Reactive Embitterment

Conceptualization, Relevancy and Differentiation

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Hiermit erkläre ich an Eides statt, dass ich die Dissertation selbständig verfasst habe; die von mir benutzten Hilfsmittel und Quellen sind aufgeführt und die Arbeit ist nicht in Zusammenarbeit mit anderen Wissenschaftlern oder Wissenschaftlerinnen erstellt worden.

Berlin, im März 2009

Max Rotter

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Preface

The German reunification of 1990 forced 17 million people in the former German Democratic Republic (GDR) to reorganize their lives. Many biographies made unexpected turns because of changes in the economic, legal, and cultural system. Individuals who had previously enjoyed a high rank in society lost their status. Public servants in high positions suddenly had to sell insurance contracts or drive a taxi. These changes in the wake of the reunification triggered feelings of having been let down in up to one third of the former GDR population (Schwarzer & Jerusalem, 1994). However, no differences in the rate of mental disorders in East and West were found (Dehlinger & Ortmann, 1992; Achberger, Linden, & Benkert, 1999; Wittchen, Müller, Pfister, Winter, & Schmidtkunz, 1999; Hillen, Schaub, Hiestermann, Kirschner, & Robra, 2000) immediately after the fall of the Berlin wall and the subsequent decade (Jacobi, Hoyer & Wittchen, 2004; Frommer, 2002). Yet, ten years later an accumulation of patients from Eastern Germany could be seen with severe psychological reactions to negative changes in their personal biographies (Linden, 2003). These negative changes were mainly caused by job loss and subsequent prolonged unemployment (Linden, Schippan, Baumann & Spielberg, 2004).[1] This increase in pathological reactions to critical life events made it possible to identify a distinct reaction type. The onset of problems was regularly related to a specific event of frustration, downgrading, or humiliation. This reaction type is universal and frequently seen in people who have had to cope with events of personal injustice. Its leading characteristic being persistent and nagging embitterment.

Embitterment can be characterized as a feeling of having been let down, of injustice and helplessness together with the urge to fight back and the inability to find a proper goal. So far the term embitterment has not been introduced into the psychological and psychiatric nomenclature. This is surprising, given the fact that prolonged embitterment is a devastating and crippling affect, which can lead to impressive psychopathological symptoms, social impairment and chronic illness. Linden (2003) coined the term "posttraumatic embitterment disorder (PTED)" to acknowledge, for the first time, the psychopathological potency of reactive embitterment. PTED is a special form of adjustment disorder, and represents an extreme form of reactive embitterment and its possible disabling consequences.

[1] Until today the rate of unemployment in East Germany remains more than twice the number as in West Germany (14.9% vs. 7.1%; Berth, Balck, Albani et al. 2008).

To further study reactive embitterment and PTED, a research project within the research group for psychosomatics and rehabilitation at the Charité in Berlin and the Department of Behavioral Medicine and Psychosomatics at the Rehabilitation Centre Seehof, Teltow/Berlin, was implemented. The main objective of this project was to obtain detailed information about reactive embitterment and its consequences for the individual.

The present theses is a collection of studies which were carried out within the framework of this research project. The general theme of these studies is the description, operationalization, conceptualization and assessment of reactive embitterment.

Initially an overview of the theoretical background of stress and stress reactions in clinical research is given. Moreover, the theoretical concept of PTED as a special form of adjustment disorder is outlined.

The second part presents five empirical investigations that address reactive embitterment from different perspectives. Firstly, a self-rating scale for the assessment of reactive embitterment and data on the reliability and validity of the scale are reported. Moreover, data on the epidemiology of reactive embitterment in clinical and nonclinical populations are presented. Secondly reactive embitterment in connection to job loss and unemployment is explored. Additionally, the focus is put on reactive embitterment in the clinical context. Empirical derived diagnostic criteria according to the rules of the DSM-IV are outlined and a diagnostic interview for PTED is presented. Subsequently, reactive embitterment among psychosomatic inpatients is examined and the question of differentiating the emotion reactive embitterment from the self-contained disorder PTED is addressed. The last part is concerned with the description of the possible psychopathological consequences of reactive embitterment. It outlines data on the psychopathological and emotional profile of patients with PTED and compares patients who suffer from clinical relevant reactive embitterment with patients who suffer from other mental disorders. Thus, the question, whether patients with clinical relevant reactive embitterment are a distinct and distinguishable subgroup, is addresses.

Finally a conclusion is given, which addresses: a) the general conclusions that can be drawn from the results; b) the remaining open questions; and c) necessary further research.

Abstract

Exceptional, though normal negative life events like severe illness, divorce, occupational strain, or unemployment can lead to severe and prolonged psychological disorders. One specific emotional reaction to stressful live events is embitterment, a feeling known to most people (Alexander, 1966). The feeling of bitterness is always associated with a burning sense of unfairness or injustice, a protesting feeling of having been wronged without cause. It signifies an aggressive protest against a felt and perceived injustice, and is a goad to desperate, sometimes reckless, efforts to gain redress. Prolonged embitterment can become pathological when it reaches greater intensity and is accompanied by additional symptoms. Linden (2003) coined the term “posttraumatic embitterment disorder (PTED)” to conceptualize this specific reaction type as a distinct sub-class of adjustment disorder.

The present theses is a compilation of studies which were carried out with the aim to obtain objective information on reactive embitterment and PTED.

In a first step, the PTED Self-Rating Scale (PTED Scale) which asks for prolonged and disabling embitterment reactions in the aftermath of negative life events was developed. The aim was to provide an instrument which allows screening for reactive embitterment in the wake of stressful life events. Moreover, data on the epidemiology of reactive embitterment in clinical and nonclinical populations are presented. In addition, the prevalence of reactive embitterment in an administrative sample was explored. The event job loss was used as a common negative life event for all participants. Furthermore, empirically derived diagnostic criteria and an instrument which allows a standardised diagnosis of PTED were introduced. In a next step, the continuum from reactive embitterment as an unspecific symptom towards reactive embitterment as a self-contained disorder (PTED) was analyzed, and the context (triggered vs. unspecific) in which embitterment arises was investigated in a large psychosomatic inpatient sample. Subsequently, the psychological and emotional profile of patients with PTED was described, and PTED patients were compared with patients with other mental disorders as regards quality, distinguishability and intensity of psychopathology as well as posttraumatic symptoms.

In all, the results show that reactive embitterment is a frequent emotion that deserves more scientific and clinical attention. Individuals who react with prolonged embitterment to a negative life event can develop impressive psychological symptoms. Embitterment is an emotion which in many cases does not cease via self-regulation, and can continue unabated. It is a distinct state of mood, which differs from depression, hopelessness, and also anger as

such, though it can share common emotional features or go parallel with each of these other emotions. Similar to anxiety and depression, embitterment must be understood as a dimensional phenomenon, which becomes pathological when reaching greater intensities, when it is associated with additional symptoms, and when daily role performance is impaired. The concept of PTED can help further subclassify and specify adjustment and reactive disorders. With the PTED Scale a reliable and valid measure for embitterment as an emotional reaction to a negative life event is provided, which can be used as a screening instrument in large populations. Moreover, the diagnostic interview for PTED fulfils the need for a standardized diagnostic instrument.

Zusammenfassung

Belastende, wenn auch lebenstypische Ereignisse wie schwere Krankheit, Scheidung, berufliche Probleme oder Arbeitslosigkeit können zu erheblichen und prolongierten psychischen Störungen führen. Ein Beispiel sind anhaltende Verbitterungszustände. Verbitterung erwächst aus Gefühlen und Gedanken der Ungerechtigkeit, Herabwürdigung und Benachteiligung zusammen mit dem Impuls, zurückzuschlagen bzw. Rache zu üben. Betroffene können sich gedanklich nicht vom kritischen Lebensereignis lösen und tragen durch die ständige kognitive Wiederholung des Erlebnisses zu einer Verfestigung ihres Zustandes bei. Verbitterung muss dann als pathologisch angesehen werden, wenn sie lange anhält, eine hohe Intensität erreicht und von zusätzlichen Symptomen begleitet wird. Linden (2003) konzeptualisierte die „posttraumatische Verbitterungsstörung (engl.: posttraumatic embitterment disorder; PTED)“ um diesen spezifischen Reaktionstyp zu beschreiben.

Bei der vorliegende Arbeit handelt es sich um eine Zusammenstellung von Studien die alle mit dem Ziel durchgeführt wurden, empirische Information über reaktive Verbitterung und PTED zu erheben.

Die PTED Skala wird als ein Screening- Instrument zur Erfassung von reaktiver Verbitterung vorgestellt. Außerdem werden epidemiologische Daten zur Prävalenz reaktiver Verbitterung in klinischen und nicht klinischen Stichproben dargestellt und Verbitterung als Reaktion auf einen Arbeitsplatzverlust und Arbeitslosigkeit untersucht. Des weiteren werden empirisch abgeleitete diagnostische Kriterien und ein standardisiertes diagnostisches Interview für PTED eingeführt und das Kontinuum von Verbitterung als emotionaler Zustand bis hin zu einer eigenständigen Störung in einer klinischen Stichprobe untersucht. Anschließend wird das emotionale und psychopathologische Profil von PTED- Patienten beschrieben und dem von Patienten mit anderen psychischen Störungen gegenüber gestellt.

Die Ergebnisse zeigen, dass reaktive Verbitterung ein weit verbreitetes und häufiges Phänomen ist, das mehr wissenschaftliche und klinische Aufmerksamkeit verdient. Verbitterung ist eine Emotion eigener Qualität, die sich deutlich von Depressivität, Hoffnungslosigkeit oder Ärger abgrenzen lässt. Personen die mit chronischer Verbitterung auf ein negatives Lebensereignis reagieren, können schwere psychopathologische Symptome entwickeln. Ähnlich wie Angst oder Depression muss man Verbitterung als ein dimensionales Phänomen verstehen, das bei hoher Intensität, zusätzlichen Symptomen und Einschränkungen in der Alltagsbewältigung, pathologische Ausmaße annehmen kann. Verbitterung ist, ähnlich wie z.B. Angst, ein häufiges unspezifisch Symptom bei verschiedenen psychischen

Störungen. Nur wenn die Verbitterungsreaktion kausal einem spezifischen Ereignis zugeordnet werden kann und weitere Bedingungen erfüllt sind, stellt reaktive Verbitterung eine eigenständige Störung i.S. der posttraumatischen Verbitterungsstörung dar. Das Konzept der PTED kann helfen, die unscharfe Kategorie der Anpassungsstörungen weiter zu spezifizieren.

Mit der PTED Skale wird ein reliables und valides Instrument zur Erfassung von reaktiver Verbitterung bereitgestellt und das Diagnostische Interview für PTED erfüllt den Bedarf nach einem standardisierten diagnostischen Instrument für PTED.

1. Theoretical Background

1.1. Stress and Stress Reactions

In attempting to understand the antecedents of psychopathology, theorists historically have sought explanations from two spheres. On the one hand, the belief has long been held that people who develop a psychiatric disorder differ premorbidly from those who do not. Such differences were thought to be constitutional in origin (e.g., Beard, 1881). On the other hand, the belief also has long been held that stress is an important factor in the development of psychological disturbances (e.g., Hawkes, 1857). Stress reactions and coping with threatening events have been at the centre of research since the early days of psychology (Reck, 2001; Linden, 2003). Early terms for stress related illness were *railway spine*, *psychogenic* or *reactive depression*, *traumatic neurosis* or *abnormal psychological reaction* (Jaspers, 1973; Freud, 1999).

1.1.1. Life-Events Research

Subject of life-events research are the effects of life-events on behavior, experience, and mental or physical health on the person(s) in question (Filipp, 1995). A common consent in this approach is the view that relevant changes in life are associated with certain demands, which request specific processing-, adjustment-, and orientation performances (Dittmann, 1991). Petermann (1995; p.53) defines relevant (or critical) life events as a grouping of favorable or unfavorable social circumstances that are psychologically relevant, and which may be verified by its effects (stress, illness). A more general definition is forwarded by Filipp (1995; p. 23), who characterizes life-events as changes in the (social) life-situation that demand adaptation behavior of the concerned person.

Filipp (1995) differentiates two major theoretical branches within the field of life–events research: The clinical-psychological approach, which examines psychosocial causes of physical and mental illnesses, and the developmental psychological approach, which conceptualizes life-events as a pre-condition for developmental change.

1.1.2. The Clinical Approach

The foundation for systematic experimental research on the pathological effects of stressful events was laid by Cannon (1929). His detailed observations of bodily changes caused by stressful conditions and strong emotions provided a necessary link in the argument

that stressful events can prove harmful (Dohrenwend & Dohrenwend, 1974). In the following a vast body of research evolved, based on the hypothesis that stressful life events play a role in the etiology of various somatic and psychiatric disorders. This line of research can be best described as clinical life-events research.

An early major influence on clinical life-events research lay in the views of Adolph Meyer. With his invention of the 'life-chart,' a device for organizing medical data as a dynamic biography, Meyer (1951) emphasized that various life events, negative or positive (e.g. marriage or winning in a lottery), within common experience could form an important part of the etiology of a disorder.

This view was supported by the findings of Selye (1956), who observed in a series of animal studies that a variety of stimulus events (e.g., heat, cold, toxic agents) applied intensely and over a long period of time are capable of producing common effects, meaning not specific to either stimulus event. Based on these findings Selye claimed that all organisms show a nonspecific response to adverse stimulations. The so called *general adaptation syndrome* (GAS).

In reference to the work of Meyer and Selye, Holmes and Masuda (1974) postulated that life-change events, by evoking adaptive efforts by the human organism that are faulty in kind and duration, lower 'bodily resistance' and enhance the probability of disease occurrence. This claim initiated a new approach to investigate the psychosocial causes of diseases. Central to this approach is the assumption that the human capacity to adapt to life changes is limited. Thus, the confrontation with an accumulation of life changing events in a certain time can have pathological consequences (Filipp, 1995). In this view, life events produce challenge to the organism regardless of their specific (e.g., positive or negative) quality, and therefore increase illness susceptibility.

However, investigations on the effects of specific life-events and new findings in the field of endocrinology (Mason, 1975) challenged the assumption of an unspecific impact of critical life events. Although the founding fathers of life-events research conceptualized increased "readjustment" as the feature responsible for promoting nonspecific vulnerability to virtually any form of illness, recent research indicates that more specific qualities of life experience are

of particular importance (Monroe & Simons, 1991; Reck, 2001; Finlay-Jones & Brown, 1981; Finlay-Jones, 1989; Brown, Bifulco, & Harris, 1987).

A more recent and prominent theoretical approach in clinical life-events research are diathesis-stress models (Reck, 2001). These models investigate the interaction of predisposing diathesis and precipitating environmental stress factors. Diathesis can be understood as a tendency to react in a certain way to environmental circumstances. It comprises physiological as well as psychological aspects. An essential feature of diathesis-stress models is the assumption that the diathesis (or the vulnerability) has no consequences as long as no stressful event occurs.[2]

The diathesis-stress model (stress triggers diathesis) was extended by Monroe and Simons (1991), who proposed three alternatives of diathesis- stress interactions: a) both the diathesis and the stress together constitute a necessary condition for illness onset. Neither is sufficient by itself; b) the only necessary factor for illness onset is the diathesis. Stress is either a minor factor, a result of the diathesis' expression, or simply a consequence of the emerging illness; c) the only necessary factor for illness onset is life stress, the diathesis only increases the likelihood of the stressor to occur.

These different aspects of diathesis-stress interactions represent different pathways on how the interaction between endogenous and exogenous factors and their contribution to illness development can be conceptualized.

1.1.3. Transactional Concepts

The clinical-psychological/psychiatric perspective on life-events research, which, in reference to Meyer and Seyle, focuses on the characteristics of life-events and the respective quantity of stress that is triggered by these events, has been criticized by health and developmental psychologists (Filipp, 1995; Krohne, 2001; Schwarzer & Schulz, 2002).

These critics claim that the amount of stress cannot be determined by the objective nature of the stressor alone. By doing this, individual differences in perception and interpretation of

[2] A prominent example for a diathesis-stress model is Beck's (1967, 1983) cognitive theory of depression. Beck assumes that latent depressogenic schemata are present in individuals vulnerable to depression. However, without the occurrence of negative events (the stress), individuals who possess depressogenic schemata (the diathesis) are no more likely to become depressed than are individuals who do not posses such schemata (see also Abela & Alessandro, 2002).

the same kind of event are neglected (Schwarzer & Schulz, 2002). This criticism emphasizes the importance of subjective interpretation of the stressor, on the experience of stress. A major proponent of this conceptualization of stress is Lazarus (1966), who defines stress as a particular relationship ('transaction') between the person and the environment that is appraised by the person as being taxing or exceeding his or her resources and endangering her or his well-being. A major advantage of this concept is that it can explain individual differences in quality, intensity, and duration of experienced stress in environments that are objectively equal. By integrating person variables, such as commitments, personal health or beliefs into the conceptualization of stress, the focus is moved away from the objective nature of stressors to a transactional process between the person and its environment, both of them exerting a reciprocal influence on each other (Schwarzer & Schulz, 2002). In this vein, life events are not only conceptualized as possible etiologic agents for illness, but also as tasks that challenge the individual and can further his or her development (Filipp, 1995).

Many factors are involved in determining the type of reaction to a certain stressor. The meaning of stress is affected by "modifiers," such as ego strength, support systems, and prior mastery (Cohen, 1981). Schwarzer & Schulze (2002) state that societal structures as well as cultural norms and values largely determine the way individuals respond to stress. Several social and personal constructs have been proposed to explain individual stress responses: social support (Schwarzer & Leppin, 1991), sense of coherence (Antonovsky, 1979), hardiness (Kobasa, 1979), self-efficacy (Bandura, 1977), or optimism (Scheier & Carver, 1992). As a consequence, many authors have stressed that the vulnerability of the individual (e.g., ego strengths, support system, self-efficacy, sense of coherence, control over the stressors and desirability of the event) needs to be assessed to ascertain the impact of the situation on the individual (Strain, Newcorn, Fulop, & Sokolyanskaya, 1999).

In addition to subjective interpretations, variables like gender, culture, ethnicity, and age have been discussed to explain differences in the experience of stressful life events (Schwarzer & Schulz, 2002). Apart from the objective impact of an event, societal structures, cultural norms, and personal values also determine how individuals respond to an incident. Gillard and Paton (1999), for example, found that religious denomination had an impact on vulnerability. Furthermore, there is ample evidence for gender differences in response to stressful life events (e.g., Karanci, Alkan, Sucuoglu, & Aksit, 1999; Ben-Zur, & Zeidner, 1991). Higher situational stress assessment as well as more pronounced stress experience was

found among women.[3] Norris, Perilla, Ibañez, and Murphy (2001) found that women from Mexico were more likely to meet the criteria for PTSD following a hurricane than women from the United States, suggesting that cultural differences influence the way traumatic events are experienced. Findings on the effect of age on coping with adverse stimulation are rare and contradictory. Some found a decrease of coping abilities with increasing age (e.g., Toukmanian, Jadaa, & Lawless, 2000; Cwikel, & Rozovski, 1998), while others found older people were more resistant to stress (e.g., Ben-Zur, & Zeidner, 1991; Muthny, Gramus, Dutton, & Stegie, 1987).

