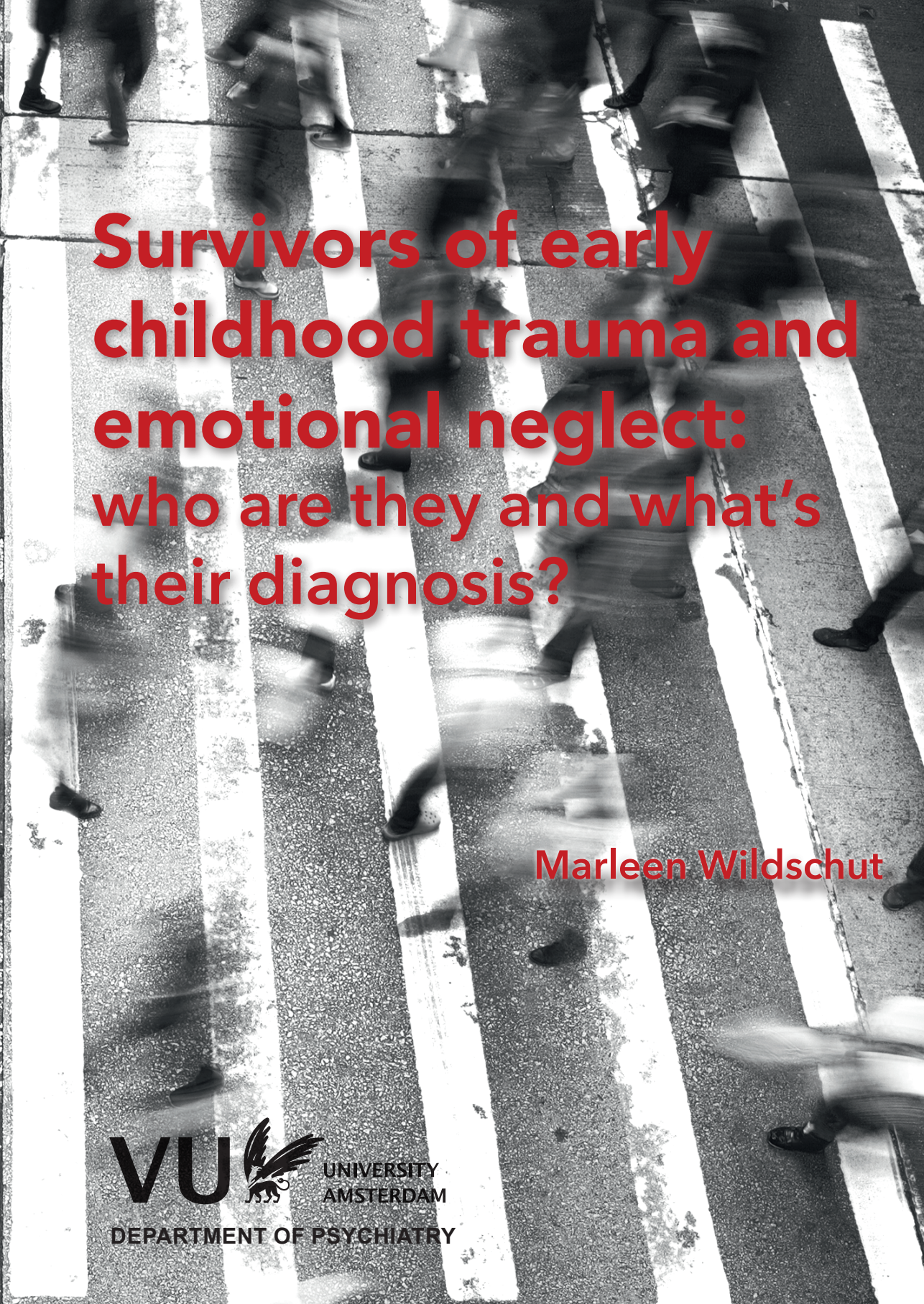

Survivors of early childhood trauma and emotional neglect: who are they and what's their diagnosis?

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ACADEMISCH PROEFSCHRIFT

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de Vrije Universiteit Amsterdam,
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door

Maria Magdalena Wildschut

geboren te Delfzijl

promotor:	prof.dr. J.H. Smit
copromotoren:	dr. N. Draijer
	dr. W. Langeland

Niets bestaat dat niet iets anders aanraakt

- Jeroen Brouwers, *Bezonken Rood*

Opgedragen aan Chris Koopmans

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Chapter one

General introduction

General introduction

In a hospital for patients with trauma-related disorders, dissociative disorders, and personality disorders two rather painful incidents occur during the same week. Anna refuses to leave her therapists' room after he tells her that he is going on holiday soon. Only after several hours have passed and the therapist threatens to call security, Anna leaves the premises. In the same week Barbara, during a sudden rage of anger, attacks her therapist and tries to bite him. Because Barbara is only a small woman, her therapist succeeds in wearing her off and not getting bitten. Anna was previously diagnosed with borderline personality disorder (BPD), Barbara with dissociative identity disorder (DID).

While discussing both incidents, the staff quickly concludes that Anna should be more restrained in her claiming behaviour, otherwise the continuation of her treatment in the hospital will be questioned. Barbara's treatment should actually be (temporarily) terminated, because she physically attacked her therapist, but, since her therapist believes that Barbara's behaviour is due to an aggressive alter that has come forward due to the therapy, the staff feels that it would not be wise to terminate Barbara's treatment now.

It is easy to feel pity for Barbara, because she has suffered so much during her childhood, while Anna is mostly seen as troublesome. Barbara has a disorder related to early childhood trauma, which implies that her problems are not created by herself. Anna has a personality disorder, what seems to mean as much as that she has been caught in unhealthy patterns of behaviour that have limited her functioning for years.

The comparison between Anna and Barbara, the way they are being treated and the way the staff views their problems, seems unjust. Probably Anna had a troubled, traumatic childhood too and Barbara's behaviour is just as difficult as Anna's.

This raises the question which patients will be eligible for treatment in highly specialized institutions for survivors of early childhood trauma and emotional neglect. In

other words: who are the survivors of early childhood trauma and emotional neglect and what is their diagnosis? Also, to be able to determine what should be the focus of treatment requires research on how the relationship between trauma-related disorders, dissociative disorders, and personality disorders must be understood. An improvement in understanding the relationship between these disorders and the role early childhood trauma and emotional neglect play in them could lead to a more accurate decision-making policy and clarify the view on these disorders in general.

1. Trauma-related disorders, dissociative disorders, and personality disorders

1.1 Trauma-related disorders

Over the last decades the validity of posttraumatic stress disorder (PTSD) has become well established and it is currently considered one of the most prevalent and disabling psychiatric disorders in civilian and military populations (Moreau & Zisook, 2002). Perhaps the most substantial conceptual change in the *DSM-5* for PTSD was the removal of the disorder from the anxiety disorders category. Considerable research has demonstrated that PTSD entails multiple emotions (e.g., guilt, shame, anger) outside of the fear/anxiety spectrum, thus providing evidence inconsistent with inclusion of PTSD with the anxiety disorders. In the *DSM-5 (APA, 2013),* PTSD was placed in a new diagnostic category named Trauma and Stressor-related Disorders indicating a common focus of the disorders in it as relating to adverse events. This diagnostic category is distinctive among psychiatric disorders in the requirement of exposure to a stressful event as a precondition. Other disorders included in this diagnostic category are adjustment disorder, reactive attachment disorder, disinhibited social engagement disorder, and acute stress disorder (Pai, Suris, & North, 2017).

In the nineties of the last century, several trauma researchers collaborated on the DSM-IV PTSD Field Trials to examine a group of symptoms not addressed by the PTSD

diagnosis and perceived in survivors of prolonged and repeated trauma (e.g., Roth et al., 1997), and named it Complex PTSD (Herman, 1992). In addition to the PTSD symptoms, this constellation of symptoms consists of affect dysregulation, disturbances in self-concept and interpersonal functioning (Herman, 1992). Finally, these symptoms were incorporated in the DSM-IV under 'associated features of PTSD' (APA, 1994). Despite a lot of debate, Complex PTSD is not added to DSM-5. However, the 11th edition of the International Classification of Diseases (ICD-11) may include Complex PTSD (Cloitre et al., 2013) and the idea of a complex form of PTSD is incorporated in DSM-5 to some extent by including a dissociative subtype of PTSD. Furthermore, Complex PTSD symptoms - for example, reckless or self-destructive behavior - are now added to the DSM-5 PTSD profile, allowing to include more severe cases under this heading.

1.2 Dissociative disorders

Dissociative disorders are characterized by a disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment. To be considered a manifestation of a dissociative disorder, these disruptions must not be part of a neurological condition and should not be explainable through ordinary processes such as overlearning or distraction. Dissociative alterations can occur in every major psychological process, including the sense of self and the surrounding environment, emotions, memory, general state of consciousness, and identity (Gleaves, May, & Cardeña, 2001). DSM-5 encompasses the following dissociative disorders: dissociative identity disorder, dissociative amnesia, depersonalization/derealization disorder, other specified dissociative disorder and unspecified dissociative disorder (the latter two replacing DSM-IV dissociative disorder not otherwise specified).

1.3 Personality disorders

An individual's personality emerges from at least two sources: temperament (the genetic component) and character (the shaping and molding effects of experience – either healthy or disruptive – during early development, particularly childhood attachment processes). While great progress has been made, it remains challenging to reach a broad consensus on the best way to classify different personality types, and to differentiate the normal range and variety of personality types from what we call personality disorders (Oldham, 2015). The APA Board of Trustees voted to sustain the DSM-IV diagnostic system for personality disorders, virtually unchanged, in the main section of DSM-5 and to include a proposed new model as an 'alternative DSM-5 model for personality disorders' in Section III, the section referred to as 'Emerging measures and models' (Oldham, 2015). The DSM-5 personality disorders are paranoid personality disorder, schizoid personality disorder, schizotypal personality disorder, antisocial personality disorder, borderline personality disorder (BPD), histrionic personality disorder, narcissistic personality disorder, avoidant personality disorder, dependent personality disorder, and obsessive-compulsive personality disorder.

2. Early childhood trauma and emotional neglect

2.1 Clinical picture

Early life stress in the form of sexual abuse, physical abuse, emotional abuse, physical neglect, and emotional neglect has been the focus of numerous studies. It has been associated with the onset and the severity of psychiatric disorders in adults. Scientific evidence shows that early life stress triggers, aggravates, maintains, and increases the recurrence of psychiatric disorders (Carr, Martins, Stingel, Lemgruber, & Juruena, 2013). Terr (1991) distinguished two types of trauma: Type I versus Type II. Type I traumatic conditions follow from unanticipated single events, whereas Type II conditions follow from long-standing or repeated

exposure to extreme external events (as for example, a child being sexually abused by a parent). According to Terr (1991), Type II traumas appear to breed personality problems.

2.2 Why is it so hard to distinguish trauma-related disorders, dissociative disorders, and personality disorders in survivors of early childhood trauma and emotional neglect?

The relationship between trauma-related disorders, dissociative disorders, personality disorders, and early childhood trauma and emotional neglect is far from clear. In 1987, Herman and Van der Kolk were the first to express their amazement about the relationship between BPD and early childhood trauma never being systematically investigated. This publication led to a host of publications about the relationship between BPD and early childhood trauma (e.g., Bandelow et al., 2005; Herman, Perry, & van der Kolk, 1989; Links & Van Reekum, 1993; Nigg et al., 1991), followed by publications about early childhood trauma and other personality disorders (e.g., Berenbaum, Thompson, Milanak, Boden, & Bredemeier, 2008; Johnson, Cohen, Brown, Smailes, & Bernstein, 1999; Luntz & Widom, 1994). However, research in this area is still limited by methodological problems.

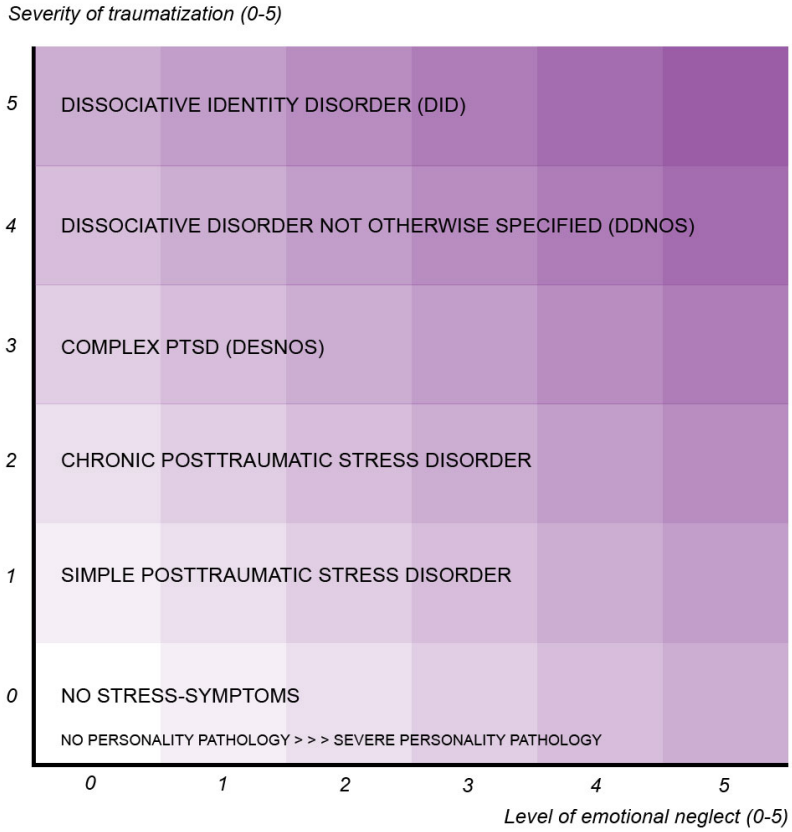
Shared etiology and overlapping clinical features are among the probable causes for substantial comorbidity rates for trauma-related and personality disorders (Zlotnick et al., 2003). The severe disability and chronicity of these disorders, high comorbidity rates, and high levels of health care utilization by these patient groups give major clinical and public health significance to the question about the distinction of trauma-related, dissociative, and personality disorders in survivors of childhood trauma and emotional neglect. Furthermore, in daily clinical practice, these groups of patients tend to be separated by diagnostic-driven treatment programs that focus either on trauma-related disorders and dissociative disorders or on personality disorders. Treatment programs for trauma-related disorders focus mainly on symptom oriented approaches, considering patients in short as suffering from complaints

caused by being victimized, whereas treatment programs for personality disorders focus mainly on person oriented treatment approaches, considering patients in short as being caught in unhealthy patterns of (interpersonal) behavior that have limited functioning for years.

3. A two dimensional model of the impact of trauma and emotional neglect

Driven by the question of treatment indication and treatability, Draijer (2003) proposed a two dimensional model of the spectrum of trauma-related disorders, dissociative disorders, and personality disorders (see Figure 1).

Figure 1: A two dimensional model for the spectrum of trauma-related disorders, dissociative disorders, and personality disorders



Two dimensions ‘colour’ the spectrum. The first dimension, situated on the y-axis, consists of the range of trauma-related disorders in increasing severity, ranging from no stress-symptoms after an stressful incident, to PTSD, chronic and complex, to dissociative disorders, with dissociative identity disorder at the extreme. This dimension is thought of as being related to an increase in reported severity of the trauma endured. This severity fluctuates, depending for example on such factors as the age at which the trauma occurred, how much force was used, how frequently it occurred, and the relationship to the perpetrator.

The second dimension, situated on the x-axis, consists of the severity of personality pathology, which is hypothesized as being related to emotional neglect or, in other words, the quality of the early attachment to the primary caregivers. The ‘darker’ colored psychopathology is expected to show less and slower clinical improvement than the ‘lighter’ colored psychopathology (Swart, Wildschut, Draijer, Langeland, & Smit, 2017).

4. Aims and outline of this thesis

The overall objective of this thesis is to study the relationship between trauma-related disorders, dissociative disorders, and personality disorders in survivors of early childhood trauma and emotional neglect. **Chapter two** gives a theoretical outline of the scientific history of research on early childhood trauma, emotional neglect, trauma-related disorders, dissociative disorders, and personality disorders, and provides the study protocol of the current thesis. In **Chapter three**, we test the usefulness of the diffuse process that characterizes clinical decision making in the context of established, diagnostic-driven treatment programs by investigating the similarities and differences in symptomatology and reported histories of childhood trauma and emotional neglect between two naturalistic patient groups in a specialized mental health care setting.

The second aim of this thesis was to contribute to the research on the relationship between trauma-related, dissociative, and personality disorders by attempting to add quantitative data to Draijer's model. Regarding profiling and staging of therapy, a distinction between diagnostic categories may not be useful when focusing on survivors of early childhood trauma and emotional neglect. Eventually, the model – once validated – could be related to treatment outcome.

In **Chapter four**, we quantify the y-axis, or the trauma axis, of the model. We test whether differences in the severity of retrospectively reported traumatic experiences in child- and adulthood are related to a dimension of trauma-related and dissociative disorders in such a way that more severe trauma is linked to more severe disorders. In **Chapter five**, we quantify the x-axis of the model. This axis aims to measure emotional neglect and is assumed to be related to personality pathology. We test whether an association between retrospective reports of emotional neglect and the presence and severity of personality pathology exists.

In **Chapter six**, the model as a whole is quantified, relating the model to 'psychiatric disease burden', hypothesizing that patients with low burden are located in the south-west corner of the proposed model, while patients with high burden are located in the north-east corner of the model. Finally, **Chapter seven** summarizes the main findings of this thesis and discusses their implications.

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Chapter two

Survivors of early childhood trauma: evaluating a two dimensional diagnostic model of the impact of trauma and neglect

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Abstract

Background: A two dimensional diagnostic model for (complex) trauma-related and personality disorders has been proposed to assess the severity and prognosis of the impact of early childhood trauma and emotional neglect (Draijer, 2003). An important question that awaits empirical examination is whether a distinction between trauma-related disorders and personality disorders reflects reality when focusing on survivors of early childhood trauma. And, is a continuum of trauma - diagnoses a correct assumption and if yes, what does it look like?

Objective: We describe the design of a cross-sectional cohort study evaluating this two dimensional model of the impact of trauma and neglect. To provide the rationale of our study objectives, we review the existent literature on the impact of early childhood trauma and neglect on trauma-related disorders and personality disorders. Aims of the study are: 1. to quantify the two dimensional model and to test the relation with trauma and neglect; 2. to compare the two study groups.

Method: Two hundred consecutive patients referred to two specific treatment programs (100 from a personality disorder program and 100 from a trauma-related disorder program) in the north of Holland will be included. Data are collected at the start of treatment. The assessments include all DSM-5 trauma-related and personality disorders and general psychiatric symptoms, trauma history and perceived emotional neglect.

Discussion: The results will provide an evaluation of the model and an improvement of the understanding of the relationship between trauma-related disorders and personality disorders and early childhood trauma and emotional neglect. This may improve both diagnostic as well as indication procedures. We will discuss possible strengths and limitations of the design.

Keywords: *trauma-related disorders; personality disorders; early childhood trauma; emotional neglect; treatment indication; diagnostics*

Introduction

A couple of years ago across The Netherlands so-called Top Referent Trauma Centres (TRTC's) were founded. The main goal of these tertiary Centres is to improve specialized diagnosis of and treatment for adult survivors of early childhood trauma. The centres were flooded by patients with a wide range of pathology. There is a question to be answered, though. Who are these adult survivors of early childhood trauma in terms of clinical characteristics? And more specific: do patients with personality disorders belong to this group?

When this inclusion question was raised during meetings on the development of guidelines for assessment and treatment planning of the TRTC's, the discussion focused on patients with borderline personality disorder (BPD). Patients with BPD seem to be the most likely personality disordered survivors of early childhood trauma. However, are these patients to be included in specific treatments within TRTC's? Especially or only when there is a co-morbid trauma-related diagnosis, such as PTSD and/or dissociative disorders? Or do borderlines simply cloud an otherwise pretty clear picture of early traumatized patients?

In the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5, APA, 2013), trauma-related disorders and personality disorders are still conceptualized as distinct diagnostic categories. When focusing on survivors of early childhood trauma, however, this distinction in diagnostic categories may not make sense. The nature of the problems of survivors of early childhood trauma might be viewed from a problem-oriented as well as a person-oriented approach. Studies to date tend to focus on separate disorders, rather than employing a dimensional model of the impact of trauma and emotional neglect, discussed later, and thus making it difficult to view both diagnostic categories as intertwined when it comes to survivors of early childhood trauma. The current paper presents the design and objectives of our study evaluating a two dimensional diagnostic model (Draijer, 2003) to

examine the clinical characteristics of the two diagnostic categories. The study was designed to address two objectives: the primary aim is to quantify the dimensional model and to test the relation with trauma and emotional neglect, and the secondary aim is to compare the two study groups. In order to provide the rationale of the study goals and aims, we first briefly review the research on personality disorders and trauma-related disorders in relation to early childhood trauma, findings which have led to the proposal of the dimensional model (Draijer, 2003) that forms the basis of our study. Then problems in defining early childhood trauma are considered. Finally, we present the design of our study to evaluate the dimensional model.

Rationale of the study

While clinically personality disorders and (complex) trauma-related disorders overlap, the existing research does not reflect this overlap so far and relevant studies to date suffer from a variety of methodological shortcomings (e.g. Fossati, Maddedu & Maffei, 1999). Many studies have focused on the relationship between BPD and early childhood trauma (e.g., Bandelow et al., 2005; Herman, Perry & van der Kolk, 1989; Nigg et al., 1991; Silk, Lee, Hill & Lohr, 1995). Other studies took a broader perspective and focused on the relationship between early childhood trauma and personality disorders in general (e.g., Driessen, Schroeder, Widmann, von Schönfeld & Schneider, 2006; Weber et al., 2008) as well as specific personality disorders (e.g., Johnson, Smailes, Cohen, Brown & Bernstein, 2000; Krischer & Sevecke, 2008). However, much of the research done in this area has been limited by design problems, such as the use of different control subjects and different definitions of sexual abuse, the use of unfit study designs or measures for personality disorders (Fossati et al., 1999). For example, studies tend to measure ‘personality disorders’ in a dimensional way, sometimes in relatively healthy samples, without subjects actually having a clinical diagnose of a personality disorder (e.g., Berenbaum, Thompson, Milanak, Boden &

Bredemeier, 2008; Johnson, Cohen, Brown, Smailes & Bernstein, 1999). Concerning the instruments used, Allen, Huntoon & Evans, (1999), Johnson, Sheahan & Chard (2003) and Shea, Zlotnick & Weisberg (1999) for example, depend on self-report measures for establishing a clinical diagnosis of a personality disorder, whereas such a measure should ideally be used as a screener only. Laporte & Guttman (1996) used psychiatric records of female patients with a discharge diagnosis of personality disorder, which are not standardized and therefore unreliable, to establish a population of women with personality disorders. Finally, methodologically sound studies like the Collaborative Longitudinal Study of Personality Disorders (McGlashan et al., 2000; Zlotnick et al., 2003) focus on certain personality disorders, not all, thus limiting the scope of the study. To our knowledge, no methodologically sound studies are available in which all personality disorders are considered.

Since the 1980's the study of (complex) posttraumatic stress disorder and dissociative disorders, also known as trauma-related disorders, developed. Traditionally, dissociative disorders have been associated with early childhood trauma (as will be discussed below), while the study of complex posttraumatic stress disorder includes also traumatic experiences in adult life.

