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Hysterical and Obsessive-Compulsive Depression: A Psychometric Study

Mattias Desmet

Promotor: Prof. Dr. Paul Verhaeghe

Proefschrift Ingediend tot het Behalen van de Academische Graad
van Doctor in de Psychologische Wetenschappen

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Acknowledgements

This doctoral dissertation was written while I was working at the Department of Psychoanalysis and Clinical Consulting of the University of Ghent. The research reported in this dissertation was supported with a grant of the Special Research Funds of the University of Ghent, for which I am grateful.

Special thanks go to my promoter Prof. Dr. Paul Verhaeghe for his motivating guidance and active participation in vital parts of the research project and for making our department a stimulating environment to work in. I also owe many thanks to Prof. Dr. Stijn Vanheule, for laying the foundations of this research project and for being always prepared to discuss important and less important aspects of it. Furthermore, I would like to thank all my colleagues at the Department of Psychoanalysis and Clinical Consulting, especially Clare Murphy and Reitske Meganck for the many proof-readings of research manuscripts, Els Vandenbussche for her practical help during the research project, and Prof. Dr. Hubert Van Hoorde for coding – together with Prof. Dr. Paul Verhaeghe – what a reviewer of one of our research articles called 'a daunting amount of clinical material'. Thanks also to Prof. Dr. Yves Rosseel of the Department of Data-analysis for patiently answering numerous statistical questions.

I would like to thank Prof. Dr. Rudi De Raedt and Prof. Dr. Johnny Fontaine for their membership of the follow-up committee of my doctoral project. Their clever insights brought this project to a higher level.

I also want to thank the psychologists, psychiatrists, and other caregivers of the almost 40 mental health care centers that participated in our research project and that found some time in their tight schedules to administer questionnaires to their patients. Special thanks go to the patients themselves, who were willing to fill out questionnaires and participate in interviews for the sake of science and its faraway promise of therapeutic improvement.

Last but not least, I would like to thank my family and friends. I would like to thank my family for being the soil on which my interest in psychology could grow, and my friends – of whom I mention by name Hendrik, Christ, Jan, An, Tom, Nona, and Judith – for so many things, but especially for the endless dialogues I have enjoyed with each of them. Finally, a special word of thanks goes to Valerie, for being a loving partner through the whole process of writing this doctoral dissertation.

Mattias Desmet, March 2007

Preface

In the *General Introduction* of this doctoral dissertation, we start from Freud's classical psychoanalytic theory and put forward that neurotic symptoms are underlain by a common interpersonal structure in which a hysterical and an obsessional dimension can be discerned. For the purpose of empirical investigation, we translate the complex psychoanalytic theory on this matter into some testable statements. We state that the hysterical interpersonal dimension is associated with depressive symptoms, anxiety, phobias, and bodily symptoms, and that the obsessional interpersonal dimension is associated with depressive symptoms and obsessive-compulsive symptoms (e.g. obsessive ideas, compulsions, pathological doubt, feeling blocked …). In a more general way, we state that the hysterical interpersonal dimension is associated with symptoms primarily experienced at the level of the body, while the obsessional interpersonal dimension is associated with symptoms primarily experienced at the cognitive level. We show how these statements have been investigated by Blatt (1974, 2004) and Beck (1983). However, while this research addresses highly complex theoretical matters, we agree with Coyne, Thompson, and Whiffen (2004) in that there is a lack of basic research into the validity of the instruments used to measure the interpersonal dimensions. This is especially the case in clinical samples. In response to this criticism, this dissertation addresses three hypothesis that reflect basic validity issues in clinical and student samples:

> *Research hypothesis 1:* The two interpersonal dimensions can be measured by means of a questionnaire with a theoretically consistent internal structure in clinical samples.
> *Research hypothesis 2:* Scores on this questionnaire show the predicted differential associations with scores on questionnaires that measure neurotic symptoms in clinical samples (i.e. the symptom specificity hypothesis).
> *Research hypothesis 3:* Scores on this questionnaire are associated with clinicians' ratings of patients on the complex psychoanalytic dimensions of hysteria and obsessional neurosis.