Another factor that needs to be taken into account is the possible additive impact of a stressor. A recent minor stress superimposed on a previous major stress that has no observable effect on its own may have a cataclysmic effect due to its additive impact. In this regard, the model of a single stressor impinging on an undisturbed individual to cause symptoms at a single point in time appears to be insufficient to account for the many presentations of stress in an individual.

The findings on life events and their effects gathered in the fields of health and developmental psychology show that the conceptualization of life events, as stressors that impinge a quantifiable amount of distress on the organism, is not able to capture the numerous factors which influence the impact and experience of negative life events.

Diathesis-stress models (e.g., Monroe & Simons, 1991) are useful to understand the connections between stressful life events, personal factors, and illness development.[4] Event-specific factors as well as individual (cognitive and biological) factors are taken into account. However, the importance of social resources as well as cultural and societal variables for stress experience is still insufficiently integrated (Reck, 2001).

1.1.4. Life Stress and Psychiatric Disorder

Since the late 1960s, researchers have documented the influence of stressful life events on a number of psychiatric disorders. It was shown that life events tend to occur to an extent greater than chance expectation before a variety of psychiatric disorders, including depression,

[3] For a discussion of possible reasons for this gender differences see Schwarzer and Schulz (2002)

[4] For example, Brown & Harris (1989) account for the demand of integrating subjective interpretations of the event by integrating the context in which an event takes place and the personal understanding of an event into their assessment.

schizophrenia, and anxiety disorder (Paykel, 1974; Finlay-Jones & Brown, 1981; Paykel, 2001a). When looking at these findings, one needs to consider, that the revealed connection between life-events and psychiatric disorders is correlative only. Nothing can be said about the causal direction and mechanisms of life events on psychiatric disorders on grounds of these findings.

Even though it had been shown that life events are important in determining the onset of an illness, they are not a sufficient explanation. Life events are only one part in a complex multifactorial causative chain. Whether an event is followed by disorder must be attributed to other modifying factors, both genetic and environmental, ranging from biochemical through personality and coping mechanisms to social experiences, early or recent (Paykel, 2001a).

Exceptions are adjustment or reactive disorders. An essential feature of this diagnostic category is that the symptoms develop in direct response to an identifiable psychosocial stressor or stressors. Thus, the stressor is the core etiological agent, which is central to the diagnosis.

1.2. Adjustment and Reactive Disorders

The general acceptance in clinical medicine, that stressful life events can impair psychological and somatic functioning is reflected in categories of the present international classification systems ICD-10 (WHO, 1992) and DSM-IV (APA, 1994) that are referring to reactive disorders.

Adjustment and reactive disorders are understood as developing in response to a variety of causal stressful events, the symptoms representing an adaptation to these stressors or to their continuing effects (Casey, Dorwick, & Wilkinson, 2001). The ICD-10 lists under the heading of “Reaction to severe stress and adjustment disorders” (F 43) (a) acute stress reaction (F 43.0); (b) posttraumatic stress disorder (PTSD; F 43.1); and (c) adjustment disorder (F 43.2). Enduring personality change after catastrophic experience (F 62.0) is listed under the heading enduring personality change (F62). In the DSM-IV there is the class of 'adjustment disorders' with the possibility to differentiate between predominant depressed mood (309.0), anxiety (309.24), mixed anxiety and depressed mood (309.28), disturbance of conduct (309.3), and disturbance of conduct and emotion (309.4). Further categories are PTSD (309.81) and acute stress disorder (308.3) that are listed under anxiety disorders.

1.2.1. Definition of adjustment disorders

The adjustment and reactive disorders are unique within the classification systems, as they are diagnoses with a known etiology and in which the etiological agent is central to the diagnosis. This contradicts the concept of an atheoretical and phenomenological design of the classification systems DSM-IV and ICD-10. The deviance of the stress-induced disorders requires the diagnostician to impute etiological significance to a life event and relate the event in clinical terms to the patient (Strain et al. 1999).

The essential feature of an adjustment disorder is the development of clinically relevant emotional or behavioral symptoms in response to an identifiable psychosocial stressor or stressors that occurs within 3 months after onset of the stressor. It is assumed that the disturbance will remit soon after the stressor ceases or, if the stressor persists, when a new level of adaptation is achieved. If the symptoms last longer than 6 months the diagnosis can

be specified by the label chronic adjustment disorder (DSM-IV only). However, the chronic specifier only applies when the duration of the disturbance is longer than 6 months (chronic stressor; or stressor with enduring consequences). By definition, an adjustment disorder must resolve within 6 months of the termination of the stressor or its consequences (WHO, 1992; APA, 1994). In addition, diagnostic criteria specify that no diagnosis of adjustment disorder should be made, if the criteria for another Axis I disorder are met.

In contrast to other DSM-IV and ICD-10 disorders, adjustment disorder includes no clear and specific profile of symptoms that collectively constitutes a psychiatric syndrome or disorder (Strain et al. 1999). This results in an imprecision of the diagnostic category.

First, it is unclear how the concept of 'clinical relevant reaction' can or should be operationalized. The social, emotional, and vocational dysfunctions, which indicate the pathological reaction, are qualitatively and quantitatively unspecified. Hence, they lend themselves neither to reliability nor to validity. By the indication that the distress must be greater than would normally be expected from the stressor, the concept of maladaptive reaction is further confounded by elements of culture. Expectable reactions to an event can differ within specific cultural environments. Gender responses, developmental level differences, and the meaning of events to an individual are all factors that are determining an 'expectable' reaction (Strain et al. 1999).

Second, no criteria are offered in DSM-IV and ICD-10 to quantify stressors for adjustment disorder or to assess their effect or meaning for a particular individual at a given time.

1.2.2. Adjustment disorders in Clinical Practice

The diagnostic category of adjustment disorders has always been controversial (Casy et al. 2001). It has been described as a "wastebasket diagnosis, used in such a vague and all encompassing manner as to be useless" (Fard, Hudgens, & Welner, 1979). The diagnostic criteria are so vague that such a diagnosis cannot tell anything about the present clinical problem (Andreasen, & Wasek, 1980; Fabrega, Mezzich, & Mezzich, 1987; Snyder, Strain, & Wolf, 1990; Bronisch, & Hecht, 1989; Bronisch, 1991; Pollock, 1992; Despland, Monod, & Ferrero, 1995; Greenberg, Rosenfeld, & Ortega, 1995; Jones, Yates, Williams, Zhou, & Hardman, 1999; Casey et al. 2001; Linden, 2003). Criteria specify that no diagnosis of

adjustment disorder should be made, if the criteria for another disorder are met. Thus, following the mechanistic and rigid application of diagnostic criteria in the DSM-IV, a major depressive episode is diagnosed when five or more depressive symptoms have been present for longer than two weeks, irrespective of the close temporal relationship between an identifiable stressor and symptoms. Moreover, adjustment disorders are seen as limited in time and should show remission after some months, which means that lasting reactions to life events must be classified as other Axis I disorders.

In summary, the diagnosis of adjustment disorders only has a subordinated (or transient) status with no clear profile of its own (Linden 2003). However, despite its handicaps, adjustment disorder is generally accepted as a valid (Despland et al. 1995) and frequent (Andreasen & Wasek, 1980; Fabrega et al. 1987; Popkin, Callies, Allan Colón, Eduardo, & Stiebel, 1990; Foster & Oxman, 1994; Snyder, Strain, & Wolf, 1990) diagnosis.

1.2.3. PTSD: A well defined Adjustment Disorder

Among reactive disorders PTSD and acute stress disorder represent the only subgroups that have gained the status of well defined disorders during the last years (Marshall, Spitzer, & Liebowitz, 1999; Davidson, Foa, Blank et al. 1996; Fischer & Riedesser 1999). Acute stress reactions and PTSD both develop in response to exceptionally threatening experiences but the former subsides within days and the latter is more protracted (Casey et al. 2001).

PTSD is defined by exposition to a traumatic event in which a person experiences, witnesses or is confronted with the threat of death, serious injury or threat to one's own physical integrity resulting in intense fear, helplessness or horror (WHO, 1992). Examples are war experience, rape, or car accidents (Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar, & Weiss, 1990; Fullerton, McCarroll, Ursano, & Wright, 1992; Blanchard, Hickling, Buckley, Taylor, Vollmer, & Loos, 1996). Such experiences can lead to recurrent recollections of the event, i.e. intrusive thoughts, which cause re-experience of the traumatic arousal and anxiety and can result in the development of avoidance behavior.

However, other types of events in life, which do not encompass this special form of fear provocation, can cause psychological turmoil and symptoms of PTSD as well (Mol, Arntz, Metesmakers et al. 2005). This is reflected by a tendency in clinical practice to use the diagnostic category of PTSD also in cases where instead of a life threatening event other

negative life events have caused severe changes in the mental status of patients (Linden, 2003). This expansion of the diagnostic category of PTSD indicates the necessity to further subclassify adjustment disorders.

Modeled after PTSD, Linden (2003) described the Posttraumatic Embitterment Disorder (PTED) as a distinct subgroup of adjustment disorders. The trigger event in PTED is not an anxiety provoking and life threatening stimulus but an exceptional, though normal negative life event.

1.3. Reactive Embitterment and Posttraumatic Embitterment Disorder

1.3.1. Embitterment

> "Embittered are those who can not be reconciled, who keep their rancor, they hold their arousal in themselves, not coming to rest unless revenge has come. Revenge reduces arousal and changes pain into contentment. Does this not happen, then the pressure grows. As the internal turmoil does not open itself to others, nobody can counsel and help. It needs time to overcome internal arousal. Those persons are a burden to themselves and their dearest friends"
>
> (Aristotle cited after: Susemihl, 1912)

Justice is a central concern in people's everyday life (Miller, 2001; Ross & Miller 2001; Lerner & Lerner 1981). The perception of injustice is frequently tied to strong emotional reactions. Individuals who experience injustice often describe a "hot and burning" experience (Bies & Moag, 1986; Bies & Tripp, 2002; Mikula, 1986), which can involve different emotions including anger, hostility, shame, and guilt (Harlos & Pinder, 2000). A specific emotional reaction to perceived injustice, degradation and devaluation is bitterness (Alexander, 1966).

A sequence from the Bible designates main characteristics of feeling bitter. In the Book Ruth of the old testament Naomi (which means "pleasant") suffers the loss of her husband and her two sons and subsequently insists on being called Mara (which means "bitter") since the sovereign one has treated her so very harshly without cause (Book Ruth, 1.20). Bitterness is always associated with a burning sense of unfairness or injustice, a protesting feeling of having been wronged without cause. The feeling of bitterness is universal, and it is experienced as an unpleasant feeling justified by external reality (Alexander, 1966).

Bitterness signifies an aggressive protest against a felt and perceived injustice, and is a goad to desperate, sometimes reckless, efforts to gain redress. However, if redress or retaliation cannot be reached than bitterness frequently turns against oneself. Like a little child who thinks about harming himself in order to hurt the curtailing mother, the embittered person often aims his rancor and aggression against himself. Thus, bitterness and embitterment can be conceptualized as a "last resort" emotion in the face of an undeserved fate that cannot be undone.

Bitterness is not a simple affect, but a complex emotion comprising feelings (e.g. revenge, hate or hopelessness), cognitions (e.g. “Nobody can be trusted”), and action tendencies (e.g. social withdrawal or to appeal to court).

In the German Duden dictionary of word meanings (Duden, 1985; p.696), embitterment is defined as: “to bear a grudge against one’s own fate, which is experienced as too harsh, or against a treatment that is experienced as injust.” The online version of the classic German dictionary compiled by Jacob and Wilhelm Grimm (2005) defines embitterment as a personal trait or prolonged condition, while the term bitterness describes a transient emotional arousal.

Bitterness is an emotion which in many cases does not cease via self-regulation, and can continue unabated. It is a distinct state of mood, which differs from depression, hopelessness, and also anger as such, though it can share common emotional features or go parallel with each of these other emotions. As opposed to anger, it has the additional quality of self-blame and feeling of injustice. One can be angry at somebody without being embittered. Embitterment is nagging and self-increasing. Reactive embitterment sometimes seems to be hurting and rewarding at the same time. There is even something addictive to memories of the trigger events. This could be because embittered persons feel the need to persuade others of the strengths of their cause. An embittered person can hold on to his cause, even if this is self-harming, defending his right to anger and the demand of redress. As a person who rejects compensation, as this would mean just to “forget” what had been done to him. Persons who suffer from embitterment can from one second to the other turn from terrifying despair to smiles at the thought that revenge could be theirs. These characteristic features of embitterment illustrate the vast pathological properties of this emotion. However, even though there has recently been an increased interest in the role of emotional dysfunction for the development of physical and psychological illness (Baumann, Kessler, & Linden, 2005), only few scientific studies have addressed the emotion embitterment. Pirhacova (1997) describes embitterment as caused by social injustice. Zemperl and Frese (1997) observe this emotion as a reaction to protracted unemployment. Baures (1996) mentions embitterment and hate in connection with extreme trauma, and emphasizes the importance of letting go of these destructive emotions, in order to recover. Webster (1993) addresses bitterness revival as a function of reminiscence. Znoj (2002) developed an “embitterment scale” when working with cancer patients. Alexander (1966) made an attempt to study the phenomenology of bitterness in psychoanalytical terms.

So far, the term embitterment has not been introduced into the psychological and psychiatric nomenclature. No entries can be found in prominent psychological dictionaries (Colman, 2003; Häcker & Stapf, 1998), and embitterment is not listed in psychopathological systems like the AMDP-system (AMDP, 1995) or the list of technical terms in DSM-IV (APA, 1994). The neglect of embitterment in the psychological literature is surprising, as one can assume that experiences of injustice, loss, or frustration are frequent in everyday life.

Recently, Linden (2003) introduced the concept of the Posttraumatic Embitterment Disorder (PTED) that, for the first time, thoroughly acknowledges the emotion embitterment and its possible pathological consequences.

1.3.2. Posttraumatic Embitterment Disorder

A public survey in 2002 showed that there was still a general feeling that East Germans were second-class citizens. 59% of those interviewed said that there were still big differences between East and West, and only 1% thought that the two parts were fully integrated. Only 20% felt they were “full citizens of the Federal Republic of Germany.” 30% had experienced a biographical downgrading and 10% wanted the GDR to be reinstated (Winkler, 2002). In some areas, more than 50% of voters voted for the socialist party that succeeded the former communist party as late as the 2005 elections.

Within the same period, a growing number of individuals suffering from severe and prolonged deterioration of their overall mental status sought treatment. The onset of problems was regularly related to a specific event of frustration, downgrading, or humiliation. In respect to onset, course, and symptoms they did not fit into any diagnostic categories of DSM-IV and ICD-10. As the leading psychopathological characteristic was persistent and nagging embitterment, this disorder was described as “Posttraumatic Embitterment Disorder (PTED)” (Linden, 2003) and conceptualized as a special form of adjustment disorder with its own etiology and psychopathological characteristics. This type of reaction is not specific to a special event like the German reunification but also occurs in many other patients and circumstances.

The trigger event in PTED is an exceptional, though normal negative life event like conflict at the workplace, unemployment, the death of a relative, divorce, severe illness, or

experience of loss or separation. The illness develops in the direct context of the event and persists for more than six months. The patient sees it as the cause of his present state and of a persistent negative change in his well-being. The patient perceives the event as unjust and has the feeling that she or he is a victim. When reminded of the event, typical emotional reactions, especially embitterment, can be observed. Characteristic symptoms, similar to PTSD, are intrusive thoughts (McFarlane, 1992) and repetitive memories of the event, eliciting accompanying negative emotions. Affect modulation is unimpaired and normal affect can be observed if the patient is distracted.

The core signs and symptoms of PTED can be accompanied by self-blame, anger, depression, hopelessness, phobia or somatic symptoms. The duration of the disorder is longer than six months and daily role performance is impaired.

PTED can result in very severe symptoms, leading to disability in almost all areas of life, may be life-threatening because of suicidal and/or homicidal fantasies, often runs a chronic course, and can be extremely hard to treat (Linden, 2003; Linden et al. 2004).

For PTED to be present the patient must not have had any obvious premorbid mental disorder, psychopathology, maladaptation, or impaired functioning prior to the event which could explain the abnormal reaction - at least, the symptoms cannot be attributed to any other psychiatric disorder. This can be a difficult diagnostic problem especially in regard to personality disorders. In the psychiatric tradition there are numerous terms which refer in one way or the other to personalities which fight and bite without asking for the outcome, and where there are psychopathological exacerbations when life problems occur. Examples are *querulous paranoia*, *paranoid personality*, *passive-aggressive personality*, or *hostile depression*. Furthermore there is the problem that persons who react to a special event with PTED may have experienced similar events and earlier trauma before, which function as “feeder memories”. These diagnostic problems can not be solved entirely nor answered in all cases by yes or no. They are similarly known from PTSD (McKenzie, Marks, & Liness, 2001). Therefore, the diagnostic approach should be pragmatic. There should be no obvious premorbid psychopathology or functional disorder before the critical event and there should be a clear change in this respect after the event (Linden, 2003).

Based on theoretical considerations and clinical experience, Linden (2003) introduced research diagnostic criteria for PTED (Table 1).

Table 1. Research Diagnostic criteria of PTED

A. Core criteria

1. A single exceptional negative life event precipitates the onset of the illness.
2. Patients know about this life event and see their present negative state as a direct and lasting consequence of this event.
3. Patients experience the negative life event as "unjust" and respond with embitterment and emotional arousal when reminded of the event.
4. No obvious mental disorder in the year before the critical event. The present state is no recurrence of a preexisting mental disorder

B. Additional signs and symptoms

1. Patients see themselves as victims and as helpless to cope with the event or the cause
2. Patients blame themselves for the event, for not having prevented it, or for not being able to cope with it.
3. Patients report repeated intrusive memories of the critical event. For some part they even think that is important not to forget.
4. Patients express thoughts that it does no longer matter how they are doing and are even uncertain whether they want the wounds to heal.
5. Patients can express suicidal ideation
6. Additional emotions are dysphoria, aggression, down-heartedness, which can resemble melancholic depressive states with somatic syndromes.
6. Patients show a variety of unspecific somatic complaints such as loss of appetite, sleep disturbances, pain.
7. Patients can report phobic symptoms in respect to the place or to persons related to the event.
8. Drive is reduced and blocked. Patients experience themselves not so much as drive inhibited but rather as drive unwilling.
9. Emotional modulation is not impaired and patients can show normal affect when they are distracted or can even smile when engaged in thoughts of revenge.

C. Duration: longer than 6 months

D. Impairment: Performance in daily activities and roles is impaired.

1.3.3. Etiological model of PTED

The question why some persons show such an impressive reaction to a single negative life event that, although severe, is not out of range of normal life events, can at present only be answered speculatively with reference to clinical impression and early research.

Every life event interacts with psychological and biological factors, personal history or situational factors. General dimensions of interest could be alexithymia, irritable mood, demoralization, or denial. Situational and event-related dimensions of interest are, for example, the sense of threat, or the type and extent of loss or change in living conditions (Madianos, Papaghelis, Ioannovich, & Dafni, 2001; Kjaer Fuglsang, Moergeli, Hepp-Beg, & Schnyder, 2002). Moreover, resilience must be taken into account, factors such as sense of coherence, perceived invulnerability, coping repertoire, or preparedness for a traumatic experience (Timko, & Janoff-Bulman, 1985; Basoglu, Mineka, Paker, Aker, Livanou, & Gok, 1997; Staudinger, Freund, Linden, & Maas, 1999; Schnyder, Buchi, Sensky, & Klaghofer, 2000).