Based upon the DSM-IV Posttraumatic Stress Disorder Field Trials, the feasibility of a constellation of trauma-related symptoms not addressed by the PTSD diagnosis, referred to under a variety of names, including Complex PTSD (Herman, 1992), complicated PTSD, disorders of extreme stress and disorders of extreme stress not otherwise specified (Van der Kolk et al., 1996, 2005) was examined. Also, the reliability of a structured interview to measure this symptom constellation was investigated. Finally, this symptom constellation was incorporated into the DSM-IV nomenclature under 'associated features of PTSD' (APA DSM-IV, page 456, 1994). Nine of the 12 symptoms listed under the associated features of

PTSD are derived from the Complex PTSD theory and constellation based upon the DSM-IV PTSD Field Trials (Roth, Newman, Pelcovitz, Van der Kolk & Mandel, 1997). These field trials did not address the comorbidity or overlap with personality disorders, though (Van der Kolk, Roth, Pelcovitz, Sunday & Spinazolla, 2005). On the verge of the fifth edition of DSM, almost twenty years after DSM-IV, there was still much debate about the construct validity of Complex PTSD (Herman, 2012, Resick et al., 2012). The conclusion is that there is insufficient evidence to warrant the addition of a Complex PTSD diagnosis in the DSM-5. A Complex PTSD diagnosis might be added in the upcoming eleventh edition of the International Classification of Disorders (ICD-11), though (Cloitre, Garvert, Brewin, Bryant, & Maercker, 2013).

The co-occurrence of dissociative disorders and personality disorders has been investigated among adults in the community. Johnson et al. (2005) found that individuals with personality disorders were substantially more likely than those without personality disorders to have a dissociative disorder. Sar, Akyüz & Dogan (2007), using a sample of women from a city in a less-industrialized part of Turkey, found that among the group of women with dissociative pathology the psychiatric co-morbidity in terms of lifetime PTSD and BPD (the only personality disorder measured in the sample) was significantly higher than for the other study participants. Also, in clinical samples among patients with dissociative disorders severe personality pathology was found (Boon & Draijer, 1993). Apparently, the two disorders are linked.

Most of the studies in this area consistently focused on early childhood trauma (which in itself, however, is far from a unified concept, as will become clear below) as a possible etiologic mechanism or risk factor, which makes several investigations relatively easy to compare.

Compared to the research on the co-occurrence of dissociative disorders and personality disorders it is much more difficult to make comparisons between research on personality disorders and on (complex) posttraumatic stress disorder. Most research in this area has focused on personality disorders and PTSD without distinguishing between Type I (simple) and Type II (complex) trauma (Terr, 1991) and without distinguishing between early childhood trauma and adult trauma, which is mostly the case in research with samples of combat veterans (e.g., Southwick, Yehuda & Giller, 1993). Also, the research in this area has focused on several, but not all of the personality disorders (e.g., Shea et al., 2000). Our study is designed to assess not only all personality disorders, but also all trauma-related disorders and to distinguish early childhood trauma from adult trauma and to distinguish trauma (being overwhelmed) from emotional neglect (being unreflected by important others). This design enables us to quantify the dimensional model and to compare the two study groups.

In addition to the paucity of data from studies examining personality disorders and trauma-related disorders in a combined way, studies to date suffer from problems in the choice of a definition of early childhood trauma (Fossati et al., 1999). After the publication of the landmark article 'Traumatic Antecedents of Borderline Personality Disorder' by Herman and Van der Kolk (1987), the main focus in childhood trauma research has been on sexual abuse alone (e.g., Silk et al., 1995) or combined with physical abuse (e.g., Goldman, D' Angelo, DeMaso & Mezzacappa 1992).

In the nineteen eighties in The Netherlands attention was drawn to the impact of emotional neglect as well, in addition to and separate from, childhood trauma: neglect increased the risk of occurrence of childhood trauma and also turned out to contribute independently to the psychological consequences of childhood trauma (Draijer, 1988). Neglect in the early social environment renders trauma more likely to exert a lasting effect,

because the child is unable to either experience or perceive the support of a caregiver able to offset the physiological disturbance caused by trauma (Sabo, 1997).

Emotional neglect has been operationalized in research by Parker, Tupling & Brown (1979) as (perceived) lack of care and overprotection and is measured with the Parental Bonding Instrument (PBI). Parental dysfunction -- i.e. parents being emotionally or physically unstable due to mental illness or substance abuse -- contributes to emotional neglect. Parental dysfunction is one conceptualization of emotional neglect, referring to the unavailability of parents due to recurrent illness, nervousness, depression, alcohol misuse, or use of sedatives. This measure has been validated by relating it to the lack of parental affection, as measured with the Parental Bonding Instrument (see Draijer & Langeland, 1999). It was found to be a good indicator of emotional neglect, with the advantage that is refers to factual, observable behaviour of parents rather than to more subjective indications of their unavailability or lack of affection.

In their study of childhood trauma and perceived parental dysfunction in the etiology of dissociative symptoms, Draijer & Langeland (1999) found that the severity of dissociative symptoms was best predicted by reported sexual abuse, physical abuse, and maternal dysfunction. Based upon their findings, the authors concluded that dissociation, although trauma-related, is neglect-related as well. Johnson et al. (2005), in a literature review of the developmental psychopathology of personality disorders, state that research indicates that childhood neglect and maladaptive parenting are independently associated with elevated risk for personality disorder even after childhood abuse and parental psychiatric disorders are accounted for.

The literature on personality disorders in general or on specific personality disorders in particular, shows a tendency to report either on trauma or neglect or on both (e.g., Liotti, Pasquini & Cirrincione, 2000). Research on personality disorders and posttraumatic stress

disorder focuses primarily on trauma (e.g., Golier et al., 2003; Shea et al., 2000); only a few researchers pay attention to both trauma and neglect (e.g., Allen et al., 1999).

The literature about dissociative disorders has traditionally focused on the impact of (severe) trauma (Gleaves, May & Cardena, 2001). However, there is a growing body of research on the effects of neglect on dissociation. Nash, Hulsely, Sexton, Harralson & Lambert (1993) concluded that abuse was associated with greater use of dissociation, but that this effect was accounted for by family pathology. In a prospective study using a nonclinical, low-income sample of young adults followed from infancy to age 19, Dutra, Bureau, Holmes, Lyubchik & Lyons-Ruth (2009) found that dissociation in young adulthood was significantly predicted by observed lack of parental responsiveness in infancy, while childhood verbal abuse was the only type of trauma that added to the prediction of dissociation. As described earlier Draijer & Langeland (1999) concluded that, among psychiatric inpatients, dissociation, although trauma-related, is neglect-related as well.

In sum, considering the literature on personality disorders and trauma-related disorders, there seems to be a wide variety in the measurement of personality disorders and trauma-related disorders as well as in the measurement of (early childhood) trauma and neglect. This makes it very difficult to draw conclusions about the relationship between trauma-related disorders -- PTSD, Complex PTSD, dissociative disorders -- and personality disorders based upon the existing research. As our study incorporates data collection on all personality disorders, all trauma-related disorders, as well as early childhood trauma and emotional neglect, our study may contribute to an understanding of differential characteristics of patient groups.

A dimensional model of the impact of trauma and neglect; research questions

Study findings in the research areas described above have led to the proposal of a two dimensional diagnostic model (Draijer, 2003; see Figure 1) that accounts for both the influence of trauma as well as the influence of neglect on the development of trauma-related disorders and personality disorders respectively. The model was published in The Netherlands and internationally introduced at the annual conference of the International Society for the Study of Trauma and Dissociation (ISSTD) in Washington DC, in 2009. The primary aim of our study is to quantify this dimensional model and to test the relation with trauma and neglect.

Draijer uses two dimensions to 'colour' the spectrum of trauma-related disorders and personality disorders and to give an indication of their treatability by psychotherapy. The first dimension, situated on the y-axis, consists of the severity of the trauma endured. This severity fluctuates depending for example, on factors such as the age at which the trauma occurred, whether it was physically intrusive, how much force was used, how frequently it occurred, the relationship to the perpetrator, and the number of perpetrators. This dimension is assumed to be related primarily to trauma-related disorders. The second dimension, situated on the x-axis, consists of the severity of emotional neglect or, in other words, the (negative) quality of the early bond with the primary caregivers. This dimension might be related to personality pathology as well as to trauma-related disorders.

The strength of this model is that it incorporates both a varying trauma-related perspective as well as a personality disorder perspective, so every patient can be 'located' somewhere in the two dimensional square. Although the model has shown its clinical relevance already, an important question to be answered is how does the model relate to reality? Is it possible to relate the categorical diagnoses of trauma-related disorders and personality disorders to a diagnostic square, vertically, the severity of trauma and, horizontally, the quality of (perceived) emotional neglect, in a quantified way? Eventually, the

square --once validated-- could be related to psychotherapeutic treatment response and be helpful in treatment indication: the darker the square, the greater the chance that psychotherapy will not be effective.

Method

Participants

To quantify the model, we will study two cohorts -- one consisting of consecutively referred patients with a clinical diagnosis of a trauma-related disorder (N=100), the other consisting of consecutively referred patients with a clinical diagnosis of a personality disorder (N=100) -- in the Dutch province of Friesland, in the north of Holland. The assessments are embedded within the local Routine Outcome Monitoring system.

In Friesland all psychiatric care is divided into diagnostic-driven treatment programs. The patients will be subjected to a similar diagnostic procedure at the start of treatment, using well validated diagnostic instruments designed to measure all DSM-IV trauma-related disorders and personality disorders. Inclusion criteria are: being referred for treatment to either a personality disorders treatment program or a trauma-related disorders treatment program (the latter program is the TRTC-program, aimed specifically at adult survivors of prolonged early childhood trauma). The exclusion criterion is insufficient mastery of the Dutch language.

Study design

Considering the number of patients referred to both treatment programs, it will be possible to include all patients consecutively referred to the trauma-related disorders program (which only provides outpatient care) during a time period of 1,5 years. Due to the larger set-up of the personality disorders program (which also has inpatient facilities) we will include all

consecutively referred patients given a time-frame of multiple months in one department and then move on to the next. The study protocol has been reviewed and approved by the Medical Ethics Committee of the Stichting Medisch-Ethische Toetsingscommissie Instellingen Geestelijke Gezondheidszorg (METiGG; registration no. 11.121).

Procedure

Patients are contacted by an interviewer after admission to treatment in one of the two specific treatment programs. If patients agree to participate informed consent is obtained and patients are scheduled for their first appointment with the interviewer. The patient decides how many appointments it takes to complete the whole battery of assessment instruments (usually it takes 4 appointments, since the whole battery takes about 10 hours to administer) and most patients take the self-report questionnaires home (though the possibility to have assistance when filling in the questionnaires is offered). All interviewers are trained and supervised psychologists. Most interviews are videotaped and evaluated during supervision. After the administration of all instruments, the patient is provided with the results in the form of a psychological report.

Assessments

All assessments include standardized measures. Table 1 provides an overview of the instruments that comprise the whole assessment. We will describe the instruments in more detail below.

For the measurement of traumatic experiences (loss of primary caretakers, witnessing violence between primary caretakers, physical abuse, sexual abuse and other shocking events during child- and adulthood) the Structured Trauma Interview (STI; Draijer, 1989) will be used. Neglect will be measured with the Parental Bonding Instrument (PBI; Parker et al.,

1979), which allows five types of parental bonding to be examined, based on two dimensions: care and overprotection. To assess trauma-related disorders and personality disorders in a reliable fashion, we choose to use structured psychiatric interviews, including the Structured Interview for DSM-IV Dissociative Disorders (SCID-D-R; Steinberg, 2000), the Clinician Administered PTSD Scale (CAPS; Blake et al., 1995),, the Structured Interview for Disorders of Extreme Stress (SIDES; Pelcovitz et al., 1997) and the Structured Interview for DSM Personality Disorders (SIDP-IV; Pfohl, Blum & Zimmerman, 1995).

Anticipating DSM-5, personality pathology will also be measured in a dimensional way. Patients will be evaluated considering their level of (mal)adaptive personality functioning, using the Severity Indices of Personality Problems (SIPP-118; Verheul et al., 2008), schemas (as in general themes or patterns, which consist of memories, emotions, cognitions and physical experiences related to the self and to relationships with others; Rijkeboer, Van den Bergh & Van den Bout, 2005) and general personality traits (NEO-PI-R; Costa & McCrae, 1995).

Also general psychopathology will be taken into account, using the Symptom Checklist-90-Revised (SCL-90-R; Arrindell & Ettema, 1986), the Inventory of Depressive Symptomatology (IDS; Rush, Gullion, Basco, Jarrett & Trivedi, 1996) and the Beck Anxiety Inventory (BAI; Steer & Beck, 1997). Finally, dissociative symptoms will be measured using the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986).

Data analysis

The purpose is first to test the difference in demographics, trauma-related and clinical characteristics between the two groups of patients (using chi-square or t or F tests); secondly to test the relationship between trauma severity and trauma-related diagnosis (using t- or F-tests), as well as the relationship between the severity of personality pathology / maladaptive

functioning and neglect (using Pearsons'r); and finally, to localize the patients within the diagnostic square (using cluster analysis). To achieve the latter, an estimated 200 patients (100 in each group) is required.

Discussion

The relationship between trauma-related disorders, personality disorders, and early childhood trauma and neglect is far from clear. To be able to determine which patients will be eligible for treatment in tertiary trauma centres for survivors of early childhood trauma like the Dutch Top Referent Trauma Centres, research is needed on how the relationship between these disorders must be understood. In the absence of such knowledge, early childhood trauma survivors with personality disorders run the risk of being 'left out' when it comes to specialized treatment. In this light, it is important to know if a trauma - diagnose continuum is a correct assumption and if yes, what it looks like.

The study design seems to be relatively straightforward, however, many practical and logistical challenges need to be addressed. The first author is locally responsible for the activation of the study protocol. The study is embedded in the daily clinical routine in the trauma-related disorders treatment program (the TRTC-program). Because of this routine trained staff and performing of measurements is already arranged and realistic predictions can be made about inclusion rates, as well as realistic estimates of the time assessments require. However, for the purpose of the study, this daily routine needs to be temporarily incorporated in the personality disorders treatment program as well. Moreover, this treatment program is relatively large and consists of several units providing both inpatient and outpatient care, while the TRTC-program consists of only one unit, providing outpatient care. As mentioned before, we will include all consecutively referred patients given a time-frame of multiple months in one department and then move on to the next. Because there are six departments it

will not be possible to cover all. In order to discuss the representativeness of our study sample in the personality disorders program, we will need to compare demographic and clinical characteristics to those of all patients in a personality disorders program in the organization.

Because the personality disorders treatment program also offers inpatient care we have decided to include patients from this department in our sample, since it might be that the patients who are affected most severely by their personality disorder, might also be the ones with the most severe trauma-related pathology.

An important limitation that may affect the results of the proposed study is that the interviewers are not blind to which patient is referred to which program. We anticipated for this difficulty by providing frequent personal supervision by a senior clinical psychologist and regular meetings with the whole research group during which videotaped interviews are discussed.

Another possible limitation is that patients in the personality disorders program are offered the assessment battery as part of the current research and not as part of a regular diagnostic procedure as is the case for patients in the trauma-related program. This might lead to differences in participants versus non-participants in the two groups. As mentioned earlier, we will compare demographic and clinical characteristics of participants to those of all patients in a personality disorders program in the organization to evaluate the representativeness of our study sample.

A particular strength of this study is that it is unique in the elaborate way in which traumatization and pathology are being investigated. An improvement of the understanding of the relationship between trauma-related disorders and personality disorders and the role early childhood trauma plays in them could lead to a more accurate decision-making policy considering the targeted group of the TRTC's and clarify the view on both disorders in general.

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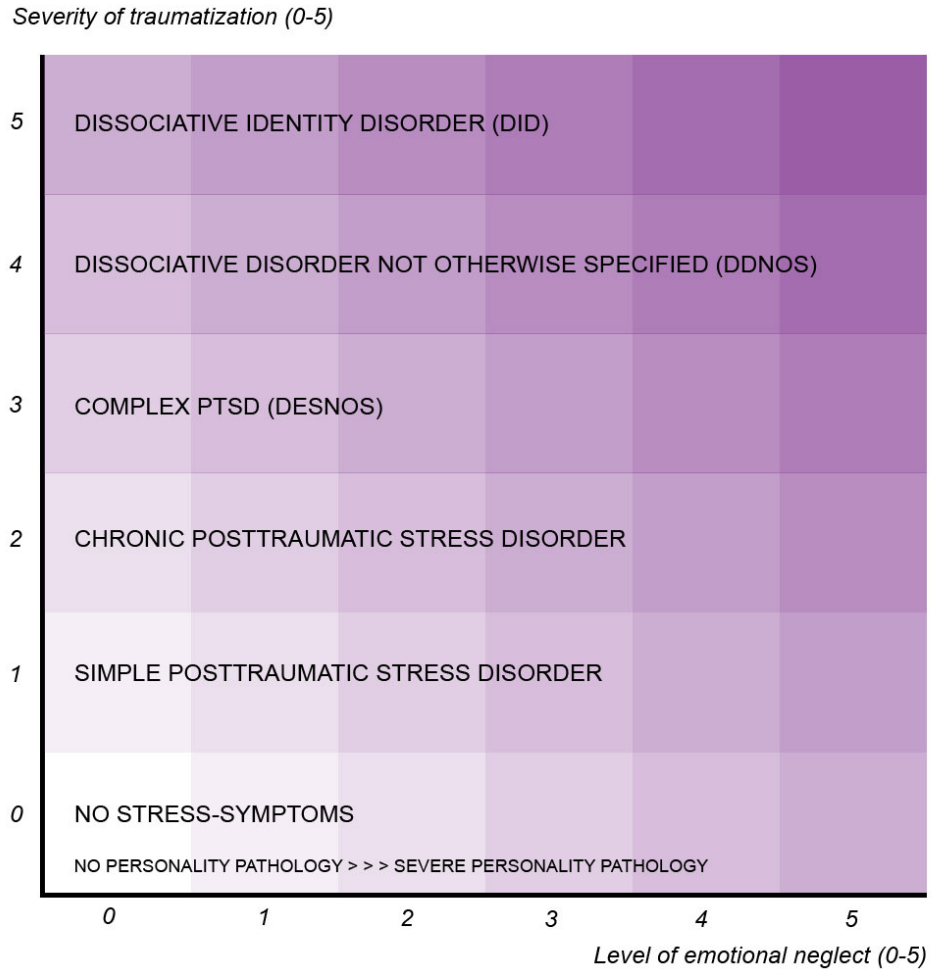
Table 1 Overview of assessment measures

Construct	*Instrument*	*Interview or self-report*
Trauma	STI	interview
Parental bonding / emotional neglect	PBI	self-report
General psychopathology	SCL-90-R	self-report
	IDS	self-report
	BAI	self-report
	DES	self-report
Trauma-related diagnoses	CAPS	Interview
	SIDES	interview
	SCID-D	interview
Personality disorder diagnoses	SIDP-IV	Interview
Dimensional character problems	SIPP-118	self-report
	Young Schema-Questionnaire	self-report
Big Five personality traits	NEO-PI-R	self-report

Note. Structured Trauma Interview (STI; Draijer, 1989); Parental Bonding Instrument (PBI; Parker et al., 1979); Symptom Checklist-90-Revised (SCL-90-R; Arrindell & Ettema, 1986); Inventory of Depressive Symptomatology (IDS; Rush et al., 1996); Beck Anxiety Inventory (BAI; Steer & Beck, 1997); Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986); Clinician Administered PTSD Scale (CAPS; Blake et al., 1995); Structured Interview

for Disorders of Extreme Stress (SIDES; Pelcovitz et al., 1997); Structured Interview for DSM-IV Dissociative Disorders (SCID-D-R; Steinberg, 2000); Structured Interview for DSM Personality Disorders (SIDP-IV; Pfohl et al., 1995); Severity Indices of Personality Problems (SIPP-118; Verheul et al., 2008); Young Schema Questionnaire (Rijkeboer et al., 2005); NEO-PI-R (Costa & McCrae, 1995).

Figure 1: a diagnostic model for the spectrum of trauma-related disorders and personality disorders



Chapter three

Clinical profiles of survivors of childhood trauma and neglect: personality or trauma oriented?

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Abstract

Background: This study is motivated by the observation that in the profile of survivors of childhood trauma, trauma-related disorders (TRD) and personality disorders (PD) might be more intertwined than assumed in DSM-IV and 5, since exposure to trauma in childhood might affect the development of personality. However, in clinical practice, differences in presentation of psychological symptoms at admission may result in choosing interventions with an emphasis on different psychopathology.

Objective: This study tests the differences in clinical profiles between two patient groups in a naturalistic treatment setting, namely in a cohort of patients referred to a specialized mental health care facility.

Method: Patients had either been referred to a Trauma-Related Disorders Treatment Program (TRDP) or to a Personality Disorders Treatment Program (PDP). For study purposes, patients were systematically assessed with structured clinical interviews after referral to one of the treatment programs.

Results: Patients who had been referred to TRDP (n = 49) reported significantly higher rates of severe childhood trauma than patients who had been referred to PDP (n =101; 95.9% versus 54.5%). However, after controlling for other variables, the groups did not significantly differ in rates of TRD and in being diagnosed with a PD, except that logistic regression indicated that being diagnosed with borderline personality disorder (BPD) increased the risks of respondents to be referred to PDP vs. TRDP group (Odds Ratio = 9.57, Confidence Interval = 2.27 - 40.30, p = .002).

Conclusions: The two groups are highly similar in trauma-related and personality pathology. The findings imply that the probability of treatment success may decrease if part of the pathology in traumatized patients is overlooked.

Keywords: *PTSD; Complex PTSD; dissociative disorders; personality disorders; adverse childhood experiences*

Introduction

The severe disability and chronicity of TRD, dissociative disorders, PD, high comorbidity rates, and high levels of health care utilization give major clinical and public health significance to the question about their distinction in survivors of childhood trauma and neglect. Furthermore, in daily clinical practice, these groups of patients tend to be separated by diagnostic-driven treatment programs that focus either on posttraumatic stress disorder (PTSD), Complex PTSD, and dissociative disorders or PD. Treatment programs for TRD focus mainly on symptom oriented approaches, considering patients in short as suffering from complaints caused by being victimized. Treatment programs for PD focus mainly on person oriented treatment approaches, considering patients in short as being caught in unhealthy patterns of (interpersonal) behavior that have limited functioning for years. In this paper, we test the usefulness of the diffuse process that characterizes clinical decision making in the context of established, diagnostic-driven treatment programs by investigating the similarities and differences between two naturalistic patient groups in a specialized mental health care setting (one department focusing on trauma-related pathology, the other department focusing on PD).

Shared etiology and overlapping clinical features are among the probable causes for substantial comorbidity rates for TRD and PD (Herman, Perry, & Van der Kolk, 1989; Zlotnick et al., 2003). Therefore, the question about the distinction between these disorders is based on their frequent co-occurrence. For example, results of a recent meta-analysis (Friborg, Martinussen, Kaiser, Overgård, & Rosenvinge, 2013) show that PTSD stands out as clinically more heterogeneous in nature when it comes to PD compared to other anxiety disorders. Among the PD, the interface between PTSD and BPD has received most attention (Frías &

Palma, 2015). There has been a lengthy discussion on the question whether Complex PTSD is distinct from BPD in cases where the latter is comorbid with PTSD (Cloitre, Garvert, Weiss, Carlson, & Bryant, 2014). Findings from a recent study (Cloitre et al., 2014) supported the construct of Complex PTSD as a separate clinical entity from PTSD and BPD among women reporting a childhood trauma history. Furthering the understanding of the distinction between TRD and PD may aid in differential diagnosis and treatment indication.

