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Are the schema modes suitable for explaining borderline and narcissistic behaviours?

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Abstract
Jeffrey Young assumes that people suffering from personality disorders differ from healthy ones in schema modes intensity but not diversity. Besides, healthy people also present behaviours typical for personality disorders, but to a lesser extent. However, research lacks the interrelationships between modes, especially in healthy individuals. The presented study aimed to investigate the mutual relations between the schema modes using path analysis to understand better problematic behaviour in borderline and narcissistic types in a non-clinical sample and to verify Young assumption about the continuum of the schema modes. A sample of 467 healthy adults aged 18–50 (M = 32.87, SD = 10.56), 52.9% of whom were women, completed SMI 1.1 and SCID-II. Descriptive statistics, matrix of correlation and structural equation modelling were used. Results confirmed the significance of the theoretically assumed and previously empirically proved schema modes also for healthy people. The most important modes for both borderline and narcissistic behaviours are the Punitive Parent, the Angry Child and the Enraged Child modes. For borderline behaviour, the Detached Protector coping mode, connected to a sense of emptiness, is significant. Narcissistic behaviour relates to Bully and Attack, and Self-Aggrandiser modes and is connected to aggressive and dominant behaviour. The obtained models explain 47% of the variance in borderline and 44% in narcissistic behaviours. The study indicates the validity of analysing the modes among people with lower intensity of behaviours typical for personality disorders and also confirms Young's assumptions about the universality of schema modes. Results are discussed in the context of their relevance for practitioners.

Keywords Schema therapy · Schema modes · Borderline personality · Narcissistic personality · Personality disorders · SMI-schema modes inventory

Introduction

Psychotherapy of personality disorders (PD), especially from cluster B, is challenging for therapists. The success rates are relatively low, and the level of drop-out is disturbing, although it differs depending on the therapy modality (Arntz et al., 2015; Avramchuk & Hlyvanska, 2018; Byrne & Egan, 2018). The cognitive-behavioural therapy (CBT) is one of the best documented. However, despite the confirmed reduction of PD's symptoms, it is difficult to point out the unambiguous positive effects of CBT therapy. Therapeutic protocols, even though they are quite well developed, often do not translate to the final effect, which should be recovery (Akbari et al., 2009; Tolin, 2010). One of the attempts to overcome this difficulty is the so-called CBT third-wave therapy (Junaedi et al., 2022; Masuda & Rizvi, 2019). Therapy modifications based on traditional assumptions are aimed, among other things, at dealing with the most demanding cases, such as borderline and narcissistic personality disorders (Arntz et al., 2015; Sempértegui et al., 2013). One of the new modalities that are empirically verified is Jeffrey Young's concept of Early Maladaptive Schemas—EMS (Young et al., 2003) and the associated Schema Therapy (ST) (Young, 1990). Its key aspects are schemas and schema modes (SM).

Young assumed that the main problem in CBT is a cognitive approach. Because negative belief about self was developed in childhood, it is mainly remembered as an emotional pattern (LeDoux, 2000). Consequently, Young conceptualised maladaptive schemas as a pattern of memories, emotions, and bodily sensations (Young et al., 2003).

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This pattern is developed while experiencing difficult situations connected to neglecting or rejecting a child's needs: experiencing emotional or physical violence, lack of positive reactions from parents, overprotectiveness, or internalisation of the thinking and behaviour of significant individuals. A sensitive child's temperament also is essential (Aekwarangkoon & Thanathamathee, 2022; Mącik, 2021; Young et al., 2003). For example, if parents do not give autonomy, the child might feel sadness, anger, or anxiety and think about themselves as insufficient (*I am helpless)*. When such experiences often repeat, it becomes a belief about the self or the world. EMSs are elaborated throughout one's lifetime to adulthood, despite the negative consequences they bring. It leads to their inflexibility and dysfunctionality. Young points these features as crucial for symptoms of personality disorder (Young & Gluhoski, 1996).

Maladaptive schemas activate in situations connected to the content of the schema. While they are active and strong emotions emerge, the emotional part of the schema is activated. It means the person feels like a child again and experiences the situation mainly emotionally, not cognitively. In order to better self-well-being, a person tries to cope with these emotions or to prevent their emergence. Coping is usually the same as a person has learned as a child (Ke & Barlas, 2020; Mairet et al., 2014). Coping with schemas may be understood as a list of coping behaviours specific to a person. Young pointed out that diagnostic symptoms for PDs may be understood as a list of coping strategies (Young & Gluhoski, 1996; Young et al., 2003).