Interesting avenues in the explanation of why embitterment develops can be found in cognitive theories. PTED is a reactive disorder triggered by an exceptional, though normal negative life event, such as conflict in the workplace, unemployment, death of a relative, or divorce. One common characteristic of such events, according to concepts of cognitive psychotherapy, is a violation of basic beliefs and values (Beck et al. 1979; Janoff-Bulman, 1992; Basoglu et al. 1997).

An example would be a woman for whom the family is the most important thing in life, who has sacrificed her career to support her husband and to take care of the children, and who, years later, is left by her husband for a younger woman. Most importantly, the children choose to live with their father. As a result, the personal value system of the woman is called into question. The basic belief in the value and worth of a “good” family life, which gave her live structure and meaning, suddenly crumbles. The question is whether she has “wasted” her life and put everything on the wrong card. Something similar could happen if an individual gets sacked, even though they have shown great commitment and dedication in their job. These examples demonstrate that personal value systems that make people successful in certain life domains are at the same time a vulnerability factor (Schippan et al. 2004).

In regard to premorbid personality, patients with PTED seem to be achievement oriented, devoted persons with strict convictions and beliefs. They often showed great self-sacrifice and commitment in their job or social role before the critical event. Given this background, negative events like redundancy, divorce, or mobbing are experienced as a major insult, abasement and humiliation. Central assumptions of self-worth, of a just and benevolent world are violated. Even though the event does not threaten the individual's physical integrity, it is nevertheless experienced as traumatic, as it threatens the veracity of their fundamental assumptions and the associated emotions. Similar to PTSD, the impressive reaction evident in PTED may be explained in terms of a disconfirmation of basic beliefs and values caused by the negative life event (Janoff-Bulman, 1992; Epstein, 1991).

In the literature on PTSD and negative life events (Schützwohl, & Maerker, 2000; Ehlers, Clark, Dunmore, Jaycox, Meadows, & Foa, 1998; Ehlers, Maerker, & Boos, 2000), it is proposed that one important dimension of trauma is that one's personal integrity has been threatened. The concept proposed here is close to these observations but it goes one step further. We regard not only the threat to personal integrity as a key feature of the disorder but any violation of basic beliefs.

The model of a violation of basic beliefs in PTED can explain why the prevalence of this disorder must increase in times of social change. Just as a higher rate of PTSD can be observed in times of war or in populations exposed to major catastrophies that threaten the life of many people (Kulka et al. 1990), social changes (and the German reunification is a good example) can be expected to increase the risk of PTED.

1.4. Negative effects of job-loss and unemployment

One negative life event in the development of reactive embitterment is job loss or unemployment. Job loss is a negative life event which ranks in the upper quartile of unpleasant events that generate life stress (Holmes & Rahe, 1967; Spera, Buhrfeind & Pennebaker, 1994; Latack, Kinicki, & Prussia, 1995; Hanisch, 1999). In terms of lost "utility" units it is worse than separation and divorce (Clark & Oswald, 1994). High unemployment is a central concern in many economies (Milne & Ryle, 1996). Unemployed persons have in general poorer health than employed persons (Jin et al., 1995; Dooley, Fielding, & Levi, 1996; Björklund & Eriksson, 1998; Mathers & Schofield, 1998; Gerdtham & Johannesson, 2003; Olsen, & Dahl, 2007; Ek, Koiranen, Raatikka, Järvelin, & Taanila, 2008), and suffer in particular from more psychological distress or mental illnesses (Muller, Hicks, & Winocour, 1993; Viinamaeki, Koskela, Niskanen, & Taehkae 1994; Dooley et al., 1996; Vinokur, Price, & Caplan, 1996; Johansson & Sundquist, 1997; Mathers & Schofield, 1998; Murphy & Athanasou, 1999; Kokko & Pulkkinen, 1997; Waters & Moore, 2002; Gerdtham and Johannesson 2003;). Additionally, longitudinal studies have demonstrated that unemployment is largely causally related to a decline in well-being ("social causation" hypothesis) and not that poor well-being is associated with less healthy people's drifting into unemployment ("drift hypothesis") (Creed, 1999; Winefield, Tiggemann, Winefield & Goldney, 1993; Paul & Moser, 2001; Creed & Klisch, 2005).

However, some researchers have also argued that unemployment can also have positive outcomes, by creating an opportunity for individuals to change careers and life directions (Latack & Dozier, 1986; Hartley, 1980) and that poor quality jobs can be as bad for health as being unemployed (Broom, D'Souza, Strazdins, Butterworth, Parslow, & Rodgers, 2006).

How a person reacts to job loss and unemployment is dependent on various moderators like duration, personal psychology, age, personal or societal economic situation (Hanisch, 1999; Clark & Oswald, 1994; Shelton, 1985; Brief, Konovsky, Goodwin, & Link, 1995; Paul & Moser, 2006).

One important moderator is how the reason and the consequences of job loss are perceived (Lazarus, 1966; Lazarus & Folkman, 1984; Winefield, Tiggemann, & Winefield, 1992; Miller & Hoppe, 1994; Hanisch, 1999). Miller and Hoppe (1994) examined whether

psychological distress is influenced by how workers were dismissed or by the causes for being terminated. They demonstrated that job loss attributions were strongly related to psychological distress. Those men who felt they had been treated unfairly about a personal state or condition that they could not readily modify (e.g., age), were under the most psychological distress. Apart from how it came to job loss, one also has to consider the perception of consequences like daily financial problems, disappointment of not getting a job, or reactions of the family (Frese & Mohr, 1987).

2. Empirical Data

After the first description of the clinical concept of PTED (Linden, 2003; see also Chapter 1.3.), a pilot study (Linden et al. 2004), with 21 patients showed that patients with PTED are severely impaired and suffer from a variety of psychopathological signs and symptoms. In elaborating these findings a research project was established to further study PTED. The present section presents four empirical investigations, which were carried out within the framework of this project. The general theme of these studies is the description, operationalization, conceptualization and assessment of reactive embitterment.

2.1. Reactive Embitterment in Clinical and Non-Clinical Samples

The present chapter introduces the PTED Self-Rating Scale (PTED Scale, originally developed in German) which asks for prolonged and disabling embitterment reactions in the aftermath of negative life events. The aim is to provide an instrument which allows screening for this type of psychological reaction to stressful life events in clinical and non-clinical populations. Data on a principal component analysis of the scale, internal consistency, test-retest reliability, and convergent and discriminant validity are presented. Additionally, frequency distributions in clinical and non-clinical samples are reported.

2.1.1 Method

2.1.1.1. Construction of a Screening Instrument for Reactive Embitterment: The PTED Self-Rating Scale

The PTED Self-Rating Scale (PTED Scale) is a 19-item questionnaire, which was designed to assess features of embitterment reactions to negative life events. The characteristic features of reactive embitterment as outlined by Linden (2003) were summarized and translated into self-rating questions by an expert team of researches experienced with pathological reactive embitterment. The questionnaire starts with the instruction “Please read the following statements and indicate to what degree they apply to you”. Each question starts with the line “During the last years there was a severe and negative life event...” and is then followed by individual statements such as “…that hurt my feelings and caused considerable embitterment”. The participants are asked to indicate for

each item on a 5-point scale in what amount the statement applies to them. The scale ranges from (0) “not true at all” (1) “hardly true”, (2) “partially true”, (3) “very much true”, to (4) “extremely true”. Items of the PTED Scale[5] are shown in Figure 1.

[5] The original German version of the PTED Scale was, for the presentation in the presented theses, translated into English by the author and subsequently reviewed and edited by an American English native speaker.

Figure 1. The PTED Self- Rating Scale.

Please read the following statements and indicate to what degree they apply to you.
Please do not miss a line:

During the last years there was a severe and negative life event	I agree with this statement				
	not true at all	hardly true	partially true	very much true	extremely true
1. that hurt my feelings and caused considerable embitterment	**0**	**1**	**2**	**3**	**4**
2. that led to a noticeable and persistent negative change in my mental well-being	**0**	**1**	**2**	**3**	**4**
3. that I see as very unjust and unfair	**0**	**1**	**2**	**3**	**4**
4. about which I have to think over and over again	**0**	**1**	**2**	**3**	**4**
5. that causes me to be extremely upset when I am reminded of it	**0**	**1**	**2**	**3**	**4**
6. that triggers me to harbour thoughts of revenge	**0**	**1**	**2**	**3**	**4**
7. for which I blame and am angry with myself	**0**	**1**	**2**	**3**	**4**
8. that led to the feeling that there is no sense to strive or to make an effort	**0**	**1**	**2**	**3**	**4**
9. that makes me to frequently feel sullen and unhappy	**0**	**1**	**2**	**3**	**4**
10. that impaired my overall physical well being	**0**	**1**	**2**	**3**	**4**
11. that causes me to avoid certain places or persons so as to not be reminded of them	**0**	**1**	**2**	**3**	**4**
12. that makes me feel helpless and disempowered	**0**	**1**	**2**	**3**	**4**
13. that triggers feelings of satisfaction when I think that the responsible party having to experience a similar situation	**0**	**1**	**2**	**3**	**4**
14. that led to a considerable decrease in my strength and drive	**0**	**1**	**2**	**3**	**4**
15. that made that I am more easily irritated than before	**0**	**1**	**2**	**3**	**4**
16. that makes that I must distract myself in order to experience a normal mood	**0**	**1**	**2**	**3**	**4**
17. that made me unable to pursue occupational and/or family activities as before	**0**	**1**	**2**	**3**	**4**
18. that caused me to draw back from friends and social activities	**0**	**1**	**2**	**3**	**4**
19. which frequently evokes painful memories	**0**	**1**	**2**	**3**	**4**

2.1.1.2. Participants

The PTED Scale was administered to four samples:

Patients with severe embitterment reactions (PTED sample) and matched control patients[6]*:* During a recruiting period of 20 months all physicians of the Department of Behavioral and Psychosomatic Medicine at the Seehof Rehabilitation Center were asked to name patients who might suffer from reactive embitterment. On the basis of an extensive clinical interview, 49 (29 women, 20 men) of 88 reported inpatients were diagnosed by an expert clinician as suffering from prolonged and disabling embitterment and fulfilling the diagnostic criteria for PTED (Linden, 2003). The age of patients ranged from 30 to 61 (Mean = 49.6; SD = 7.02). The control group consisted of 48 patients, who were treated as inpatients because of other mental disorders. Whenever a PTED patient was admitted, the next incoming patient with the same gender and age was selected for the control group (no patient refused).

Unselected inpatients (UI): From the Psychosomatic Rehabilitation Hospital Heinrich Heine, Potsdam, 100 consecutive and unselected inpatients (73 women, 27 men) were recruited, who suffered from all kinds of chronic mental disorders (no patient refused). The age of patients ranged from 27 to 63 (Mean = 46.9; SD = 8.76). In this opportunity-sample the scale was administered twice with a time interval of 6-8 days.

Patients in general practice (GP): An opportunity-sample of 221 patients (158 women, 63 men) who were seeing a general physician was investigated. The age of patients ranged from 15 to 81 years (Mean = 42.5; SD = 13.8).

Train sample (TS): 158 persons (85 women, 73 men) who were traveling in a public train from Berlin to Frankfurt/Oder from 7:00am to 8:00pm were asked to fill in the questionnaire. In order to enhance representativety of the sample, pre-selection of participants took place. It was aimed for an equal distribution on 2 (sex) × 5 (age-group) factor levels. The age of participants ranged from 20 to 65.

In each sample, instructions were given in a standardized manner, and each participant was informed about study procedures, data protection, and the participant's right to terminate

[6] In following Chapters we will refer to this sample as the Seehof sample

participation at any time. All participants signed an informed consent form in which they declared that they had been informed about the purposes of the study and were willing to participate.

The examinations of the PTED and GP sample were done with a 17-item version of the scale. Then, in order to remove some lack of clarity, two items of the 17-item version were split into two items, resulting in the final 19-item version (Figure 1), which was applied in the UI and the GP sample.

2.1.1.3. Procedure

To assess the reliability of the PTED Scale the internal consistency was examined and a test-retest was carried out, using the data of the UI sample. Furthermore, an explorative principal component analysis was conducted to analyze the factorial structure of the questionnaire.

In order to assess the discriminant capacities of the scale, a discriminant analysis was calculated comparing the PTED sample with the matched control group. The convergent validity of the PTED Scale was tested by comparing PTED scores with scores from the "Bern Embitterment Scale" (Znoj, 2002), the "Impact of Event Scale" (IES-R) (Horrowitz, Wilner, & Alvarez, 1979) in the modification by Maercker and Schützwohl (1998), and the "Symptom-Checklist-90" (SCL-90-R) (Derogatis, 1977; German Version by Franke, 1995) using data of the PTED sample.

To explore the prevalence of embitterment, the PTED Scale was given to four independent subject samples. The frequency of occurrence and the intensity of embitterment were analyzed.

2.1.2. Results

2.1.2.1. Reliability of the PTED- Scale

The ratings of the UI sample on all items are given in Figure 2 (first assessment) in descending order. The alpha coefficient was .93 (N=95; 5 cases were excluded from the analyses because of missing data) indicating a high internal consistency. The spearman-rho-

correlation was .71 for the sum score, with a range of .53 to .86 for individual items, speaking for a good test-retest reliability of the PTED-scale (Table 2).

2.1.2.2. Principal Component Analyses

A principal component analysis was done on all PTED Scale items using the UI sample. The number of factors to be extracted was determined according to the scree-plot method (Cattell, 1966). Two factors emerged, accounting for 55.25% of the total variance. After orthogonal rotation using the varimax technique, a simple structure was obtained (Table 2). All variables were well defined by this factor solution, as indicated by moderately high communality values (Range = 0.33 - 0.79). Factor I was defined by items that ask for psychological status and social functioning. Factor II was defined by items that ask for emotional response to the event, and for thoughts of revenge. This factor solution comprises the two core dimensions of reactive embitterment: The pathological emotional reaction following a negative life event, and the resulting impairment of mental state and social functioning. Therefore, it appears to be appropriate to use a total score of the PTED Scale in order to evaluate the severity of reactive embitterment and PTED symptomatology.

Figure 2. Frequency Distribution for each Item of the UI sample (N=100).

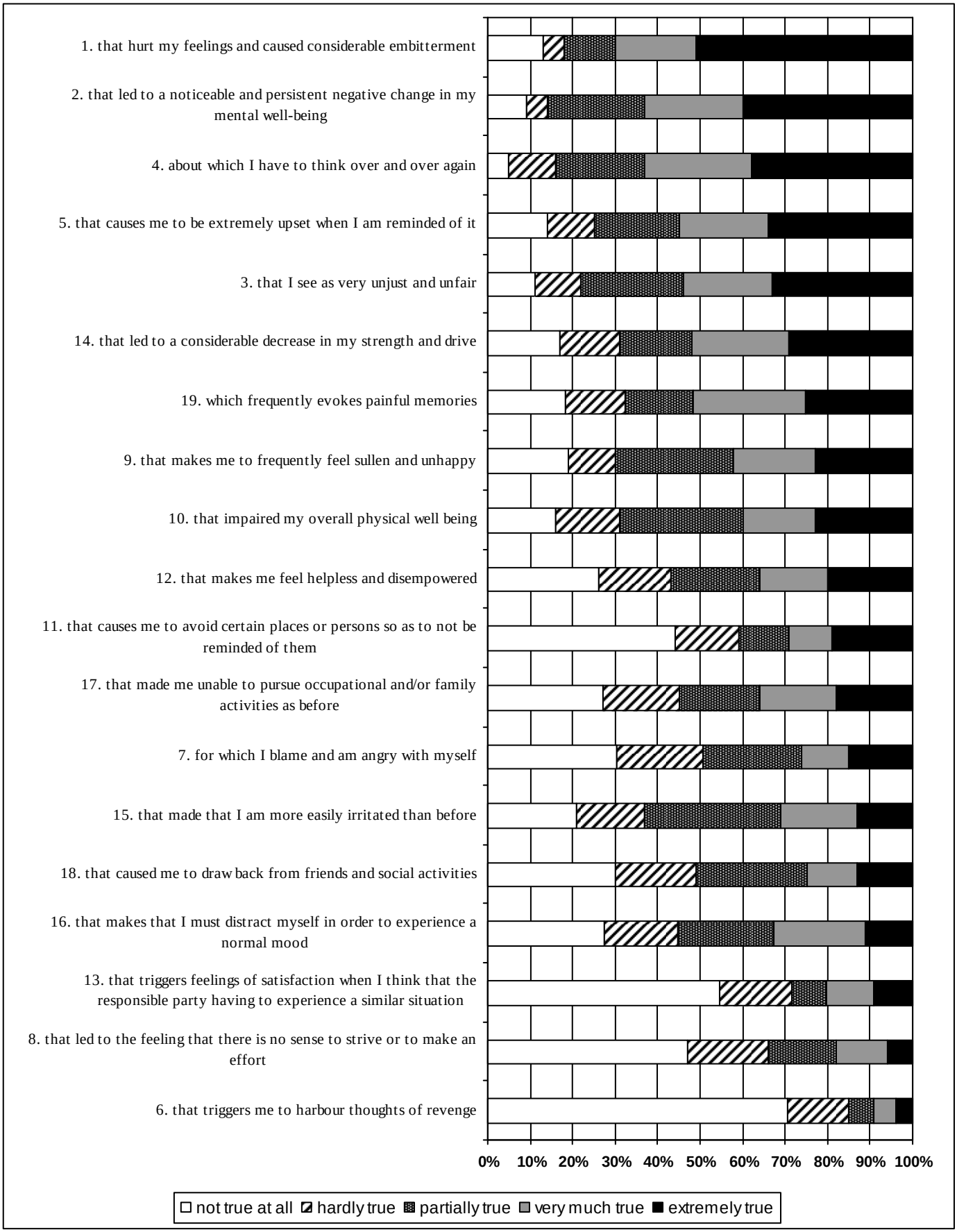


Table 2. Spearman-Rho-Coefficients (Time Interval of 6 to 8 days), Rotated Factor Solution and Within-Group Correlations with the Discriminant Function