Regarding shared etiology, since the 1980's, the potential link between childhood trauma and PD (Carr, Martins, Stingel, Lemgruber, & Juruena, 2013), especially BPD (Herman et al., 1989; Johnson, Smailes, Cohen, Brown, & Bernstein, 2000), has been examined. An association of childhood sexual abuse (CSA) and BPD was not fully supported in a meta-analysis of 21 studies published between 1980 and 1995, reporting a moderate pooled *r* (.30) for the association (Fossati, Maddedu, & Maffei, 1999). Although the authors conclude that CSA is not a major psychological risk factor or a causal antecedent of BPD, they note that the heterogeneity in methodological factors limited their evaluation of the impact of these parameters on reported results.

TRD have been rather thoroughly investigated since the 1980's. Traditionally, dissociative disorders have been primarily associated with reports of early childhood trauma (e.g., Gleaves, May, & Cardena, 2001), while studies of (complex) PTSD also included trauma in adulthood (e.g., Bollinger, Riggs, Blake, & Ruzek, 2000). Sometimes these two research-lines collide in research about the relationship between PD and dissociative disorders (e.g., Brand & Lanius, 2014). In clinical samples, severe personality pathology was highly prevalent among patients with dissociative disorders (Boon & Draijer, 1993; Ross, Ferrell, & Schroeder, 2014). In a study of 135 inpatients with a clinical diagnosis of dissociative identity disorder (DID), Ross and colleagues (2014) found three or more PD in 63.1% of the subjects. Based upon their finding of a high level of lifetime co-morbidity reported among DID

patients, the researchers suggested that the patients' clinical profile might be best understood as part of an overall response to chronic, severe childhood trauma.

Compared to research on the co-occurrence of dissociative disorders and PD, it is more difficult to compare rates of childhood trauma reports in research between PD and (complex) PTSD. Most research in this area has focused on the overlap between PD and PTSD without distinguishing between childhood versus adult trauma, as for example, in studies among combat veterans (e.g., Southwick, Yehuda, & Giller, 1993). Also, most of the research in this area has focused on several, but not all the PD (e.g., Yen et al., 2002).

Considering the existing literature on TRD and PD, there seems to be a wide variety in the measurement of TRD and PD, as well as in the measurement of childhood trauma and neglect, making the relationship between TRD and PD far from clear. To our knowledge, no study investigated clinical profiles in patients admitted to a specialized mental health care facility and subsequently referred to treatment for either TRD or PD using the same structured interviews to diagnose their sample with PTSD, Complex PTSD, dissociative disorders, and PD as well as to assess childhood trauma and neglect histories. The primary aim of the present study is to investigate whether patients referred to treatment for a TRD and patients referred to treatment for a PD in a naturalistic setting show considerable overlap in demographic characteristics and clinical features in terms of TRD, dissociative disorders, and PD as well as in trauma and neglect profile, using internationally acknowledged and well validated instruments.

Method

Participants

Participants (n = 150) were patients referred to a specialized mental health care facility, organized into diagnostic-driven treatment programs, in The Netherlands. We

collected data from two patient groups: one consisting of consecutively referred patients to a trauma-related disorders treatment program (TRDP), aimed specifically at adult survivors of prolonged early childhood trauma (n = 49); the other consisting of consecutively referred patients to a PD treatment program (PDP) (n = 101). The only exclusion criterion was insufficient mastery of the Dutch language. All decisions on referral to treatment had been made in the course of routine clinical care before the start of the study.

In total, 220 patients (84 in TRDP, 136 in PDP) were invited to participate in the study. Seventy patients refused to participate (35 in TRDP, 35 in PDP, i.e. 41.7% versus 25.7%, respectively; $\chi^2(2, N = 220) = 6.12$, $p = .014$). Respondents and non-respondents did not differ on demographical variables. In the group of non-respondents, PDP patients were more likely to be employed ($\chi^2(n = 70) = 7.01$, $p = .008$).

Measures

Socio-demographic variables. Demographic characteristics (sex, age, marital status, educational level, employment) were obtained using psychiatric records.

Clinical variables. The sample was diagnosed using four structured clinical interviews, designed to measure DSM-IV TRD, dissociative disorders, and PD. Additionally, dissociative symptoms were assessed using a self-report questionnaire. An interview and self-report questionnaire were used to assess childhood trauma and neglect histories.

Trauma-related disorders and symptoms. The *Clinician Administered PTSD Scale* (CAPS) is a structured interview with strong psychometric properties (Blake et al., 1995) used to assess PTSD diagnostic status and dimensional PTSD symptom frequency and intensity.

The *Structured Interview for Disorders of Extreme Stress* (SIDES; Pelcovitz et al., 1997) measures 27 criteria (arranged into 7 categories: regulation of affect and impulses, attention or consciousness, self-perception, relations with others, somatization and systems of

meaning) often seen in response to extreme trauma and not addressed by DSM-IV PTSD criteria. Findings on the psychometrics of the SIDES indicate that it is a valid measure of the associated features of PTSD (Pelcovitz et al., 1997).

The *Structured Interview for DSM-IV Dissociative Disorders (*SCID-D; Steinberg, Rounsaville & Cicchetti, 1985) is a semi-structured interview used to assess the dissociative disorders. The SCID-D has good psychometric qualities (Boon & Draijer, 1993). In addition to the SCID-D we used the *Dissociative Experiences Scale* (DES; Bernstein & Putnam, 1986) to measure dissociative symptoms, for which good psychometric properties have been reported. This scale consists of 28 items rated on a VAS scale (range 0-100).

Personality disorders. The *Structured Interview for DSM-IV Personality Disorders* (SIDP-IV; Pfohl, Blum, & Zimmerman, 1995) is a semi-structured interview, in which PD criteria are organized into different facets of the patient's life. The SIDP-IV has good inter-rater reliability and is distinguished from other PD measures by the quality of the clinical inquiries (Rogers, 2001).

Reports of trauma and neglect. For the measurement of trauma history and neglect the *Structured Trauma Interview* (STI; Draijer, 1989) was used. This instrument addresses the experience of loss of primary caretakers, witnessing violence between caretakers, neglect by caretakers based on parental dysfunction, physical abuse, sexual abuse and other shocking events during childhood and adulthood (defined as age 16 and older). Outcomes range from 'absent' to 'severe', depending on variables such as age of onset, frequency, number of perpetrators and if the trauma occurred within the family. Validity of the STI has been shown by comparisons with other instruments for the assessment of childhood trauma (e.g., Langeland, Draijer, & van den Brink, 2003) and neglect (Draijer & Langeland, 1999).

We used the *Parental Bonding Instrument* (PBI; Parker, Tupling, & Brown, 1979) as a proxy to operationalize emotional neglect before age 12. The PBI assesses two dimensions of

parenting: emotional warmth ('care' – 12 items) and control ('overprotection' – 13 items), scored separately for mother and father figure. Each item is scored on a 4-point Likert scale from 1 ('very like') to 4 ('very unlike'). For mothers care scores equal or higher than 27 and overprotection scores equal or higher than 13.5 are considered high, whereas for fathers care scores equal or higher than 24 and overprotection scores equal or higher than 12.5 are considered high. Used together, the two scores allow 4 types of bonding per parent to be examined: high care – low overprotection ('optimal bonding'), low care – low overprotection ('absent or weak bonding'), high care – high overprotection ('affectionate constraint') and low care – high overprotection ('affectionless control'). Only the optimal bonding type is not considered as a proxy to operationalize emotional neglect. Reliability and validity of the scales appear to be acceptable and are independent of the parent's sex (Parker et al., 1979).

Procedure

The study protocol was approved by The Institutional Review Board of Mental health Institutions (Instellingen Geestelijke Gezondheidszorg - METiGG; registration no. 11.121). Patients were contacted by an interviewer after referral to treatment had been made in the course of routine clinical care, usually by a general practitioner, to one of the two treatment programs and informed on the study. If a patient agreed to participate informed consent was obtained. Patients were assured that the outcome of the diagnostic battery would only affect the choice of treatment program if they would allow the diagnostic information to be shared with their assigned therapist during the regular admission procedure.

The interviews were administered by four trained and supervised psychologists within the context of the treatment settings. The total assessment battery took about eight hours to administer, divided over two or three sessions per patient. The trauma-interviews were administered first, followed by the PD interview. Most patients filled out the questionnaires at

home, between sessions. Interviews were videotaped and evaluated during supervision sessions if a patient agreed to this. Two randomly selected videos per interview, scored by the four psychologists, were used to calculate the percentage of agreement between them. For each interview, inter-rater agreement was based on the percentage of equally scored categories (25 trauma categories on the STI, 34 categories on the CAPS (all PTSD symptoms and symptom clusters), 7 categories on the SIDES (all symptom clusters), 5 categories on the SCID-D (all symptoms), and 12 categories on the SIDP-IV (the number of personality traits on all 12 PD)). Inter-rater agreement for the interviews was high (ranging from 90% to 95%). Internal consistency as measured by Cronbach's alpha's for self-report questionnaires was also high (ranging from .78 to .92).

Considering the number of patients referred to both treatment programs, it was possible to include all patients consecutively referred to the TRDP (providing outpatient care only). Due to the larger set-up of the PDP (with intensive outpatient treatment for 3 or 4 days a week as well as inpatient facilities), we included all consecutively referred in- and outpatients at a time-frame of several months in one department and then moved on to the next. Referral criteria for intensive treatment in the PDP are symptom severity and the (in)ability to engage in a form of meaningful daily activities.

Even though there are some differences, our PDP sample can be considered a representative reflection of the whole population admitted to the PD programs during the study period. Compared to our PDP sample (n = 101), patients in the population referred to PD programs (n = 1563) during the study period were significantly older (M = 35.70, SD = 11.52 versus M = 33.20, SD = 12.51, p = .016), but the effect size was small (r = .07), and more likely to be married (30.4% versus 22.8%, p < .001).

Data-analysis

We employed Chi-squares and t-tests (including 95% Confidence Intervals (CI)) to compare socio-demographic and clinical variables in the sample (n = 150, with no missing data). Subsequently, we used logistic regression analysis to determine associations between socio-demographic and clinical variables and the care setting indicator (TRDP (0) versus PDP (1)). Variables significant in univariate comparisons were included in the regression model to evaluate the importance of these variables to distinguish between the patients referred to the two treatment programs. First, a model with socio-demographic variables (including reports of the occurrence of traumatic experiences in child- and adulthood) was run. A second model included only clinical variables. Finally, variables that had a $p < 0.10$ in previous models were joined in a third model to analyze the importance of these variables to discriminate between both patient groups in the sample. We used the cut-off of $p < 0.10$ to minimize the chance of missing relevant variables in multivariate analyses.

Results

Concerning socio-demographic characteristics, several significant differences between the two groups were found (Table 1). Compared to PDP patients, TRDP patients were more often women, older, and more often living with a partner.

As shown in Table 1 significantly higher rates of STI variables - including neglect by primary caregivers, childhood physical abuse (CPA), CSA, and severe childhood trauma - were reported in the TRDP group. TRDP patients also reported significantly higher rates of sexual abuse in adulthood than PDP patients. As for emotional neglect measured with the PBI, both diagnostic groups had low means on 'care' (< 27 for mother, < 24 for father) and elevated means on 'overprotection' (> 13.5 for mother, > 12.5 for father), which combination is conceptualized as 'affectionless control' (Table 1). Compared to PDP patients, TRDP

patients had significantly lower rates on care from mother and significantly higher rates on overprotection (control) from both mother and father.

Table 2 shows data on the number of TRD and PD in both diagnostic groups. Significantly higher rates and numbers (range 0 to 3) of TRD were found in TRDP patients than in PDP patients. In addition, TRDP patients had a significantly higher DES score than PDP patients. No differences in rates of PD were found between the two diagnostic groups. However, PDP patients had a significantly higher number (range 0 to 5) of PD than TRDP patients, and a significantly higher rate of BPD.

Table 3 displays pooled relative risks (95% CI) for the study variables in TRDP versus PDP setting. The variables marital status, neglect by caretakers, CSA, dissociative experiences, and BPD remain significant predictors of care setting after Model 3 is run. CPA, sexual abuse by a person other than the intimate partner in adulthood, and PTSD remain of marginally significance ($p < .10$).

Discussion

We wanted to assess in a naturalistic setting, whether patients referred to either a PD treatment program or a TRD treatment program differ in socio-demographic characteristics and clinical features in terms of TRD, dissociative disorders, PD, and in reported (childhood) trauma and neglect history. In the present study, we found that living with a partner, reports of neglect by caregivers, reports of CSA, and dissociative symptoms are predictive of being referred to TRDP, whereas being diagnosed with BPD is predictive of being referred to PDP. Reports of CPA, sexual abuse by a person other than the partner, and being diagnosed with PTSD are marginally associated with TRDP referral status.

High rates of severe childhood trauma were reported in both groups: for patients in the TRDP this was an expected finding, however, also in the PDP more than half of the patients

reported severe childhood trauma as well. In addition, patients in both groups characterized their primary caregiver's style of parenting as 'affectionless control'.

Although rates of TRD were significantly higher in the TRDP, we did find substantial rates of current PTSD, Complex PTSD, and dissociative disorders in the PDP. Rather surprisingly, after controlling for socio-demographic variables, reports of trauma and neglect, and personality pathology, the differences between both groups in rates of TRD no longer maintained significant. A reason for this might be that in general trauma-related pathology is underestimated, and, consequently, underdiagnosed by clinicians in patients presenting primarily with interpersonal or behavioral problems in primary care.

Considering rates of PD in both TRDP and PDP we found a similar picture. High rates of PD were found in both groups indicating that the presence of a (specific) PD does not distinguish between patients in both treatment programs, except for the presence of BPD. BPD is the only PD that is significantly more common among PDP patients in the logistic regression, after controlling for socio-demographic variables, reports of trauma and neglect, TRD, and dissociative symptoms. This may seem an unexpected finding, since BPD is the PD usually thought of being associated with histories of severe childhood trauma and / or neglect (e.g., Herman et al., 1989). However, the finding is consistent with a recent literature review on comorbidity between PTSD and BPD (Frías & Palma, 2015), which concluded that the risk of PTSD among BPD subjects is not regularly higher than in subjects with another PD.

Until now, research comparing comorbid psychiatric conditions or clinical features across TRD, dissociative disorders, and PD has been limited, including lack of methodologically sound studies specifically focusing on survivors of early childhood trauma and neglect in which all trauma-related disorders and all PD are considered (Wildschut, Langeland, Smit, & Draijer, 2014). A strength of our study is that we used structured clinical interviews by trained psychologists to establish valid clinical diagnoses, considering all TRD

and all PD. Furthermore, we were able to conduct our comprehensive assessment within a naturalistic setting, consisting of patients seeking help in a specialized mental health care facility.

Conducting research in a naturalistic clinical setting has limitations. First, the interviewers were not blind to which treatment program the patients were referred. Secondly, a substantial number of patients in the TRDP refused to participate, because part of the assessment battery was already embedded in the Routine Outcome Monitoring system of this treatment program. Patients in the PDP did not have this option: they could be thoroughly assessed by participating in the study or not at all. As a result, the TRDP group is rather small compared to the PDP group, but this does reflect a real difference in size of both programs within the organization. And thirdly, we cannot rule out that results are mostly reflective of the way patients are being referred to a certain treatment program instead of reflecting real differences between diagnostic groups, even though we found more similarities than differences between groups.

Since data collection started 4 years ago, we were unable to incorporate a measurement that assesses PD according to DSM-5. However, since differences between DSM-IV and DSM-5 in classifying PD are rather limited, we do not expect much difference in outcome if we had the opportunity to use DSM-5. Furthermore, we depended on retrospective data and self-report measures, whereas a longitudinal design using other sources besides self-report, would be the ideal way to measure traumatic life events. However, the accuracy and reliability of recall among survivors of child maltreatment, as corroborated by protective service records, has been substantial (e.g., Barnes, Noll, Putnam, & Trickett, 2009).

Finally, we realize that our sample to variable ratio is a concern. Our study evaluates a large set of characteristics within a relatively small sample of psychiatric patients referred to two treatment programs. We used variables significant in univariate comparisons in 3 logistic

regression models, with a third model including only variables with a p-value <0.10 in the two previous models (e.g., Lamers et al., 2011) to carefully approach our data. However, future research should contain larger samples to investigate whether the similarities and differences we found between both groups are robust.

In conclusion, our results indicate that in a naturalistic clinical setting, patients referred to a PD program and patients referred to a TRD program are in fact highly similar in terms of their clinical profile. This leads us to a similar hypothesis as Ross et al. (2014), namely that our patients' clinical profile might be best understood as part of an overall response to severe childhood trauma and neglect, and challenges the usefulness of categorizing these patients in terms of diagnostic constructs, especially in daily clinical practice. We believe that our results are clinically relevant in illustrating the diffuse process that characterizes clinical decision making in the context of established, diagnostic-driven treatment programs. Furthermore, our results have implications for assessment and treatment indication. Considering assessment, the DES is a short and valid screener for dissociation. Luxenberg, Spinazolla, and Van der Kolk (2001) recommend the DES to be included in a comprehensive assessment battery for Complex PTSD. However, it's usage within treatment settings aimed specifically at PD is unknown to us. In those settings, the DES might be especially useful in identifying patients with comorbid trauma-related pathology.

Considering treatment indication, in, for example, The Haunted Self (Van der Hart, Nijenhuis, & Steele, 2006), a textbook on treatment of chronic traumatization, no strong reference to PD or the treatment of personality pathology is being made. Consequently, the probability of treatment success may decrease if this relevant part of the pathology is overlooked. Generally speaking, PD patients with comorbid trauma-related pathology run the risk of being undertreated for varied symptoms (re-experiencing symptoms) that are the results of exposure to trauma, while patients with a trauma-related or dissociative disorder and

comorbid PD run the risk of being undertreated for their interpersonal and behavioral problems. Diagnostic-driven treatment programs might especially increase this risk.

Our results show that a sharp distinction between the two patient groups or even diagnostic categories does not do justice to the amount of shared pathology and psychological / psychiatric impairment suffered by both patient groups. This finding is in line with several publications (e.g. Lanius et al., 2010; Ross, 2000) on the detrimental effects of trauma. This also means that clinicians working in the field of severe childhood trauma do need a proper training in the management of PD and clinicians working in the field of PD do need a proper training in the management of trauma-related pathology. Additionally, the present findings suggest several important research directions for furthering the understanding of the link between trauma, TRD and PD and implications for treatment, amongst them further investigation of psychological profiles of individuals reporting early childhood trauma and neglect with larger samples, and examining the psychological profiles of the two groups using a dimensional model of the impact of trauma and emotional neglect, rather than focusing on separate disorders (Draijer, 2003; Wildschut et al., 2014).

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other personality disorders with PTSD. *The Journal of Nervous and Mental Disease*, *191*, 706-713.

Table 1 Socio-demographic Variables and Childhood and Adult Trauma and Neglect (STI, PBI) by Diagnostic Group

	TRDP		PDP		p^a
	(*n* = 49)		(*n* = 101)		
Sex (*n* / % female)	44	(89.8)	72	(71.3)	**.011**
Age (mean years, SD)	38.65 (9.98)		32.09 (12.27)		**<.001**
Educational level (*n* / % high)	16	(32.7)	34	(33.7)	.902
Employment (*n* / % yes)	14	(28.6)	25	(24.8)	.617
Marital status (*n* / % with partner)	24	(49.0)	23	(22.8)	**.001**
Children (mean, SD)	1.14 (1.43)		0.76 (1.18)		**.086**
STI Childhood trauma:					
Separation from caretakers (*n* / %)	13	(26.5)	23	(22.8)	.613
Violence between caretakers (*n* / %)	18	(36.7)	25	(24.8)	.128
Neglect by caretakers (*n* / %)	47	(95.9)	70	(69.3)	**<.001**
Physical abuse (*n* / %)	35	(71.4)	32	(31.7)	**<.001**
Sexual abuse (*n* / %)	40	(81.6)	48	(47.5)	**<.001**
Other traumatic experiences (*n* / %)	32	(65.3)	76	(75.2)	.203
Severe childhood trauma[b] (*n* / %)	47	(95.9)	55	(54.5)	**<.001**

STI Trauma adulthood:					
Physical abuse by partner (*n* / %)	18	(36.7)	26	(25.7)	.166
Physical abuse by other (*n* / %)	21	(42.9)	30	(29.7)	.111
Sexual abuse by partner (*n* / %)	17	(34.7)	19	(19.0)	**.036**
Sexual abuse by other (*n* / %)	23	(46.9)	25	(24.8)	**.006**
Other traumatic experiences (*n* / %)	36	(73.5)	81	(80.2)	.351
Severe adult trauma (*n* / %)	30	(61.2)	46	(45.5)	**.072**
PBI Care mother (mean, SD)	13.65 (8.77)		17.71 (9.47)		**.013**
PBI Care father (mean, SD)	14.08 (10.28)		15.30 (9.35)		.471
PBI Overprotection mother (mean, SD)	19.51 (6.85)		15.71 (6.76)		**.002**
PBI Overprotection father (mean, SD)	17.78 (7.80)		14.07 (6.92)		**.004**

[a] p-value based on chi-square statistics for categorical variables and analyses of variance for continuous variables.

[b] severe trauma is operationalized as having reported two or more traumatic events or having reported one type of traumatic event for a prolonged period of time.

STI = Structured Trauma Interview; PBI = Parental Bonding Instrument

Table 2 Clinical Variables (CAPS, SIDES, SCID-D, DES, SIDP-IV) by Diagnostic Group

	TRDP		PDP		p[a]
	(n = 49)		(n = 101)		
Any trauma-related disorder[b] (n / %)	44	(89.8)	50	(49.5)	**<.001**
Number trauma-related disorders (mean, SD)	1.79	(1.00)	0.95	(1.10)	**<.001**
CAPS Current PTSD (n / %)	41	(83.7)	43	(42.6)	**<.001**
SIDES Complex PTSD (n / %)	26	(53.1)	32	(31.7)	**.012**
SCID-D Dissociative disorder (n / %)	21	(42.9)	21	(20.8)	**.005**
DES Dissociative experiences (mean, SD)	81.88	(48.24)	48.69	(39.91)	**<.001**
SIDP-IV Any PD (n / %)	37	(75.5)	85	(84.2)	.202
SIDP-IV Number of PD (mean, SD)	1.20	(1.02)	1.60	(1.14)	**.039**
Paranoid PD[c] (n / %)	1	(2.0)	8	(7.9)	.155
Schizotypal PD (n / %)	1	(2.0)	2	(2.0)	.980
Borderline PD (n / %)	9	(18.4)	35	(34.7)	**.040**
Avoidant PD (n / %)	9	(18.4)	33	(32.7)	**.067**
Dependent PD (n / %)	6	(12.2)	6	(5.9)	.182
Obsessive Compulsive PD (n / %)	3	(6.1)	17	(16.8)	**.070**
PD not otherwise specified (n / %)	30	(61.2)	60	(59.4)	.831

[a] p-value based on chi-square statistics or Fisher's Exact Test for categorical variables and analyses of variance for continuous variables; [b] based on the scores on the CAPS, SIDES and SCID-D; [c] patients with Schizoid, Antisocial, Histrionic, and Narcissistic PD were not found in our sample; CAPS = Clinician Administered PTSD Scale; SIDES = Structured Interview for Disorders of Extreme Stress; SCID-D = Structured Interview for DSM-IV Dissociative Disorders; DES = Dissociative Experiences Scale; SIDP-IV = Structured Interview for DSM-IV Personality Disorders; PD = Personality Disorder

Table 3 Pooled relative risks (95% confidence intervals) for TRDP versus PDP (n = 150)

		TRDP versus PDP					
		Model 1		Model 2		Model 3	
		OR (CI)	*p*	OR (CI)	*p*	OR (CI)	*p*
Demographic variables:	Sex	0.43 (0.11- 1.70)	.226				
	Age	**0.93 (0.89- 0.98)**	**.003**			0.97 (0.92- 1.01)	.114
	Marital status	**0.31 (0.11- 0.86)**	**.025**			**0.22 (0.08- 0.65)**	**.006**
	Children	1.14 (0.76- 1.72)	.536				
STI Childhood trauma [a]:	Neglect by caretakers	**0.12 (0.02- 0.91)**	**.040**			**0.13 (0.02- 0.95)**	**.045**
	Physical abuse	**0.20 (0.07- 0.58)**	**.003**			0.37 (0.13- 1.03)	.057
	Sexual abuse	**0.30 (0.10- 0.87)**	**.027**			**0.27 (0.08- 0.89)**	**.031**
STI Trauma adulthood:	Sexual abuse by partner	0.52 (0.16- 1.64)	.261				

	Sexual abuse by other	**0.39 (0.13- 1.16) .091**		0.32 (1.00- 1.07) .064
	Other traumatic exp.	2.20 (0.61- 7.91) .229		
PBI:	Care mother	0.97 (0.90- 1.03) .296		
	Overprotection mother	**0.93 (0.85- 1.01) .081**		0.94 (0.87- 1.02) .125
	Overprotection father	1.01 (0.94- 1.08) .814		
Clinical variables [b]:	CAPS Current PTSD		**0.17 (0.06- 0.47) .001**	0.32 (0.10- 1.01) .052
	SIDES Complex PTSD		0.74 (0.28- 1.95) .537	
	SCID-D Dissociative dis.		0.59 (0.21- 1.67) .324	
	DES Dissociative exp.		**0.99 (0.97- 1.00) .006**	**0.98 (0.97- 0.98) .017**
	SIDP-IV Number of PD		1.53 (0.80- 2.94) .202	
	Borderline PD		**5.48 (1.67-17.96) .005**	**9.57 (2.27-40.30) .002**
	Avoidant PD		0.95 (0.27- 3.32) .936	

Obsessive Compulsive PD		1.69 (0.30- 9.51) .550

[a] due to a high correlation (>.70) with STI CSA, we removed STI Severe childhood trauma from the logistic regression; [b] due to a high correlation (>.70) with CAPS Current PTSD, we removed Any and Number of trauma-related disorder(s) from the logistic regression; CAPS = Clinician Administered PTSD Scale; SIDES = Structured Interview for Disorders of Extreme Stress; SCID-D = Structured Interview for DSM-IV Dissociative Disorders; DES = Dissociative Experiences Scale; SIDP-IV = Structured Interview for DSM-IV PD; PD = Personality Disorder; The care setting indicator (TRDP versus PDP) is the dependent variable. Logistical regression models tests the predictive value of socio-demographic variables (Model 1), of clinical variables (Model 2), and Model 3 includes all variables with a *p*-value < .10 in the previous models.