However, the most important for understanding psychopathology are schema modes (SM). Young described them as emotional states changing from one moment to another and coping reactions that are experienced by everyone (Young et al., 2003). They are activated mainly when the schemas trigger painful memories and emotions, and they control the person's behaviour (Lobbestael et al., 2007; Young et al., 2003). Schema modes include three ways of experiencing the self: emotional memories of oneself as a child (child modes), memories of an internalised person (usually the Parent or other significant one) behaving in a harmful way—for example criticising or punishing (parental modes), and a tendency to protect oneself (coping modes). Child modes are active when a person experiences intensive emotions connected both to an actual and past situation. However, the actual situation may only slightly justify the type and intensity of emerging emotions. Parental modes are active when a person has memories of the significant one from the past who did not meet a person's needs in childhood. This memory may take the form of a critical or punishing voice in the head, which a person recognises as her own. Coping modes are active when a person tries to do something to better or to protect themselves. Modes can change quickly from one to another (Yakın et al., 2020) (a more detailed modes description is presented in Supplementary Table 1). In the case of psychopathology, the schema modes are more intense and more quickly changing but not different from those of healthy people (Lobbestael et al., 2007). So far, more than 20 modes have been distinguished, and the classic division includes 14 SM divided into four areas (Supplementary Table 1). In the case of personality disorders, some common combinations of SMs can be distinguished (Lobbestael et al., 2007).

Borderline personality disorder (BPD) is usually characterised by impulsive and unpredictable behaviour changes. In this regard, borderline personality disorder is best described in schema modes, which are the internal reasons for observable behaviour. Young pointed to Vulnerable Child (Abused and Abandoned), Angry Child, Detached Protector and Punitive Parent as crucial for understanding observed behaviour (Young et al., 2003).

Some research was done to confirm and understand personality disorders in the light of schema therapy concept. However, most of that studies focused on schemas, not schema modes, and understood them as stabile tendencies for specific behaviours and experiencing emotions.

The relations between schemas and personality disorders were confirmed in both non-clinical (Carr & Francis, 2010b) and clinical (Cohen et al., 2016; Nordahl et al., 2005) groups in the context of various aspects: suicide (Arthurs & Tan, 2017), binge eating (Aloi et.,al 2020), childhood trauma (Ashiq et al., 2018) and many others. The latest research, in turn, focuses on the relations between schemas and the traits of the abnormal personality according to the alternative model suggested in section III of DSM-5 (Aloi et al., 2020; Bach et al., 2016; Bach & Bernstein, 2019; Bach & Lobbestael, 2018).

However, despite Young's assumption that schema modes are more significant for personality disorders than schemas, little research focused on them. Schema modes have become the subject of research interest in various aspects of psychopathology (Dunne et al., 2019; Jacobs et al., 2019; Simpson et al., 2019; Stavropoulos et al., 2020; Tenore et al., 2018), and confirmed their importance for understanding and therapy of disorders, among other of personalities from the B and C clusters (Renner et al., 2013). Follow-up research also pointed out a decrease in the intensity of schemas as well as modes and, as a consequence—decreasing in BPD symptoms as the result of the therapy (Bernstein et al., 2012; Fassbinder et al., 2016; Taylor et al., 2017).

Some research focused on verifying relationships with personality disorders, mainly from cluster B, but still, there is no agreement on the number of schemas describing the personality type. Some research confirmed that people with borderline personality disorder tend to switch between up to four modes (Arntz et al,. 2005): Angry or Enraged Child, Impulsive Child, and Punitive Parent (Bach & Lobbestael, 2018).

However, Young assumes the six most typical modes: next to previous ones, he pointed Detached Protector, and Abandoned Child (Bach & Farrell, 2018; Young et al., 2003). Other studies proved the importance of Demanding Parent, Vulnerable Child and also Detached Protector modes (Barazandeh et al., 2018). Regression models indicated that SMs explain up to 60% of the variance of dissociative symptoms, which are characteristic for BPD (Barazandeh et al., 2018). Moreover, the modes are more important for predicting dissociation than the experience of trauma, which is not always relevant to the severity of symptoms (Johnston et al., 2009). Also, in other disorders from cluster B, specific modes are predictors of disorders, although they are not unequivocally differentiating (Dadashzadeh et al., 2016). Comparison of borderline with antisocial patients, among others, indicated that while Bully/Attack mode is the most characteristic of antisocial disorder, and it is not significantly stronger than that of borderline (Lobbestael et al., 2005). The modes also differentiate patients with narcissistic and histrionic disorders, and cluster C disorders (Bamelis et al., 2011).