In function of these hypotheses, different questionnaires were evaluated in non-clinical as well as in clinical samples. Research hypothesis one and three were mainly investigated in heterogeneous clinical samples and student samples. Research hypothesis two, which focused directly on associations between the interpersonal dimensions and neurotic symptoms,

was mainly investigated in samples of depressed patients. The present dissertation comprises a general introduction and nine research articles on these issues:

In *Part 1*, we present the results of six studies (six chapters) in which we tackle the research questions by means of the Depressive Experiences Questionnaire (DEQ; Blatt, D'Aflitti, & Quinlan, 1976) and the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). In *Chapter 1*, we test the hypothesis that hysterical and obsessional interpersonal characteristics (DEQ) are associated with somatic and cognitive depressive symptoms (BDI-II), respectively, in a clinically depressed sample. In *Chapter 2*, we test the same hypothesis in an alternative way in a small clinical sample. Instead of using the DEQ to measure hysterical and obsessional interpersonal characteristics, we use clinicians' ratings of unstructured interviews with patients. In *Chapter 3*, we investigate the factor structure and the construct validity of the DEQ in a student and a clinical sample. To investigate the factor structure of the DEQ, we test different factor models by means of CFA; to investigate the construct validity, we study associations with depressive symptoms and with different types of interpersonal problems. In *Chapter 4*, we perform a pragmatic test on the use of the original scoring program of the DEQ in clinical samples. The original scoring program uses means, standard deviations and factor weights of a student sample to compute standardized factor scores. This scoring procedure is advised in non-clinical as well as clinical samples. To test if this scoring procedure is appropriate in clinical samples, we build an alternative scoring program based on a clinical factor solution and we compare these scores with the scores from the student based program. In *Chapter 5*, we investigate the clinical validity of the DEQ by correlating patients' scores on the DEQ scales with clinicians' ratings of these patients on hysteria and obsessional neurosis.

In *Part 2*, we present the results of two studies in which we investigate our research questions by means of the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000) and the Symptom Checklist (SCL-90-R; Derogatis, 1992). In *Chapter 6*, we investigate the factor structure of the IIP-64 in a clinical and a student sample. In *Chapter 7*, we first map the hysterical and obsessional interpersonal profile by correlating clinicians' ratings on hysteria and obsessional neurosis with scale scores on the IIP-64. Subsequently, we study associations of these interpersonal profiles with the different symptom clusters of the SCL-90-R in a sample of depressed outpatients.

In *Part 3*, we use the Personal Style Inventory - II (PSI-II, Robins et al., 1994) and the SCL-90-R to study our research questions. In *Chapter 8*, we investigate the factor structure and the construct validity of the PSI-II and construct a shortened version of the PSI-II through a series of CFA's in a student and a clinical sample. We compare the construct validity of this amended version to the original version by studying correlations with the scales of the SCL-90-R and the IIP-64. In *Chapter 9* we try to replicate the findings obtained in chapter 8.

In the *General Discussion and Conclusion*, we discuss and integrate the results of the different studies and put forward theoretical and clinical implications. Furthermore, we reflect on the limitations of our research and suggest directions of future research.

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General Introduction

Theoretical and Empirical Background

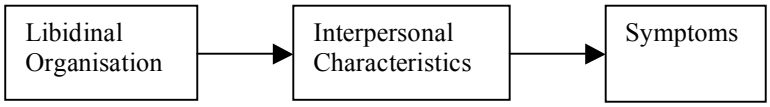
In this introductory chapter, we present the theoretical and empirical background of the issues investigated in this doctoral dissertation. We start with the Freudian theory of the Oedipus complex, understood as the underlying structure of all neurotic symptoms. We argue that two interpersonal dimensions can be discerned in the Oedipal structure: an obsessional dimension which is mainly based on the anal drive and aims at isolation and distance from other people, and a hysterical dimension which is mainly a manifestation of the oral drive and aims at fusion with the other. These two interpersonal dimensions are hypothesized to be associated with different types of neurotic symptoms. The obsessional interpersonal dimension is associated with obsessive-compulsive symptoms (e.g., obsessive ideas, compulsions, pathological doubt, feeling blocked, etc.); the hysterical interpersonal dimension is associated with bodily symptoms and with phobias and anxiety. Furthermore, both interpersonal dimensions are associated with depressive symptoms. In more general terms, we hypothesize that the obsessional and hysterical interpersonal dimension are primarily associated with symptoms that manifest themselves at the cognitive and the somatic level, respectively. We show how these hypotheses have been investigated by Blatt (1974, 2004) and Beck (1983) in research programs on anaclitic and introjective depression. However, we state that while this research addresses highly complex theoretical matters, we agree with Coyne, Thompson, and Whiffen (2004) in that there is a lack of research into the validity of the instruments used to measure the interpersonal dimensions. This is especially the case in clinical samples. In response to this criticism, we investigate three validity issues in clinical and student samples: (1) the internal consistency and the factor structure of different instruments used to quantify the interpersonal dimensions; (2) the associations between the interpersonal dimensions and manifest neurotic symptomatology; and (3) the convergence of these quantifications with psychoanalytic clinical judgement.