Chapter four

A trauma-spectrum approach: quantifying a dimensional model of trauma-related and dissociative disorders

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Abstract

Objective: The aim of this paper is to test the validity of the trauma axis of a dimensional model for diagnosis and treatment indication of trauma-related and dissociative disorders. The central question is: is the (trans-diagnostic) continuum of trauma-related disorders related to the severity in reported traumatization: a dose-response relationship?

Method: A sample of one hundred and fifty consecutive patients, indicated for treatment in either a trauma-related disorders or a personality disorders treatment program, was systematically assessed on trauma-related disorders, dissociative disorders, and childhood trauma, using structured interviews. We constructed a 'trauma-diagnosis severity score' by classifying patients according to their most severe disorder (ranging from none, (chronic) posttraumatic stress disorder (PTSD), complex PTSD to dissociative disorder not otherwise specified, and finally dissociative identity disorder, in ascending order).

Results: The observed correlation (r_s = .54) between reported trauma severity and severity of trauma-related and dissociative disorders indicates that retrospectively reported trauma severity in child- and adulthood is strongly associated with more severe pathology.

Conclusions: Trauma-related and dissociative disorders may be considered as forming a continuum, ranging from less to more extreme severity. The findings support the significance of the trauma-axis of the proposed dimensional model.

Keywords: *childhood trauma; posttraumatic stress disorder; Complex PTSD; dissociative disorders*

Introduction

The primary aim of this study is to investigate whether differences in the severity of retrospectively reported traumatic experiences in child- and adulthood are related to a dimension of trauma-related and dissociative disorders in such a way that more severe trauma is linked to more severe disorders. This dimension constitutes the trauma axis of the two-dimensional model for diagnosis and treatment indication of trauma-related and dissociative disorders (Draijer, 2003).

Draijer (2003) proposed a theoretical model (see Figure 1; Wildschut, Langeland, Smit, & Draijer, 2014) in which there is a presumed relationship between a dimension of trauma-related and dissociative disorders on the one hand and the severity of the trauma endured on the other. This severity varies depending on factors such as the age at which the trauma occurred, whether it was physically intrusive, how much force was used, how frequently it occurred, the relationship to (and dependency from) the perpetrator, and the number of perpetrators (Draijer, 1990; Wildschut et al., 2014). The spectrum of adaptations to trauma includes a range of severity, comprising relatively mild and nonclinical symptoms through to relatively severe mental disorders, which also has implications for treatment indication and staging of treatment.

Prospective and retrospective studies consistently show an association between childhood trauma and posttraumatic stress disorder (PTSD) in adulthood (Andrews, Corry, Slade, Issakidis, & Swanston, 2004; Brewin, Andrews, & Valentine, 2000; Chen et al., 2010; Gilbert, Widom, Browne, Fergusson, Webb, & Janson, 2009; Paolucci, Genuis, & Violato, 2001). Exposure to severe childhood trauma, especially interpersonal, cumulative and at an early age affects the severity and complexity of posttraumatic stress symptoms in adulthood (Briere, Kaltman, & Green, 2008; Cloitre et al., 2009; Herman, 1992; Terr, 1991; Van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzolla, 2005).

Van der Kolk, Pelcovitz, Roth, Mandel, McFarlane, & Herman (1996) stated that the severity and complexity of posttraumatic stress symptoms in adulthood were not captured in the DSM-IV framework of PTSD. The authors concluded that PTSD, dissociation, somatization, and affect dysregulation represent a spectrum of adaptations to trauma (Van der Kolk et al., 1996). Besides (chronic) PTSD, different disorders - Complex PTSD (CPTSD), Other Specified Dissociative Disorder (DDNOS), and Dissociative Identity Disorder (DID) – are often associated with trauma, vary in the severity of PTSD-symptoms, affect dysregulation, and dissociative symptoms, and have different scientific histories as we will discuss below.

In the nineties, several trauma researchers collaborated on the DSM-IV PTSD Field Trials to examine a group of symptoms not addressed by the PTSD diagnosis and perceived in survivors of prolonged and repeated trauma (e.g., Roth, Newman, Pelcovitz, Van der Kolk & Mandel, 1997), and named it Complex PTSD (Herman, 1992). In addition to the PTSD symptoms, this constellation of symptoms consists of affect dysregulation, and disturbances in self-concept and interpersonal functioning (Herman, 1992). Finally, these symptoms were incorporated in the DSM-IV under 'associated features of PTSD' (DSM-IV, APA, 1994).

Resick et al. (2012) evaluated the CPTSD literature considering DSM-5 (DSM-5, APA, 2013). They concluded that unless and until complex traumas are shown to have qualitatively different effects, the working hypothesis that complex posttraumatic symptomatology falls on a continuum seems plausible. While CPTSD is not added to DSM-5 (Cloitre, Garvert, Brewin, Bryant, & Maercker, 2013), the 11th edition of the International Classification of Diseases (ICD-11) may include CPTSD.

Although CPTSD is not included in DSM-5 as a separate diagnostic entity, Knefel, Tran, & Lueger-Schuster (2016) found that PTSD and CPTSD symptoms were strongly interconnected within disorders and to a lesser degree between disorders and that dissociation

could be a key factor in both PTSD and CPTSD. Furthermore, Thomaes et al. (2010) found that neural correlates of CPTSD are more severe than those of classic PTSD.

Reports of (very) early childhood trauma have often been related to the occurrence of dissociative disorders, resulting in the most severe and chronic psychopathology in the spectrum of trauma-related disorders (Boon & Draijer, 1995; Brand & Lanius, 2014; Dalenberg et al., 2012, Dorahy, Middleton, Seager, Williams, & Chambers, 2016; Draijer, 1990; Draijer & Boon, 1993), although there are also doubts about this relation (e.g., Lynn et al., 2012). Still, Chalavi et al. (2015) found that compared to PTSD-only patients, DID patients (with comorbid PTSD) showed additional structural differences in brain structures, including smaller hippocampal and larger pallidum volumes relative to healthy controls, suggesting that DID is an even more severe trauma-related disorder than PTSD.

The trauma-related and dissociative disorder spectrum approach joins together conditions that were previously considered to exist separately. The question of whether mental disorders are discrete clinical conditions or arbitrary distinctions along dimensions of functioning is a long-standing issue (Widiger & Samuel, 2009). However, in this case of trauma-related and dissociative disorders an attempt is made to improve treatment indication, by the assumption that these disorders are on an underlying dimension of increased severity in symptoms, implying differences in treatment methods. Work in the area of a posttraumatic stress spectrum has sought to go beyond DSM category and to consider in more detail a spectrum of in severity varying syndromes rather than just presence or absence for diagnostic purposes, as well as a spectrum in terms of the nature and severity of the stressors. However, previous research in this area has been limited by design problems. Earlier studies relied mostly on survey data rather than clinical interviews and used only female participants (e.g. Briere et al., 2008; Cloitre et al., 2009). Merckelbach, Langeland, De Vries, & Draijer (2014) showed that symptom overreporting in surveys has a psychometric impact that may obscure

relationships between clinically relevant variables and should preferably be monitored. Also, earlier studies did not focus on the dissociative disorders (e.g. Cloitre et al., 2009; Van der Kolk et al., 2005).

Regarding the nature and severity of the stressor(s), during the last decades several instruments for the retrospective assessment of childhood trauma in adults have been developed, including self-report questionnaires and semi-structured interviews. For example, the Adverse Childhood Experiences (ACE) Study questionnaire (Felitti et al., 1998), the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 1994), the Traumatic Antecedents Interview (TAI; Herman, Perry, & Van der Kolk, 1989) and the Structured Trauma Interview (STI; Draijer, 1989; for an overview see Roy & Perry, 2004). Most of these instruments (e.g., Felitti et al., 1998; Herman et al., 1989) use the sum of the trauma categories reported in order to quantify the level of exposure to trauma in childhood. Generally, most patients report more than one category of childhood adversity, suggesting that researchers trying to understand the long-term psychological implications of childhood abuse may benefit from considering a wide range of related adverse childhood exposures (Felitti et al, 1998).

Several meta-analyses show an association between the severity of (retrospectively reported) trauma and the presence of trauma-related disorders (Andrews et al., 2004; Chen et al., 2010). Though Paolucci et al. (2001) found clear evidence confirming a link between child sexual abuse (CSA) and subsequent negative short- and long-term effects on development, amongst other variables, type of abuse, age when abused, relationship to perpetrator, and number of incidents of abuse were not found to mediate the effect of CSA on these outcomes. Another meta-analysis found a higher risk of PTSD by reports of penetrative CSA than with reports of non-penetrative or non-contact abuse (Andrews et al., 2004). In addition, a third meta-analysis also indicated that penetration strengthened the association between sexual abuse and a lifetime diagnosis of PTSD (Chen et al., 2010). The association

persisted regardless of sex of the abuse survivor or age at which the abuse occurred. However, all these meta-analyses were restricted to CSA, making it difficult to draw conclusions about the effects of other types of trauma.

Summarizing, one may hypothesize the following: different trauma-related and dissociative disorders interrelate in the sense that they form a continuum of increasing severity and this severity is assumed to be related to the severity of retrospectively assessed traumatic experiences. The primary aim of this study is to extend previous research in this area by including PTSD, CPTSD, and dissociative disorders in relation to traumatic experiences and to investigate whether such a dose-response relationship exists. To study these relationships, we extensively interviewed a sample consisting of patients indicated for treatment in a trauma-related or personality disorders treatment program in a specialized mental health care setting. This study is part of a larger project (Wildschut et al., 2014) aimed at testing the two-dimensional model of trauma-related disorders (Draijer, 2003).

Method

Participants

The sample (n = 150) consisted of patients in psychiatric care in the Dutch province of Friesland where care is divided into diagnostic-driven treatment programs. We collected data from consecutively referred patients to two of the treatment programs: a trauma-related disorders outpatient treatment program, aimed specifically at adult survivors of prolonged childhood trauma (n = 49), and a personality disorders (PD) treatment program, with both in- and outpatient facilities (n = 101). The reason for choosing these diagnostic groups is explained in more detail elsewhere (Wildschut et al., 2014). Briefly: we assumed that a wide range of trauma-related disorders and a reported history of trauma, both in child- and

adulthood, are presented within these diagnostic groups. Our only exclusion criterion was insufficient capacity to understand and speak Dutch.

In total, 220 patients were invited to participate in the study. Forty-four patients refused to participate. Another 26 patients did not complete the whole assessment battery. Refusers and partly completers were excluded in the present analysis and considered non-respondents. There were no significant differences between respondents and non-respondents on demographic variables (sex, age, marital status, educational level, and employment status).

Considering socio-demographic characteristics of patients in the two treatment groups, three significant differences were found. Compared to patients in the personality disorders treatment program, patients in the trauma-related disorders treatment program were more often women (89.8% versus 71.3%, respectively; $p < .05$), older ($M_{trauma} = 38.7$, $SD = 10.0$, $M_{personality} = 32.1$, $SD = 12.3$; $p < .001$), and more often living with a partner (49.0% versus 22.8%, respectively; $p < .01$).

Measures

Demographic characteristics (sex, age, marital status, educational level, employment status) were obtained using psychiatric records. To establish a valid diagnose of a trauma-related disorder, we used three different (semi) structured clinical interviews. The *Clinician Administered PTSD Scale* (CAPS) assesses PTSD diagnostic status and dimensional PTSD symptom frequency and intensity. The CAPS has strong psychometric properties (Blake et al., 1995).

To assess CPTSD as well as the severity of several CPTSD symptom areas, the *Structured Interview for Disorders of Extreme Stress* (SIDES; Pelcovitz et al., 1997) was used. It measures criteria often seen in response to extreme trauma and not addressed by DSM-IV criteria for PTSD, arranged into the following categories: regulation of affect and

impulses, attention or consciousness, self-perception, relations with others, somatization, and systems of meaning. Findings on the psychometrics of the SIDES indicate that it is a valid measure of the associated features of PTSD (Pelcovitz et al., 1997).

To assess the presence and severity of the dissociative disorders the *Structured Interview for DSM-IV Dissociative Disorders (*SCID-D; Steinberg, Rounsaville & Cicchetti, 1985) was used. Psychometric qualities of the SCID-D (validity and reliability) are good (Boon & Draijer, 1993).

For the measurement of trauma history we preferred an interview over a questionnaire. In our study the *Structured Trauma Interview* (STI; Draijer, 1989) was used. This instrument addresses ten trauma categories during child- and adulthood. Outcomes range from 'absent' to 'severe'. For childhood physical abuse (CPA) and childhood sexual abuse (CSA) severity ratings depend on additional variables: age of onset, frequency, number of perpetrators and if the trauma occurred within the family. The validity of this interview has been shown by comparisons with other instruments for the assessment of childhood trauma (Langeland, Draijer, & van den Brink, 2003) and neglect (Draijer & Langeland, 1999).

Finally, we also included a scale that measures functional impairment. For that purpose we chose the Global Severity Index (GSI) of the *Symptom Checklist-90-Revised* (SCL-90-R; Arrindell & Ettema, 1986). The SCL-90 is a 90-item self-report instrument that measures 8 different symptom area's and a total scale that is used as GSI of psychological and physical dysfunctioning during the last week. Psychometric qualities of this instrument are reported as good (Arrindell et al., 2003).

Procedure

The Institutional Review Board of Mental Health Institutions (METiGG; registration no. 11.121) approved the study protocol. A patient was contacted by a psychologist after

being admitted to the trauma-related disorders treatment program or the personality disorders treatment program. If a patient agreed to participate in the study, informed consent was obtained. The interviews were administered by four thoroughly trained and supervised (by N.D.) psychologists. Interviews were videotaped if a patient agreed to this and evaluated during supervision sessions. To get an indication of the percentage of agreement between the interviewers, two randomly selected videos per structured interview were used, scored by all psychologists. For each interview, inter-rater agreement was based on the percentage of equally scored categories (25 trauma categories on the STI, 38 items on the CAPS (all PTSD symptoms, both frequency and intensity), 45 items on the SIDES, and 5 categories on the SCID-D (all symptoms)). Inter-rater agreement for the interviews was high (ranging from 90% to 93%).

We aimed at a random patient population: all patients consecutively referred to the trauma treatment program were included during a period of two years. Due to the larger size of the PD treatment program (this program has both intensive outpatient as well as inpatient facilities) we were unable to cover all departments. Therefore, we included all consecutively referred outpatients and inpatients during multiple months in one department and then moved on to the next.

To test the representativeness of our sample of patients in the PD treatment program (n = 101) we compared them on sex and age with the population of patients referred to PD programs (n = 1563) during the study period. No significant differences were found for sex of the patients. However, compared to our sample, patients in the PD population were significantly older (M_{sample} = 32.1, SD = 12.3, $M_{population}$ = 35.7, SD = 11.5; $p < .01$), though the effect size was small (r = .07). We conclude that our sample can be considered as a representative reflection of the whole population of patients admitted to the PD programs during the study period.

Data-analysis

Demographic variables were examined, using frequencies. For the clinical data in the present analysis, we used the total scores (calculated by summing across items) of the CAPS, SIDES, and SCID-D.

First, we constructed a 'trauma severity score', based on the sum scores on the STI. We used a range of 0 (= absent) to 1 (= present) for the following ten categories: loss of primary caretakers, witnessing violence between caretakers, CPA, CSA, other stressful events during childhood, physical abuse by a partner, physical abuse by another, sexual abuse by a partner, sexual abuse by another, and other stressful events during adulthood (total range 0 to 10).

For the categories CPA and CSA we added additional severity scores for each type of abuse, using 4 categories: frequency of abuse (incidental = 1; chronic = 2), whether the abuse occurred within the family (outside the family = 1; within the family = 2; both = 3), number of perpetrators (one perpetrator = 1; multiple perpetrators = 2), and age of onset (between 12 and 16 years of age = 1; between 6 and 12 years of age = 2; before 6 years of age = 3). Our 'trauma severity score' thus ranges from 0 to 30.

Due to non-normality of the distributions of variables, we employed Spearman correlations (one-tailed test) among the 'trauma severity score' and the total scores on the CAPS, SIDES, and SCID-D, for the whole sample and for men and women separately.

Third, we constructed a 'trauma-diagnosis severity score'. This is an ordinal scale (0 = no PTSD, 1 = PTSD, 2 = CPTSD, 3 = DDNOS, 4 = DID) based on the outcomes of the CAPS, SIDES, and SCID-D. We classified patients with chronic PTSD as 'PTSD', since all patients in our sample experienced a chronic form of PTSD, making the distinction between 'simple' and 'chronic' PTSD (see Figure 1) not meaningful in our sample. Considering

comorbidity between these disorders, we classified patients according to their most severe disorder (so PTSD, CPTSD, DDNOS and DID in ascending order).

Fourth, we employed a Spearman correlation (one-tailed test) among the 'trauma-diagnosis severity score' and the GSI of the SCL-90. Finally, we employed a Spearman correlation (one-tailed test) among the 'trauma severity score' and the 'trauma-diagnosis severity score', for the whole sample and for both men and women.

Results

Demographic and clinical information is displayed in Table 1. The trauma severity score ranged from 0 to 29 in our sample (M = 12.8, SD = 8.8). The distribution of the trauma severity score, is significantly non-normal, $D(150) = 0.14$, $p < .001$. Spearman correlations among the trauma severity score, with CAPS, SIDES, and SCID-D total scores, for the total sample and for men and women separately, are shown in Table 2. Significant correlations were found among all variables.

Following our method of classifying patients by their most severe disorder to construct the trauma-diagnosis severity score (M = 2.1, SD = 1.1), 43% of the patients in our sample had no trauma-related disorder, 21% was diagnosed with PTSD, 24% with Complex PTSD, 11% with DSNAO, and 1% with DID. The distribution of the trauma-diagnosis severity score, $D(150) = 0.26$, $p < .001$, is significantly non-normal. The trauma-diagnosis severity scores were positively skewed.

We found a significant correlation (r_s = .30; $p < 0.01$; n =150) between trauma-diagnosis severity and SCL-90 GSI-scores. Furthermore, we found a relatively strong correlation (r_s = .54; $p < 0.01$; n = 150) between reported trauma severity and trauma-diagnosis severity for the whole sample. We also found strong correlations between reported trauma severity and trauma-diagnosis severity for both men (r_s = .44; $p < 0.01$; n = 34) and

women (r_s = .48; p < 0.01; n = 116). After correcting for the low percentage of DID patients in our sample by excluding both female patients from the analysis, correlations stayed the same both for the whole sample (r_s = .54; p < 0.01; n = 148) and for women separately (r_s = .48; p < 0.01; n = 114).

Discussion

We wanted to investigate whether differences in the severity of retrospectively reported traumatic experiences in child- and adulthood are related to the dimension of trauma-related and dissociative disorders in such a way that more severe trauma is linked to more severe disorders. Judging from the strength of the correlation (r_s = .54; p < 0.01; n = 150), we conclude that reported trauma severity is strongly linked to more severe trauma-related pathology. This holds true for both men and women separately. These findings support the continuum hypothesis of trauma-related and dissociative disorders, ranging from less to most extreme.

In comparison with DSM-IV, the idea of a trauma continuum has been incorporated in DSM-5 to a slightly stronger extent, due to changes made in the description of PTSD. The idea of a complex form of PTSD is incorporated to some extent by including a dissociative subtype of PTSD in DSM-5. CPTSD symptoms - for example reckless or self-destructive behavior - are now added to the DSM-5 PTSD profile, allowing to include more severe cases under this heading. Furthermore, PTSD has been separated from the anxiety disorders and has been categorized as a trauma- and stressor-related disorder. However, this group of disorders is still separated from the dissociative disorders.

Our trauma-diagnosis severity score underlines the idea that, due to high comorbidity, and the gradual increase in severity, it might be less useful to consider diagnostic entities as separate and categorical. Instead, it is preferred to elaborate on dimensional thinking, such as

is being suggested in diagnostic profiling. The severity of dissociative symptoms, preferably assessed by a structured clinical interview, is likely to be a clue in differentiating between less and more complicated pathology. It could also help to mark cases in which stabilizing interventions, directed towards the person of the patient, may precede more symptom focused interventions such as exposure (Brand et al., 2012).

Elaborating on the existing literature considering trauma severity (Bernstein et al., 1994; Draijer, 1989; Felitti et al., 1998; Herman et al., 1989), we constructed a sum score of aversive childhood experiences to create a trauma severity scale. However, a limitation of our study is that we depended exclusively on retrospective self-reports to establish trauma severity, which limits the reliability and validity of these assessments. Scientifically a longitudinal design, using other sources besides self-report, would be the ideal way to measure traumatic life events, but clinically that does not make sense. However, the accuracy and reliability of recall among survivors of child maltreatment, as corroborated by protective service records, has proven to be substantial (Barnes, Noll, Putnam, & Trickett, 2009).

Also, it was not possible to blind interviewers for information considering the treatment program for which the patient was indicated, which might have biased expectations about the severity of the reported trauma in patients indicated for trauma treatment. Since our data collection started in 2011, we were not able to incorporate measurements that assess trauma-related and dissociative disorders according to DSM-5.