Narcissistic personality disorder (NPD) has also been well-described in modes (Young et al., 2003). Research confirmed that the dominant modes are Self-Aggrandizer and Self-Soother (Lobbestael et al., 2007), although other modes also appear in research (Bamelis et al., 2011; Dadashzadeh et al., 2016; Keulen - de Vos et al., 2017; Lobbestael et al., 2008). However, only a few studies focused on narcissistic disorder.

There seems to be a significant gap in our knowledge about schema modes' significance for understanding people's behaviour. If schema modes can explain why a person behaves in a specific way and make it understandable, a better understanding of the relations between modes and behaviours is needed. The studies conducted so far indicate mixed results. They were conducted based on clinical or mixed groups, regardless of focusing on the search for dependencies (Dadashzadeh et al., 2016) or the therapy effectiveness (Peled et al., 2017). Concededly, research based on clinical groups allows more clear verification of the theory's assumptions because they refer to a specific, usually confirmed diagnostic unit. However, Young argues that schemas and modes are also present in people who cannot be diagnosed with the disorder due to the subclinical severity of symptoms and who complain of various difficulties in functioning, especially in terms of relationships (Young et al., 2003). Such studies have been conducted only in the context of schemas, verifying their importance for assessing the disorder in the non-clinical population (Ashiq et al., 2018; Carr & Francis, 2010a, 2010b; Reeves & Taylor, 2007). However, there is a lack of studies verifying the role of SMs for subclinical personality traits or simply specific behaviours which do not meet the disorder criteria in the non-clinical population. Moreover, most of the cited studies used regression analyses, which allow for the assessment of the importance of factors, but do not consider their mutual interactions. Considering the interrelation between modes may allow estimating how they may strengthen each other regarding their activating frequency. To days no research tried to verify it.

Thus, the presented study aimed to check whether and to what extent schema modes explain the intensification of abnormal personality traits among non-diagnosed people. Schema modes were treated as a relatively stable tendency to react or behave in a specific way. Thus, the study's detailed goal was to investigate the mutual relationships among the schema modes and the frequency of their appearance on the intensity of borderline and narcissistic behaviours.

It was also assumed that the parental modes, as the primary ones, directly affect child modes and, in turn, child modes relate to coping modes (Young et al., 2003). The dependent variables were the intensities of traits of borderline and narcissistic personalities.

Participants and method

Initially, six hundred people aged 18–81 were invited (announcements on social media, personal contacts) and examined by trained psychology students. The examination did not include people who declared present or past mental problems, using psychotherapy or psychiatric help or current difficult life circumstances (such as serious illness, job loss, marital status change, etc.) in the initial interview. Paper versions of the questionnaires were used in the study. Having rejected incomplete data or data that raised doubts about their reliability for further analysis and making the group more homonymous regard to age, questionnaires of 467 people aged 18–50 ($M = 32.87$, $SD = 10.56$) were accepted for further inquiry. 52.9% of them were women. All participants gave their informed consent to the study. Participants did not receive any gratification for participating in the study.

Instruments

The following methods were applied in the study

Structured Clinical Interview for DSM-IV Axis II Personality Disorders—Personality Questionnaire (SCID-II-PQ) was used for measuring abnormal personality traits (First & Gibbon, 2004). In the presented study, the personality traits are treated as specific behaviours, which are typical for personality disorders but less intensive and do not meet the criteria. For more accurate measurement in the non-clinical population, the scale was modified, replacing the dichotomous scale (YES/NO), which causes rarely appearing features not to be captured, with a 5-grade scale, where the

answer NO was assigned to a value of 1, and for the answer 'YES' four options were added to define the frequency of behaviour: 2 – it happened several times, 3 – it happens from time to time, 4 – it happens often, and 5 – it is almost always the case. Only items related to narcissistic (16 items) and borderline (15 items) personalities were used. Even after changing the answering scale, the reliability was still high (Cronbach's alfa was 0.900 for the narcissistic and 0.911 for the borderline scales). SCID-II-PQ has good validity, which allows for use in the diagnosis process.