Every scientific project starts from fascination by a phenomenon. In the present doctoral dissertation, this phenomenon concerns what is known in psychoanalysis as *neurotic* symptoms. In the set of neurotic symptoms, different subsets or clusters can be discerned on a phenomenological basis (e.g., Derogatis & Cleary, 1977). The most important of these subsets are the

depressive symptoms, anxiety symptoms, phobic symptoms, bodily symptoms, and obsessive-compulsive symptoms. Beyond differentiation on a phenomenological basis, further structuring of the set of neurotic symptoms could be strived for by analyses of the 'underlying structure' of the different types of neurotic symptoms.

In our opinion, an endeavour that aims at clarification of the underlying structure of symptoms must not start from zero but can find a predecessor in the work of Freud. Throughout his clinical work, Freud (1896) developed his own, relatively simple diagnostic system, with three main categories: neuroses (subdivided in transference and actual neuroses), psychoses (or narcissistic neuroses), and perversions. This diagnostic system, as a part Freud's broader theoretical model, was based on the analyses of numerous symptoms and the mapping of their underlying, determining structures. The most basic level of Freud's theoretical model, the level at which Freud (1915) preferred to situate *the cause* of psychopathology, was the level of the libidinal organization, the level of the particularities of the sexual life of a subject. This level underlies and determines both character formation – which mainly boils down to a typical and stable mode of interpersonal relatedness – and the phenomenology of psychopathological symptoms (Freud, 1908). We could tentatively say that in the causal chain of Freud's psychopathology model, the mode of interpersonal relatedness seems to be somewhere between the libidinal and the symptom level.

Figure 1: *Implicit Causal Chain in Freud's Psychopathology Model*



Freud's analyses of neurotic symptoms all testify to this line of reasoning: there is a (psycho)sexual drive which creates a typical way of relating to other people, and within this relationship, fuelled by the drive, certain symptoms arise (Verhaeghe, 2004). In the analysis of a hysterical patient, for example, neuralgia was analysed as an expression of the feeling of being humiliated by a loved one; anxiety as repressed sexual desire to the therapist; phobias as a way to stay close to the mother, and anorexia as an expression of disgust towards a brother (Freud & Breuer, 1895). Similarly, in the analysis of an obsessive-compulsive patient, Freud (1909, p. 192) substantiated that a patient's pathological doubt around the removal of a branch from the sidewalk was an expression of aggression towards his partner. The analysis of neurotic symptoms led Freud consistently into the interpersonal realm and therefore, the underlying and determining structures of symptoms were described in interpersonal terms. Freud (1924) stated that

in the final analysis, all neurotic symptoms are rooted in a set of characteristic, drive-laden relationships between the child and the parents and referred to this typical interpersonal constellation as the Oedipus complex. Figure 2, represents the Oedipus complex as a structure with three points that relate to each other along two characteristic interpersonal dimensions. The first interpersonal dimension boils down to the attraction of the child towards one of the parents, a wish to enjoy his or her (bodily) proximity (this interpersonal dimension is represented by α in Figure 2). The second interpersonal dimension is the aggressive strivings towards isolation from the second parent that accompanies the wish for fusion with the first parent (this interpersonal dimension is represented by β in Figure 1). We could juxtapose the Oedipal interpersonal constellation with a constellation in which there is a regulation of the distance (a symbolic law or rule, represented by φ in Figure 3) between the child and the parents (see figure 3). In this case, the relationships are neither associated with enjoyment (fusion) nor aggression (isolation), but rather with joy and pleasure.

Figure 2: *Oedipal Organization Of the Parent-Child Relationships*

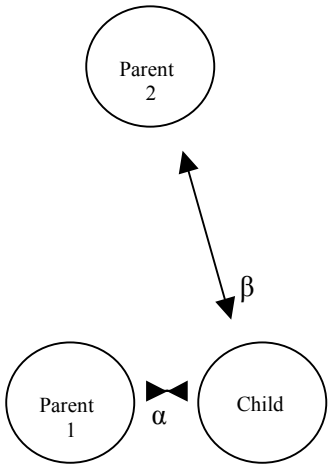
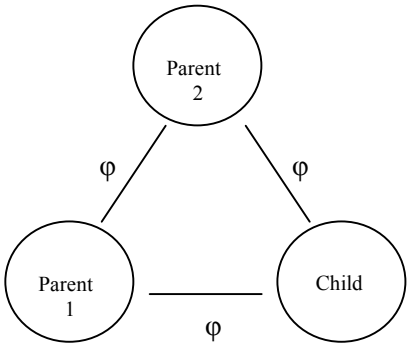


