimensional structure. Although eleven factors had eigenvalues greater than 1, only the first factor accounted for a substantial portion of the variance (31.07% of the total variance). Given the dominance of the first factor and the excellent internal consistency of the full scale (Cronbach's alpha = .951), a single-factor solution was retained. This decision aligns with the aim of this study to conduct a preliminary validation and supports the interpretation

of the BPDCL as a unidimensional measure of borderline personality features in this sample of university students.

While some items demonstrated cross-loadings or modest communalities, the one-factor model aligns with the conceptualization of BPD as a unitary diagnostic construct in many clinical settings. Nevertheless, future research should explore potential multidimensionality through confirmatory factor analysis (CFA) and test the stability of the factorial structure across diverse samples.

To assess the convergent validity of the BPDCL, correlations were examined with various psychological constructs theoretically related to subjective emptiness (Table 17). Significant positive correlations were found with measures of borderline personality disorder symptoms (BPI and BSL-23), depression (PHQ-9), experiential avoidance (AAQ-2). These findings suggest that higher scores on the BPDCL are associated with higher levels on two other measures of BPD symptoms, depression, and experiential avoidance, supporting the convergent validity of the BPDCL as an effective measure of borderline personality disorder traits.

Table 17

Correlations Between BPDCL Scores and Related Psychological Constructs

Measure	**r**
BPI	0.782**
BSL-23	0.862**
PHQ-9	0.726**
AAQ-2	0.781**

Note. BPDCL = Borderline Personality Disorder Checklist; BPI = Borderline Personality Inventory; BSL-23 = Borderline Symptom List–23; PHQ-9 = Patient Health Questionnaire–9; AAQ-2 = Acceptance and Action Questionnaire–II

** - p<.001

Appendix D: Study 2 Informed Consent Form

ŚWIADOMA ZGODA NA UDZIAŁ W BADANIU NAUKOWYM

Tytuł projektu: Weryfikacja kontekstualno-behawioralnego modelu Ja na próbach klinicznych

Instytucja odpowiedzialna: SWPS Uniwersytet Humanistycznospołeczny, 03-815 Warszawa, ul. Chodakowska 19/31

Osoba odpowiedzialna: mgr Jan Topczewski, jtopczewski@swps.edu.pl

Projekt zaopiniowany pozytywnie przez Komisję ds. Etyki Badań Naukowych Wydziału Psychologii Uniwersytetu SWPS w Warszawie. Opinia nr: 63/2021/2

Opis realizowanych badań: Badanie ma na celu zrozumienie, jakie czynniki mogą prowadzić do niestabilnego poczucia tożsamości (czyli niepewności co do tego, kim się jest) oraz do odczuwania pustki w życiu. Są to problemy, z którymi często zmagają się osoby doświadczające bardzo intensywnych emocji, a poznanie mechanizmów leżących u podłoża tych trudności pozwoli na tworzenie skuteczniejszych programów pomocy.

Badanie składa się z kwestionariuszy dotyczących niestabilnego poczucia tożsamości, odczuwania chronicznej pustki, stosunku do swoich wewnętrznych przeżyć, świadomości własnych emocji i ciała. Zostanie Pan_i również poproszony_a o wykonanie zadań polegających na przyjmowaniu perspektywy innej osoby.

Badanie potrwa maksymalnie około 30 minut. W tym badaniu nie ma ani dobrych ani złych odpowiedzi.

Informacja dla uczestnika/uczestniczki:

Uczestnictwo jest dobrowolne, a odmowa nie wiąże się z żadnymi konsekwencjami. Również po wyrażeniu zgody, w trakcie trwania badania, można wycofać się bez podawania przyczyny. W przypadku chęci wycofania się, prosimy o powiedzenie o tym osobie prowadzącej badanie. W takim wypadku Pana_i odpowiedzi zostaną usunięte.

Uzyskane wyniki są poufne, to znaczy że indywidualne dane uzyskane od uczestnika nie będą rozpowszechniane w sposób umożliwiający identyfikację osoby, a jedynie przetwarzane w celu opracowania naukowego.

W przypadku pytań lub wątpliwości, na każdym etapie badania, a także po jego zakończeniu, proszę kontaktować się z osobą odpowiedzialną za projekt. Osobie tej można również zgłosić chęć zapoznania się ze zbiorczymi wynikami projektu.

W zamian za udział w badaniu osoba badana otrzymuje kod do karty podarunkowej Empik.

Zgoda na udział w badaniu:

Oświadczam, że zaznajomiłem/am się z informacją dla osoby badanej. Z własnej i nieprzymuszonej woli zgadzam się uczestniczyć w tym badaniu.