Schema Mode Inventory (SMI 1.1) (Lobbestael, 2012) was used to measure maladaptive schema modes. SMI consists of 124 items with a six-point frequency scale ranging from 'never' to 'always'. The SMI measures 14 schema modes (each of the schemas is measured by a different number of items) grouped into four domains:

- Child modes: Angry Child, Impulsive Child, Enraged Child, Happy Child, Vulnerable Child, Undisciplined Child;
- Coping modes: Detached Protector, Detached Self-soother, Compliant Surrender, Self-Aggrandiser, Bully and Attack;
- Parental modes: Demanding Parent, Punitive Parent, Healthy Adult.

Healthy Adult and Happy Child have adaptive characteristics. Only maladaptive modes were considered in the research as potentially differentiating maladjusted behavioural traits. Besides, if the healthy modes are included in the structural models, they are usually the only ones significant for explaining the personality features (Mertens et al., 2020), especially in non-clinical samples. In the presented study, the schema modes were treated as traits (a tendency to react or behave in a specific way more or less often) rather than states (which are very difficult to catch in quantitative research).

Cronbach's alfa is between 0.628 for Detached Self-soother mode and 0.912 for Vulnerable Child. The supplementary table S2 show all of the descriptive statistics and reliability values. The correlation matrix (supplementary Table S3) shows significant correlations between all variables. Correlations values, especially between schema modes and personality features, ranging from 0.170 to 0.593, showing that variables are connected but different constructs.

Statistical analyses were performed using IBM SPSS Statistics v. 28 (descriptive statistics, correlations) and AMOS v.26 (Structural Equation Modeling). As the assumption of normality of distribution was not precisely met (skewness and kurtosis in some scales are above 1; see.

Table S2), the Generalized Least Squares estimation method was used, as it is less sensitive to non-asymptotic dispersion. The required sample size was calculated based on rules gathered by Kyriazoz (Kyriazos, 2018). In different assumptions, Structural Equation Modeling requires a minimum of Ns 100–250 to 500. These recommendations for sample sizes differ regarding data quality. In the presented study, it was assumed that the normality of data would not be met (most people have schema modes on the lower level, similarly in the case of personality disorders features). On the other hand, questionnaires used in the study have high reliability, and the communities between them are at least moderate. As the maximum number of variables in the used model is limited, the requirement for a minimum sample size is lower. Using statistical calculators of sample size for the planned number of variables in the model, required N between 472 (for effect size 0.2 and statistical power 0.9) and 376 (for statistical power 0.8) has been obtained.

Results

Structural models for borderline and narcissistic personality traits were developed. In building the models, mutual relations among groups of modes were taken into account, in line with Young's concept. Parental modes were adopted as initial modes—resolving what child mode will be activated by and which Coping modes will be activated to deal with emotions of Child modes (Young et al., 2003). The dependent variables were the characteristics of borderline and narcissistic personality behaviours. Both the modes and the personality traits were treated as observable variables without their indicators (the models would be too complicated). In the first step, all maladaptive modes were included in the models with connections between them. Then, sequentially, insignificant paths were removed. As a result, obtained models consist of variables with significant paths only.

The goodness of fit indices for models and variance for each of the explained personalities are listed in Table 1.

The models' fit indices are at least acceptable, which allows for the interpretation of the results. At the same time, it is worth emphasising that the R^2 indices are relatively high. In the case of borderline features, almost half of the variability is explained, which should be considered a high proportion, especially while measuring these features in the non-clinical group.

Borderline behaviours

All obtained path coefficients (Fig. 1) are significant at $p < 0.001$. Of the Parental modes, only the Punitive Parent mode is significant, and it has the greatest impact on Child modes: Impulsive, Enraged, and Angry (β respectively: 0.56; 0.60; 0.59). The only significant coping mode – Detached Protector – is explained by two modes: Punitive Parent and Angry child ((β resp.: 0.51; 0.34). Enraged and Impulsive Child modes, and also Punitive Parent have a direct impact on

Table 1 Fit indices for models explaining borderline and narcissistic personality features

	Fit indices					R^2
	X^2/df	CFI	AGFI	SRMR	RMSEA (90% CI)	
Threshold for good fitting	≤2	≥0.95	≥0.95	≤0.05	≤0.05	
Threshold for acceptable fitting	≤3	≥0.90	≥0.90	≤0.08	≤0.08	
Borderline	3.056	0.976	0.955	0.0120	0.066 (0.020—0.116)	0.47
Narcissistic	3.375	0.963	0.950	0.0186	0.071 (0.032—0.114)	0.42