Figure 3: *Parent-Child Relationships with Symbolic Mediator*



As we mentioned above, the Oedipal constellation is a manifestation of different drive components. This means that these interpersonal positions are associated with enjoyment and are – be it not undivided – *strived for* by the subject. Thus, they acquire a certain degree of stability and form the basis of what is often called *the personality* of a subject (see also Lacan, 1966, pp 88-92). This is the reason why the structural qualities of the Oedipal relationships with the parents are reinstalled time and time again in relationships with other people in a process that Freud (1917) called

'transference'. Freud distinguished two dimensions in the field of the neuroses: the hysterical and obsessional dimension. According to Freud, each of these dimensions is associated with specific partial drives, characteristic Oedipal constellations, specific transference patterns, and specific symptoms. The way in which Freud conceived the connections between these different elements was highly complex, because he remained close to the complexity presented by clinical practice. Therefore, translating psychoanalytic theory into statements that can be tested in an empirical way unavoidably entails a reduction of it. This was not different in the present project, in which we focused on the associations between transference patterns or interpersonal characteristics and neurotic symptoms (i.e., the second part of the causal chain presented in figure 1), and reduced Freudian theory to a number of basic statements about these associations. Furthermore, we connect these statements in a tentative way to the theory of the Oedipus complex.

In this way, we state that the hysterical transference pattern is rooted in the attraction towards a parental love object. It is mainly a manifestation of the oral drive and results in interpersonal behaviour directed at fusion with the other. On the other hand, the obsessional transference pattern is rooted in aggression towards the parent who possesses the love object and who is experienced as a rival. This transference pattern is mainly a manifestation of the anal drive and results in interpersonal behaviour aiming at isolation and distance from the other. The reductionist nature of these statements is, for example, apparent from the absence of notions like eros and thanatos; from the fact that aggression is hypothesized to be only directed at the rival (and not – as clinical experience shows – at the love object as well), as well as from the exclusive association of the transference patterns with one partial drive.

Although the two interpersonal dimensions – based on striving for fusion with the one parent and striving for isolation from the other parent – are logically connected with each other via the Oedipus complex, one of the two dimensions often predominates upon the other and characterizes the interpersonal behaviour of a particular subject. Depending on the interpersonal dimension that predominates, different neurotic symptoms will appear at the phenomenological level. In terms of specific types of neurotic symptoms, we expect that the hysterical interpersonal dimension is associated with depressive symptoms, phobias, anxiety and bodily symptoms; and that the obsessional interpersonal dimension is associated with depressive symptoms and obsessive-compulsive symptoms (e.g. Freud, 1891). In terms of more general levels at which the symptoms manifest themselves, we expect that the hysterical interpersonal dimension is associated with symptoms that manifest primarily at the somatic level, while the obsessional interpersonal dimension is associated with symptoms that manifest primarily at the cognitive level. Remark that we hypothesize that *both* interpersonal dimensions will be associated with depressive symptoms, since depression is not conceived as a symptom that is typical for one of the dimensions, but rather as a concomitant of neurotic destabilization in general. Although

anxiety could be conceived in the same way as depression in this respect, we hypothesize that only the hysterical dimension is associated with it, since it is generally agreed upon that obsessional defence mechanisms are more effective than hysterical mechanisms in countering anxiety, and thus, that it can be expected that obsessional people report relatively little manifest anxiety (e.g., Freud, 1917, p 404).

Thus, we hypothesize that the heterogeneity found at the level of the manifest symptoms will not be found at the level of the underlying, determining interpersonal characteristics: symptoms appear in numerous forms at the phenomenological level, but they are all underlain by the same interpersonal structure with two interpersonal dimensions. Although the Freudian diagnostic system was developed in a critical and transparent way and has amply proved its worth in clinical situations (Maleval, 2002), the method by which it is developed lacks the degree of quantification required to yield strong arguments in contemporary scientific debate. Therefore, in this project, we will put a necessary precondition of the Freudian diagnostic theory to the test in a series of quantitative empirical studies. More specifically, we will test the hypothesis that there is a hysterical and an obsessional interpersonal dimension that are differentially associated with the different types of neurotic symptoms. Again, we stress that we are aware of the reductionist nature of our hypothesis *vis a vis* Freudian theory, yet, we believe that simplifying and reducing the complexity of psychoanalytic theory is necessary if one wants to investigate it in a quantitative-empirical way.