A strength of our study is that we used structured clinical interviews to establish trauma history as well as to assess trauma-related and dissociative disorders. According to Bernstein et al. (1994) the ease of administration and relative non-invasiveness of a self-report trauma questionnaire makes it an appropriate screening instrument for clinical or research purposes. However, the most frequently used instrument worldwide, the CTQ (Bernstein et al., 1994), does not inquire about aspects of trauma, such as age at onset and relationship of

perpetrator to victim. This type of data is more accurately obtained through a structured interview format (Bernstein et al., 1994). We also used structured clinical interviews to establish a clinical diagnose, resulting in a well-diagnosed sample of patients. Furthermore, we conducted the interviews within a naturalistic setting, consisting of patients seeking help in a specialized mental health care facility.

The findings support the existence of the y-axis of the proposed dimensional model (Draijer, 2003), which presumes a relationship between a dimension of trauma-related and dissociative disorders on the one hand and differences in the severity of the trauma endured at the other. The findings also support a trauma-related disorder spectrum approach (Resick et al., 2012; Van der Kolk et al., 1996).

Future research should attempt to quantify the x-axis of the model, which stands for neglect and its relationship to the severity of personality disorders. Draijer & Langeland (1999) found in their study on childhood trauma in the etiology of dissociative symptoms, that symptom severity was best predicted by reported CSA, CPA, and maternal dysfunction. They concluded that dissociation is both trauma-related and neglect-related. Findings of a systematic review of longitudinal studies of childhood maltreatment and mental health outcomes confirm that neglect is at least as damaging as physical or sexual abuse in the long term (Gilbert et al., 2009). However, neglect has received the least scientific and public attention. It might be that neglect especially leads to personality pathology, on top or besides of trauma-related and dissociative pathology.

Future research should also attempt to test if the supposed trauma spectrum has implications for treatment indication and staging of treatment, i.e. that the more severe trauma related disorders show less and slower clinical improvement than the pure 'simple' ones such as PTSD. This will be tested in follow up (Swart, Wildschut, Draijer, Langeland, & Smit, 2017).

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Table 1 Demographics and clinical characteristics of the sample (n = 150)

Sex (n / %)		
Male	34	(22.7)
Female	116	(77.3)
Age (mean years, SD)	34.2	(11.9)
Partner status (n / %)		
Single	74	(49.3)
Married/living with partner	47	(31.3)
Divorced/widowed	29	(19.4)
Education (n / %)		
Elementary education	14	(9.3)
High school	112	(74.7)
College	24	(16.0)
Employment status (n / %)		
Yes	39	(26.0)
No	111	(74.0)
Trauma-related disorder (n / %)[a]		
(simple and chronic) PTSD	84	(56.0)
Complex PTSD	58	(38.7)
Dissociative disorder NOS	16	(10.7)
Dissociative Identity Disorder	2	(1.3)

[a] Due to comorbidity, the total number exceeds 150

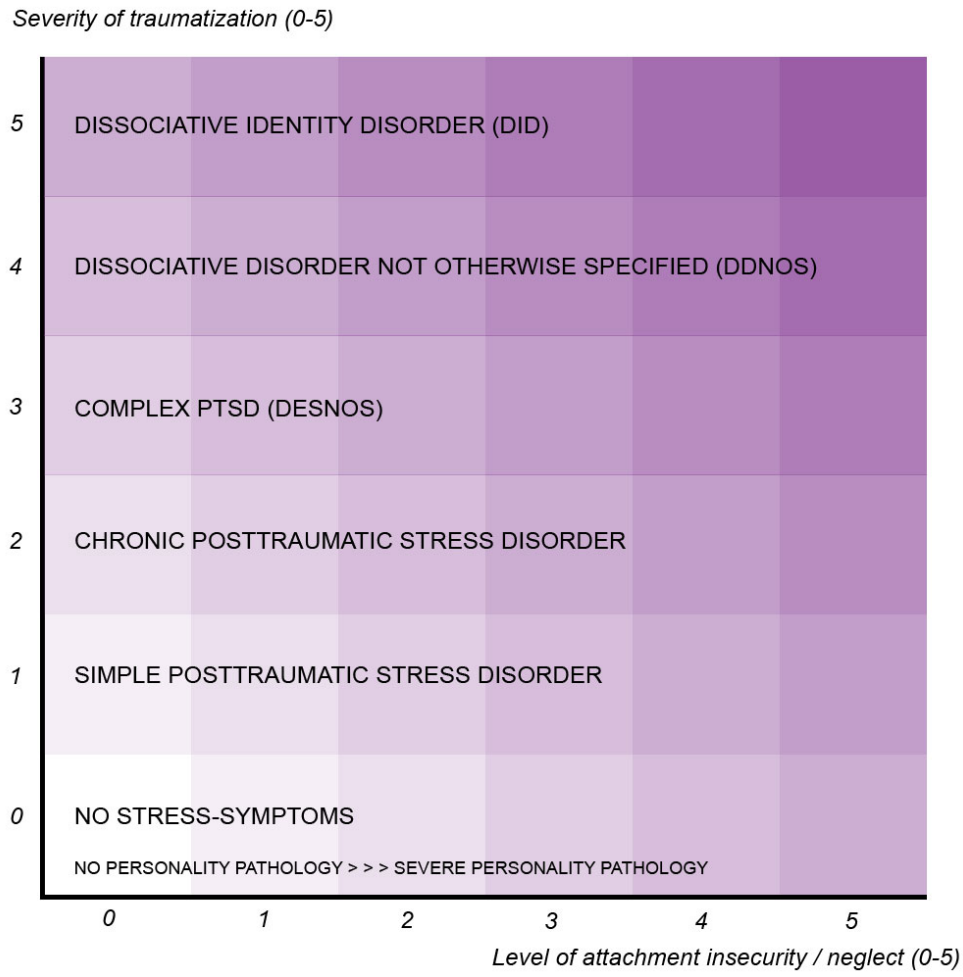
Table 2 Matrix of Spearman Correlation Coefficients of Trauma Severity (STI), (chronic) PTSD (CAPS), Complex PTSD (SIDES), and dissociative disorders (SCID-D) (n = 150)

	STI	CAPS	SIDES	SCID-D
STI				
Sample (n =150)	1.00	.64*	.45*	.38*
Men (n = 34)	1.00	.67*	.48*	.40*
Women (n = 116)	1.00	.58*	.37*	.26*
CAPS				
Sample (n = 150)	.64*	1.00	.71*	.61*
Men (n = 34)	.67*	1.00	.77*	.54*
Women (n = 116)	.58*	1.00	.64*	.57*
SIDES				
Sample (n = 150)	.45*	.71*	1.00	.64*
Men (n = 34)	.48*	.77*	1.00	.68*
Women (n = 116)	.37*	.64*	1.00	.59*
SCID-D				
Sample (n = 150)	.38*	.61*	.64*	1.00
Men (n = 34)	.40*	.54*	.68*	1.00
Women (n = 116)	.26*	.57*	.59*	1.00

*p < .001

STI = Structured Trauma Interview; CAPS = Clinician Administered PTSD Scale; SIDES = Structured Interview for Disorders of Extreme Stress; SCID-D = Structured Interview for DSM-IV Dissociative Disorders

Figure 1: a diagnostic model for the spectrum of trauma-related disorders (Wildschut et al., 2014)



Chapter five

An emotional neglect - personality disorder approach: quantifying a dimensional transdiagnostic model of trauma-related and personality disorders

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Abstract

Objective: Are personality disorders (PD) associated with emotional neglect? Draijer (2003) developed a dimensional model of trauma-related disorders and PD. The first dimension consists of the severity of the trauma endured. The second dimension consists of emotional neglect, assumed to be related primarily to personality pathology. In this paper, we investigate whether an association between retrospective reports of emotional neglect and the presence and severity of PD exists.

Method: A sample of one hundred and fifty patients was systematically assessed.

Results: Results indicate that there is little evidence to support a link between emotional neglect and problematic personality functioning at the disorder level, however there might be a link between emotional neglect and problematic personality functioning in a dimensional way.

Conclusions: Findings indicate a relationship between lack of parental warmth and problematic personality functioning, supporting the existence of the emotional neglect-axis of the proposed model in a dimensional framework of viewing personality pathology.

Keywords: *emotional neglect; personality disorders; maladaptive personality functioning; trauma-related disorders; childhood maltreatment*

Introduction

As a means of better understanding clinical features in survivors of early childhood trauma and emotional neglect across trauma-related disorders and PD and to be able to indicate treatment, Draijer (2003) proposed a two-dimensional model (see Figure 1; Wildschut, Langeland, Smit, & Draijer, 2014). The first dimension, situated on the y-axis, consists of the severity of the trauma endured. This severity is supposed to fluctuate depending on factors such as the age at which the trauma occurred, whether it was physically intrusive, how much force was used, how frequently it occurred, the relationship to the perpetrator, and the number of perpetrators. This dimension is assumed to be related primarily to trauma-related and dissociative disorders. The second dimension, situated on the x-axis, consists of emotional neglect or, in other words, the (negative) quality of the early attachment to the primary caregivers. This dimension is assumed to be related primarily to personality pathology. In their literature review of the developmental psychopathology of PD, Johnson et al. (2005) state that research indicates that childhood neglect and maladaptive parenting are independently associated with elevated risk for PD, even after childhood abuse and parental psychiatric disorders are accounted for.

Traditionally, trauma-related disorders and PD have been viewed as separate groups of disorders (DSM-5, APA, 2013). An explanation for this distinction might be that trauma-related disorders have always been associated with the presence of trauma (Moreau & Zisook, 2002), while PD have been associated with dissimilar constructs like attachment, object relations, and relational functioning (e.g. Bowlby, 1969; Fonagy & Target, 2006; Kernberg, 1984).

During the last few decades, the effects of trauma are being viewed as taking place in a social context, giving more prominence to constructs used in PD treatment like attachment and relational functioning when it comes to trauma-related disorders. Terr (1991)

distinguished two types of trauma: Type I versus Type II. Type I traumatic conditions follow from unanticipated single events, whereas Type II conditions follow from long-standing or repeated exposure to extreme external events (as for example, a child being sexually abused by a parent). According to Terr (1991), Type II traumas appear to breed personality problems.

Furthermore, PD are viewed increasingly as (partially) stemming from early childhood trauma (e.g., Carr, Martins, Stingel, Lemgruber, & Juruena, 2013; De Carvalho et al., 2015, Taillieu, Brownridge, Sareen, & Afifi, 2016). In their landmark article 'Traumatic Antecedents of Borderline Personality Disorder', Herman & Van der Kolk (1987) expressed their amazement about the lack of systematic investigations into the role of actual parental abuse in the development of borderline personality disorder (BPD). Although early studies focused on the relationship between BPD and early childhood trauma (e.g. Herman, Perry & van der Kolk, 1989; Nigg et al., 1991; Silk, Lee, Hill & Lohr, 1995), later studies focused also on other PD (e.g., Johnson, Cohen, Brown, Smailes & Bernstein, 1999; Yen. et al., 2002).

In the nineteen eighties attention was drawn to the impact of emotional neglect on psychopathology in addition to and separate from, childhood trauma: neglect increased the risk of occurrence of childhood trauma and turned out to contribute independently to the psychological consequences of childhood trauma (Draijer, 1988). Neglect in the early social environment renders trauma more likely to exert a lasting effect, because the child is unable to either experience or perceive the support of a caregiver able to offset the physiological disturbance caused by trauma (Sabo, 1997).

The primary aim of the current study is to investigate whether an association between retrospective reports of emotional neglect and the presence and severity of PD exists. To study this association, we assessed a sample consisting of patients indicated for treatment in a trauma-related or PD treatment program. This study is part of a research project (Wildschut,

Langeland, Smit, & Draijer, 2014) aimed at testing the two-dimensional model of trauma-related and personality disorders (Draijer, 2003).

Method

Participants

The sample (n = 150) consisted of patients in specialized mental health care in the Dutch province of Friesland where care is divided into diagnostic-driven treatment programs. We collected data from consecutively referred patients to two of the treatment programs: a trauma-related disorders treatment program, aimed specifically at adult survivors of prolonged early childhood trauma (n = 49), and a PD treatment program (n = 101). The exclusion criterion was insufficient mastery of the Dutch language. The reason for choosing these diagnostic groups is explained elsewhere (Wildschut et al., 2014). Briefly: we expected that a wide range of PD and a reported history of neglect, both in child- and adulthood, are presented within these diagnostic groups.

In total, 220 patients were invited to participate in the study. Seventy patients refused to participate or did not complete the whole assessment battery. There were no significant differences between respondents and non-respondents on demographic variables (sex, age, marital status, educational level, and employment status).

Measures

Demographic characteristics were obtained using psychiatric records. Four psychologists administered the clinical interview. The self-report questionnaires were handed out to fill in at home between appointments, although assistance was always offered.

To establish a valid diagnose of PD, we used the *Structured Interview for DSM-IV Personality Disorders* (SIDP-IV; Pfohl, Blum, & Zimmerman, 1995). The SIDP-IV is a semi-

structured interview. PD criteria are organized into different facets (e.g., interests and activities, close relationships, emotions) of the patient's life. We used the SIDP-IV to establish the number of PD and PD traits. The SIDP-IV has good inter-rater reliability and is distinguished from other PD measures by the quality of the clinical inquiries (Rogers, 2001).

For a more dimensional approach to personality pathology we included the *Severity Indices of Personality Problems* (SIPP-118; Verheul et al., 2008) and the *Young Schema Questionnaire* (SQ; Rijkeboer, Van den Bergh, & Van den Bout, 2005). The SIPP-118 (Verheul et al., 2008) is a self-report questionnaire that covers 5 important domains (Self-control, Identity integration, Relational capacities, Responsibility and Social concordance) of (mal)adaptive personality functioning. The 118 items are rated on a 4-point Likert scale from 1 ('I fully disagree') to 4 ('I fully agree'), covering the last 3 months. To calculate individual scores on different domains, t-scores are used. To calculate means, weighed means are used. The SIPP-118 has good psychometric qualities (Verheul et al., 2008). The subscales demonstrated excellent internal consistency (Cronbach's alpha .92) in our study.

The *Young Schema-Questionnaire* (SQ; Rijkeboer, Van den Bergh, & Van den Bout, 2005), a 205-item self-report questionnaire, measures character problems in a dimensional way. The 205 items are rated on a 6-point Likert scale from 1 ('not at all true') to 6 ('very true'). According to Young, Klosko, & Weishaar (2003) a schema is a general theme or pattern, which consists of memories, emotions, cognitions, and physical experiences, related to the self and to relationships with others, which developed during childhood and expanded into adulthood, being largely dysfunctional. Psychometric qualities are good (Rijkeboer et al., 2005). The subscales demonstrated excellent internal consistency (Cronbach's alpha ranging from .78 to .92) in our study.

Emotional neglect has been operationalized in research by Parker, Tupling & Brown (1979) as (perceived) lack of care and strong control / overprotection and is measured with the

Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979). We used the PBI as a proxy to operationalize emotional neglect before age 12. The PBI assesses two dimensions of parenting: emotional warmth ('care' – 12 items; range from 0 to 36) and control ('overprotection' – 13 items; range from 0 to 39), scored separately for mother and father figure. Reliability and validity of the scales appear to be acceptable and are independent of the parent's sex (Parker et al., 1979). Each item is scored on a 4-point Likert scale from 0 ('very like') to 3 ('very unlike'). For mothers care scores equal or higher than 27 and overprotection scores equal or higher than 13.5 are considered high, whereas for fathers care scores equal or higher than 24 and overprotection scores equal or higher than 12.5 are considered high. The subscales demonstrated good internal consistency (Cronbach's alpha ranging from .81 to .94) in our study.

Procedure

The Institutional Review Board of Mental Health Institutions (METiGG; registration no. 11.121) approved the study protocol. After admission to one of the two treatment programs, a psychologist contacted patients. If a patient agreed to participate in the study, informed consent was obtained. Four thoroughly trained and supervised (by N.D.) psychologists administered the SIDP-IV. Some interviews were videotaped and evaluated during supervision sessions. Inter-rater agreement was based on the percentage of equally scored categories (the number of personality traits on all PD). Inter-rater agreement for the interview was high (93%).

All patients consecutively referred to the trauma treatment program (which only provides outpatient care) for a period of two years were included. Due to the larger size of the PD treatment program (which also has intensive outpatient treatment and inpatient facilities) we were unable to cover all departments. Therefore, we included all consecutively referred

outpatients and inpatients given a period of multiple months in one department and then moved on to the next.

We tested the representativeness of our sample of patients in the PD treatment program (n = 101) by comparing them on sex and age with the population of patients referred to the PD programs (n = 1563) during the study period. We found no significant differences for sex of the patients. However, patients in the PD population were significantly older (M^{sample} = 32.1, SD = 12.3, $M^{population}$ = 35.7, SD = 11.5; $p < .01$), though the effect size was small (r = .07). We conclude that our sample can be considered as a representative reflection of the whole population of patients admitted to the PD programs during the study period.

Data-analysis

First, demographic variables were calculated, using frequencies. Second, we conducted Pearson correlations (one-tailed) among the PBI scales and the categorial level of PD (SIDP-IV presence, SIDP-IV number of PD, and SIPD-IV number of PD traits) as well as the dimensional level (SIPP-118 domains and SQ scales). Due to non-normality of the distributions of variables we conducted Spearman correlations (one-tailed) among the PBI scales and each individual PD (according to the SIDP-IV). All correlations were employed for both the whole sample and for men and women separately.

Results

Demographic and clinical information is displayed in Table 1. PBI Care Mother ranged from 0 to 35 in our sample (M = 16.4, SD = 9.4), PBI Overprotection Mother ranged from 0 to 33 (M = 17.0, SD = 7.0), whereas both PBI Care Father and Overprotection Father ranged from 0 to 36 (M = 14.9, SD = 9.6, and M = 15.3, SD = 7.4).

Correlations between emotional neglect (PBI scales) and SIDP-IV PD presence, SIDP-IV number of PD, and SIDP-IV number of PD traits were not significant for the total sample and for women and men separately. At the specific SIDP-IV PD level, we found two significant correlations: between BPD and low PBI Care Father scores for men (r_s = -.51; p = .00; n = 34) and between Obsessive Compulsive PD and low PBI Overprotection Father scores for women (r_s = -.23; p = .00; n = 116; to correct for multiple testing we used the Bonferonni correction when using Spearman correlation coefficients; while we performed 32 correlations between the SIDP-IV and the PBI, we used a significance level of $p < .01$ (0.05/32 = .002)).

At a more dimensional level, the domains of Identity integration, Relational capacities, and Social concordance as measured with the SIPP-118 are associated with the PBI scales. Pearson correlations between the domains of the SIPP-118 and the scales of the PBI for the total sample and women and men separately are displayed in Table 2.

Furthermore, Pearson correlations between the PBI-scales and the SQ-scales for the total sample and women and men separately are displayed in Table 3. Especially SQ Emotional deprivation is associated with most PBI-scores.

Discussion

Overviewing our results, we conclude that there is no clear evidence for a solid association between emotional neglect, as operationalized with the PBI, and PD, as measured with the SIDP-IV. We did not find a single significant correlation between presence of PD, number of PD, and number of PD traits according to the SIDP-IV and the PBI scales for the total sample and for women and men separately. Furthermore, we found only two significant correlations between PBI scales and each individual PD and one in a direction not expected (low paternal overprotection correlates with Obsessive Compulsive PD for women), which is

difficult to interpret. These results are in line with the findings of De Panfilis et al. (2008), who concluded that, using both the PBI and the SIDP-IV, although altered parental bonding may enhance the risk of PD, it's effect is completely mediated by the alexithymic feature 'difficulty describing feelings to others', while Taillieu et al. (2016) suggest that the mechanism linking childhood emotional neglect to specific disorders could be through its impact on early attachment processes.

Looking at the association between emotional neglect and personality functioning in a more dimensional way, a different picture appears. Emotional neglect seems to be related to the schema's Emotional deprivation, Social isolation/alienation, and Enmeshment. Furthermore, high warmth/care indicates good Relational capacities and Identity integration (for women). Emotional neglect from a primary caretaker thus seems associated with low self-esteem and interpersonal problems.

In general, the PBI Care scale leads to more significant correlations than the PBI Overprotection scale, which indicates that especially a lack of warmth in the relationship with a parent or primary caregiver is associated with problematic personality functioning. These results are in line with other samples, as for example among male adult offenders and female adolescents, in which both the PBI and the SQ were used (e.g., Pellerone, Craparo, & Tornabuoni, 2016; Turner, Rose, & Cooper, 2005).

In conclusion, our results indicate that the x-axis of the model is not valid when it comes to the link between emotional neglect and personality at the disorder level (considering both presence as well as number and type of PD). However, it does seem valid when it comes to the link between neglect and problematic personality functioning in a dimensional way. Work in the area of a personality pathology has sought to go beyond the DSM-IV categories and this raises the question if the changes that the description of PD has undergone in DSM-5 have gone far enough, as discussed earlier (Skodol, 2014; Skodol, Morey, Bender, & Oldham,

2015). Our results indicate the usefulness of incorporating dimensional measures in measuring maladaptive personality functioning.

A strength of our study is that we used a clinical interview to establish a valid PD diagnose and that we used measurements to view personality functioning in a more dimensional way. Much research considering PD in the light of childhood trauma and neglect has been limited by methodological problems, for example measuring 'PD' solely in a dimensional way, without subjects having a clinical diagnose, depending on psychiatric records or self-report measures (screeners) for establishing a clinical diagnosis of a PD, or excluding certain PD (Wildschut et al., 2014). Another strength of our study is that we conducted our research in a naturalistic setting, consisting of patients seeking help in specialized mental health care, instead of, for example, a college setting.

Some limitations of our study should be noted. First, we had to find a proxy to operationalize emotional neglect retrospectively, for which we chose the PBI, which of course raises the question if we actually measured emotional neglect. The PBI has been widely used to measure emotional neglect (e.g., Johnstone et al., 2009; Young, Lennie, & Minnis, 2011). Furthermore, the PBI has been validated by relating it to lack of parental affection (Draijer & Langeland, 1999). It was found to be a good indicator of emotional neglect, with the advantage that is refers to factual, observable behaviour of parents rather than to more subjective indications of their unavailability or lack of affection.

Another limitation of our study is that we were unable to incorporate a measurement that assesses PD according to DSM-5, since data collection started four years ago. However, since differences between DSM-IV and DSM-5 in classifying PD are rather limited, we do not expect much difference in outcome if we had had the opportunity to use DSM-5. Another limitation of our study is that we found low numbers of certain PD's in our sample, which might constitute an alternative explanation for the sparsity of significant correlations found.

Our results indicate that the link between emotional neglect and personality pathology should be elaborated on in future research. Cohen et al. (2013) found that compared to other kinds of childhood maltreatment, neglect and emotional abuse were the only significant predictors of adult personality pathology. Furthermore, in a systematic review of longitudinal studies of childhood maltreatment and mental health outcomes Gilbert et. al. (2009) found that, compared to other types of abuse, neglect has received the least scientific and public attention, but is at least as damaging as physical or sexual abuse in the long term.