χ2/df: relative chi-square; CFI: Comparative Fit Index; AGFI: Adjusted Goodness of Fit Index; RMSEA (90% CI): Root Mean Square Error of Approximation (90% confidence interval); SRMR: Standardised Root Mean Squared Residual; R^2 – explained variance

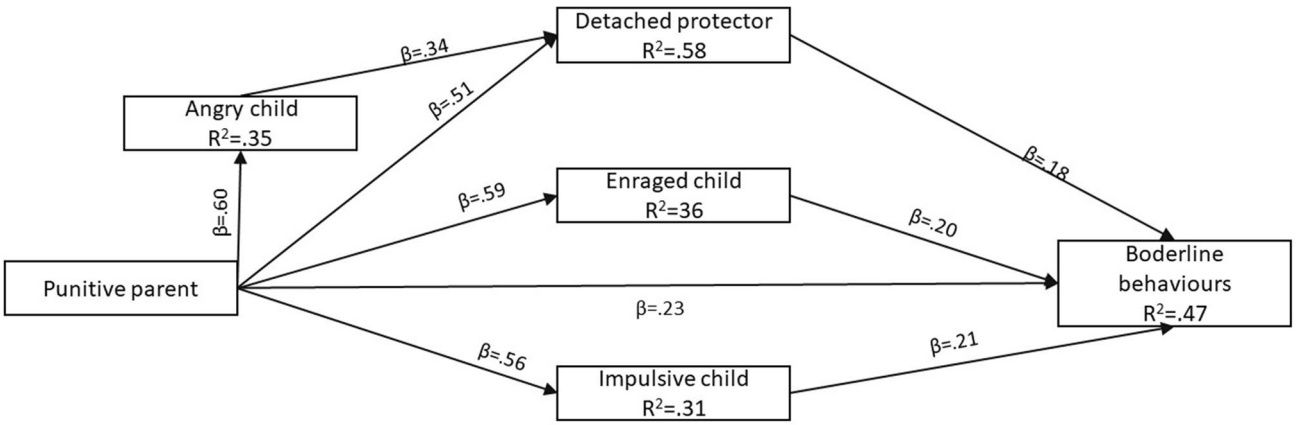

Fig. 1 Pathways between schema modes for borderline behaviours. Note for Fig. 1: All path values are significant at $p < 0.001$; R^2 – explained variance

borderline behaviours (β resp.: 0.20; 0.21; 0.23). The model indicates that borderline behaviours are primarily associated with the anger while coping with these emotions is related to a cut-off attitude, that, in turn, directly explains the behaviour. The Impulsive Child mode is not mediated by any coping mode and demonstrates a direct connection to behaviour. It should also be emphasised that the Parental mode directly relates to the behavioral traits, and the path coefficient is the strongest of all, leading to the explained variable.

Narcissistic behaviours

The obtained model (Fig. 2) reached the accepted fit indices, except for X2/df, in which the threshold value was exceeded. However, all path coefficients are significant at $p < 0.001$. The analysis of the model variables shows that, as in the case of borderline, only the Punitive Parent is significant and directly impacts the same child modes: Enraged (β = 0.61) and Angry (β = 0.60) Child. However, in the case of narcissistic behaviour, the Coping modes are different. Bully and Attack is explained by both Child modes (β respectively.32; 0.44). An interesting relationship is the strengthening of Self-Aggrandizer mode by Bully and attack mode (β = 0.54), which could explain the characteristic connotation of certain superiority behaviours with specific aggression, such as humiliation. A direct relationship with narcissistic behaviours also characterises the Punitive Parent; however, it is slightly weaker (β = 0.15) than in the borderline model.

Discussion

In the presented study, two goals were set. The first one concerned verifying the extent to which schema modes explain the severity of borderline and narcissistic behaviours among healthy people. The estimated structural models for these personality traits showed that the percentage of the explained variance of these behaviour types is relatively high (47% for borderline and 42% for narcissistic). Considering that the explaining variables are only the schema modes, it should be pointed out that this is a significant value. Thus, the schema modes are significant for understanding the behaviour and functioning of people with various levels of borderline and narcissistic traits. Similar values of the explained variance were obtained by Dadashzadeh, Hekmati, Gholizadeh and Abdi (2016) in the studies in the clinical group, where R^2 was respectively 0.53 and 0.46.