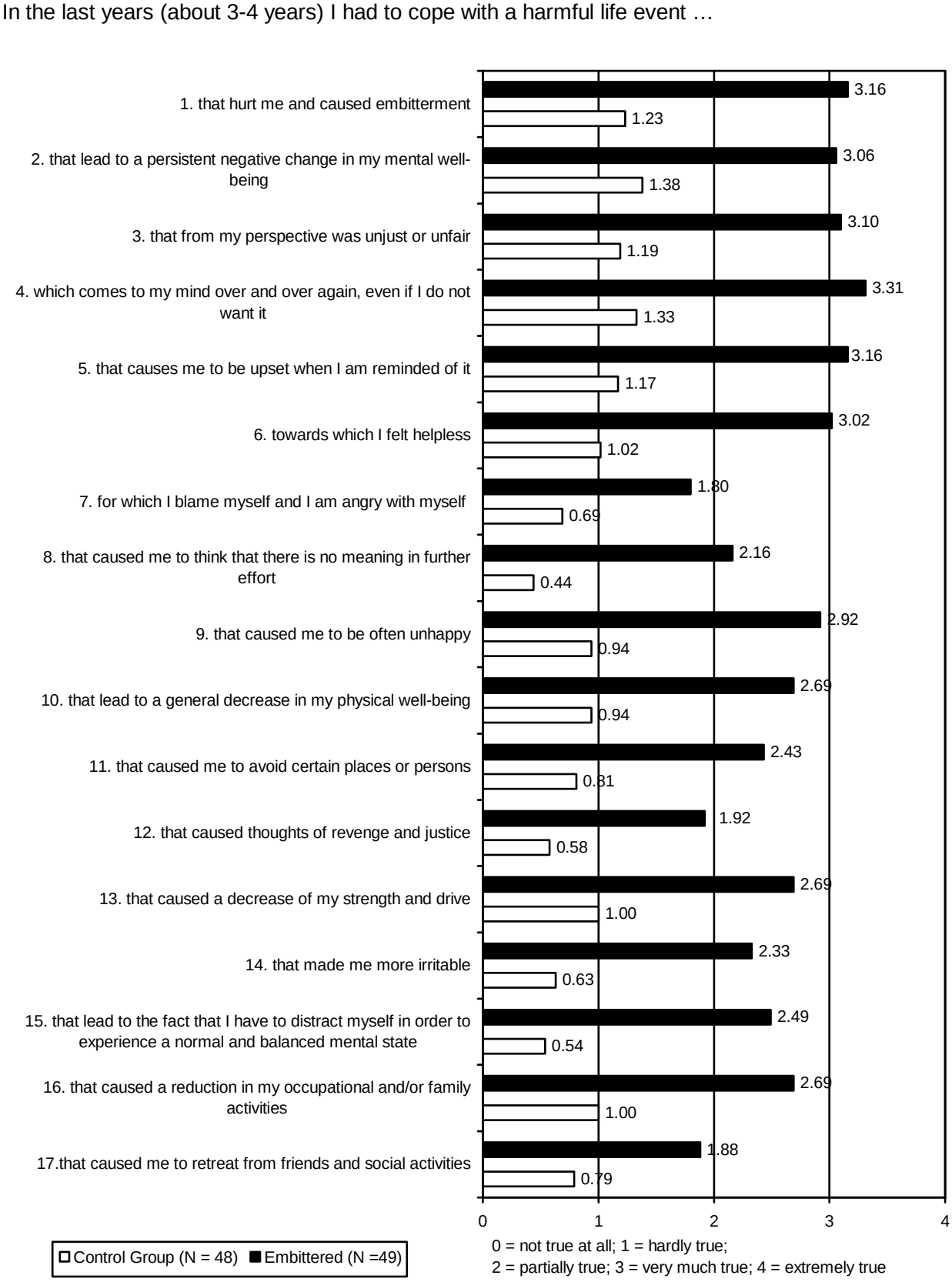
PTED Scale Items	Spearman-Rho-Coefficients	Factor I	Factor II	Pooled Within-Group Correlations with the discriminant function
1. that hurt my feelings and caused considerable embitterment	.640**		0.55	.639
2. that lead to a noticeable and persistent negative change in my mental well-being	.706**	0.74		.594
3. that I see as very unjust and unfair	.716**		0.70	.652
4. about which I have to think over and over again	.742**	0.60		.693*
5. that causes me to be extremely upset when I am reminded of it	.713**	0.58		.739
6. that triggers me to harbour thoughts of revenge	.540**		0.70	.432*
7. for which I blame and am angry with myself	.620**		0.62	.385
8. that led to the feeling that there is no sense to strive or to make an effort	.663**	0.52		.693
9. that makes me to frequently feel sullen and unhappy	.819**	0.84		.697
10. that impaired my overall physical well being	.753**	0.80		.631
11. that causes me to avoid certain places or persons so as to not be reminded of them	.796**	0.49		.508
12. that makes me feel helpless and disempowered	.726**	0.67		.700
13. that triggers feelings of satisfaction when I think that the responsible party having to experience a similar situation	.537**		0.57	.432*
14. that lead to a considerable decrease in my strength and drive	.783**	0.89		.601
15. that made that I am more easily irritated than before	.681**	0.75		.680
16. that makes that I must distract myself in order to experience a normal mood	.775**	0.84		.663
17. that made me unable to pursue occupational and/or family activities as before	.742**	0.81		.588
18. that caused me to draw back from friends and social activities	.722**	0.62		.356
19. which frequently evokes painful memories	.867**	0.79		.693*
Mean Total:	.713**	Variance explained: 39.19%	16.06%	

Note. ** Significance level ≤ .01.
* The within-group correlations with the discriminant function are obtained from a 17-items version of the PTED Scale. In this version the items 6 & 13 and 19 & 4 had been summed up in one item. The coefficients marked with an asterisk are obtained by these summed up versions of the respective items.

2.1.2.3. Validity of the PTED-Scale

The validity of the PTED Scale was assessed by carrying out a discriminant analysis using the PTED sample and the matched control group. In this analysis the 17 item version of the PTED Scale was utilized. Patients with PTED showed significantly higher scores on the PTED Scale with a mean total of 2.64 (SD = 0.92) for the PTED- group, and 0.92 (SD = .77) for the control group ($t95 = -9.905$, $P < .001$), as shown in figure 3. Significant ($P < .001$) differences are also found for each single Item of the questionnaire.

Figure 3. PTED- Self-rating questionnaire (Mean)



A chi-square transformation of Wilks' lambda indicated that the computed discriminant function discriminated significantly ($\chi 2 = 76.94$, $p < .001$) between both groups. Forty four of the 49 PTED patients were allocated as having PTED on the basis of the PTED- Scale, thus the sensitivity was 89.8%. Four patients of the 48 control group patients, who had been classified as non PTED patients by a clinician, were diagnosed as having PTED on the basis of the PTED Scale. Thus, the specificity was 91.7%. Overall, the predicted classification based on the PTED- Scale was in 90.7% of the cases in accordance with the clinical diagnoses.

The discriminant function indicated a mean total score of 1.6 as the critical discriminant value between the two groups, suggesting that subjects who score an average of 1.6 or more on the PTED Scale are suspect to suffer from prolonged embitterment in an intensity of clinical relevance. In regard to clinical practicability, and in order to increase the specificity, a mean total score of 2 on the PTED Scale is recommended as a cut-off score, i.e. a score ≥ 2 is indicating a clinically significant intensity of reactive embitterment.

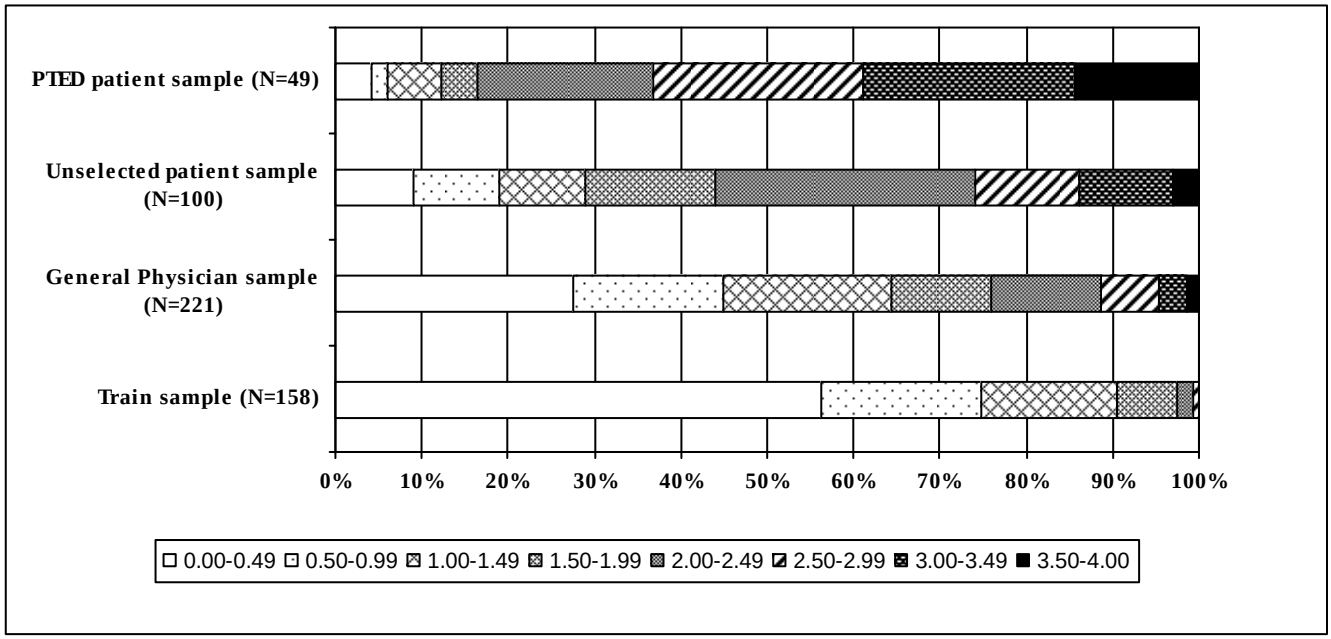
Table 2 shows the pooled within-group correlations with the discriminant function for each item. Moderate to high correlations are found for each item, indicating that all items are of discriminant value. Particularly high correlations are found for items asking for intrusive memories (Items 5, 19 & 4), for feelings of disempowerment, helplessness and injustice (Items 12, 8, 3, & 1), and for items concerning deterioration of mood and numbness (Items 9, 15 & 16). These findings reflect three characteristic features of PTED symptomatology: a) the central role of a negative life event, which frequently triggers painful and intrusive memories; b) the feeling of helplessness and injustice caused by the event; c) and the resulting deterioration of psychological well-being.

The PTED Scale was significantly ($p < .001$) correlated with the IES scale ($r = .76$), with the Bern embitterment scale ($r = .67$), with the SCL-GSI ($r = .57$), with the SCL-PST ($r = .53$) and the SCL depression scale ($r = .52$), speaking for a good convergent validity. Correlations were calculated, using data from the PTED sample and matched control patients.

2.1.2.4. PTED in Clinical and Non- Clinical Samples

The distributions of the mean total scores of the four different samples are shown in Figure 4. There are clear differences in the mean ($F (3; 523) = 98.46$; $p < .001$) and distribution of scores between the four samples. PTED patients show a mean of 2.64 (SD = .92; range = 0 - 3.88), the UI group of 1.95 (SD = .92; range = 0 - 3.89), the GP group of 1.22 (SD = .94; range = 0 - 3.68), and the Train sample of .58 (SD = .60; range = 0 – 2.76). If one takes the TS group as an approximation of the true prevalence of embitterment in the general population, 34.8 % say that they remember a recent event that caused feelings of embitterment, and 2.5% have a score of 2 and greater.

Figure 4. Frequency Distributions of four different Samples on the PTED Scale (Mean Total Scores)



2.1.3. Discussion

Embitterment is an emotion which is probably known to everybody. Our data suggest that one third of the general population remember feelings of embitterment and one quarter do so in a more intense way (mean total score ≥ 1). However, only 2% to 3% are suffering from reactive embitterment of clinically relevant intensity. In this respect embitterment must be understood as a dimensional phenomenon similar to anxiety or depressed mood. Increasing intensity leads to a change in quality.

The PTED Scale is an instrument which can be used to screen for reactive embitterment and also measure severity, similar to anxiety scales for anxiety disorders and depression scales for depressive disorders. Based on the results from the UI and the GP sample, one can assume that some cases which are presently diagnosed as depression or phobia are in fact cases of PTED (Power & Tarsia 2007). The PTED scale can in such populations alert physicians to this special aspect of the present disorder, which in any case should have consequences for the treatment (Schippan Baumann, & Linden, 2004).

Our data suggest, that a mean total score ≥ 2 on the PTED-Scale indicates a clinically significant intensity of reactive embitterment. The internal consistency and the retest reliability were high. The construct validity of the PTED Scale was demonstrated by the level of concordance (90.7%) with clinical judgments. Convergent validity could be shown as there were significant correlations with the Bern embitterment scale, the IES, and the SCL-90-R.

When interpreting the data, several limitations of the present study must be taken into consideration. Data were obtained using the original German version of the PTED Scale. Further investigations in English speaking population are needed, in order to assess the psychometric properties of the English version of the PTED Scale. Another shortcoming of the present results is that they were obtained with two differing versions of the PTED Scale (17 & 19-item version). Even though it is not likely, one cannot out rule that the alteration of the scale had an influence on the results.

2.2. Feelings of injustice and reactive embitterment in connection to job loss and unemployment

One possible negative life event in the development of reactive embitterment is job loss or unemployment. Job loss is a life event resulting in the removal of paid employment from an individual involuntarily (Latack, Kinicki & Prussia, 1995). It is an event that results in unemployment unless a new job is immediately obtained (Hanisch, 1999).

The present chapter explores the prevalence of feelings of injustice and embitterment in connection to job termination and unemployment. The event job loss and the chronic stressor unemployment are both taken into account.

2.2.1. Method

2.2.1.1. Participants

42 women (41.2%) and 60 men (58.8%; N = 102), whose mean age was 36.58 years (range = 19-61 years, SD 12.07) were recruited in the waiting room of the national employment agency of Potsdam, Germany. Every person in the waiting room was asked to participate. Table 3 summarizes the sociodemographic data of the sample.

Table 3. Socio-Demographic Characteristics (N = 102)

	years; % (N=102)
Age (in years) M (SD)Range	36.58 (12.07) / 19-61
Female	41.2
Family Status	
unmarried	52.0
married	36.3
divorced	11.8
Highest School Education	
no school education	1.0
secondary school	17.6
junior high	58.8
high school	17.6
miscellaneous	4.9
Duration of Unemployment	
up to 11 months	67.6
12 to 24 months	15.7
25 to 48 months	9.8
longer than 48 months	4.9
missing	2.0
Frequency of Unemployment	
once	51.0
twice	23,5
more than 3 times	24.5
missing	1.0

2.2.1.2. Measures

Psychological distress. The German 28-item version of the General Health Questionnaire (GHQ-28) was used as a measure of global distress (Goldberg, 1972; Goldberg & Hillier, 1979; Goldberg & Williams, 1988; Linden, Maier, Achberger, Herr, Helmchen, & Benkert, 1996; Goldberg, Gater, Sartorious, Ustun, Piccinelli, Gureje, & Rutter, 1997). It allows to calculate a global score and subscores on depression, anxiety, somatisation, and social dysfunction. Goldberg et al. (1997) suggested a threshold of 5/6 for the GHQ scoring method

(0, 0, 1, 1) which is also used in our study. Scores above threshold indicate a significant psychological problem (Goldberg & Williams, 1988).

Reactive Embitterment. A modified version of the PTED Scale (see Chapter 2.1.) was used to assess reactive embitterment in connection to job termination and unemployment. The modified 19-item self rating scale starts with the instruction "Loosing my job is an event…" which is then followed by statements such as "…that hurt my feelings and caused considerable embitterment". The scale ranges from (0) "not true at all" to (4) "extremely true". A mean total score ≥ 2 on the PTED Scale indicates a clinically significant intensity of reactive embitterment.

Unemployment appraisal. As an additional measure, respondents were asked to indicate on a 6-point scale how they appraise their unemployment. The scale ranges from (1) "positive event" (2) "no burden" (3) "some burden" (4) "significant burden" (5) "severe burden" to (6) "very severe burden."

2.2.2. Results

2.2.2.1. Psychological Distress

The present unemployment was a positive event for 10.8% of the participants, no burden for 11.8%, some burden for 16.7%, a significant burden for 12.8%, a severe burden for 26.5%, and a very severe burden for 16.7% (missing: 4.9%). This reflects a mean total score of 3.87 (SD = 1.6) on the unemployment appraisal, i.e. unemployment is on average seen as a significant burden. There were no gender differences ($t(95) = -.115$, $p = .909$).

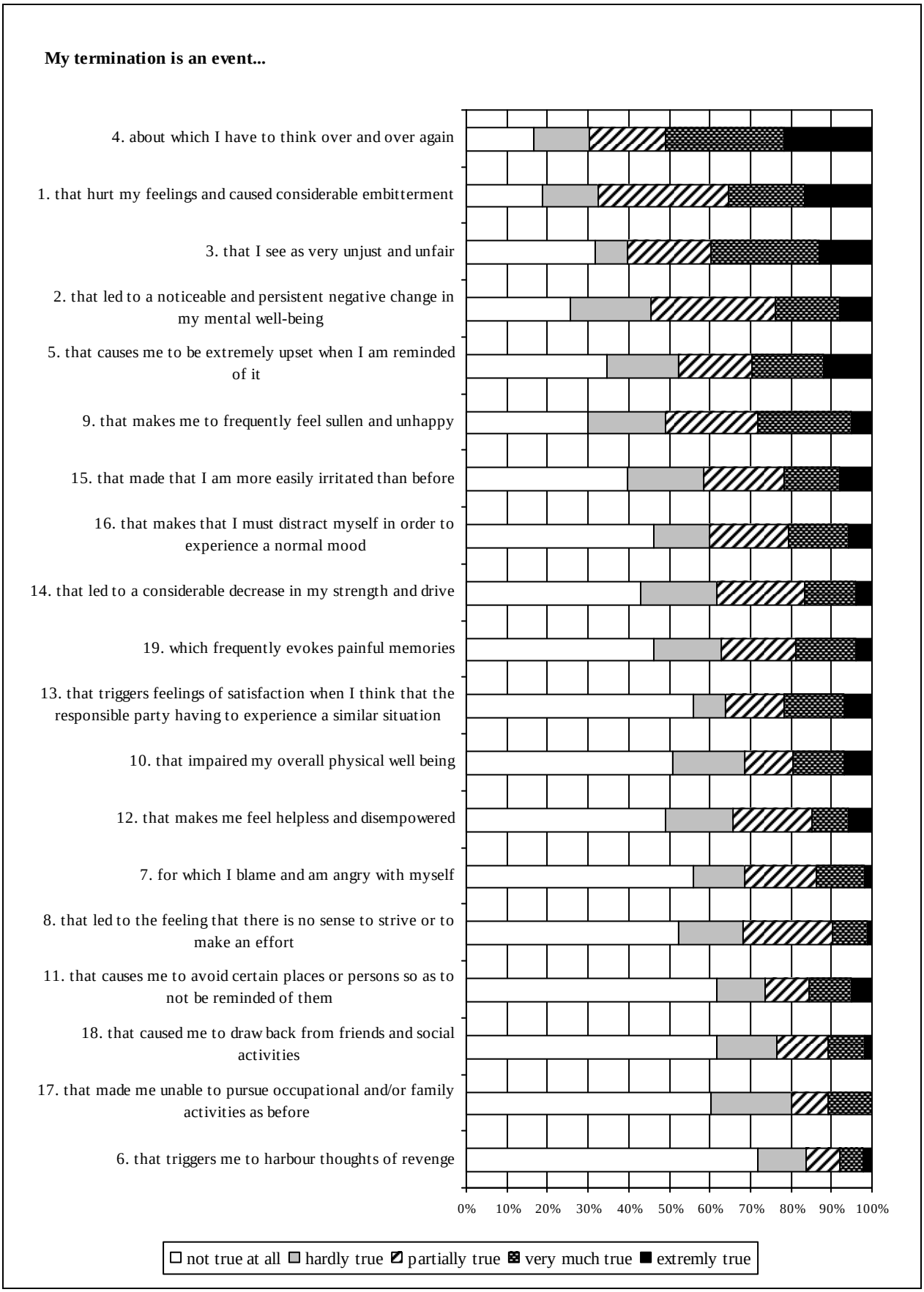
A skewed distribution was found for the GHQ-28 total scores, with a mean of 5.6 (SD = 6.4; Range = 0-27) and a median of 3. A score above threshold (≥ 6), which indicates some psychiatric disorder, was found in 40.2% of the respondents. The highest scores were found for the subscale anxiety and insomnia (mean = 2.04; SD = 2.2), followed by the subscales somatization (mean = 1.44; SD = 1.9), social dysfunction (mean = 1.35; SD = 1.9), and severe depression (mean = .77; SD = 1.7). No gender differences in regard to the GHQ-28 results were obtained ($t(100) = -.098$, $p = .922$).