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Table 1 Demographic and clinical characteristics of the sample (n = 150) according to Structured Interview for DSM-IV Personality Disorders (SIDP-IV)

Sex (n / %)	
Male	34 (22.7)
Female	116 (77.3)
Age (mean years, SD)	34.2 (11.9)
Marital status (n / %)	
Single	74 (49.3)
Married/living with partner	47 (31.3)
Divorced/widowed	29 (19.4)
Education (n / %)	
Elementary education	14 (9.3)
High school	112 (74.7)
College	24 (16.0)
Employment status (n / %)	
Yes	39 (26.0)
No	111 (74.0)
SIDP-IV Number of PD (mean, SD)	1.5 (1.1)
SIDP-IV Number of PD traits (mean, SD)	12.6 (7.0)
SIDP-IV PD (n / %)[ab]	
Paranoid PD	9 (6.0)
Schizotypical PD	3 (2.0)
Antisocial PD	1 (0.7)
Borderline PD	44 (29.3)
Avoidant PD	42 (28.0)

Dependent PD	12	(8.0)
Obsessive Compulsive PD	20	(13.3)
PD not otherwise specified	90	(60.0)

[a] Due to comorbidity, the total number exceeds 150

[b] patients with Schizoid PD, Histrionic PD, and Narcissistic PD were not found in our sample

Table 2 Pearson Correlation Coefficients of Severity Indices of Personality Problems (SIPP-118) and Parental Bonding Instrument (PBI) (n = 150)

	PBI Care Mother		PBI Overprotection Mother		PBI Care Father		PBI Overprotection Father	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*
SIPP-118 Self-control	.14	.05	-.12	.07	-.02	.42	.00	.48
Women (n = 116)	.15	.05	-.15	.06	-.09	.17	.10	.16
Men (n = 34)	.06	.38	.01	.48	.24	.09	-.33	.03
SIPP-118 Identity integration	.21	.01	-.07	.19	.10	.12	-.09	.15
Women (n = 116)	**.27**	**.00**	-.09	.17	.04	.35	-.03	.37
Men (n = 34)	-.02	.45	.02	.46	.30	.04	-.28	.05
SIPP-118 Relational capacities	**.24**	**.00**	-.13	.06	**.24**	**.00**	-.09	.13
Women (n = 116)	**.25**	**.00**	-.11	.12	.17	.04	-.01	.45
Men (n = 34)	.19	.14	-.14	.21	**.46**	**.00**	-.34	.02
SIPP-118 Responsibility	.07	.18	-.10	.11	.00	.49	-.00	.49
Women (n = 116)	.05	.29	-.08	.20	-.10	.15	.04	.35
Men (n = 34)	.21	.12	.24	.09	.33	.03	-.17	.18
SIPP-118 Social concordance	.02	.40	.06	.23	.06	.23	-.05	.26
Women (n = 116)	.11	.13	-.05	.29	-.03	.40	.07	.24
Men (n = 34)	-.20	.13	.13	.42	.35	.02	**-.48**	**.00**

In bold: to correct for multiple testing we used the Bonferonni correction when using Pearson correlation coefficients. While we performed 20 correlations between the SIPP-118 and the PBI, we used a significance level of $p < .01$ (0.05/20 = .003). SIPP-118 Self-control: the capacity to tolerate, use, and control one's own emotions and impulses. SIPP-118 Identity

integration: the ability to see oneself and one's own life as stable, integrated and purposive. SIPP-118 Relational capacities: the capacity to genuinely care about others as well as feeling cared about them. SIPP-118 Responsibility: the capacity to set realistic goals and to achieve these goals in line with the expectations generated in others. SIPP-118 Social concordance: the ability to value someone's identity, withhold aggressive impulses towards others, and to work together with others.

Table 3 Pearson Correlation Coefficients of Schema Questionnaire (SQ) and Parental Bonding Instrument (PBI) (n = 150)

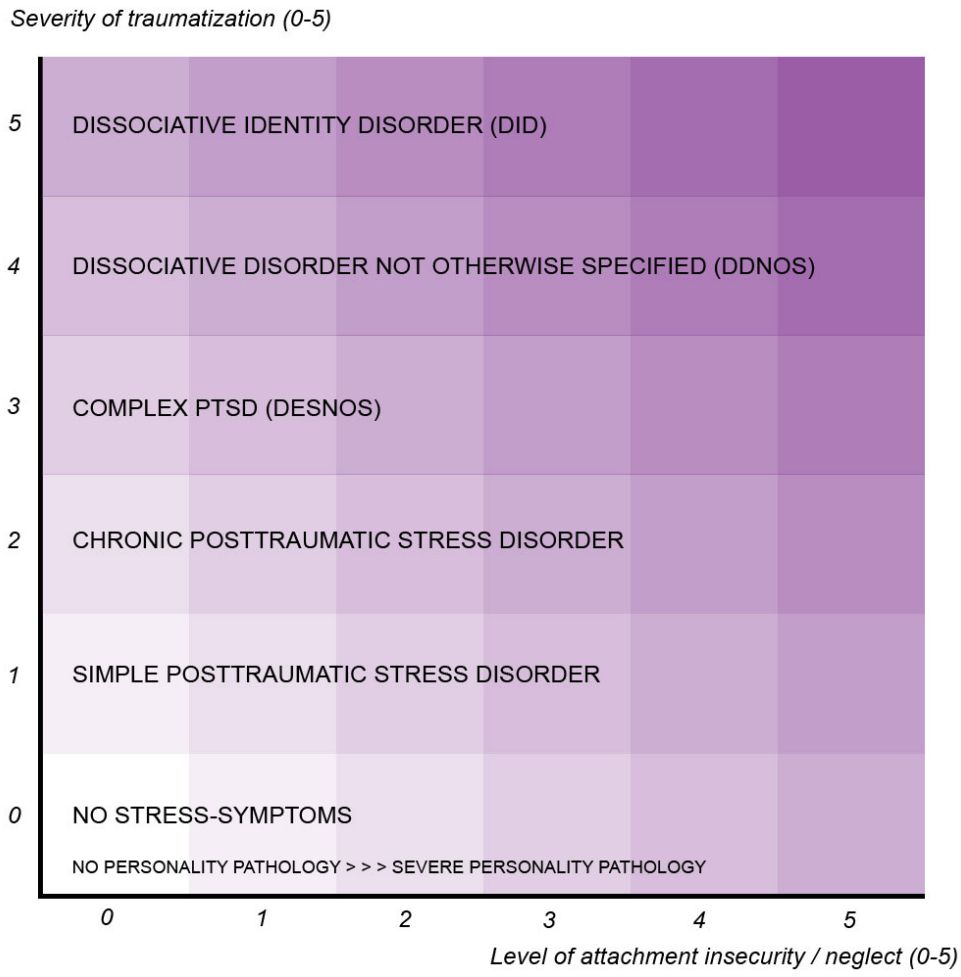
	PBI Care Mother		PBI Overprotection Mother		PBI Care Father		PBI Overprotection Father	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*
SQ Abandonment/instability	-.20	.01	.13	.06	-.18	.01	.14	.05
Women (n = 116)	-.18	.03	.08	.19	-.16	.04	.10	.14
Men (n = 34)	.22	.11	.23	.09	-.21	.12	.22	.10
SQ Mistrust/abuse	-.10	.12	.03	.35	-.12	.07	.08	.15
Women (n = 116)	-.12	.09	.02	.42	-.14	.06	.09	.17
Men (n = 34)	-.01	.48	.06	.37	-.04	.42	.05	.39
SQ Emotional deprivation	**-.49**	**<.001**	**.33**	**<.001**	**-.30**	**<.001**	.10	.12
Women (n = 116)	**-.44**	**<.001**	.27	.00	-.30	.00	.10	.15
Men (n = 34)	**-.62**	**<.001**	.48	.00	-.31	.04	.07	.35
SQ Defectiveness/shame	-.24	.00	.06	.22	-.22	.00	.15	.04
Women (n = 116)	-.24	.01	.03	.37	-.20	.02	.12	.10
Men (n = 34)	-.18	.16	.09	.31	-.25	.07	.18	.15
SQ Social isolation/alienation	**-.27**	**<.001**	.13	.06	-.21	.01	.15	.03
Women (n = 116)	-.28	.00	.10	.15	-.20	.02	.16	.05
Men (n = 34)	-.23	.10	.22	.11	-.23	.10	.13	.23
SQ Social undesirability	-.16	.03	.06	.25	-.09	.14	.15	.03
Women (n = 116)	-.16	.04	-.01	.45	-.09	.16	.14	.07
Men (n = 34)	-.14	.21	.23	.10	-.07	.36	.19	.15
SQ Dependence/incompetence	-.16	.03	.04	.30	-.11	.09	-.01	.47

Women (n = 116)	-.16	.04	.01	.45	-.09	.16	.02	.43
Men (n = 34)	-.20	.12	.20	.12	-.19	.14	-.05	.39
SQ Vulnerability to harm/illness	-.08	.16	.15	.03	-.02	.42	.16	.03
Women (n = 116)	-.17	.03	.12	.11	-.05	.30	.16	.04
Men (n = 34)	.11	.28	.30	.04	.05	.38	.19	.15
SQ Enmeshment	-.17	.02	**.29**	**<.001**	-.02	.43	.09	.14
Women (n = 116)	-.16	.04	.23	.01	.04	.35	.05	.32
Men (n = 34)	-.20	.13	.50	.00	-.19	.15	.25	.07
SQ Failure to achieve	-.17	.02	.00	.49	-.03	.35	.02	.41
Women (n = 116)	-.17	.03	-.07	.23	-.44	.32	.01	.47
Men (n = 34)	-.14	.21	.22	.11	.03	.44	.04	.42
SQ Entitlement/grandiosity	.01	.44	-.01	.46	.08	.16	.01	.45
Women (n = 116)	-.03	.39	.00	.50	.13	.09	-.03	.36
Men (n = 34)	.02	.46	.06	.37	.09	.31	.22	.10
SQ Insufficient self-control	-.02	.41	.07	.18	-.02	.40	-.02	.43
Women (n = 116)	-.04	.34	.10	.16	.06	.26	-.05	.30
Men (n = 34)	.01	.48	.04	.40	-.33	.03	.14	.21
SQ Subjugation	-.25	.00	.16	.03	-.07	.19	.09	.13
Women (n = 116)	-.27	.00	.13	.09	-.05	.29	.10	.15
Men (n = 116)	-.18	.15	.26	.07	-.14	.22	.07	.34
SQ Self-sacrifice	-.25	.00	.06	.24	-.11	.10	.08	.16
Women (n = 116)	-.24	.00	.01	.44	-.12	.10	.13	.08
Men (n = 34)	-.22	.11	.16	.19	-.03	.43	-.13	.24
SQ Emotional inhibition	-.17	.02	.08	.17	-.13	.05	-.03	.37
Women (n = 116)	-.20	.02	.04	.36	-.07	.23	-.12	.09

Men (n = 34)	-.13	.23	.23	.10	-.34	.02	.28	.05
SQ Unrelenting standards	-.12	.07	-.01	.47	-.08	.18	.00	.48
Women (n = 116)	-.14	.07	-.02	.42	-.06	.27	-.02	.42
Men (n = 34)	-.05	.40	.02	.45	-.13	.23	.07	.34

In bold: to correct for multiple testing we used the Bonferonni correction when using Pearson correlation coefficients. While we performed 64 correlations between the SQ and the PBI, we used a significance level of $p < .001$ (0.05/64 = .0007).

Figure 1: a diagnostic model for the spectrum of trauma-related disorders and personality disorders



Chapter six

Profiling psychopathology of patients reporting early childhood trauma and emotional neglect: support for a two-dimensional model?

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Abstract

Objective: Profiling patients who report early childhood trauma and emotional neglect may be useful for treatment indication. This study attempts to validate a two dimensional 'trauma-neglect model' (Draijer, 2003) proposed to distinguish clinical profiles in terms of trauma-related, dissociative, and personality pathology.

Method: A sample of patients referred to a trauma program (n = 49) and a personality disorders program (n = 101) was extensively assessed. Cluster analysis was used to discriminate patients in terms of 'psychiatric disease burden', based on symptom severity scores, type of disorder, and level of maladaptive personality functioning. Clusters that differed in psychiatric disease burden were mapped in the trauma-neglect space and their position was evaluated.

Results: We found three clusters and labelled them as the 'mildly impaired cluster' (26% of patients), 'moderately impaired cluster' (43% of patients), and 'severely impaired cluster' (31% of patients). The mean scores on trauma and neglect for each cluster differed significantly.

Conclusions: These results support the validity of the 'trauma-neglect' model, which may be used to indicate treatment. Patients who report a range of traumatic experiences in combination with a lack of maternal care can be profiled as 'severely impaired', suffering from a wide range of trauma-related disorders, dissociative disorders (DD), and personality disorders (PD), combined with a high level of psychiatric symptoms and a maladaptive style of personality functioning.

Keywords: *childhood trauma; emotional neglect; trauma-related disorder; dissociative disorders; personality disorders*

Introduction

As for all mental disorders, the transition from DSM-IV to DSM-5 included several critical reviews about the current categorical diagnostic system regarding trauma-related disorders and PD (e.g., Herman, 2012; Resick et al., 2012; Skodol, 2014). Like other diagnostic systems, the DSM does not combine patients with similar psychopathology based on etiology into a single category. Consequently, DSM classifications are of limited use for treatment indications of patients with histories of complex trauma, including early childhood trauma and/or emotional neglect. People who seek treatment for psychological problems related to complex trauma vary in the severity of psychopathology, comprising relatively mild and nonclinical complaints through to relatively severe mental disorders. This range of severity of psychopathology has implications for treatment indications. The nature of the problems of survivors of early childhood trauma and/or emotional neglect might be viewed both from a symptom-oriented as well as a person-oriented approach (Wildschut, Langeland, Smit, & Draijer, 2014). Therefore, a more dimensional approach in patients reporting early childhood trauma and/or emotional neglect has promise to characterize clinical relevant, transdiagnostic psychopathology (Galatzer-Levy & Bryant, 2013). Based on the information gathered, it might become clear if trauma focused therapy is indicated or not.

In line with the idea of precision medicine, Draijer (2003) has developed a two-dimensional model than might serve as a guide for treatment indication for survivors of early childhood trauma and/or emotional neglect (see Figure 1; Wildschut et al., 2014). The model accounts for both the influence of trauma as well as the influence of emotional neglect on the development of trauma-related disorders, DD and PD. Two dimensions ‘colour’ the spectrum and give an indication of treatability. The ‘darker’ coloured psychopathology is expected to show less and slower clinical improvement compared to the ‘lighter’ coloured psychopathology (Swart, Wildschut, Draijer, Langeland, & Smit, 2017).

The first dimension, situated on the y-axis, consists of the severity of the trauma endured. This severity fluctuates depending on factors such as the age at which the trauma occurred, whether it was physically intrusive, how much force was used, how frequently it occurred, the relationship to the perpetrator, and the number of perpetrators. This dimension is hypothesized as being related primarily to trauma-related and dissociative disorders. The second dimension, situated on the x-axis, consists of the severity of emotional neglect. This dimension might be more related to personality pathology then to trauma-related and DD (Wildschut et al., 2014).

The primary aim of the current study is to quantify Draijer's two-dimensional model of trauma-related disorders, DD, and PD (Wildschut et al, 2014). In order to achieve this, we extensively investigated (using semi-structured clinical interviews and self-report questionnaires) a sample consisting of patients indicated for treatment in both a trauma and a PD treatment program. Integrating the data in the two-dimensional model might advance our knowledge about the relationship between trauma-related disorders, DD, and PD in survivors of early childhood trauma and emotional neglect, which may be used to match patients to specific treatment programs.

Method

Participants

Participants (n = 150) were patients in psychiatric care in the northern part of The Netherlands. The psychiatric care provided is organized into diagnostic-driven treatment programs. We collected data from two patient groups: one consisting of consecutively referred patients to a trauma-related and DD treatment program, aimed specifically at adult survivors of prolonged early childhood trauma (n = 49); the other consisting of consecutively referred patients to a PD treatment program (n = 101). The only exclusion criterion was

insufficient mastery of the Dutch language. The reason for choosing these patient groups is explained in more detail elsewhere (Wildschut et al., 2014). Briefly: we assumed that a wide range of trauma-related disorders and a reported history of trauma, both in child- and adulthood, are presented within these groups.

In total, 220 patients (84 in the trauma program, 136 in the PD program) were invited to participate in the study. Seventy patients refused to participate (35 in the trauma program, 35 in the PD program, i.e. 41.7% versus 25.7%, respectively; $\chi^2(1) = 6.07$, $p = 0.014$), suggesting that the refusal rate was higher in the trauma program. However, respondents and non-respondents did not differ significantly on demographical variables.

Measures

Socio-demographic variables. Demographic characteristics (sex, age, marital status, educational level, employment) were obtained from hospital records.

Trauma-related disorders and symptoms. The *Clinician Administered PTSD Scale* (CAPS) is a structured interview with strong psychometric properties (Blake et al., 1995) used to assess PTSD diagnostic status and dimensional PTSD symptom frequency and intensity. The CAPS yields both scores for current and lifetime PTSD.

The *Structured Interview for Disorders of Extreme Stress* (SIDES; Pelcovitz et al., 1997) measures 27 criteria, arranged into 7 categories: regulation of affect and impulses, attention or consciousness, self-perception, relations with others, somatization and systems of meaning, which are often seen in response to extreme trauma and not addressed by DSM-IV criteria for PTSD. Findings on the psychometrics of the SIDES indicate that it is a valid measure of the associated features of PTSD (Pelcovitz et al., 1997).

The *Structured Interview for DSM-IV Dissociative Disorders (*SCID-D; Steinberg, Rounsaville & Cicchetti, 1985) assesses the DD according to DSM-IV. The SCID-D has good psychometric qualities (Boon & Draijer, 1993).

To measure dissociative symptoms, we used the self-report questionnaire *Dissociative Experiences Scale* (DES; Bernstein & Putnam, 1986). This scale consists of 28 items rated on a VAS scale (range 0-100). For this scale, good test-retest and split-half reliability as well as internal consistency and construct validity have been reported (Bernstein & Putnam, 1986).

Personality disorders and pathology. The *Structured Interview for DSM-IV Personality Disorders* (SIDP-IV; Pfohl, Blum, & Zimmerman, 1995) is a semi-structured interview, in which DSM-IV Axis II criteria are organized into different facets (e.g., interests and activities, close relationships and emotions) of the patient's life. The SIDP-IV has good inter-rater reliability and is clearly a useful instrument for the assessment of PD, distinguished from other DSM-IV Axis II measures by the quality of the clinical inquiries (Rogers, 2001).

Taking a more dimensional approach to personality pathology we also included the *Severity Indices of Personality Problems* (SIPP-118; Verheul et al., 2008), the *Young Schema Questionnaire* (SQ; Rijkeboer, Van den Bergh, & Van den Bout, 2005), and the *NEO-PI-R* (Costa & McCrae, 1995). The SIPP-118 (Verheul et al., 2008) is a 118-item self-report questionnaire that covers 5 important domains (Self-control, Identity integration, Relational capacities, Responsibility, and Social concordance) of (mal)adaptive personality functioning. The SIPP-118 has good psychometric qualities (Verheul et al., 2008).

The SQ (Rijkeboer et al., 2005) is a 205-item self-report questionnaire. According to Young, Klosko, & Weishaar (2005) a schema is a general theme or pattern, which consists of memories, emotions, cognitions and physical experiences, related to the self and to relationships with others, which developed during childhood and expanded into adulthood. Psychometric qualities are good (Rijkeboer et al., 2005).

To measure general personality traits, we used the NEO-PI-R (Costa & McCrae, 1995). The NEO-PI-R is a 240-item self-report questionnaire, measuring the Big Five personality traits. Psychometric qualities are very good (Costa & McCrae, 1995). Additionally, we used three questionnaires to measure general psychopathology.

General psychological symptoms. The *Symptom Checklist-90-Revised* (SCL-90-R; Arrindell & Ettema, 1986) is a 90-item self-report instrument that measures 8 different symptom area's and a total scale that is used as global severity index (GSI) of psychological and physical dysfunctioning during the last week. Psychometric qualities of this instrument are reported as good (Arrindell et al., 2003). For the present study we used the GSI scores.

The *Inventory of Depressive Symptomatology* (IDS; Rush, Gullion, Basco, Jarrett, & Trivedi, 1996), a 28-item self-report questionnaire, was used to evaluate depressive symptom severity during the last week. Psychometric properties are satisfactory (Rush et al., 1996).

The *Beck Anxiety Inventory* (BAI; Steer & Beck, 1997) is a 21-item self-report instrument for measuring the severity of anxiety in adolescents and adults during the last week. The BAI has good psychometric properties (Steer & Beck, 1997).

Reports of trauma and neglect. For the measurement of trauma history and neglect the *Structured Trauma Interview* (STI; Draijer, 1989) was used. This instrument addresses the experience of loss of primary caretakers, witnessing violence between caretakers, neglect by caretakers based on parental dysfunction, physical abuse, sexual abuse and other shocking events during childhood and adulthood (defined as age 16 and older). Outcomes range from ‘absent’ to ‘severe’, depending on variables such as age of onset, frequency, number of perpetrators and if the trauma occurred within the family. Validity of the STI has been shown by comparisons with other instruments for the assessment of childhood trauma (e.g., Kooiman, Ouwehand, & ter Kuile, 2002; Langeland, Draijer, & van den Brink, 2003) and neglect (Draijer & Langeland, 1999).

We used the *Parental Bonding Instrument* (PBI; Parker, Tupling, & Brown, 1979) as a proxy to operationalize emotional neglect. The PBI assesses two dimensions of parenting: emotional warmth ('care') and control ('overprotection'). The questionnaire consists of 12 items on care and 13 items on overprotection scored separately for mother and father figure. Participants are asked to remember their parents on how they behaved towards them in the first 12 years of life. Each item is scored on a 4-point Likert scale from 1 ('very likely') to 4 ('very unlikely'). For each parent a 'care' score and an 'overprotection' score is calculated. For mothers care scores equal or higher than 27 (range 0 to 36) and overprotection scores equal or higher than 13.5 (range 0 to 39) are considered high, whereas for fathers care scores equal or higher than 24 (range 0 to 36) and overprotection scores equal or higher than 12.5 (range 0 to 29) are considered high (Parker et al., 1979). Reliability and validity of the scales appear to be acceptable and are independent of the parent's sex (Gladstone & Parker, 2005).

We operationalized trauma by constructing a 'trauma severity score', based on the sum scores on the STI. We used a range of 0 (= absent) to 1 (= present) for the following ten categories: loss of primary caretakers, witnessing violence between caretakers, childhood physical abuse (CPA), childhood sexual abuse (CSA), other stressful events during childhood, physical abuse by a partner, physical abuse by another, sexual abuse by a partner, sexual abuse by another, and other stressful events during adulthood (total range 0 to 10). For the categories CPA and CSA we added additional severity scores for each type of abuse, using 4 categories: frequency of abuse (incidental = 1; chronic = 2), whether the abuse occurred within the family (outside the family = 1; within the family = 2; both = 3), number of perpetrators (one perpetrator = 1; multiple perpetrators = 2), and age of onset (between 12 and 16 years of age = 1; between 6 and 12 years of age = 2; before 6 years of age = 3). Our 'trauma severity score' thus ranges from 0 to 30.

For the neglect score we used four different operationalizations, based on the PBI (care mother, overprotection mother, care father, and overprotection father). Since we had four different types of neglect scores, we repeated our analysis for each neglect score.

The concept of 'psychiatric disease burden' was evaluated by studying the spectrum of the following 19 variables: the total scores of the CAPS (current), SIDES, and SCID-D, number of PD according to the SIDP-IV, the total score of the SQ, the scores on the five domains of the SIPP-118 (self-control, identity integration, responsibility, relational capacities, and social concordance), the scores on the five domains of the NEO-PI-R (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness), and the total scores on the GSI-SCL-90, IDS, BAI, and DES. Using these 19 variables, subgroups of patients (clusters) were identified that could be considered as homogeneous groups of patients within this spectrum, i.e. with respect to 'psychiatric disease burden'.

Procedure

The study protocol was approved by The Institutional Review Board of Mental health Institutions (Instellingen Geestelijke Gezondheidszorg - METiGG; registration no. 11.121).