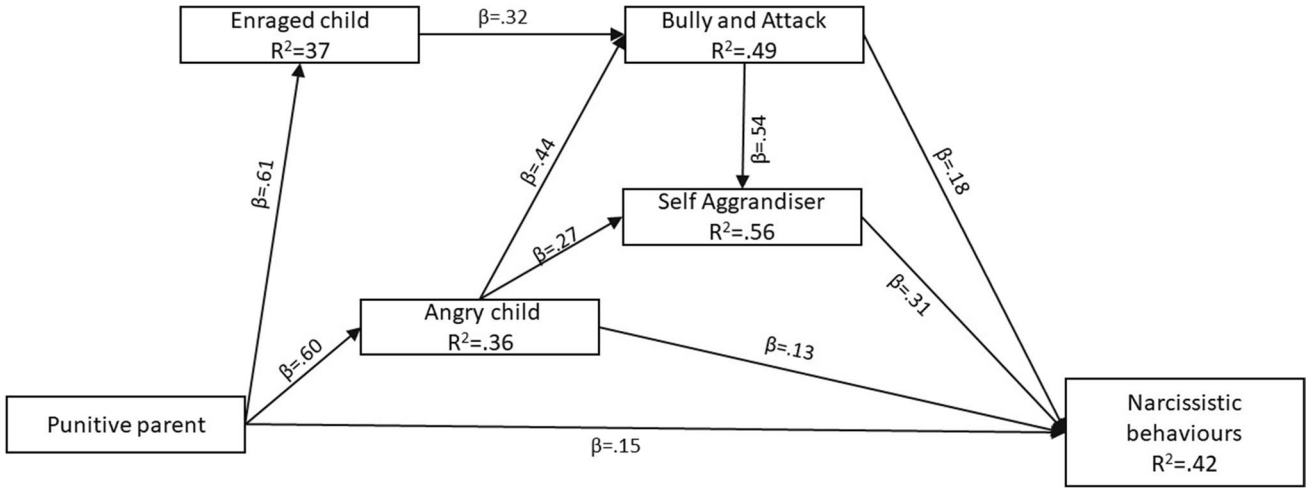

Fig. 2 Pathways between schema modes for narcissistic behaviours. Note for figure 2: All path values are significant at $p < 0.001$; R^2 – explained variance

The study's detailed goal was to investigate the mutual relationships among the schema modes and whether it is possible to indicate the specificity of these relations for a specific type of behaviour. Similar studies have been carried out before, also in non-clinical groups. However, the method usually used was regression analysis, which does not allow for assessing mutual relationships between variables.

Borderline behaviours

People, patients, and also therapists perceive borderline behaviours as unpredictable. Quickly changing states of emotions and behaviours connected with them lead to a person's conviction about losing control of their lives, which intensifies anxiety. Understanding the most often appearing modes and their relations allows for more adaptive coping and feeling more relaxed. Despite how interesting results bring the previous studies, they are limited to a simple description of significant modes and do not recognise mutual dependencies and directions of interactions. It is not helpful for the practice because it does not answer which modes therapists should take care of first.

The model presented in Fig. 1 indicates that modes fundamental to borderline behaviours have specific relations with each other. Punitive Parent mode directly relates to all other modes and borderline behaviour intensity. A punitive parent, an internal punishing voice, denies the right to fulfil normal needs or feel good about oneself, leading to feeling guilty and angry at oneself (Arntz & Jacob, 2016) or others. Anger and impulsivity are reactions to punitive messages from an internalised parent. The more often the Punitive Parent mode is activated, the more often anger modes appear. Consequently, the Punitive Parent turns out to be the mode that needs to decrease from the early stages of therapy.

Angry child mode has no direct relation to borderline behaviour. When it is activated, Detached Protector becomes to be active. Detached Protector is the coping mode that allows the person to cut off from their feelings, when there is no possibility to cope in another way. This mode is usually learned in childhood when the child is too young and undeveloped to cope or manage painful emotions more adaptively. Also, the Detached Protector is associated with a chronic sense of emptiness (Bach & Lobbestael, 2018), which may result from the suppression of emotions. The obtained model suggests that emotions connected to the Angry child can be managed using Detached Protector mode. However, the Enraged Child mode may become active when the anger connected to punitive messages has greater intensity. This mode directly relates to borderline behaviours and, simultaneously, has no relation to Detached Protector. These relations mean that the most intensive emotions cannot be effectively cut off by coping mode, and emotional expression is the only available form of response. Thus, in turn, emotions appear in the behaviour. As indicated earlier, the study by Bach and Lobbestael (2018) also shows that the Enraged Child mode primarily explains the uncontrolled anger criterion. Therefore, for the therapeutic practice, it may be helpful to check if a person has different punitive messages, which may lead to activating different modes: Angry or Enraged Child.