2.2.2.2. Reactive Embitterment

A mean of 1.24 (SD = .92; Range = 0-3.58) was found for the PTED Scale, with no gender differences ($t(100) = .093$, $p = .926$). 25.5% showed a mean score higher than 2, indicating a clinically significant intensity of reactive embitterment. Nine respondents (8.8%) with a mean total score of 0 did not show any sign of reactive embitterment. Taking a mean total score of ≥ 1 as an indication of the presence of reactive embitterment, it can be assumed that embitterment in connection to unemployment is known to 54.9% of the sample.

Looking at single items, 59.8% of the participants indicated that they experienced their unemployment as unjust and unfair (item 3, “partially true,” “very much true,” and “extremely true”), 53.9% reported feelings of embitterment (item 1), 69.6% had to think about their unemployment over and over again (item 4), 53.9% said that their unemployment led to a noticeable and persistent negative change in their mental well-being (item 2). The distribution of answers for all items of the PTED Scale is presented in Figure 5.

Figure 5. Frequency Distribution for each Item of the PTED Scale (N = 102)



2.2.2.3. Relationship between embitterment, psychological distress and appraisal of unemployment

Table 4 shows the correlations between the PTED Scale, the GHQ-28, the unemployment appraisal, age, and duration of unemployment. Significant correlations were found between the PTED Scale, the GHQ-28, and the unemployment appraisal. Age and duration of unemployment showed significant ($p < .05$) correlations with the PTED Scale and the unemployment appraisal, but not with the GHQ-28. When looking specifically at feelings of injustice in connection to unemployment (Item 3 of the PTED Scale), significant correlations ($p <.001$) were seen with age and the unemployment appraisal.

Table 4. Intercorrelations of the PTED Scale (N = 102)

Measure	PTED Scale	GHQ-28	Appraisal of Unemployment	Age	Duration of Unemployment	Feelings of injustice
PTED Scale	-					
GHQ-28	.509**	-				
Appraisal of Unemployment	.605**	.190	-			
Age	.382**	.003	.455**	-		
Duration of Unemployment	.327**	.002	.286*	.374**	-	
Feelings of injustice (Item 3 of the PTED Scale)	.680**	.172	.637**	.426**	.201*	-
Note:* ($p < .05$); **($p \leq .001$)						

2.2.3. Discussion

Job loss and unemployment can be experienced in different ways. While unemployment was positive or no problem for 22,6% of the participants, it was a severe or very severe burden for 43,2%. It would be highly interesting to explore in future studies the differences in persons and conditions which lead to such divergent responses to the same life event. This

could be due to personality and resilience of the individual, due to preexisting mental disorders, due to the special circumstances of the job loss, due to positive or negative characteristics of the former job, or due to the individual consequences (Hartley, 1980; Latack & Dozier, 1986; Clark & Oswald, 1994; Brief, Konovsky, Goodwin & Link, 1995; Jin, Shah, & Svoboda, 1995; Björklund & Eriksson, 1998; Creed, 1999; Hanisch, 1999; Broom, D'Souza, Strazdins, Butterworth, Parslow, & Rodgers, 2006).

The results of this study show that feelings of injustice and embitterment are frequent in connection with unemployment. At least some embitterment is reported by 54.9% (mean total score ≥ 1) and embitterment of clinical significance (mean total score ≥ 2) by 25.5% of the sample. Similar numbers of participants reported a persistent negative change in their mental well-being as a direct consequence of their unemployment. According to data from the general population, one would expect about 2 to 3% (Ritter, 2003).

Appraisal of unemployment was significantly ($p \leq .001$) associated with embitterment as measured with the PTED-scale but not with psychological symptoms in general as measured with the GHQ. This supports findings from Miller and Hoppe (1994), that negative psychological reactions towards unemployment are primarily seen in connection to feelings of being treated unfair and embitterment.

The association between the duration of unemployment and reactive embitterment suggests that reactive embitterment can continue unabated and rise in intensity during lengthy unemployment (Berger, 2006). However, this association is correlative only, and longitudinal studies are needed to clarify whether embitterment follows lasting unemployment or is a cause of prolonged redundancy. Unemployed persons who suffer from prolonged embitterment and feelings of injustice may want the world to see how bad they have been treated. Thus, they may reject new jobs as this would mean to just "forget" what had been done to them. This is a phenomenon frequently seen in patients with PTED (Linden, 2003).

The association found between age and reactive embitterment may reflect experiences with employment discrimination against older workers (Bendick, Brown & Wall, 1999). Age is on one hand a condition that one can not change, and a decisive factor on the job marked. The experience of discrimination due to age can be a trigger of prolonged embitterment.

However, further investigations of the interrelations between unemployment, age and reactive embitterment are needed, before a conclusion can be drawn.

In summery, these first empirical results on reactive embitterment in connection to unemployment show that this is an aspect which should get more attention in order to understand job-less persons and plan targeted interventions.

Limitations of this study are that we only could investigate a convenience sample of unemployed persons, that we could use only self-rating instruments, and that there is only limited information on the job history and social situation of the participants. The study, therefore, can only point out the need to look at embitterment in unemployed persons but give only limited information to explain this phenomenon.

2.3. Diagnostic Criteria and the Standardized Diagnostic Interview for Posttraumatic Embitterment Disorder (PTED)[7]

The concept of PTED captures a distinct pathological reaction type to negative life events that can have deteriorating consequences for the psychological well-being. However, patients with PTED show partial overlaps in symptomatology with depression, anxiety- and panic disorders, and PTSD. In order to establish PTED as a diagnostic category and to facilitate further research, empirical data was collected, with the aim to derive clinical diagnostic criteria and an efficient standardized diagnostic algorithm for PTED that is in accordance with the criteria for clinical diagnoses of the DSM-IV.

In the following study a newly developed semi-standardized diagnostic interview for PTED was used to analyze which combination of characteristic features of PTED allow the best differentiation of PTED patients and patients with other mental disorders.

2.3.1 Method

2.3.1.1. The semi-standardized Diagnostic Interview for PTED

Based on the theoretical concept of PTED and clinical experiences with characteristic patients a semi-standardized diagnostic interview for PTED was developed, and tested in a pilot-study (Linden et al. 2004). The interview asks for the research-diagnostic criteria of PTED, as summarized in Table 1.

At the beginning of the interview, the patient is asked if she/he has, during the last years, experienced an event that considerable hurt her/his feelings. Since one can expect that insulting experiences are a frequent condition in everyday life, and the patient may have experienced more then one hurtful event during the last years, the interview structure gives the patient the chance to record more than one negative event on a list. By asking the patient to first recall experienced negative events in more general, the patient is able to reconsider several painful experiences (if present). Subsequently, she/he is in a better position to evaluate the personal importance of the different events. In addition, the assessment of multiple events enables the researcher to explore possible additive effects (Strain et al. 1999) of critical events.

[7] Parts of this Chapter are published in Linden, Baumann, Rotter & Schippan, (2008a).

Only after this general recall of critical events the patient is asked to determine the one event that is most important for his present state of mental well-being. In order to eliminate events which may be consequences of illness, the patient is asked if this event was the cause of a persistent negative change in her/his mental well-being, and if any psychological or mental problems were present prior to the event.

In addition, the core characteristics of PTED, the emotional spectrum patients experience when reminded of the event, and psychopathological signs and symptoms are explored by the interview. In order to capture the specific connection between the critical life event and the psychological response, which is postulated in the concept of PTED, the questions of the interview are all asked in reference to the event.

There are two items (Nr. 1 & 3) at the beginning of the interview that ask for prerequisites of PTED. a) The existence of a severe event/experience that was painful and caused embitterment; b) A persistent negative change in mental well-being as a consequence of the event. If these two prerequisites were not met, the interview was not continued and the respective patient was estimated as not suffering from PTED.

By applying a semi-standardized interview the main methodological requirements of life events research are met (see Paykel, 1983; Paykel, 2001a; Petermann, 1995). It has been claimed that a semi-structured interview with some probing and flexibility is the method of choice to collect life events data. Furthermore, it was demanded that events should be documented in relation to the time of illness onset, in order to eliminate events which may be consequences of illness (Paykel, 1983; Paykel, 2001b). The semi-standardized diagnostic interview for PTED fulfills these demands. The claim that interviews for the assessment of life events should only cover defined events (e.g., by using a standardized list of possible negative events) and time periods can not be met (Paykel, 1983; Paykel, 2001b), due to the theoretical implications of the concept of PTED.

In PTED the individual experience of an event is central to the diagnosis. Thus, asking for defined events would contradict etiological and diagnostic assumptions. Moreover, PTED is thought to have a chronic course. Thus, no time period for event assessment can be specified yet.

2.3.1.2. Participants

All patients of the Seehof sample, the clinically defined PTED patients and the control group (for detailed information about recruitment see Chapter 2.1.) participated in the study. Socio-demographic data was obtained by the standardized basis-documentation of the psychosomatic clinics and departments of the Bundesversicherungsanstalt für Angestellte (BfA) in the Version of 2003. Table 5 gives an overview of socio-demographic characteristics of both samples. Furthermore, results of the *Mehrfach-Wahl-Wortschatz-Intelligenztest* (MWT-B; Lehrl, 1995) as an estimate of premorbid, crystallized intelligence are presented. T-tests or chi-square tests were calculated to test for significant differences between the groups.

Table 5. Social- demographic data of the Seehof Sample (N = 100)

	PTED Sample % resp. mean (SD) n = 50	Control Group % resp. mean (SD) n = 50	t-test resp. Chi-square	significance
Female	60.0%	60.0%	$\chi^2 = 0.000$	p = 1.000
Age (years)	49.7 (6.98)	49.4 (6.69)	t (98) = -.190	p = 0.850
Married	77,6%	64.0%	$\chi^2 = 2.194$	p = 0.139
Permanent job	46.9%	87.5%	$\chi^2 = 11.978$	p = 0.001
Premorbid Intelligence (MWT-B)				
IQ[8]	110 (14.78)	112 (14.6)	t (68) = .653	p = .517

Note. Missing Data: For *Married*: PTED patients n = 49. For *Permanent job*: n = 32 for both groups. For *IQ*: PTED patients n = 39; Control group n = 31.

2.3.1.3. Procedure

Patients were interviewed with the semi-standardized diagnostic interview for PTED. Results of the interview were used to specify the diagnostic criteria for PTED. Moreover, the discriminatory power of the interview and of each item was analyzed, and a diagnostic algorithm, which allows the best differentiation of both groups, was derived. Based on an error analysis of the conflicting classifications (clinical diagnoses vs. diagnoses based on the diagnostic algorithm) the diagnostic algorithm was modified and translated into a standardized diagnostic interview for PTED.

[8] Note that the MWT-B overestimates general intelligence. In healthy subjects the MWT-B resulted on average in an IQ 17 IQ-points higher than the Verbal and 16 IQ-points higher than the Full Scale IQ of the HAWIE-R (Satzger, Fessmann, Engel, 2002).

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2.3.2. Results

Based on the results of the interview the description of PTED was refined. The essential features of the clinical concept as outlined by Linden (2003) were supported by the data. A single exceptional negative life event precipitates the onset of illness in PTED. This event is experienced by the patient as the sole cause of illness. It is perceived as unjust and as an affront. Patients have repeated intrusive memories about the event, and they react to the event with embitterment, rage, and helplessness. Patients with PTED manifest severe persistent psychopathological symptoms in the direct context of the critical event, despite no premorbid psychopathology or functional disorder. Table 6 summarizes the features of this disorder according to the standard structure of the DSM-IV.

Table 6. Specification of Diagnostic Criteria of PTED

Posttraumatic Embitterment Disorder

Diagnostic Features

The essential feature of Posttraumatic Embitterment Disorder is the development of clinically significant emotional or behavioral symptoms following a single exceptional, though normal negative life event. The person knows about the event and perceives it as the cause of illness. The event is experienced as unjust, as an insult, and as a humiliation. The person's response to the event must involve feelings of embitterment, rage, and helplessness. The person reacts with emotional arousal when reminded of the event. The characteristic symptoms resulting from the event are repeated intrusive memories and a persistent negative change in mental well-being. Affect modulation is unimpaired and normal affect can be observed if the person is distracted.

The trigger event is a single negative life event that can occur in every life domain. The event is experienced as traumatic due to a violation of basic beliefs. Traumatic events of this type include, but are not limited to, conflict at the workplace, unemployment, the death of a relative, divorce, severe illness, or experience of loss or separation. The illness develops in the direct context of the event. The person must not have had any obvious mental disorder prior to the event that could explain the abnormal reaction.

Associated Features

Individuals with Posttraumatic Embitterment Disorder frequently manifest decreased performance in daily activities and roles. Posttraumatic Embitterment Disorder is associated with impaired affectivity. Besides prolonged embitterment individuals may display negative mood, irritability, restlessness, and resignation. Individuals may blame themselves for the event, for not having prevented it, or for not being able to cope with it. Patients may show a variety of unspecific somatic complaints, such as loss of appetite, sleep disturbance, pain.

Specific Culture Features

Elevated rates of Posttraumatic Embitterment Disorder may occur in times of major social changes that force people to reorganize there personal biographies.

Differential Diagnosis

Despite partial overlaps in symptomatology, the Posttraumatic Embitterment Disorder can be differentiated from other Affective Disorders, Posttraumatic Stress Disorder, or Anxiety Disorders.

In contrast to **Adjustment Disorder** the symptomatology of Posttraumatic Embitterment Disorder does not show the tendency of spontaneous remission.

In contrast to **Depression** affect modulation is unimpaired in Posttraumatic Embitterment Disorder. In Depression, the specific causal connection between the trigger event and symptomatology in Posttraumatic Embitterment Disorder can not be found.

While in **Posttraumatic Stress Disorder** anxiety is the predominant emotion, in Posttraumatic Embitterment Disorder it is embitterment. In Posttraumatic Stress Disorder there must be a critical event that has to be exceptional, life-threatening and, most important, is invariably leading to acute panic and extreme anxiety. In Posttraumatic Embitterment Disorder there is always an acute event that can be called normal as it can happen to many persons in a life course. Still it is also an exceptional event as it is not an everyday event.

Diagnostic criteria for Posttraumatic Embitterment Disorder

A. Development of clinically significant emotional or behavioral symptoms following a single exceptional, though normal negative life event.

B. The traumatic event is experienced in the following ways:

(1) The person knows about the event and sees it as the cause of illness.
(2) The event is perceived as unjust, as an insult, and as a humiliation.
(3) The person's response to the event involves feelings of embitterment, rage, and helplessness.
(4) The person reacts with emotional arousal when reminded of the event.

C. Characteristic symptoms resulting from the event are repeated intrusive memories and a persistent negative change in mental well-being.

D. No obvious mental disorder was present prior to the event that could explain the abnormal reaction.

E. Performance in daily activities and roles is impaired.

F. Symptoms persist for more than 6 months.

The item combination of the semi-standardized diagnostic interview that allowed the best differentiation (i.e. in reference to sensitivity and specificity) of both groups was derived from the interview. On the basis of this diagnostic algorithm 47 of the 50 PTED patients were correctly classified. Thus, the sensitivity was 94%. Four of the 50 control patients, who had been classified as non PTED patients, were diagnosed as having PTED. Thus, the specificity was 92%.

In order to find the reasons for conflicting classifications (clinical diagnoses vs. diagnoses based on the diagnostic algorithm), the patient files of the 7 wrongly classified patients were reviewed. Problems arose because of premorbid other mental illnesses and because of other negative emotions that had been mistaken as embitterment (e.g. bereavement). In order to minimize such misclassifications, the questions of the interview and the diagnostic algorithm were refined. The resulting standardized diagnostic interview for PTED is presented in Table 7. It asks for feelings of injustice and reactive embitterment as the core and indispensable psychopathological criterion. Furthermore, it asks for five additional signs, of which four must be present to fulfill the diagnostic criteria for PTED. In addition, the interviewer must thoroughly ask for a history of other mental disorders and also clarify the specific quality of the present emotions, so that bereavement or melancholy is not mistaken for embitterment.

Table 7. The Standardized Diagnostic Interview for PTED

Posttraumatic Embitterment Disorder

A. Core Criteria

1. During the last years, was there a severe event/experience that led to a noticeable and persistent negative change in your mental well-being?	→ NO	YES
2. Do you experience the critical life-event as unjust or unfair?	→ NO	YES
3. Do you feel embitterment, rage, and helplessness when reminded of the event?	→ NO	YES
4. Did you suffer from any (substantial/relevant/noticeable) psychological or mental problems (depression, anxieties or the like) prior to the event?	NO	YES →
EVALUATION BY THE EXAMINER:		
EMOTIONAL EMBITTERMENT (MARKED BY EMBITTERMENT, RAGE, AND HELPLESSNESS)?	→ NO	YES
CAN ANY PREMORBID MENTAL DISORDER EXPLAIN THE PRESENT PSYCHOPATHOLOGY?	NO	YES →

5. For how long do you suffer already from psychological impairment caused by the event? (Specify in months)

_____ Months → Less than 6 months

B. Additional Symptoms

1. During the last months, did you have repeatedly intrusive and incriminating thoughts about the event?	NO	YES
2. Does it still extremely upset you, when you are reminded of the event?	NO	YES
3. Does the critical event or its originator makes you feel helpless and disempowered?	NO	YES
4. Is your prevailing mood since the critical event frequently down?	NO	YES
5. If you are distracted, are you able to experience a normal mood?	NO	YES
ARE FOUR QUESTIONS IN SECTION B ANSWERED WITH YES?	→ NO	YES
POSTTRAUMATIC EMBITTERMENT DISORDER	NO	YES

Note. The Answers marked with an arrow indicate that one of the essential criteria for the diagnosis of PTED is not met. Thus, the clinician is asked to directly indicate “NO” in the diagnostic box at the button of the interview.

2.3.3. Discussion

The concept of PTED was originally developed on the basis of clinical experiences with many such patients. An indispensable prerequisite for further research are instruments which allow a standardized diagnosis. The diagnostic interview for PTED fulfills the need for a standardized diagnostic instrument. The sensitivity of 94% and specificity of 92% are satisfactory and will be improved if the interviewer makes sure that the questions are properly understood and the answers are correctly classified.