Patients were contacted by a psychologist after admission to one of the two treatment programs and informed on the study. Informed consent (verbal and written) was obtained if a patient agreed to participate. The semi-structured clinical interviews were administered by four trained and supervised (by N.D.) psychologists. The total assessment battery consisting of thirteen instruments took about six to ten hours to administer, divided over two or three sessions per patient. The trauma-interviews were administered first, followed by the PD interview. Most patients filled out the questionnaires at home, between sessions, although assistance was always offered. Some interviews were videotaped and evaluated during supervision sessions. Two randomly selected videos per interview, scored by the four

psychologists, were used to calculate the percentage of agreement between them. For each interview, inter-rater agreement was based on the percentage of equally scored categories (25 trauma categories on the STI, 34 categories on the CAPS (all PTSD symptoms and symptom clusters), 7 categories on the SIDES (all symptom clusters), 5 categories on the SCID-D (all symptoms), and 10 categories on the SIDP-IV (the number of personality traits on all 10 PD)). Inter-rater agreement for the interviews was high (ranging from 90% to 95%). Internal consistency as measured by Cronbach's alpha's for the self-report questionnaires was also high (ranging from .72 to .94).

Considering the number of patients referred to both treatment programs, it was possible to include all patients consecutively referred to the trauma treatment program. Due to the larger set-up of the PD program, we included all consecutively referred patients at a period of several months in one department and then moved on to the next department.

To test the representativeness of our sample of PD patients (n = 101) we compared them on demographic variables (sex, age, and marital status) with the population of patients referred to PD programs (n = 1563) during the study period. No significant differences were found for sex of the patients. However, compared to our PD sample, patients in the PD treatment population were significantly older (M = 35.7, SD = 11.5 versus M = 33.2, SD = 12.5, $p < .05$), but the effect size was small (r = .07), and more likely to be married (30.4% versus 22.8%, $p < .001$). We conclude that, despite some differences, our PD treatment sample can be considered as a representative reflection of the whole population of patients admitted to the PD programs during the study period.

Data-analysis

In evaluating the two-dimensional model of trauma-related disorders, DD, and PD, we investigated the relationship of the model with 'psychiatric disease burden', hypothesizing

that patients with low burden are located in the south-west corner of the quadrant, while patients with high burden are located in the north-east corner.

We used cluster analysis in order to discriminate patients with respect to 'psychiatric disease burden'. We applied Ward's hierarchical cluster analysis with squared Euclidian distance as the dissimilarity measure, using a set of 19 variables (see under 'measures') that we believe to encompass 'psychiatric disease burden'.

We used stopping-rules to determine the optimal number of clusters, by evaluating both the Calinski–Harabasz pseudo-F index (CH) and the Duda–Hart Je(2)/Je(1) index (DH). K-means cluster analysis, an iterative as opposed to the hierarchical method, was applied to validate solutions from the Ward method. Cluster centroids, i.e. means of all (standardized) clustering variables, displayed in a profile graph, were used for interpretation of the psychiatric disease burden clusters.

To relate the clusters of 'psychiatric disease burden' to the model, we computed means in the trauma-neglect space (mean trauma and mean neglect) for each of the clusters, together with corresponding 95%-confidence ellipsoids. We studied the separation of the clusters by displaying their means and the confidence ellipsoids in the trauma-neglect space, and used MANOVA to test equality of these cluster means, with post-hoc tests on pairwise comparisons.

Results

Demographical and clinical information of the 150 patients in our study sample is displayed in Table 1. There were no missing values on any of the 19 cluster variables, nor on the variables indicating trauma or (the several forms of) neglect.

For the cluster analysis, based on the 19 variables, the two stopping rules (CH and DH) were inconsistent. The CH stopping rule suggested a two-cluster solution, while the DH

stopping rule suggested a nine-cluster solution. We found that a three-cluster solution appeared to be the best compromise between these two. Resampling, taking 1,000 bootstrap samples, revealed that the stopping rules of the two-cluster solution and those of the three-cluster solution had confidence intervals with a large overlap, indicating that both solutions were reasonable choices. The profile graph, indicating the cluster centroids, is displayed in Figure 2. Based on the profile graph, the three clusters were labelled as the 'moderately impaired cluster' (largest cluster, 43% of the patients), 'severely impaired cluster' (31% of the patients), and 'mildly impaired cluster' (26% of the patients).

Using the first operationalization of neglect (PBI lack of emotional warmth by mother), the mean scores on trauma and neglect for each psychiatric disease burden cluster differed significantly, according to the MANOVA test: $F(4, 294) = 3.20$, p-value = 0.014. This is illustrated in Figure 3, showing cluster means and the corresponding 95%-confidence ellipses. Notice that the ellipses overlap only partly. Bonferroni corrected post-hoc tests show that differences are significant between the severe and the mild cluster ($F(2,146) = 4.79$, p-value = 0.010), while differences between the other clusters were insignificant. For the three remaining operationalizations of neglect (PBI overprotection mother, PBI lack of emotional warmth by father, and PBI overprotection father; see Figures 4a, 4b, and 4c, provided as supplementary material) either the MANOVA test or the post-hoc pairwise comparisons did not reveal significant differences.

Discussion

We aimed to validate Draijer's two-dimensional model of trauma-related disorders, DD, and PD. We related the model to 'psychiatric disease burden', hypothesizing that patients with low burden are located in the south-west corner of the two-dimensional model, while patients with high burden are located in the north-east corner of the model.

In order to discriminate patients with respect to psychiatric disease burden, we used cluster analysis. This generated three clusters, which we characterized as 'mildly impaired', 'moderately impaired', and 'severely impaired'. The severely impaired cluster, for example, is comprised of patients with high levels of PTSD, Complex PTSD, DD, and PD. These patients report a high number of dysfunctional schema's according to the SQ, and report low self-control, low identity integration, low responsibility, and low relational and social capacities. Furthermore, these patients are highly neurotic, largely introverted and not very conscientious, and they suffer from high levels of depressive, anxious, and dissociative symptoms, experiencing a high level of general somatic and psychological distress.

We then related the three clusters of patients to the trauma-neglect quadrant. We operationalized the y-axis with a trauma-severity score based on the STI, whereas we operationalized the x-axis with four types of neglect (according to the PBI): lack of warmth/care by both mother and father and overprotection by both mother and father. Only neglect operationalized as lack of warmth/care by mother confirmed our hypothesis that patients with low psychiatric disease burden are located in the south-west corner of the quadrant, while patients with high psychiatric disease burden are located in the north-east corner. Furthermore, on average, moderately impaired patients and severely impaired patients differ especially in reported lack of warmth by mother and not so much in their trauma severity scores. This may indicate that especially a lack of warmth may raise symptomatology to severe levels.

Our findings support the validity of the theoretical model. Patients who report a range of traumatic experiences in combination with a lack of care by their mother can be profiled as suffering from a wide range of trauma-related disorders, DD, and PD, combined with a high level of psychiatric symptoms and a maladaptive style of personality functioning.

Considering the model as a whole, we expected to find other sources of neglect (besides lack of care by mother) to fit the model, which was not the case (considering the PBI scales). However, this is in line with Carr et al. (2013), who report in their systematic review of the role of early life stress in adult psychiatric disorders according to trauma subtypes, that among the subtypes neglect yielded lesser consensus, which can be explained by the fact that it is the most recently researched subtype. Furthermore, there is no consensus about the concept of early life stress, which leads to a mismatch in the choice of instruments for evaluation (Carr et al., 2013). Taillieu, Brownridge, Sareen, & Afifi (2016) also state that no uniform legal definition of what constitutes emotional maltreatment exists, there is a lack of consensus regarding the definition and measurement of emotionally abusive and neglecting parental actions, and a 'gold standard' measure has yet to be developed. As a proxy of emotional neglect, the PBI has been widely used (e.g., Johnstone et al., 2009; Young, Lennie, & Minnis, 2011). Furthermore, Draijer & Langeland (1999) validated lack of parental affection resulting from recurrent illness, nervousness, depression, alcohol misuse, and use of sedatives by relating it to the PBI.

A strength of our study is that we used a comprehensive battery to assess our sample, both in categorical and in dimensional ways, with a nice overall response percentage, especially considering that we conducted our research in a naturalistic setting consisting of patients seeking help in specialized mental health care. We were able to avoid missing values by collecting questionnaires before the second or third interview session (and checking for missing values in the presence of the patient).

A limitation of our study is that we were unable to incorporate measurements that assess trauma-related, dissociative and personality disorders according to DSM-5, since data collection started five years ago. However, since differences between DSM-IV and DSM-5 regarding these disorders are limited, we do not expect much difference in outcome if we had

had the opportunity to use DSM-5 measurements. Another limitation is that, due to the fact that we conducted research in a naturalistic clinical setting, the interviewers were not blind to which treatment program the patients were referred and analyses were based on cross-sectional data.

During the last couple of years, we witnessed the transition from DSM-IV (APA, 1994) to DSM-5 (APA, 2013). However, the reliability and validity of this traditional taxonomy is limited by arbitrary boundaries between psychopathology and normality, often unclear boundaries between disorders, frequent disorder co-occurrence, heterogeneity within disorders, and diagnostic instability (Kotov et al., 2017). Although decent treatments for mental disorders are plentiful, mortality has not decreased for any mental illness, prevalence rates are similarly unchanged, there are no clinical tests for diagnosis, detection of disorders is delayed well beyond generally accepted onset of pathology, and there are no well-developed preventive interventions (Cuthbert & Insel, 2013).

Alternative models are emerging to address these problems, for example the Hierarchical Taxonomy Of Psychopathology (HiTOP, Kotov et al., 2017) and the Research Domain Criteria (RDoC, Cuthbert & Insel, 2013). These new approaches towards individualized treatment are generally called ‘precision medicine’ (Cuthbert & Insel, 2013).

Our attempt to validate Draijer’s model can also be seen as an effort to contribute to the idea of profiling patient groups, since a distinction between diagnostic categories may not make sense for survivors of early childhood trauma and emotional neglect, especially in diagnostic-driven treatment programs. The present findings suggest several important research directions for furthering the understanding of the link between trauma, neglect, trauma-related disorders, DD, and PD, amongst them further investigation of psychological profiles of individuals reporting early childhood trauma and emotional neglect with larger samples. Future research (Swart et al., 2017) will address the predictive value of the model.

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Table 1 Demographics and clinical characteristics of the sample (*n* = 150)

Sex of the participants (*n* / %)		
Female	116	(77.3)
Male	34	(22.7)
Age (mean years, SD)	34.2	(11.9)
Relationship status (*n* / %)		
Single	74	(49.3)
Living with partner	47	(31.3)
Divorced/widowed	29	(19.4)
Educational level (*n* / %)		
Elementary education	14	(9.3)
High school	112	(74.7)
College	24	(16.0)
Employment status (*n* / %)		
Yes	39	(26.0)
No	111	(74.0)
Trauma-related disorder (*n* / %)[a]		
PTSD	84	(56.0)
Complex PTSD	58	(38.7)
Dissociative disorder NOS	16	(10.7)
Dissociative Identity Disorder	2	(1.3)
SIDP-IV Number of PD (mean, SD)	1.5	(1.1)
SIDP-IV Number of PD traits (mean, SD)	12.6	(7.0)
SIDP-IV PD (*n*/%)[ab]		
Paranoid PD	9	(6.0)

Schizotypical PD	3	(2.0)
Antisocial PD	1	(0.7)
Borderline PD	44	(29.3)
Avoidant PD	42	(28.0)
Dependent PD	12	(8.0)
Obsessive Compulsive PD	20	(13.3)
PD not otherwise specified	90	(60.0)

[a] Due to comorbidity, the total number exceeds 150

[b] patients with Schizoid PD, Histrionic PD, and Narcissistic PD were not found in our sample

Figure 1: a two-dimensional model for the spectrum of trauma-related, dissociative and personality disorders

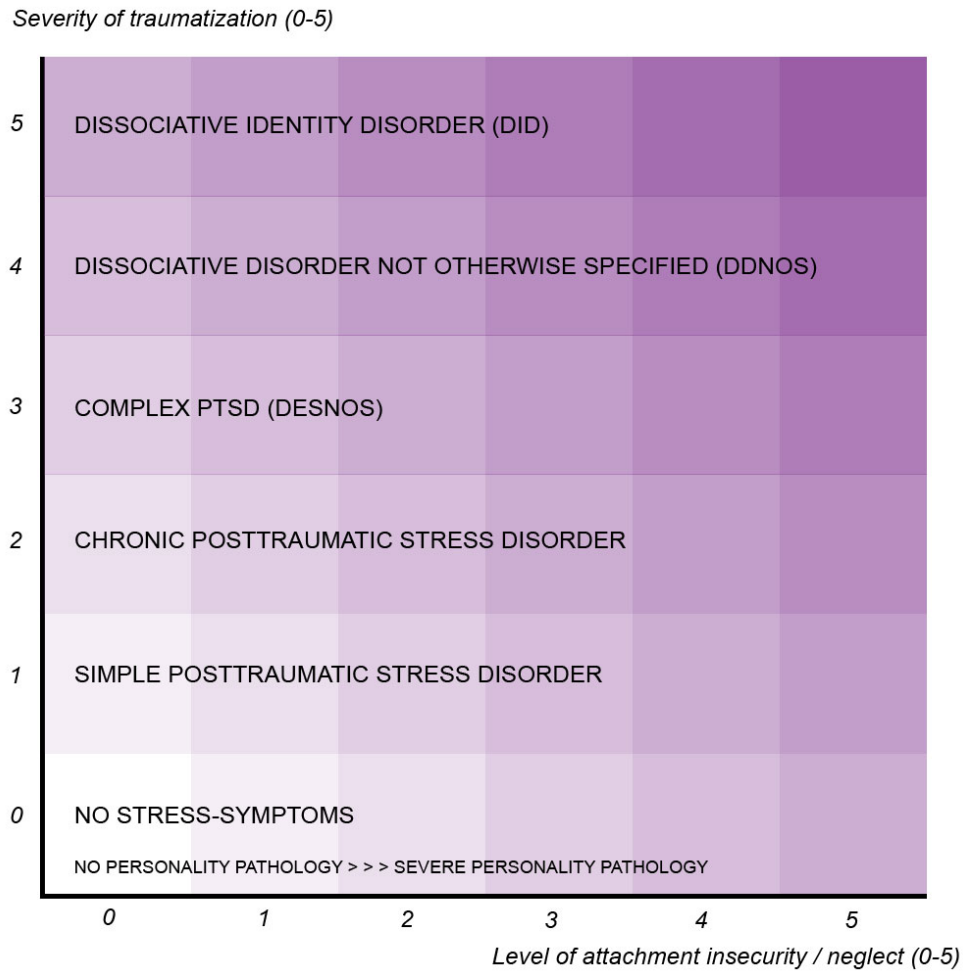
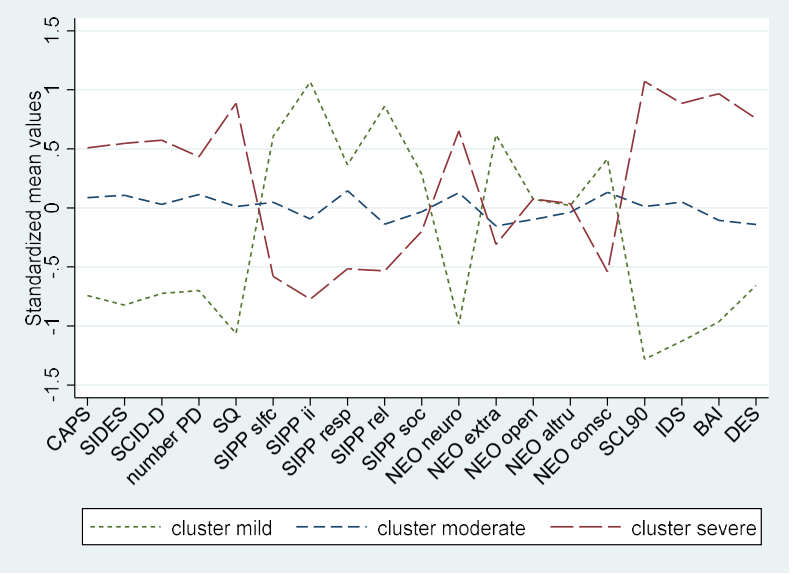


Figure 2. Profile plot of three cluster solution

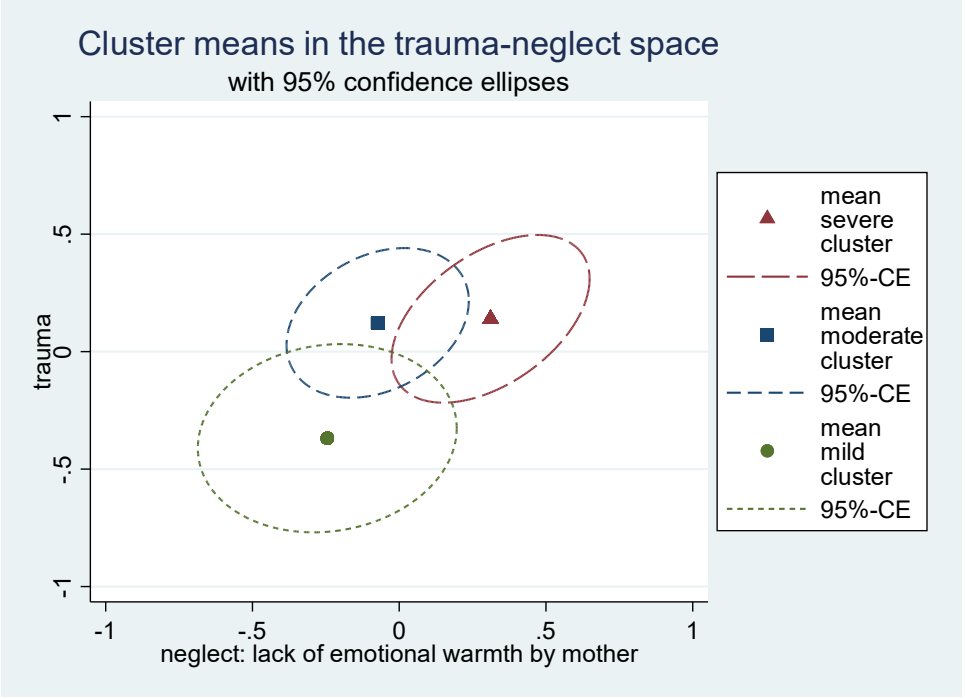


	CAPS	SIDES	SCID-D	Number PD	SQ	SIPP Slfc	SIPP ii	SIPP resp	SIPP rel	SIPP soc	NEO neuro	NEO extra	NEO open	NEO altru	NEO consc	SCL 90	IDS	BAI	DES
Unstandardized original values (upper line Mean, lower line SD)																			
Cluster 1	23.36	22.97	7.31	0.69	2.32	5.38	4.40	4.98	4.35	6.05	142.77	146.08	151.41	170.41	159.41	142.03	20.44	10.23	29.69
(n = 39)	28.20	16.87	2.61	0.69	0.60	0.76	0.65	0.74	0.76	0.76	22.69	18.37	16.19	17.86	19.56	33.10	8.89	7.10	25.27
Cluster 2	50.65	41.45	10.18	1.60	3.15	4.83	3.45	4.81	3.51	5.75	168.58	128.60	148.11	169.25	152.83	227.81	36.31	21.17	53.31
(n = 65)	29.31	15.87	3.51	1.14	0.45	0.91	0.57	0.71	0.68	0.93	16.07	22.53	20.08	20.21	20.02	27.18	8.90	8.74	39.64

Cluster 3	64.48	50.17	12.26	1.96	3.83	4.21	2.89	4.28	3.18	5.60	180.80	125.09	151.46	170.72	137.26	298.14	47.57	34.83	94.43
(n = 46)	29.58	18.64	3.67	1.03	0.57	0.96	0.57	0.82	0.70	1.02	16.95	21.16	20.56	22.45	25.15	34.24	8.68	9.89	45.97
Standardized values (upper line Mean, lower line SD – displayed in Profile plot)																			
Cluster 1	-0.74	-0.82	-0.72	-0.70	-1.06	0.61	1.07	0.36	0.86	0.29	-0.98	0.62	0.07	0.02	0.42	-1.28	-1.13	-0.96	-0.66
(n = 39)	0.86	0.85	0.68	0.62	0.77	0.77	0.79	0.92	0.91	0.82	0.98	0.81	0.84	0.88	0.84	0.50	0.66	0.56	0.55
Cluster 2	0.09	0.11	0.03	0.11	0.01	0.05	-0.09	0.15	-0.14	-0.03	0.13	-0.15	-0.10	-0.04	0.13	0.01	0.05	-0.11	-0.14
(n = 65)	0.89	0.80	0.92	1.02	0.58	0.92	0.69	0.89	0.82	1.00	0.69	1.00	1.04	1.00	0.86	0.41	0.66	0.69	0.86
Cluster 3	0.51	0.55	0.57	0.43	0.88	-0.58	-0.77	-0.52	-0.53	-0.20	0.65	-0.31	0.08	0.04	-0.54	1.07	0.89	0.97	0.76
(n = 46)	0.90	0.94	0.96	0.93	0.74	0.97	0.70	1.03	0.84	1.10	0.73	0.94	1.07	1.11	1.08	0.52	0.64	0.78	1.00

CAPS = Clinician Administered PTSD Scale; SIDES = Structured Interview for Disorders of Extreme Stress; SCID-D = Structured Interview for DSM-IV Dissociative Disorders; Number PD is based on the Structured Interview for DSM-IV Personality Disorders; PD = Personality Disorder; SQ = Young Schema Questionnaire; SIPP slfc = the Severity Indices of Personality Problems (SIPP-118) domain of Self-control; SIPP ii = SIPP-118 domain of Identity integration; SIPP resp = SIPP-118 domain of Responsibility; SIPP rel = SIPP-118 domain of Relational capacities; SIPP soc = SIPP-118 domain of Social concordance; NEO neuro = the NEO-PI-R Big Five personality trait of Neuroticism; NEO extra = the NEO-PI-R Big Five personality trait of Extraversion; NEO open = the NEO-PI-R Big Five personality trait of Openness to experience; NEO altru = the NEO-PI-R Big Five personality trait of Altruism/Agreeableness; NEO consc = the NEO-PI-R Big Five personality trait of Conscientiousness; SCL-90 = Symptom Checklist-90-Revised; IDS = Inventory of Depressive Symptomatology; BAI = Beck Anxiety Inventory; DES = Dissociative Experiences Scale; Cluster 1 = mildly impaired cluster; Cluster 2 = moderately impaired cluster; Cluster 3 = severely impaired cluster

Figure 3: cluster means and the 95%-confidence ellipses in the trauma-neglect space for PBI lack of emotional warmth by mother



MANOVA test result: $F(4,292) = 3.20$, $p = 0.014$, a significant (after Bonferroni correction) pairwise difference exists between the severe and the mild cluster: $F(2,146) = 4.79$, $p = 0.010$

Chapter seven

Summary and general discussion

Summary and general discussion

1. Summary of main findings

This section summarizes the main findings per chapter. The overall objective of this thesis was to study the relationship between trauma-related disorders, dissociative disorders, and personality disorders in survivors of early childhood trauma and emotional neglect. The second aim of this thesis was to contribute to the research on the relationship between trauma-related, dissociative, and personality disorders by attempting to add quantitative data to Draijer's (2003) two dimensional model of the spectrum of trauma-related disorders, dissociative disorders, and personality disorders. Two dimensions 'colour' the spectrum. The first dimension, situated on the y-axis, consists of the range of trauma-related disorders in increasing severity, ranging from no stress-symptoms after an stressful incident, to PTSD, chronic and complex, to dissociative disorders, with dissociative identity disorder at the extreme. This dimension is thought of as being related to an increase in reported severity of the trauma endured. This severity fluctuates, depending for example on such factors as the age at which the trauma occurred, how much force was used, how frequently it occurred, and the relationship to the perpetrator. The second dimension, situated on the x-axis, consists of the severity of personality pathology, which is hypothesized as being related to emotional neglect or, in other words, the quality of the early attachment to the primary caregivers.