The Impulsive Child mode also has a direct relation to borderline behaviour and no relation to any coping mode. When this mode is active, a person acts on non-core desires and impulses in a selfish or uncontrolled manner and often has difficulty in delaying short-term gratification. Impulsivity is usually connected to temperament and may be considered as a way of behaving, which is typical for a person since childhood (Mącik, 2021; Nilsson et al., 2010).

When an Impulsive Child is activated, impulsive behaviours are observed, focusing on fulfilling the rejected needs and desires. In other words, a person acts (usually without thinking about the consequences) and does not need a coping mode.

Summing up, described dependencies may lead to an initial interpretation, according to which the activation of the Parent–punishing mode may lead to the appearance of Child modes connected to anger. We do not know what determines which Child mode will be activated. One of the assumed hypotheses is the type or significance of the frustrated need – it needs further research. The Impulsive child mode may be the reaction to simple stimuli that makes the observed behaviour chaotic, which is also associated with difficulties in maintaining relationships and, among all, the working alliance during the therapy. When the frustration is more intense, the Angry and Enraged child modes are probably more likely to be activated. Sometimes anger seems to be out of control, and it leads to outbursts. However, anger can also be connected with severe psychological pain. In that case, the coping mode activates to cut off that pain, leading to a sense of emptiness (Arntz and Jacob 2012; Bach & Lobbestael, 2018).

Modes relevant to the borderline type of behaviour have also been proven essential in previous studies. Dadashzadeh's study was one to explain borderline personality best. He obtained Angry and Impulsive child, although Vulnerable child was also an important mode in his research. However, no non-child mode turned out to be significant (Dadashzadeh et al., 2016). The aforementioned Child modes are evaluated as having the most significant role while explaining BPD also in other research (Arntz et al., 2005; Johnston et al., 2009). Only the Detached Protector mode turned out to be significant, as in previous research. Together with the Impulsive Child mode explain dissociation occurring in BPD disorder (Barazandeh et al., 2018), similarly as in the Keulen—de Vos (Keulen - de Vos, et al., 2017) study. Predicting particular BPD traits according to DSM-5 indicated the significance of the same modes as in the presented study. Besides, a similar percentage of explained variance of variables was obtained (Bach & Lobbestael, 2018). This similarity occurred even though the studies were run on different – healthy or clinical—groups. It supports the initial assumption about the disorders continuum and the constancy of the mechanisms behind them. Young assumed that there are no qualitative but only quantitative differences between healthy people and people suffering from a personality disorder, both in terms of the intensity of schemas and modes (Young et al., 2003). In their study report, Bach and Lobbesteal discuss in detail the significance of the relations between diagnostic criteria and the modes explaining them. Impulsive Child mode is associated with the fear of abandonment, unstable relations and impulsivity, Angry Child mode – with identity disturbance and dissociation, Enraged Child mode—with uncontrolled anger, Detached Protector mode with chronic emptiness, and Punitive parent mode—with self-destructiveness (Bach & Lobbestael, 2018).

Narcissistic behaviours

The second analysed behaviour type is the narcissistic one. Similarly to the borderline, it also can be a therapeutic challenge due to strong, well-established patterns of behaviours, which are not easy to change.

As it was in the case of borderline behaviour, an important parental mode is Punitive Parent mode, and the Child modes are also similar: Angry and Enraged Child modes. The coping modes are the ones that differentiate narcissistic from borderline behaviours. In this case, the modes from the overcompensation area are important: Bully and Attack, and Self-Aggrandizer modes.

Enraged Child mode enhances only Bully and Attack mode, connected to harming other people in a controlled and strategic way to overcompensate a person's weakness or prevent abuse or harm. A narcissistic person usually aims to be better than others, so they must control themselves, and showing emotions is perceived as a weakness. It explains why an Enraged Child has no direct relation to narcissistic behaviours but is mediated by Bully and Attack mode. Similarly, Angry Child is connected both to Bully and Attack, and to Self-Aggrandizer modes. Self-Aggrandizer is a mode in which a person behaves in an entitled, abusive, and self-absorbed way without empathy for others. It is also worth noting that the Bully and Attack mode has stronger relation to Self-Aggrandizer than to narcissistic behaviours. It may suggest that a person may use aggressive behaviours mainly to prevent harm by building superiority based on behaviours that take advantage of others (including manipulative or controlling behaviours). Consequently, only a part of Bully and Attack mode behaviours is expressed directly and compose one of the narcissistic criteria, similarly as only a part of Angry child.