The diagnostic interview for PTED was developed on grounds of post hoc analyses of empirical data. Thus, no specifications regarding psychometric properties can be made, and the details on sensitivity and specificity of the instrument have to be regarded as preliminary. Further research is needed to gather data pertaining reliability and validity. Moreover, our findings need confirmation by other researchers.

2.4. Diffuse, Unspecific, and Specific Reactive Embitterment and the diagnostic category Posttraumatic Embitterment Disorder.

A prerequisite for a diagnosis of PTED is the development of clinically significant emotional or behavioral symptoms following a single causal negative life event. Moreover, the person must not have had any obvious mental disorder prior to the event that could explain the abnormal reaction. However, there are other circumstances in which reactive embitterment can occur. For example, reactive embitterment can arise in the wake of various events (*unspecific embitterment*), or can come up because of a general feeling that life has treated one unfair (*diffuse embitterment*). Furthermore, one needs to consider reactive embitterment in response to a single causal event that does not fulfill the diagnostic criteria of PTED (*specific embitterment non PTED*).

The present study examines a large inpatient sample with the aim to gain a better understanding of the different circumstances that trigger reactive embitterment. The main focus is put on the differentiation between reactive embitterment as an unspecific symptom that can occur within several circumstances, and reactive embitterment as a self-contained disorder (PTED).

2.4.1. Method

2.4.1.1. Participants & Procedure

All participants were inpatients in the Department of Behavioral Medicine and Psychosomatics at the Rehabilitation Centre Seehof, Teltow/Berlin, where patients are treated who suffer from all kinds of chronic mental disorders. During a period of 20 months all patients (N=1479) admitted at the department where assessed with the PTED Self-Rating Scale (PTED Scale; see Chapter 2.1).

In a next step, all patients who showed a mean total score of ≥2.5 on the PTED Scale (taking this score as an indicator of severe reactive embitterment) were interviewed and

thoroughly examined by three trained experts[9] with the semi standardized diagnostic interview for PTED (see Chapter 2.3.). The interview assesses the specificity of the psychological reaction and the emotional spectrum of reactive embitterment and associated psychopathological signs and symptoms, and allows a diagnosis of PTED. The obtained data of the interview was used to classify the embitterment reaction into four categories: a) *diffuse embitterment*; b) unspecific embitterment; c) *specific embitterment non PTED*; and d) *PTED*.

The clinical discharge diagnosis for each patient was used for diagnostic classification. Table 8 summarizes the sociodemographic data of the sample.

Table 8. Sociodemographic Data (N=1479)

Age (in years) M (SD)/Range	47.1(8.65)/18-71
Female	72.9%
Family Status	
unmarried	20.1%
married	56.5%
divorced	19.6%
widowed	3.7%
High School Education	
no school education	1.4%
special needs education	0.2%
secondary school	16.1%
junior high	59.8%
high school	22.1%
miscellaneous	0.3%
Job Situation	
Permanent Job	65.8%
Unemployed	26.4%

[9] All interviewers were experienced clinical therapists and researchers, familiar with the concept of reactive embitterment and PTED.

2.4.2. Results

2.4.2.1. Self-Report Data

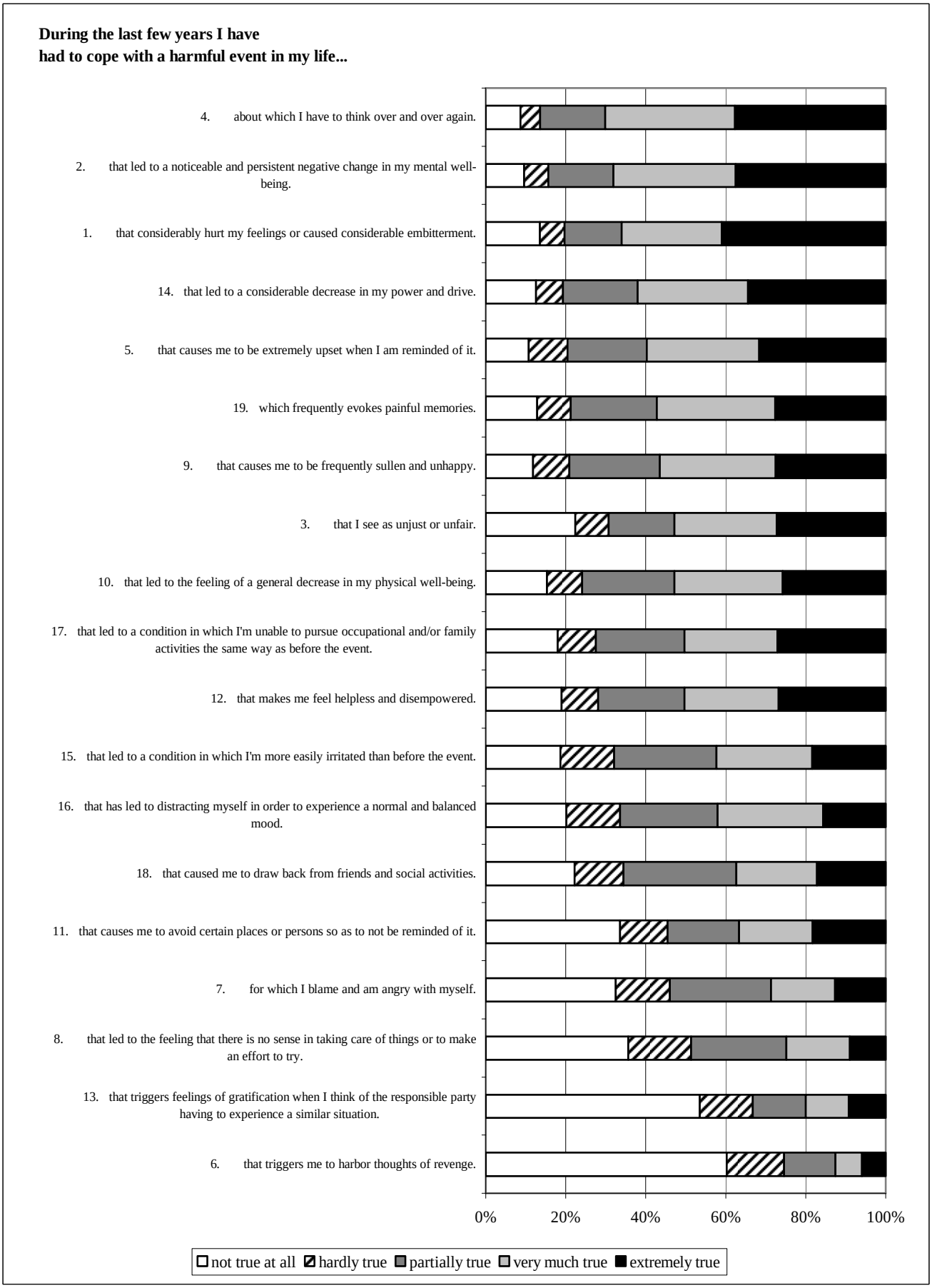
A mean total score of 2.15 (SD = .95; Range = 0-4) was obtained on the PTED Scale. There were no gender differences in regard to reactive embitterment ($t(1477) = .634$, $p = .526$). The alpha coefficient was .94 indicating a high internal consistency. The mean total scores did not show a normal distribution, as indicated by the Kolmogorof-Smirnov test ($Z = 2.57$, $p \leq .001$). A principle component analysis was performed, replicating the two factor solution obtained in an earlier study (Linden et al. in press).

Taking a mean total score of ≥1 as an indication of the presence of reactive embitterment, it can be assumed that embitterment is known to 86.5% of the sample. 46 respondents (3.1%) with a mean total score of 0 did not report any sign of reactive embitterment.

Looking at the item-specific results in more detail, 70.1% specified a harmful event about which they have to think over and over again (item 4) [10], and 68.1% indicated that the negative life event had led to a noticeable and persistent negative change in their mental well-being (item 2). 66.1% of the participants pointed out that the event had hurt their feelings and caused considerable embitterment (item 1). 52.8% had experienced the critical event as unjust and unfair (item 3). The frequency distribution for all items of the PTED Scale is presented in Figure 6.

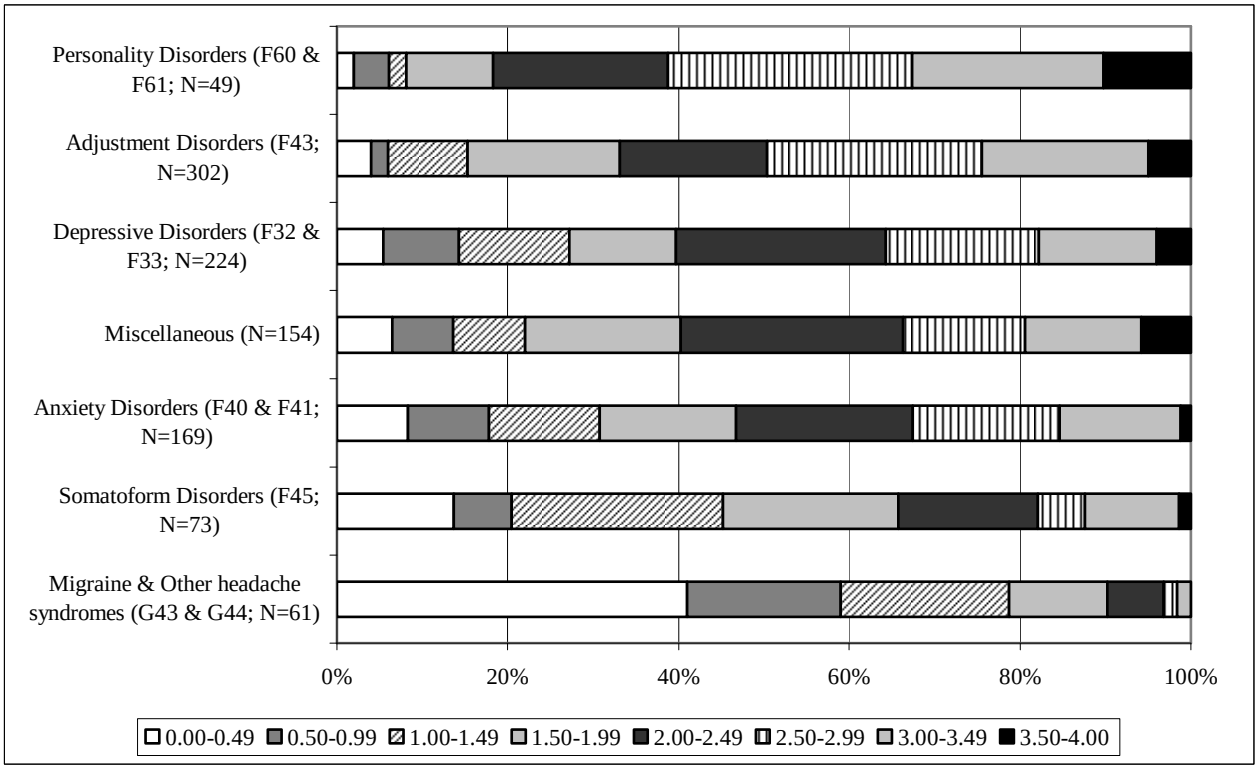
[10] The two answer categories “very much true,” and “extremely true” are here and in the following interpreted as an affirmation of the respective item.

Figure 6. Frequency Distribution for each Item of the PTED Scale (N = 1479)



The distributions of the mean total scores of different diagnostic groups on the PTED Scale are illustrated in Figure 7. Only the primary diagnoses of patients who did not receive any comorbid F diagnoses were taken into account (n = 1032). The highest mean total scores were obtained for patients who were diagnosed with a personality disorder (M = 2.6; SD = .81; range = 0.11-4) and for patients who were diagnosed with an adjustment disorder (M = 2.3; SD = .83; range = 0-4). The lowest mean total scores were obtained for migraine patients (M = .87, SD = .78; range = 0-3) and patients with somatoform disorders (M = 1.66, SD = .95; range = 0-3.74). Patients with depressive (M = 2.11, SD = .93; range = 0-3.84) or anxiety disorders (M = 1.96, SD = .92; range = 0-3.89) scored around the average of the overall sample.

Figure 7. Frequency Distributions of different diagnostic Groups on the PTED Scale (mean total scores) (N = 1032)



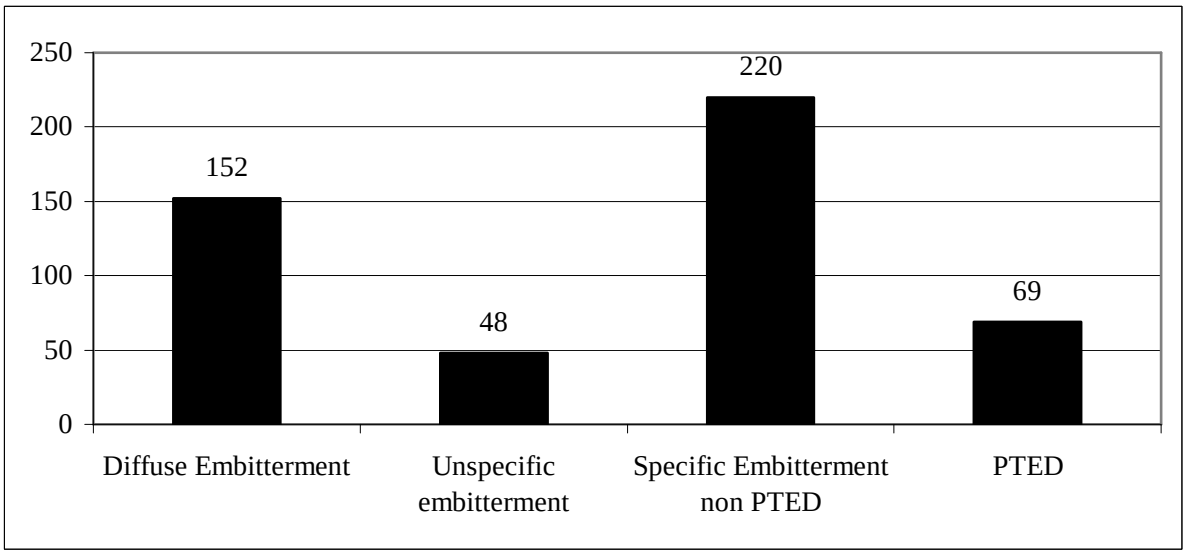
Note: Only the primary diagnoses of patients who did not receive any comorbid F diagnoses were taken into account

2.4.2.2. Expert assessment

In a further step, all patients who showed a mean total score of ≥2.5 (n = 610) on the PTED Scale were invited to be interviewed and thoroughly examined by three trained experts. 32 patients were not invited, because no interviewer was available at the time. 15 participants were excluded because there native language was not German, 22 did not show up at the interview, and 52 refused to participate in the study.

Of the 489 patients which were interviewed, 152 (31.1%) did not report a critical life event in the interview (diffuse embitterment), and in 48 (9.8%) participants it was not possible to identify a single event that caused the self-reported embitterment and associated symptoms. Instead they reported various events and experiences that caused their psychological reaction (unspecific embitterment). 45% showed reactive embitterment in response to a single stressful event, however, they showed already signs of psychological problems prior to the event, or the state at hand was explainable by a preexisting or present mental disorder (specific embitterment non PTED). 69 (14.1%) were diagnosed as suffering from PTED (PTED) according to the diagnostic criteria as outlined in Chapter 2.3. Figure 8 summarizes the categorical classification based on the interview.

Figure 8. Categorization of Self-Reported Reactive Embitterment based on a semi standardized Interview (Frequencies; N = 489)



2.4.3. Discussion

Our results demonstrate that reactive embitterment is a frequent emotion among patients with mental disorders. Reactive embitterment is an emotion which is known to about 87% of our sample, and 41% suffered from reactive embitterment in a considerable intensity (mean total score ≥ 2.5).

The data obtained by the semi standardized interview revealed that high scores on the PTED Scale can be ascribed to various circumstances. 152 respondents filled in the questionnaire without referring to a certain trigger event, expressing a generalized or diffuse feeling of embitterment that is not triggered by a specific event. In 41% of patients who showed a mean total score ≥ 2.5 on the PTED Scale, it was not possible to identify a single causal life event for the self-reported symptomatology. Instead they reported various events and experiences that caused their psychological reaction. Additionally, in 220 interviewed patients an event specific embitterment reaction could be found. However, further examination revealed that the abnormal reaction could be explained by a preexisting mental disorder. This is not surprising, given the fact that patients with mental disorders may attempt to give meaning to and an explanation for an illness and therefore may overemphasize the significance of events which did occur (Paykel, 1974). In addition, a patient may experience events, such as job loss, as a result of his or her disorder and a confusion of independent and dependent variables can occur (Petermann, 1995). 14.1% of the interviewees fulfilled the diagnostic criteria of PTED (Linden, 2003).

These findings emphasize that reactive embitterment is an ubiquitous phenomenon, which occurs in different contexts. Similar to anxiety or depression, reactive embitterment can accompany several mental disorders as an unspecific symptom. Only if the emotional reaction can be causal ascribed to a specific event, and when it is associated with additional symptoms, reactive embitterment may constitute a self-contained disorder (PTED).

Similar to self-report scales for anxiety or depression, the data obtained by the PTED Scale is prone to distortions and shows poor discriminant validity (in regard to the diagnostic category PTED) in a clinical population (see for example Richter et al. 1998). Moreover, the scale measures a specific psychological response to a critical event in the resent past. Thus, the data is obtained by retrospective history taking, which can be subject to distortion of

recall, together with misperceptions due to mental illness, such as guilt in depression (Paykel, 2001a). Despite these caveats, the PTED Scale has proven to be a reliable measure with a high construct validity that can be used as a screening instrument in large populations (see also Chapter 2.1.).

In all, our findings suggest that people with mental disorders are vulnerable to respond with intense reactive embitterment and associated psychopathological symptoms to negative life events. This seems to be particularly true for patients with personality disorders. A finding which is concordant with the notion by Simon (2001) that narcissistic traits or narcissistic personality disorder can be a vulnerability to traumatic stress. Other conceivable personality disorders that could facilitate embitterment reactions are paranoid or obsessive-compulsive personality disorder. However, further research is needed to establish why some persons are more susceptible to show an embitterment reaction than others.

Considering the psychopathological properties of embitterment, its tendency to chronicity, and its specific treatment requirements, one needs to take this possible special aspect of the respective disorder into account. The PTED Scale can alert physicians to this special aspect of the present disorder. However, further examinations are necessary to clarify the circumstances that caused the embitterment reaction.

2.5. The Psychopathology of Posttraumatic Embitterment Disorders[11]

In order to obtain a comprehensive empirical description of PTED, data was collected pertaining to the psychopathological and emotional spectrum in PTED. In addition, PTED patients were compared with patients with other mental disorders in order to empirically validate the diagnostic classification of PTED.

2.5.1. Method

2.5.1.1. Participants

All patients of the Seehof sample (N = 100), the clinically defined PTED patients (PTED sample; n = 50) and the control group (Non-PTED sample; n = 50) (for detailed information about recruitment see Chapter 2.1.) participated in the study.

2.5.1.2. Procedure

Following recruitment, patients were interviewed by another researcher using standardized instruments. The Mini International Neuropsychiatric Interview (MINI; Sheehan et al. 1994) was used to assess psychiatric diagnoses. A semi-standardized diagnostic interview for PTED (see Chapter 2.3.), was used to ask for diagnostic criteria of PTED. Patients also filled in as self-report questionnaires the Symptom-Checklist-90-Revision (SCL-90-R) (Franke, 1995), and the Impact of Event Scale (IES-R) in the modification published by Maercker & Schützwohl (1998). The IES-R was subsequently included into the study, so that only 36 of the participants filled in the questionnaire.