Appendix E: Preliminary validation of SES

After obtaining the author's approval, I translated The Subjective Emptiness Scale (SES) from English into Polish. To ensure the accuracy, the translation was reviewed and revised by three bilingual clinical psychologists specializing in psychotherapy and borderline personality disorder, who provided feedback and selected the best wording. After completing the translation, I conducted a preliminary study to assess the scale's validity in a Polish-speaking population. The sample consisted of 279 participants: 49 men, 227 women and 3 non-binary persons. Participants completed the SES along with other psychological measures, including the BPI-cut-20 (borderline personality disorder symptoms), PHQ-9 (depression), DJGLS (De Jong Gierveld Loneliness Scale), VQ (Valuing Questionnaire), and the ITQ (International Trauma Questionnaire).

An Exploratory Factor Analysis (EFA) was performed on the Subjective Emptiness Scale using Principal Axis Factoring (PAF). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .84, which is considered excellent, and Bartlett's test of sphericity was significant, $\chi^2(10) = 505.86$, $p < .001$, indicating that the data were suitable for factor analysis.

The scree plot and Eigenvalues suggested a one-factor solution, with the first factor having an Eigenvalue of 3.02. The remaining factors had Eigenvalues below 1. Factor loadings for all items exceeded 0.60, confirming that all items loaded strongly onto a single latent construct. The first factor accounted for 60.40% of the total variance, suggesting that the Subjective Emptiness Scale is unidimensional.

To assess the internal consistency of the scale, Cronbach's alpha was calculated, yielding a value of .83, which indicates good reliability.

To assess the convergent validity of the Subjective Emptiness Scale (SES), correlations were examined with various psychological constructs theoretically related to subjective emptiness

(Table 18). Significant positive correlations were found with measures of borderline personality disorder symptoms (BPI-cut-20), depression (PHQ-9), social and emotional loneliness (DJGLS), and psychological distress related to trauma (ITQ). These findings suggest that higher subjective emptiness is associated with higher levels of BPD symptoms, identity diffusion symptoms and depression (stronger correlation) as well as social loneliness, and C-PTSD symptoms (weaker correlation), supporting the convergent validity of the SES.

Table 18

Correlations Between SES Scores and Related Psychological Constructs

Measures	r
BPIcut	.662**
BPI_ID	.608**
PHQ9	.710**
VQ_p	-.471**
VQ_o	.581**
DJGLS_e	.510**
DJGLS_s	.382**
Re	.206**
Av	.251**
Th	.371**
PTSD	.329**
AD	.489**
NSC	.635**
DR	.506**
DSO	.652**

Note. SES = Subjective Emptiness Scale; BPIcut = Borderline Personality Inventory–Cut-20; BPI_ID = BPI Identity Disturbance subscale; PHQ-9 = Patient Health Questionnaire–9 (depression); VQ_p = Valuing Questionnaire–Progress subscale; VQ_o = Valuing Questionnaire–Obstruction subscale; DJGLS_e = De Jong Gierveld Loneliness Scale–Emotional Loneliness; DJGLS_s = De Jong Gierveld Loneliness Scale–Social Loneliness; Re = Re-experiencing (ITQ); Av = Avoidance (ITQ); Th = Threat (ITQ); PTSD = Post-Traumatic Stress Disorder total (ITQ); AD = Affective Dysregulation (ITQ-DSO);

NSC = Negative Self-Concept (ITQ-DSO); DR = Disturbances in Relationships (ITQ-DSO); DSO = Disturbances in Self-Organization (ITQ-DSO total).

** - p<.001

Appendix F. Zero-Order Pearson Correlations Among Study 2 Variables

Table 19

Zero-Order Pearson Correlations Among Study 2 Variables in the whole sample

Variable	N	1	2	3	4	5	6	7
1. SEQ_H	171	—						
2. SEQ_D	171	.80*	—					
3. PT	171	.27*	.31*	—				
4. SES	171	−.61*	−.54*	−.27*	—			
5. SCCS	171	.64*	.53*	.27*	−.78*	—		
6. Age	171	.20*	.14	−.008	−.092	.23*	—	
7. Gender	171	−.03	−.00	−.05	−.00	−.04	.03	—

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale

* $p<.0011$, Šidák-corrected significance threshold for multiple comparisons (adjusted from $\alpha = .05$).

Table 20

Zero-Order Pearson Correlations Among Study 2 Variables in the BPD subgroup

Variable	N	1	2	3	4	5	6	7
1. SEQ_H	94	—						
2. SEQ_D	94	.56*	—					
3. PT	94	.09	.19	—				
4. SES	94	−.47*	−.31	−.05	—			
5. SCCS	94	.37*	.14	−.05	−.41*	—		
6. Age	94	.09	−.02	−.07	.05	.21	—	
7. Gender	94	−.04	−.01	−.01	−.10	.06	.14	—

Note. SEQ_D - Self-as-Distinction, SEQ_H - Self-as-Hierarchy, RFT-PT - RFT Perspective-Taking Protocol, SES - Subjective Emptiness Scale, SCCS - Self-Concept Clarity Scale

* $p<.0011$, Šidák-corrected significance threshold for multiple comparisons (adjusted from $\alpha = .05$).