Only a few studies have verified schema modes in the narcissistic personality, and those that exist differ in the obtained results. In studies by Keulen—de Vos et al. internalising factors understood mainly as child modes were important for the features of NPD. On the other hand, the correlation analysis showed that Self-Aggrandizer was significant, which is in line with the obtained results, but Bully and Attack was not (Keulen - de Vos, et al., 2017). Dadashzadeh et al., (2016) obtained similar results, although both Bully and Attack and Angry Child indicated significant correlations in their study. Bamelis also confirms the role of Self-Aggrandizer but indicates other modes important for narcissistic features (Bamelis et al., 2011) that did not turn out to be significant in the

presented study, such as Self-Soother and Undisciplined Child. Self-Aggrandizer and Bully and Attack were the only modes that showed significant correlation coefficients with NPD personality in the Lobbestael study (Lobbestael et al., 2008). They point out, however, that while these results do not align with Young's assumptions, in which he did not include anger-related modes, anger is a crucial aspect of NPD in their research. The cited studies and those presented here are not entirely consistent with Young's assumptions. He assumed that the most characteristic modes of NPD are Lonely Child, Detached Self-Soother and Self-Aggrandizer (Young et al., 2003). Only the latter mode is repeated regularly in various studies.

Conclusions and limitations

The presented study is probably the first to verify the significance of specific modes for the severity of the disordered personality traits and behaviours but also the mutual relations between them and the reinforcement directions. Only Mertens conducted similar, although more simplified, mediation analyses (Mertens et al., 2020). Also, the present research was conducted on non-diagnosed people who exhibit (in different intensity) behaviours typical for personality disorders.

However, the obtained results are only partially consistent with Young's conceptualisation, bringing some important findings. First, both behaviour types, connected to cluster B disorders of personality, are similar in terms of Parental and Child modes. The Punitive Parent and Child modes connected with anger are crucial in both. Differences concern only coping modes. Consequently, both types of behaviours have the same or similar inner reasons, which means that working with the problem of different behaviours may also be partially similar. Coping modes are distinguishing – in the case of borderline, we observe rather emotional reactions and lack of control, while in narcissistic behaviours—controlling and avoiding harm through aggressive and abusive behaviours. These findings may indicate to practitioners schema modes, which working with is the most helpful.

However, the presented research does not answer why people choose different ways of coping, and as a consequence, different coping modes are present. One of the reasons may be temperament or modelling of behaviour by significant people, e.g. parents or peers. That doubts are a problem to solve in further research.

The study has some limitations. The most important issue that should be considered is that the study was conducted on a group of healthy people. On the one hand, this allows for obtaining a large sample, which increases the strength of inference. In addition, a non-clinical sample represents a broader range of specific behaviours than clinical ones, and some behaviours may be more distinguishing. Thus, examining schema modes among non-clinical adults might be a more powerful way to examine the full range of the relevant constructs. In addition, the examination of healthy people allows for reducing the effect of co-occurrence of other disorders or life history. On the other hand, the obtained results do not refer to disorders, so they do not allow for their generalisation, especially for clinical groups. It is also not possible to fully control what we are examining and whether certain behaviours that are diagnostic for personality disorders have the same meaning for healthy people. The problem is much broader (Trull & Durrett, 2005).

Another limitation of the research is the lack of gender distinction. Most studies included both genders in the analyses (often also mixing healthy people and diagnosed with personality disorders). However, gender may be associated not only with a specific type of emotional experience but also with the dominant behaviours; thus, conducting such analysis in two groups may bring new infromation. This limitation is based on Braamhorst's research, which showed that when the diagnosis is not precise, as in the case of mixed sub-threshold features, sex bias is significant. He emphasises the need for caution in classifying personality disorders, especially borderline or narcissistic traits (Braamhorst et al., 2015).

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Data availability Data availability: https://doi.org/10.6084/m9.figshare.13816034.v1.

Declarations

Ethics approval Ethical approval was obtained from John Paul II Catholic University of Lublin Ethics Committee for Scientific Research (reference 2016.09.06). The research was conducted in accordance with the Helsinki Declaration.

Consent to participate Verbal informed consent was obtained prior to the interview.

Conflict of interests Author certify that have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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