2.5.2. Results

According to the MINI, both groups fulfilled the criteria for many disorders with a significantly higher occurrence of major depression ($\chi 2 = 18.71$, $p < .001$) and chronic adjustment disorder ($\chi 2 = 21.54$, $p < .001$), but less generalized anxiety disorder lifetime ($\chi 2 = 8.52$, $p = .004$) in PTED patients. Table 9 shows the results of the MINI psychiatric interview. Chi-square tests were calculated to test for significant differences.

[11] Parts of this Chapter have been published in Linden, Baumann, Rotter & Schippan (2007) and in Linden, Baumann, Rotter & Schippan (2008b).

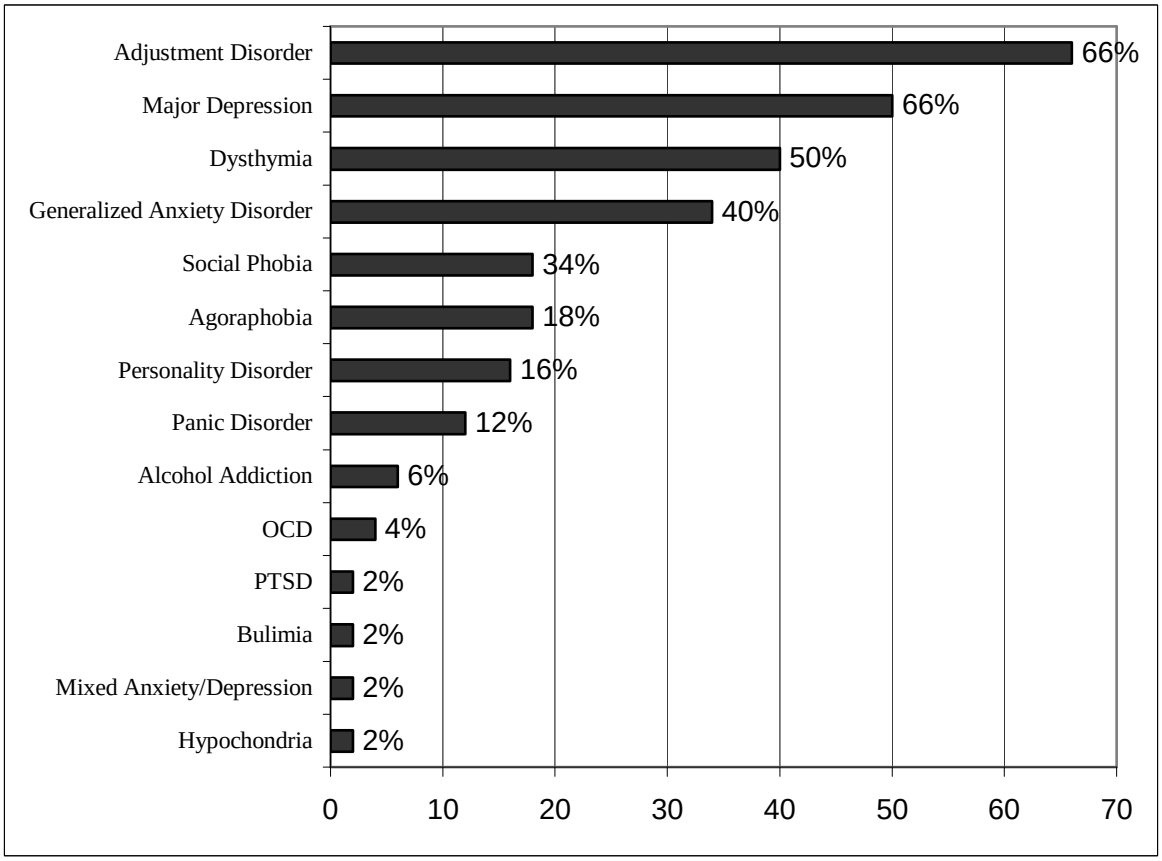
Table 9. Diagnostic spectrum according to the MINI standardized interview (N = 100)

	Embittered % (n = 50)	Control Group % (n = 50)	Chi-square	significance	
Major Depression (acute)	50.0	12.0	16.877	0.000	***
Major Depression (lifetime)	44.0	60.0	2.564	0.109	n.s.
Dysthymia (acute)	40.0	24.0	2.941	0.086	n.s.
Dysthymia (lifetime)	4.0	10.0	1.382	0.436	n.s.
Hypomanic Periods (acute)	0.0	0.0			
Hypomanic Periods (lifetime)	6.0	14.0	1.778	0.182	n.s.
Manic Periods (acute)	0	0			
Manic Periods (lifetime)	0	0			
Panic Disorder (acute)	12.0	6.0	1.099	0.487	n.s.
Panic Disorder (lifetime)	0	0	0.000	1.000	n.s.
Panic Disorder with few symptoms (acute)	10.0	6.0	0.543	0.715	n.s.
Panic Disorder with few symptoms (lifetime)	2.0	4.0	0.344	1.000	n.s.
Agoraphobia (acute)	18.0	14.0	0.298	0.585	n.s.
Agoraphobia (lifetime)	4.0	4.0	0.000	1.000	n.s.
Social Phobia (acute)	18.0	14.0	0.298	0.585	n.s.
Social Phobia (lifetime)	0.0	6.0	3.093	0.242	n.s.
OCD (acute)	4.0	4.0	0.000	1.000	n.s.
OCD (lifetime)	0.0	2.0	1.031	0.495	n.s.
Generalized Anxiety Disorder (acute)	34.0	28.0	0.421	0.517	n.s.
Generalized Anxiety Disorder (lifetime)	4.0	22.0	7.162	0.007	*
Alcohol Addiction (acute)	6.0	10.0	0.543	0.715	n.s.
Alcohol Abuse (acute)	2.0	2.0	0.000	1.000	n.s.
Alcohol Addiction (lifetime)	2.0	8.0	1.895	0.362	n.s.
Alcohol Abuse (lifetime)	2.0	0.0	1.010	1.000	n.s.
Drug Addiction (acute)	2.0	2.0	0.000	1.000	n.s.
Drug Abuse (acute)	0.0	2.0	1.010	1.000	n.s.
Drug Addiction (lifetime)	0.0	6.0	3.093	0.242	n.s.
Drug Abuse (lifetime)	0.0	0.0			
Psychosis (acute)	0.0	0.0			
Psychosis (lifetime)	0.0	0.0			
Affective Disorder with psychiotic signs	0.0	0.0			
Anorexia Nervosa (acute)	0.0	0.0			
Affective Disorder with psychiotic signs	0.0	0.0			
Anorexia Nervosa (acute)	0.0	0.0			
Anorexia Nervosa (lifetime)	0.0	0.0			
Bulimia (acute)	2.0	0.0	1.010	1.000	n.s.
Anorexia Nervosa/Type Bulimia (acute)	0.0	0.0			
Bulimia (lifetime)	2.0	0.0	1.010	1.000	n.s.
Suicidal (acute)	20.0	14.3	0.568	0.451	n.s.
Suicidal (lifetime)	36.0	34.7	0.018	0.892	n.s.
PTSD (acute)	2.0	2.0	0.000	1.000	n.s.
PTSD (lifetime)	4.0	12.0	2.174	0.269	n.s.
Somatization (lifetime)	2.0	2.0	0.000	1.000	n.s.
Somatization (acute)	0.0	0.0			
Adjustment Disorder (acute)	0.0	2.0	1.010	1.000	n.s.
Adjustment Disorder (lifetime)	66.0	20.0	21.583	0.000	***
Personality Disorder	16.0	22.0	0.585	0.444	n.s.
Mixed Anxiety/Depression (acute)	2.0	0.0	1.010	1.000	n.s.
Hypochondriasis (acute)	2.0	2.0	0.000	1.000	n.s.
Hypochondriasis (lifetime)	2.0	10.0	2.837	0.204	n.s.

Missings (n = 49) in Control- Group (Suicidal/OCD (life)/Drug- abuse (life))
When more then 20 % of the cells had an excepted frequency smaller then 5 the Exakter Test nach Fisher was conducted
Abbreviations: PTSD = Posttraumatic Stress Disorder, OCD = Obsessive- Compulsive Disorder

These findings indicate an intensive comorbidity in PTED. Figure 9 illustrates the comorbidity found in the PTED sample based on the MINI psychiatric interview. The most frequent diagnoses were adjustment disorder (66%), major depression (50%), dysthymia (40%), generalized anxiety disorder (34%), social phobia (18%), agoraphobia (18%), and personality disorder (16%). Although patients complained about multiple somatic symptoms, no diagnosis of a somatization disorder could be made, because the diagnostic criteria were not be met (Age over 30, many somatic complaints over several years, onset of complaints before the age of 30, strong influence on everyday life).

Figure 9. Comorbidity of PTED (n = 50) based on MINI



2.5.2.1. Phenomenology of PTED

The following analysis was done using data of the PTED sample assessed by the diagnostic interview for PTED. All PTED patients reported at least one critical event, which she or he experienced as unjust and insulting. Forty eight saw this event as the direct cause of their present state and of a persistent negative change in their well-being. No preexisting

mental disorders or personality disorders were detected, looking at the health-histories of the patients.

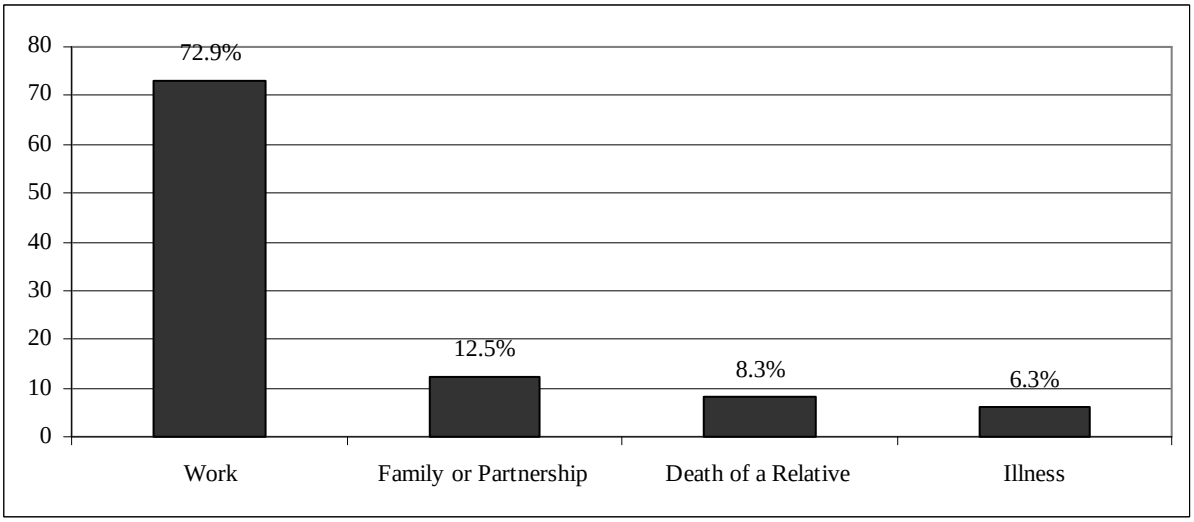
Due to the fact that it is a core criterion in the concept of PTED that the patient knows about the event and sees his present negative state as a direct consequence, the two patients who did not made this statement were excluded from the following analysis.

2.5.2.1. Trigger Events

The reported critical life events were in 72.9% work related, in 12.5% related to the family or partnership, in 8.3% it was the death of a relative or a friend, and in 6.3% an illness. Most frequently reported events related to work, were the loss of job or mobbing. These findings suggest that negative live events in the work related context play a prominent role in PTED. However, when analyzing these numbers, one needs to take into account that the sample consisted of patients of a rehabilitation clinic. The majority of patients in this clinic are send by there physicians or by insurance companies due to work incapability. Therefore, it is not surprising that the majority of critical events are work related. There may be different distributions in other populations.

Figure 10 illustrates the frequencies of different life domains in which the reported critical events took place.

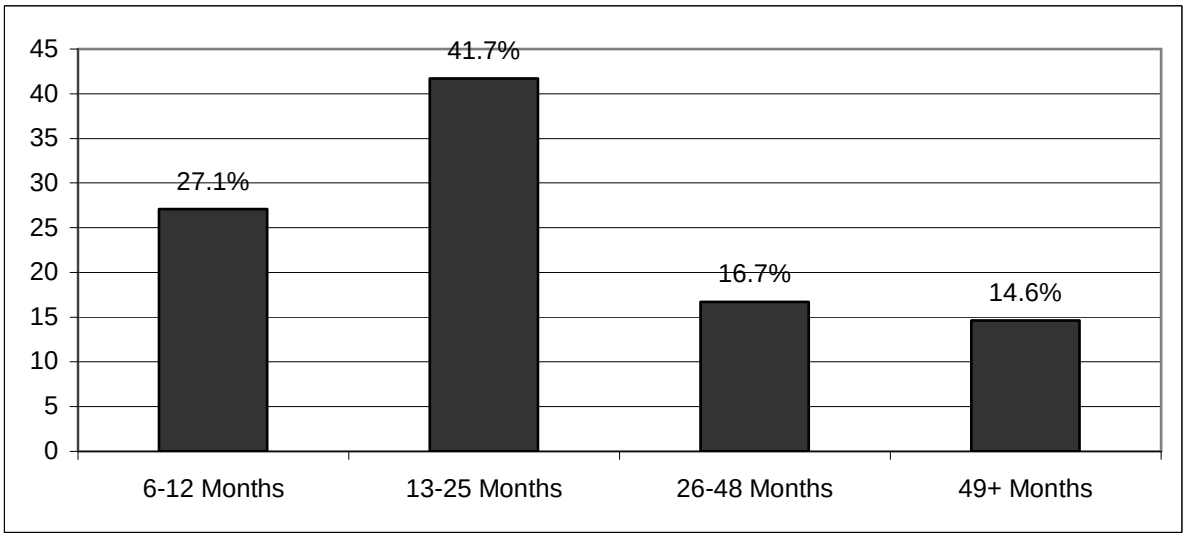
Figure 10. Life Domains in which the Trigger Events took Place (n = 48)



2.5.2.3 Duration of Illness

The duration of illness (Figure 11) ranged at the time of examination from 6 to 144 months (Mean = 31.7; SD = 35.5). Thus, the duration of PTED exceeds the defined duration of 6 months for adjustment disorder. In about one third of the cases (31.3%) the duration of illness was longer then 2 years, in 6 (12.5%) cases the duration was 5 years and longer.

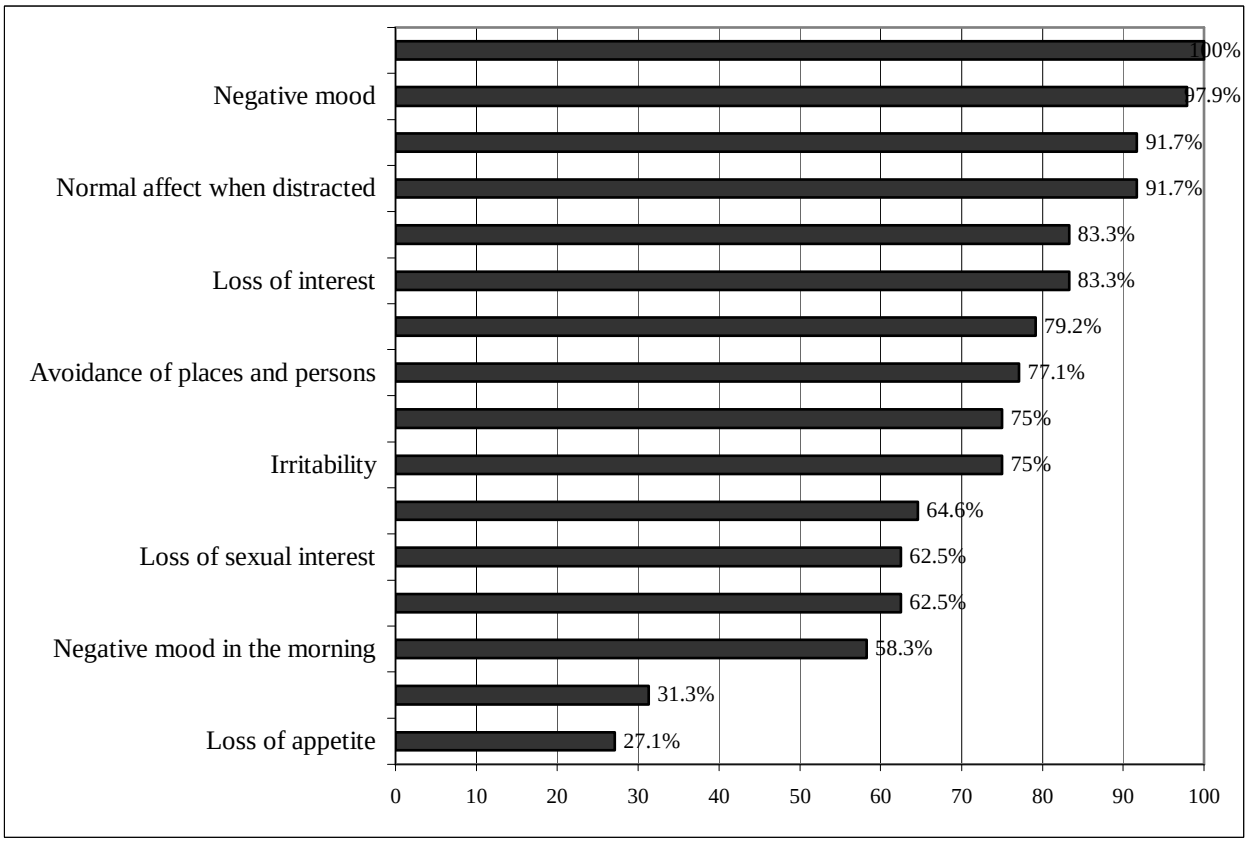
Figure 11. Duration of PTED (n = 48)



2.5.2.4. Psychopathological and Emotional Spectrum in PTED

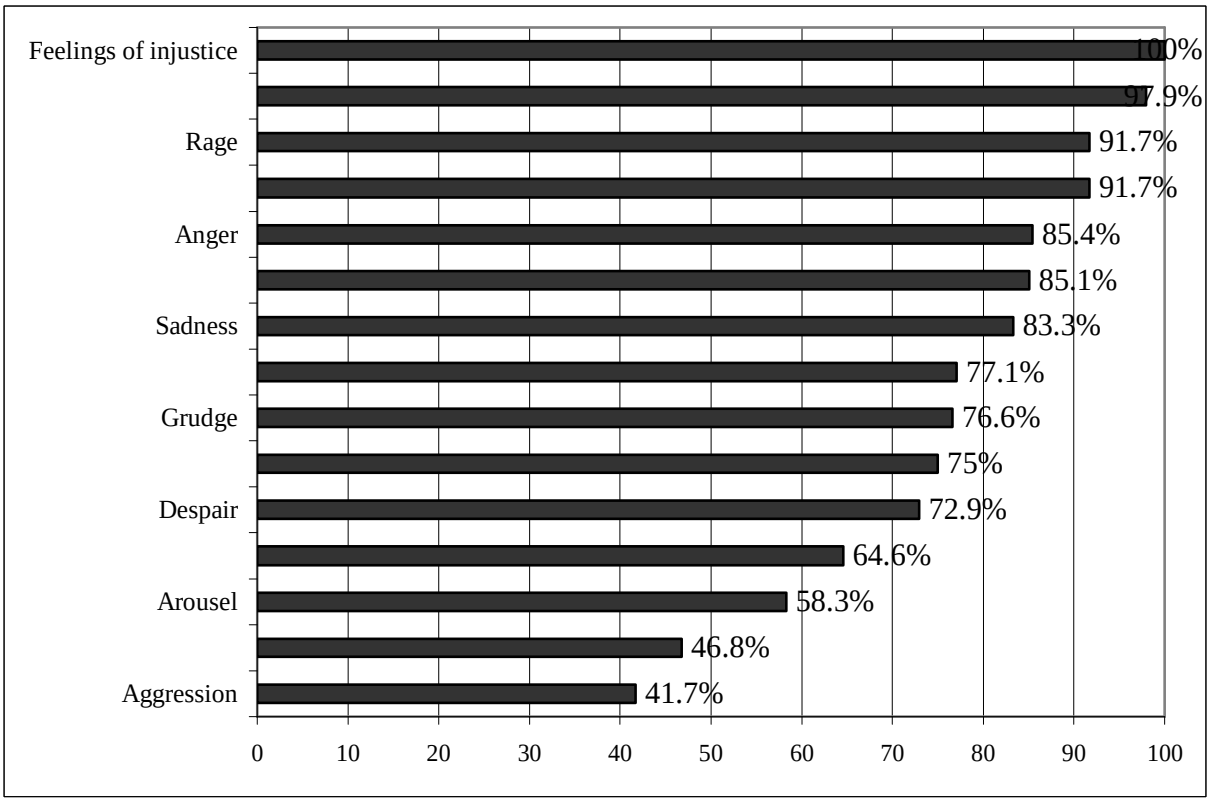
Looking at psychopathological signs and symptoms in more detail (Figure 12), all patients reported that they were suffering from intrusive thoughts and memories about the event during the last months. 97.9% of the patients complained about persistent negative mood and 91.7% about restlessness since the critical event. 77.1% of the patients avoided places and persons, which remind them of the event. 75% confirmed a general resignation since the event, and stated that there would be no meaning in further effort. 83.3% complained about loss of interest, 83.3% about inhibition, and 79.2% about early awakening, symptoms which are typically seen in melancholic depression. But different from melancholic depression, 91.7% said that they can experience normal affect when distracted.