In **Chapter two**, we gave a theoretical outline of the scientific history of research on early childhood trauma, emotional neglect, trauma-related disorders, dissociative disorders, and personality disorders. We conclude that the relationship between trauma-related disorders, personality disorders, and early childhood trauma and emotional neglect is far from clear and that more research on how the relationship between these disorders must be understood is needed. In the absence of such knowledge, especially survivors of early childhood trauma and emotional neglect with severe personality pathology run the risk of

being ‘left out’ when it comes to specialized treatment. Therefore, in **Chapter three**, we tested the usefulness of the diffuse process that characterizes clinical decision making in the context of established, diagnostic driven treatment programs by investigating the similarities and differences in symptomatology and reported histories of childhood trauma and emotional neglect between two naturalistic patient groups in a specialized mental health care setting. The first group consisted of patients being referred to a trauma-related disorders treatment program, aimed specifically at survivors of early childhood trauma, the second group consisted of patients being referred to a personality disorders treatment program.

High rates of severe childhood trauma were reported in both groups: for patients in the trauma program this was an expected finding, however, also in the personality disorders treatment program more than half of the patients reported severe childhood trauma. Patients in both groups characterized their primary caregiver’s style of parenting as ‘affectionless control’. After controlling for socio-demographic variables, reports of trauma and neglect, and personality pathology, the differences between both groups in rates of trauma-related disorders no longer maintained significant. Considering rates of personality disorders in both groups we found a similar picture, indicating that the presence of a (specific) PD does not distinguish between patients in both treatment programs, except for the presence of borderline personality disorder (BPD). In conclusion, our results indicate that in a naturalistic clinical setting, patients referred to a trauma program and patients referred to a personality disorders treatment program are in fact highly similar in terms of their clinical profile.

In **Chapter four**, we quantified the y-axis, or the trauma axis, of the model. A ‘trauma-diagnosis severity index’ for trauma-related and dissociative disorders was created, ranging from none, (chronic) posttraumatic stress disorder (PTSD), complex PTSD to dissociative disorder not otherwise specified, and finally dissociative identity disorder. Also a sum score of aversive childhood experiences was constructed to create a trauma severity

scale. The observed correlation (r_s = .54) between reported trauma severity and severity of trauma-related and dissociative disorders indicates that retrospectively reported trauma severity in child- and adulthood is strongly associated with more severe pathology. The findings support the existence of the y-axis of the two dimensional model of the impact of early childhood trauma and emotional neglect, which presumes a relationship between a dimension of trauma-related and dissociative disorders on the one hand and differences in the severity of the trauma endured at the other.

In **Chapter five**, we quantified the x-axis of the model, investigating whether an association between retrospective reports of emotional neglect and the presence and severity of personality pathology exists. The results indicate that there is little evidence to support a link between emotional neglect and problematic personality functioning at the disorder level, but that there might be a link between emotional neglect and problematic personality functioning in a dimensional way. Findings indicate a relationship between lack of parental warmth and problematic personality functioning. The findings support the existence of the emotional neglect-axis of the two dimensional model of the impact of early childhood trauma and emotional neglect in a dimensional framework of viewing personality pathology.

In **Chapter six**, the two dimensional model of the impact of early childhood trauma and emotional neglect as a whole was quantified, relating the model to 'psychiatric disease burden' (using cluster analysis to discriminate patients in terms of psychiatric disease burden based on symptom severity scores, type of disorder, and level of maladaptive personality functioning), hypothesizing that patients with low burden are located in the south-west corner of the model, while patients with high burden are located in the north-east corner of the model. We mapped the clusters that differed in psychiatric disease burden in the trauma-neglect space and evaluated their position. We found three clusters and labelled them as the 'mildly impaired cluster' (26% of patients), 'moderately impaired cluster' (43% of patients),

and ‘severely impaired cluster’ (31% of patients). Patients who report a range of traumatic experiences in combination with a lack of maternal care can be profiled as ‘severely impaired’, suffering from a wide range of trauma-related, dissociative, and personality disorders, combined with a high level of psychiatric symptoms and a maladaptive style of personality functioning. These results support the validity of the model, which may be used to differentiate among treatment-seeking early traumatized and emotionally neglected patients.

2. Discussion of main findings

In this section the main findings are discussed and clinical implications are addressed, along with methodological considerations and recommendations for future research.

2.1 Survivors of early childhood trauma and emotional neglect: who are they and what’s their diagnosis?

The current thesis shows that patients who report a range of traumatic experiences in combination with of a lack of care by their mother can be profiled as suffering from a wide range of trauma-related, dissociative, and personality disorders, combined with a high level of psychiatric symptoms (for example anxiety and depression), and a maladaptive style of personality functioning (considering for example problems in the capacity to tolerate, use, and control one’s own emotions and impulses, the ability to see oneself and one’s own life as stable, integrated and purposive, and the capacity to genuinely care about others as well as feeling cared about them). This leads us to a similar conclusion as Ross et al. (2014), namely that the patients’ clinical profile might be best understood as part of an overall response to severe childhood trauma and neglect, and challenges the usefulness of categorizing these patients in terms of diagnostic constructs, especially in daily clinical practice.

2.2 Clinical implications

During the course of the research project, from 2011 until 2017, 6 of the 150 patients in our sample died. Three patients committed suicide, two were euthanized. One patient's cause of death remained inconclusive, since the family refused autopsy. The youngest deceased patient was 20 years old, the oldest 38 years old. All cases concerned female patients who were diagnosed with both (one or more) trauma-related and personality disorders. Half of them were also diagnosed with a dissociative disorder. The fact that in a time frame of 6 years 4 percent of the patients in our sample died as a result of their mental illness presses the lethality of being exposed to early childhood trauma and emotional neglect and the need to provide survivors with adequate care.

The most important implication of our research is that it does not seem of use to divide survivors of early childhood trauma and emotional neglect into different diagnostic classes. This usually leads to fragmentation of treatment options and tunnel vision. As scientist-practitioners, we see a lot of therapists only wanting or being pressed to treat part of the pathology ("we treat trauma in this department and I will refer patient A. to the personality disorders department after I've finished my treatment"), being facilitated by organizations and insurance companies who boost short treatment cycles. This style of compartmentalizing treatment is especially unwanted and perhaps even dangerous for survivors of early childhood trauma and emotional neglect.

Survivors of early childhood trauma and emotional neglect share a common ground in suffering from longstanding disturbances in self-concept and relational capacities. Whether we call it a lack of mentalizing ability, structural dissociation, a lack of compassion for the self, a schema of mistrust, abandonment or emotional deprivation, a phobic reaction, problems in emotion regulation, or an attachment disorder: it is always important to keep in mind that the pathology is complex and that multiple DSM-5 classifications apply (our

research demonstrates again that this is the rule instead of the exception). This also means that multiple treatment options apply. In general, this is positive, since multiple successful treatments have been developed for both trauma-related disorders, dissociative disorders, as well as personality disorders throughout the last decades (see for example Bateman & Fonagy, 2016; Herman, 2001; Linehan, 2015; Shapiro, 2001; Van der Hart, Nijenhuis, & Steele, 2006; Young, Klosko, & Weishaar, 2003). Most of these treatments have not only proven to be effective, they are also developed by gifted scientists/therapists, with a good eye for the targeted pathology.

However, until now no treatment fully serves the needs of those patients who grew up under extreme (mostly unseen, because taking place in the privacy of the home) circumstances during the crucial formative years. A mixture of therapeutic inventions, preferably both trauma and person oriented, would be recommendable for this group. It is this mixture however that is so hard to achieve in current health care facilities. The multitude of treatment options leads to rapid referral practices and a blurring of proper staging of therapy, since no therapist is responsible for 'the whole picture'.

Our research project aimed at offering an alternative model of viewing the pathology of survivors of early childhood trauma and emotional neglect in a dimensional way and advocates treatments that offer both a trauma-oriented as well as a person-oriented approach, offered by the same therapist or the same multidisciplinary treatment team/department. Considering the attachment problems of survivors of early childhood trauma and emotional neglect it is not wise and probably counterproductive or harmful to aim at short treatment interventions with different therapists. In all cases, the main therapist needs to be an attachment figure and therefore needs to be involved with the patient for quite some time. This does not mean that other therapists cannot fulfill a short crucial role during the course of

treatment, but switching therapists in going from one department to the next seems to be counterproductive (being in-between therapies is also a known suicide risk).

2.3 Methodological considerations

Besides the methodological considerations and limitations concerning the individual studies of this thesis (described in the individual chapters) there are some general methodological points that deserve further attention.

Our sample consisted of treatment seeking individuals in a naturalistic setting, namely a specialized mental health care setting in the north of The Netherlands. The sample consisted of both outpatients, inpatients and patients in intensive outpatient care, leading to a sample of quite severely impaired patients (with, for example, an unemployment rate of 74%). We believe that the fact that we were able to assess this sample systematically and extensively (using five structured interviews and eight questionnaires, leading up to six to eight hours of administration time per patient) is an important strength of our study, making it of interest not only to researchers, but also to front-line clinicians. Important limitations of our study are that due to the fact that it was conducted in a naturalistic setting, interviewers were not blind to which treatment program (a trauma treatment program or a personality disorders treatment program) the patient was referred and childhood trauma was retrospectively assessed.

2.4 Recommendations for future research

In this thesis the relationship between trauma-related disorders, dissociative disorders, and personality disorders in survivors of early childhood trauma and emotional neglect was examined cross-sectionally, with retrospective reports of early childhood trauma and emotional neglect. To derive more insight into the course of this relationship, a longitudinal

study should be preferable or in future research retrospective reports of trauma and neglect should be corroborated with for example reports from protective youth services.

In future research we will address the predictive value of the two dimensional model of the spectrum of trauma-related disorders, dissociative disorders, and personality disorders considering course of pathology and treatment success (Swart et al., 2017).

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Nederlandse samenvatting

Dutch summary

Nederlandse samenvatting

1. Wat zijn trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen?

Van de trauma- en stressorgerelateerde (kortweg trauma-gerelateerde) stoornissen is de posttraumatische stressstoornis (PTSS) de bekendste. Trauma-gerelateerde stoornissen worden gekarakteriseerd door, zoals de naam al aangeeft, het relateren van de ontstaansgeschiedenis van de stoornis aan een traumatische gebeurtenis. Het diagnostische handboek van de psychiatrie: the Diagnostic and Statistical Manual of Mental Disorders, kortweg DSM, kent naast PTSS vijf trauma-gerelateerde stoornissen: de reactieve hechtingsstoornis, de ontremd-sociaalcontactstoornis, de acute stressstoornis en de aanpassingsstoornis.

Dissociatieve stoornissen worden gekarakteriseerd door onderbrekingen in normaal geïntegreerde functies zoals waarneming, bewustzijn, geheugen en identiteit. Deze onderbrekingen zijn niet het gevolg van een neurologische aandoening en kunnen niet worden verklaard door normale processen zoals afgeleid zijn of dagdromen. De DSM kent de volgende dissociatieve stoornissen: de dissociatieve identiteitsstoornis, dissociatieve amnesie, depersonalisatie-/derealisatiestoornis, de andere gespecificeerde dissociatieve stoornis en de ongespecificeerde dissociatieve stoornis.

Een persoonlijkheidsstoornis is een duurzaam patroon van innerlijke ervaringen en gedragingen dat duidelijk afwijkt van de verwachtingen binnen de cultuur van de betrokkene, in verschillende situaties aanwezig is en hardnekkig is, ontstaan is op jongvolwassen leeftijd, stabiel is in de tijd en beperkingen of lijdensdruk veroorzaakt. De DSM kent 10 persoonlijkheidsstoornissen: de paranoïde persoonlijkheidsstoornis, de schizoïde persoonlijkheidsstoornis, de schizotypische persoonlijkheidsstoornis, de antisociale persoonlijkheidsstoornis, de borderline persoonlijkheidsstoornis, de histrionische

persoonlijkheidsstoornis, de narcistische persoonlijkheidsstoornis, de vermijdende persoonlijkheidsstoornis, de afhankelijke persoonlijkheidsstoornis en de dwangmatige persoonlijkheidsstoornis.

2. Vroegkinderlijk trauma en emotionele verwaarlozing

Seksueel misbruik, fysieke mishandeling, emotionele mishandeling, fysieke verwaarlozing en emotionele verwaarlozing in de kindertijd worden geassocieerd met het ontstaan en de ernst van psychiatrische stoornissen in de volwassen leeftijd. De relatie tussen trauma-gerelateerde stoornissen, dissociatieve stoornissen, persoonlijkheidsstoornissen, vroegkinderlijk trauma en emotionele verwaarlozing is echter verre van duidelijk.

In de dagelijkse, klinische praktijk worden patiënten met verschillende stoornissen vaak behandeld binnen verschillende behandelprogramma's, die zich richten op één specifieke diagnostische groep (bijvoorbeeld een behandelprogramma voor patiënten met persoonlijkheidsstoornissen, waarin de behandeling vooral gericht is op het veranderen van de persoonlijkheid, en een behandelprogramma voor patiënten met trauma-gerelateerde stoornissen, waarin de behandeling vooral gericht is op het verlichten van trauma-gerelateerde symptomen). Een risico hiervan bij slachtoffers van vroegkinderlijk trauma en emotionele verwaarlozing is dat slechts een deel van de problematiek wordt onderkend en behandeld, aangezien trauma en verwaarlozing in de kindertijd, waarin de persoonlijkheid wordt gevormd, vaak leidt tot een ernstige mate van psychiatrische problematiek, die niet is te vatten in één specifieke diagnostische groep.

3. Doelen van dit proefschrift

Het doel van dit proefschrift is om de relatie tussen trauma-gerelateerde stoornissen,

dissociatieve stoornissen en persoonlijkheidsstoornissen bij slachtoffers van vroegkinderlijk trauma en emotionele verwaarlozing te onderzoeken. Het tweede doel van dit proefschrift is om bij te dragen aan het onderzoek naar deze relatie door Draijers twee-dimensionele model van het spectrum van trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen (zie de figuur op blz. 9) te kwantificeren.

Dit model kent twee dimensies: de y-as bestaat uit een range aan trauma-gerelateerde en dissociatieve stoornissen, beginnend bij geen stress-symptomen na een stressvol incident, PTSS, chronisch en complex, ongespecificeerde dissociatieve stoornis en tot slot dissociatieve identiteitsstoornis. De hypothese is dat deze dimensie is gerelateerd aan de gerapporteerde ernst van het trauma. Deze ernst kan fluctueren op basis van factoren zoals de leeftijd waarop het trauma plaatsvond, of geweld/dwang werd gebruikt, hoe vaak het plaatsvond, en de relatie van het slachtoffer tot de dader (bv. of de dader een familielid was of niet). De x-as bestaat uit de ernst van de persoonlijkheidspathologie, waarvan de hypothese is dat deze is gerelateerd aan de mate van emotionele verwaarlozing (geoperationaliseerd door het ervaren van een gebrek aan warmte of een hoge mate van controle door een primaire verzorger).

4. Studiepopulatie van dit proefschrift

De studiepopulatie van dit proefschrift bestaat uit een groep van 150 patiënten die werden verwezen naar twee behandelprogramma's binnen GGZ Friesland (binnen deze organisatie zorgprogramma's genoemd): een ambulant zorgprogramma voor patiënten met trauma-gerelateerde en/of dissociatieve stoornissen, gericht op slachtoffers van vroegkinderlijk trauma, en een zorgprogramma voor patiënten met persoonlijkheidsstoornissen. Aangezien het zorgprogramma voor persoonlijkheidsstoornissen dusdanig groot was dat we niet alle patiënten konden benaderen voor deelname, hebben we een representatief sample uit deze

groep genomen, bestaand uit patiënten die zowel in ambulante behandeling, dagbehandeling (3 tot 4 dagen) als klinische behandeling waren.

5. Belangrijkste bevindingen van dit proefschrift

Het eerste doel van dit proefschrift was om de relatie tussen trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen in slachtoffers van vroegkinderlijk trauma en emotionele verwaarlozing te onderzoeken. In **Hoofdstuk twee** gaven wij een theoretische uiteenzetting over de geschiedenis van het onderzoek naar vroegkinderlijk trauma, emotionele verwaarlozing, trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen. Onze conclusie is dat de relatie tussen de verschillende stoornissen en vroegkinderlijk trauma en emotionele verwaarlozing verre van duidelijk is en dat meer onderzoek nodig is om deze verder te verhelderen. Hierop voortbordurend testten wij in **Hoofdstuk drie** de doelmatigheid van het proces dat de dagelijkse, klinische praktijk kenmerkt, waarin patiënten worden ingedeeld in zorgprogramma's, door de overeenkomsten en verschillen te onderzoeken tussen de twee patiëntengroepen in ons sample (patiënten verwezen naar een zorgprogramma voor persoonlijkheidsstoornissen enerzijds en patiënten verwezen naar een zorgprogramma voor trauma-gerelateerde en dissociatieve stoornissen anderzijds).

Wij vonden geen verschil tussen patiënten in beide groepen wat betreft de aanwezigheid van trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen, behalve voor de aanwezigheid van borderline persoonlijkheidsstoornis (deze persoonlijkheidsstoornis kwam significant meer voor bij patiënten in het zorgprogramma voor persoonlijkheidsstoornissen). Patiënten in beide groepen karakteriseerden de opvoedingsstijl van hun primaire verzorger als 'gevoelloos controlerend'. In beide groepen vonden wij verder een hoog percentage ernstig vroegkinderlijk trauma: voor

patiënten in het zorgprogramma voor trauma-gerelateerde stoornissen was dit te verwachten, maar ook in het zorgprogramma persoonlijkheidsstoornissen rapporteerde meer dan de helft van de patiënten ernstig vroegkinderlijk trauma. Deze resultaten geven aan dat in een naturalistische setting patiënten die worden verwezen naar een zorgprogramma voor trauma-gerelateerde stoornissen en patiënten die worden verwezen naar een zorgprogramma voor persoonlijkheidsstoornissen erg op elkaar lijken qua klinisch profiel.

In **Hoofdstuk vier** kwantificeerden we de y-as, of de trauma-as, van het twee-dimensionele model van het spectrum van trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen. We creëerden een 'trauma-diagnose ernst index' voor trauma-gerelateerde en dissociatieve stoornissen, oplopend van geen, (chronische) PTSS, complexe PTSS, naar ongespecificeerde dissociatieve stoornis tot dissociatieve identiteitsstoornis. We construeerden ook een somscore voor gerapporteerd vroegkinderlijk trauma om een trauma-ernst schaal te creëren. De gevonden correlatie (r_s = .54) tussen de gerapporteerde ernst van vroegkinderlijke traumatisering en de ernst van de stoornis geeft aan dat een hoge mate van gerapporteerde ernst van trauma sterk is geassocieerd met ernstige pathologie. Dit resultaat biedt ondersteuning voor de y-as van het twee-dimensionele model.

In **Hoofdstuk vijf** kwantificeerden we de x-as van het model. Deze as is gericht op de associatie tussen gerapporteerde emotionele verwaarlozing (geoperationaliseerd door het ervaren van een gebrek aan warmte of een hoge mate van controle door een primaire verzorger) en de aanwezigheid en ernst van persoonlijkheidspathologie. Onze resultaten geven aan dat er weinig bewijs is voor een link tussen emotionele verwaarlozing en de aanwezigheid en ernst van persoonlijkheidspathologie op het niveau van de persoonlijkheidsstoornissen volgens de DSM, maar dat er waarschijnlijk wel een link is tussen emotionele verwaarlozing en persoonlijkheidspathologie gemeten op dimensioneel niveau (gebruik makend van constructen zoals zelfcontrole, identiteitsintegratie en relationeel

functioneren). Dit resultaat biedt ondersteuning voor de x-as van het twee-dimensionele model.

In **Hoofdstuk zes** kwantificeerden we het twee-dimensionele model van het spectrum van trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen als geheel door het model te relateren aan 'psychiatrische ziektelast', gebruik makend van clusteranalyse om patiënten te onderscheiden in type stoornis, ernst van symptomatologie en ernst van persoonlijkheidspathologie. Wij vonden drie patiëntenclusters, gelabeld 'milde klachtenpresentatie' (26% van de patiënten), 'gemiddelde klachtenpresentatie' (43% van de patiënten) en 'ernstige klachtenpresentatie' (31% van de patiënten). Wij plaatsten deze clusters vervolgens in het twee-dimensionele model. Daaruit blijkt dat patiënten die ernstig vroegkinderlijk trauma rapporteren in combinatie met een gebrek aan warmte van hun moeder kunnen worden geprofileerd als hebbende een ernstige klachtenpresentatie, gekenmerkt door het voldoen aan de criteria van zowel (meerdere) trauma-gerelateerde stoornissen, dissociatieve stoornissen als persoonlijkheidsstoornissen, gecombineerd met een hoog niveau van psychiatrische symptomen (angst, depressie) en ernstige problemen in het functioneren van diverse onderdelen van de persoonlijkheid (zoals bijvoorbeeld op het gebied van zelfcontrole, identiteitsintegratie en relationeel functioneren). Deze resultaten onderschrijven de validiteit van het model, wat kan worden gebruikt om te differentiëren tussen patiënten die vroegkinderlijk trauma en emotionele verwaarlozing rapporteren.

6. Conclusie

Dit proefschrift toont aan dat patiënten die ernstig vroegkinderlijk trauma en emotionele verwaarlozing door hun moeder rapporteren, kunnen worden geprofileerd als lijdend aan een range van trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen, gecombineerd met een hoog niveau van psychiatrische

symptomen (angst, depressie) en problemen in het functioneren van diverse onderdelen van de persoonlijkheid (bijvoorbeeld in de capaciteit om eigen emoties en impulsen te kunnen tolereren en controleren, het vermogen om het zichzelf te zien als stabiel en geïntegreerd en de capaciteit om anderen lief te hebben en om zich geliefd te voelen) .

Dit proefschrift onderschrijft het belang van dimensioneel denken over de pathologie van slachtoffers van vroegkinderlijk trauma en emotionele verwaarlozing. Het twee-dimensionele model van het spectrum van trauma-gerelateerde stoornissen, dissociatieve stoornissen en persoonlijkheidsstoornissen kan daarin een middel zijn om patiënten te profileren en om het risico van versplintering van behandeling door te strikte zorgprogrammering gericht op het onderscheid tussen diagnostische groepen tegen te gaan.

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Curriculum vitae
Publication list
Dissertation series

Marleen Wildschut was born on October 8, 1979 in Delfzijl, The Netherlands. She graduated from high school in 1998 at the Ommelander College in Appingedam. After that, she started her bachelor's degree, followed by her master's degree, in Clinical Psychology at the University of Groningen. She graduated with honors in 2002. In the summer of 2002 she took courses in adolescent psychology and anthropology at the University of California, Los Angeles (UCLA).

From September 2002 onwards she started working as a psychologist at GGZ Friesland in a psychiatric hospital, specialized in treating patients with severe personality disorders. In 2003 she started a postdoctoral training program to become a licensed health psychologist (gezondheidszorgpsycholoog) in 2005. In 2006 she started a second postdoctoral training program to become a licensed psychotherapist in 2008. From 2005 until 2007 Marleen also studied part-time Law at the University of Groningen, earning the first-year diploma in 2007. In 2011 Marleen started her third postdoctoral training program to become a licensed clinical psychologist in 2015. In the summer of 2011 she also started her PhD-trajectory at GGZ inGeest, partner of the VU University Medical Center in Amsterdam, as an external doctoral candidate. Her research was focused on the relationship between trauma-related disorders, dissociative disorders, and personality disorders, which resulted in this thesis.

Currently, Marleen is still working as a clinical psychologist at GGZ Friesland.

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