Figure 12: Psychopathological spectrum in connection with the critical event (n = 48)



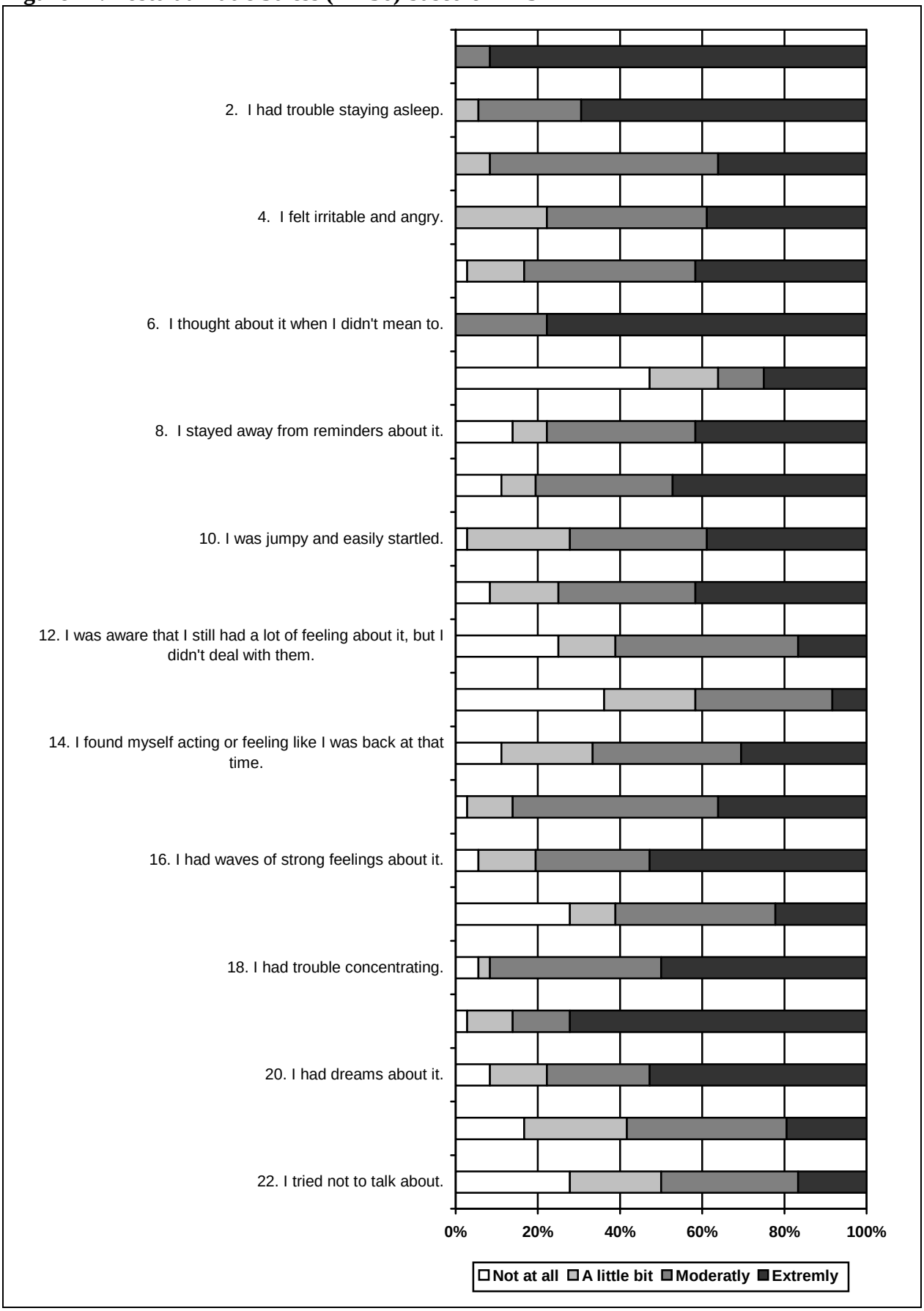
When asking for emotions (Figure 13), which patients experience when reminded of the critical event all patients reported that they had experienced the critical event as unjust and unfair. Furthermore, they said to feel embitterment (97.7%), rage (91.7%), helplessness (91.7%), and anger (85.4%). 85.1% would welcome it, if the responsible person would be called into account. In addition, a general decline in social activities was found. 79.2% of the patients indicated a reduction in their occupational activities, 75% a reduction in leisure time activities, and 54.2% a reduction in family activities.

Figure 13: Emotional Spectrum in Connection with the Critical Event (n = 48)



The IES-R scale indicated a high prevalence of post-traumatic stress among the patients (Figure 14) with an average total score of 3.23 (SD = 0.64). Particularly high scores could be seen within the subscales intrusion (M = 3.77; SD = 0.65) and hyperarousal (M = 3.50; SD = 0.75). The average score in the avoidance subscale was 2.51 (SD = 1.06).

Figure 14: Posttraumatic Stress (N =36) based on IES-R



2.5.2.5. PTED patients in comparison to Patients with other Mental Disorders

To compare both patient groups, all participants were asked to fill in a set of self-report questionnaires. The results of the SCL-90-R, the IES-R, and the Bern Embitterment questionnaire are summarized in Table 10. T- Tests were carried out to test for significant differences on mean total scores and the respective subscales of each questionnaire. Due to the subsequent inclusion of the IES-R, and because of missing data, the sample sizes differ over the different assessment instruments.

Clear differences were found between the two patient groups in regard to the quality and intensity of psychopathological symptoms. The SCL-90-R indicated that PTED patients report markedly more severe impairment than the control group. The PTED- group scored significantly higher on all three global scores of the SCL-90-R. On the Global Severity Index (Total score = 1.13 vs. 0.74; + = 0.39; t (97) = -3.71, P < .001), the Positive Symptom Total (TS = 52.22 vs. 39.30; + = 12.92; t (97) = -3.49, P = .001), and the Positive Symptom Distress Index (TS = 1.86 vs. 1.57; + = 0.29; t (97) = -3.18, P = .002), as well as on all nine subscales, with significant differences in 7 of them. The differences were most profound on the subscales *somatization* and *anger-hostility.*

Table 10. SCL-90-R, Bern Embitterment Questionnaire, IES- R (N = 100)

	Embittered (n = 49) Mean (SD)	Control Group (n = 50) Mean (SD)	t-value (df)	significance	
SCL- Global- Scores					
GSI	1.13(0.55)	0.74(0.50)	-3.711(97)	0.000	***
PST	52.22(17.22)	39.30(19.49)	-3.494(97)	0.001	*
PSDI	1.86(0.51)	1.57(0.41)	-3.177(97)	0.002	*
SCL- Subscales					
Somatization	1.12(0.60)	0.69(0.54)	-3.844(97)	0.000	***
Obsessive-compulsive	1.48(0.81)	1.08(0.80)	-2.472(97)	0.015	*
Interpersonal sensitivity	0.95(0.74)	0.68(0.71)	-1.878(97)	0.063	n.s.
Depression	1.55(0.74)	1.05(0.71)	-3.394(97)	0.001	*
Anxiety	1.20(0.71)	0.76(0.68)	-3.159(97)	0.002	*
Anger-hostility	0.97(0.63)	0.47(0.44)	4.489(86.052)	0.000	***
Phobic anxiety	0.67(0.55)	0.47(0.64)	-1.642(97)	0.104	n.s.
Paranoid ideation	1.07(0.78)	0.60(0.58)	3.348(89.050)	0.001	*
Psychoticism	0.60(0.50)	0.36(0.36)	-2.666(97)	0.009	*
Bern scale (n = 49/49)	2.29(0.68)	1.37(0.61)	-6.994(96)	0.000	***
IES-R total score (n = 38/42)	3.12(0.81)	1.46(1.12)	7.619(74.685)	0.000	***
IES-R-Intrusion	3.68(0.89)	1.69(1.38)	7.755(70.705)	0.000	***
IES-R-Hyperarousal	3.38(0.94)	1.36(1.34)	7.861(73.768)	0.000	***
IES-R-Avoidance	2.42(1.12)	1.36(1.08)	-4.303(78)	0.000	***

Abbreviations: SCL = Symptom-Checklist, GSI = Global Severity Index, PST = Positive Symptom Total, PSDI = Positive Symptom Distress Index, Bern scale = Berner- Embitterment questionnaire, IES = Impact of Event Scale

Significantly higher scores for the PTED sample were also found for the IES-R and the Bern Embitterment questionnaire (IES-R total score = 3.12 vs. 1.46; + = 1.66; t (74.685) = -7.619, $p < .001$; Bern Embitterment questionnaire total score = 2.29 vs. 1.37; + = 0.92; t (96) = -6.994, $p < .001$). The PTED sample scored also significantly higher ($p < .001$) on all three subscales of the IES-R, i.e. intrusion, hyperarousal, and avoidance.

2.5.3. Discussion

The data presented in this chapter show that patients with PTED are severely impaired in respect to psychopathology. Results demonstrate that patients who react with prolonged and pathological embitterment to a negative life event can develop pronounced psychological symptoms. This shows that PTED must be considered not only as a “psychological problem” but as a severe type of illness.

Similar to anxiety or depression, embitterment must be understood as a dimensional phenomenon, which becomes pathological when reaching greater intensities, when it is

associated with additional symptoms, and when daily role performance is impaired. Our patients undoubtedly fulfill these criteria and must be called ill.

In contrast to adjustment disorders the symptomatology found in PTED does not show the tendency of spontaneous remission. On the contrary, patients tend to actively keep memories of the event alive.

Given the fact that 50% of our patients fulfill the criteria of major depression, and 97.9% reported persistent negative mood, one could argue that a majority of our patients had depression rather than PTED.

It is well established that negative life events predict future depression (Kendler et al. 1999; Franko et al. 2004). And Roberts et al. (1998) reports rumination, defined as a repetitive pattern of thoughts and behaviors that focus an individuals attention on his/her depressed state (Donaldson & Lam, 2004), as a vulnerability factor for depression. In addition, the psychopathological dimensions of anger, irritability, aggressiveness, and hostility in depression have recently perceived greater recognition in the literature (e.g., Pasquini et al. 2003; Benazzi 2003). However, despite overlaps with depressive symptoms, PTED is a distinct concept with its own symptomatology and etiology.

In contrast to depression, affect modulation is unimpaired, as patients with PTED can display normal and positive affect when distracted or engaged in revenge fantasies. Moreover, a causal connection between a single negative event and onset of the illness can be found in PTED. In depression the association between negative life events and depressive symptoms reflects not only a causal, but also a reciprocal relationship in which earlier depressive symptoms predict later negative events (Patton et al. 2003). In PTED the central role of a single negative life event is decisive for its diagnostic characterization (Linden, 2003). The symptomatology found in PTED, including aggressive tendencies, intrusive thoughts, and anger, can only be appropriately described and understood in connection to this specific event.

The comparison of PTED patients with patients with other mental disorders empirically supports the concept of PTED. Clear differences between PTED sample and control group were found in regard to the quality and intensity of psychopathology as well as posttraumatic

stress symptoms. These findings show that patients with PTED can be discriminated from patients with other mental disorders.

The high amount of posttraumatic stress found in PTED patients demonstrates the traumatic capacities of exceptional though normal negative life events. The fact, that usual events can encompass traumatic properties, and can cause the development of pronounced psychopathology, stresses the necessity of a better differentiation of reactive disorders. This is also important as the diagnosis of PTSD should not be used indiscriminately.

PTED and PTSD are similar disorders that are both characterized by a negative precipitating event, persistent psychopathological impairment and the characteristic symptoms of intrusion and numbness. They are different in respect to the type of the precipitating event (life threatening versus common life problem), the core psychopathology (anxiety versus embitterment), and different treatment requirements.

The data also shows that the PTED patients themselves certainly perceive the trigger event as traumatic. They determine the onset of their suffering to the day and hour, and they experience themselves as 'being hurt' by the event, which is synonymous to being traumatized. This finding is also supported by the results of the IES-R, which revealed a high amount of posttraumatic stress among the PTED patients, as well as an attentional focus towards the trigger event.

From a clinical and scientific perspective the term 'trauma' also seems to be suitable, because it emphasizes the specific connection between the trigger event and the psychopathological reaction. While in PTSD fear of death and panic are specific etiological factors, PTED can be seen as a disorder, in which the pathogenic properties of information are the decisive factors.

The differences between the groups found on the Bern Embitterment questionnaire, supports the postulated central role of embitterment in PTED.

3. Conclusion

The starting point of the herewith presented investigations was a clinical problem. In the wake of the German reunification in 1990, a growing number of individuals suffering from severe and prolonged deterioration of their overall mental status sought treatment. The onset of problems was regularly related to a specific event of frustration, downgrading, or humiliation. In respect to onset, course, and symptoms they did not fit into any diagnostic categories of DSM-IV and ICD-10. The leading psychopathological characteristic was persistent and nagging embitterment.

Faced with this problem, Linden (2003) conceptualized, based on clinical experience and case studies, "Posttraumatic Embitterment Disorder (PTED)" as a special form of adjustment disorder. This theoretical concept initiated a comprehensive research project. The objective of the project was to better delineate the clinical features of the syndrome, to develop diagnostic criteria and standardized assessment instruments, to open avenues for treatment and to gain a better understanding of reactive embitterment in clinical and non-clinical populations.

In all, the results of the studies, combined in the present theses, emphasize that reactive embitterment deserves more scientific and clinical attention. Reactive embitterment as a reaction to negative live events is a prevalent phenomenon among clinical and nonclinical populations that can be seen at all times. About one third of a general population sample (see Chapter 2.1) reported that they had experienced a severe and negative event during there last years, which hurt their feelings and caused embitterment. However, only 2-3% were suffering from reactive embitterment to a clinical significant degree. In this respect, embitterment must be understood as a dimensional phenomenon similar to anxiety or deterioration of mood. Increasing intensity leads to a change in quality.

Embitterment is a specific emotional reaction to perceived injustice, degradation and devaluation (see Chapter 2.2). The degree of reactive embitterment was significantly associated with feelings of injustice. Bitterness is always associated with a burning sense of unfairness, a protesting feeling of having been wronged without cause. However, it was shown that reactive embitterment cannot always be ascribed to a single negative event. Instead embitterment can arise within various circumstances (see Chapter 2.4). One can suffer from general or diffuse embitterment, caused by the feeling that life in general has treated one unjust. Moreover, various dependent or independent negative events can accumulate and cause embitterment. Furthermore, it was shown that reactive embitterment is a frequent symptom that can be seen in various mental disorders. Only if the emotional

reaction can be causal ascribed to a specific event, and when it is associated with additional symptoms, reactive embitterment may constitute a self-contained disorder (PTED).

Individuals who react with prolonged embitterment can develop impressive psychological symptoms (see Chapter 2.5). Embitterment is an emotion which in many cases does not cease via self-regulation, and can continue unabated. It is a distinct state of mood, which differs from depression, hopelessness, and also anger as such, though it can share common emotional features or go parallel with each of these other emotions (see Chapter 2.6). Clear differences were found between PTED patients and patients with other mental disorders in regard to the quality and intensity of psychopathological as well as posttraumatic stress symptoms. In contrast to adjustment disorders, the symptomatology found in PTED does not show a tendency towards spontaneous remission. The concept of PTED can help further subclassify and specify adjustment and reactive disorders. It can open avenues for a better understanding and treatment of the respective patient group. With the PTED Scale a reliable and valid measure for embitterment as an emotional reaction to a negative life event is provided, which can be used as a screening instrument in large populations (see Chapter 2.1). Moreover, the diagnostic interview for PTED fulfils the need for a standardized diagnostic instrument (see Chapter 2.3).

As PTED is a developing and new concept, further research is needed. The quality of embitterment needs to be outlined more precisely, and our results need verification by other researchers.

There remain open questions. The interaction between critical events and individuals with particular vulnerabilities need additional research. PTED is conceptualized as a special form of adjustment disorder, which develops in the direct context of a causal negative life event. It is explained by a mismatch between basic beliefs (e.g. importance of social status, of justice) and a negative life event which violates this cognitive schema (e.g. loss of job, injustice). However, this clinical impression needs empirical verification. A possible alternative explanation for the development of reactive embitterment is, that the symptomatology of PTED may resemble characteristics of different personality disorders (e.g. paranoid, narcissistic or passive-aggressive personality disorder). In this view, the psychopathology of PTED is nothing more than features of the respective personality disorders, which may have been intensified by the negative event.

Another interesting question is the role of revenge or compensation, and whether embitterment would be prevented if this was possible. Patients often complain that there has

been no justice. But if there is justice it is never enough, as “real” revenge is out of reach in the perception of those who come as patients (Linden, 2003).

4. References

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