Towards an Empirical Investigation of the Hysterical and Obsessional Dimensions in Neurotic Psychopathology

Blatt's Theory on Dependency and Self-criticism

In the last three decades, variants of the hypothesis mentioned above have been investigated from Blatt's theory on dependency and self-criticism (Blatt, 1974, 2004), which is the Anglo-Saxon equivalent of Freud's theory on hysteria and obsessional neurosis. In the same line as Freud, Blatt (1974, 2004) discerns two personality traits – dependency and self-criticism – that underlie the field of psychopathology in general and the field of depressive disorders in particular. These predisposing personality traits are supposed to be grounded in a specific drive component, to be associated with a specific interpersonal profile, to render an individual susceptible to specific life stressors, and to be associated with a specific symptom pattern (which is known as the symptom specificity hypothesis). The interpersonal style of dependent people is grounded in the oral drive component and is marked by friendly-submissive behaviour (Blatt, 2004, pp. 180-183). In terms of the circumplex model (Laforge & Suczek, 1995), dependent people are located at the lower-right quadrant, which contains scales for non-assertive, overly accommodating and self-sacrificing interpersonal behaviour (Blatt, 2004, pp

180-183). Dependency would render people susceptible to stressors on the interpersonal level, such as disruption of a close relationship (Blatt, 2004, pp. 231-239). At the level of symptomatology, dependency is associated with depressive symptoms, phobic complaints, anxiety and physical and psychosomatic symptoms (i.e. the typical hysterical symptoms, Blatt, 2004, p. 156). In general, women would show higher levels of dependency than men (Blatt, 2004, p. 185). On the other hand, self-criticism is grounded in the anal drive component and is associated with hostile interpersonal behaviour (Blatt, 2004, pp. 180-183). In terms of the circumplex model (Laforge & Suczek, 1995), these people are located at the upper-left quadrant, which contains scales for vindictive and cold interpersonal behaviour (Blatt, 2004, pp. 180-183). Self-criticism would make people susceptible to stressors pertaining to achievement, such as failure to graduate (Blatt, 2004, pp. 231-239). At the level of symptomatology, self-criticism is associated with depressive symptoms, guilt, hostility, and obsessive-compulsive symptoms (Blatt, 2004, p. 157). Self-criticism would be more common in men than in women (Blatt, 2004, p. 185).

From a cognitive behavioural tradition and independently from Blatt, Beck (1983) proposed similar sets of interpersonal characteristics – sociotropy and autonomy – that predispose for depression. Beck (1983) describes sociotropic people as having an intense need for close relationships and autonomous people as having a high need for independence and achievement. In the same line as Blatt, Beck hypothesizes that these interpersonal characteristics make people susceptible for depression when confronted with specific stressors and are associated with specific types of depressive symptoms. Since the theory of Beck is limited to depressive symptoms and does not put forward hypotheses about other neurotic symptoms, it is only important for our project in the context of the measurement and naming of the interpersonal characteristics. As is usually done in research into this area, we will refer to the two sets of interpersonal characteristics by both the terms of Blatt and Beck (dependency/sociotropy and self-cricism/autonomy).

In the past, several empirical studies that examined these associations between the interpersonal characteristics and symptoms yielded mixed results (see also Gotlib & Hammen, 2002, p. 127): two studies supported symptom specificity (Robins & Luten, 1991; Robins, Hayes, Block, Kramer, & Villena, 1995), three studies only partially supported symptom specificity (Persons, Miranda, & Perloff, 1991; Robins, Bagby, Rector, Lynch, & Kennedy, 1997; Robins, Block, & Peselow, 1989) and two studies found no evidence for symptom specificity at all (Jolly, Dcyk, Kramer, & Wherry, 1996; Klein, Harding, Taylor, & Dickstein, 1988). In the next sections, we will discuss two instruments often used to measure the interpersonal dimensions, and we will argue that the conflicting results with regard to the symptom specificity hypothesis might have something to do with the methodological and psychometric problems associated with these instruments.

Construction of the DEQ

Of particular interest for our project is the fact that Blatt and his colleagues (Blatt, D'Aflitti, & Quinlan, 1976) developed the Depressive Experiences Questionnaire (DEQ) to operationalize dependency/sociotropy and self-criticism/autonomy. Initially, the DEQ was not constructed with the intention to measure dependency/sociotropy and self-criticism/autonomy, but was rather a selection of items to investigate the general structure of depressive experiences. Blatt and his colleagues reviewed clinical literature and formulated 150 statements that reflected subjective experiences frequently reported by depressive patients. Subsequently, judges selected 66 of these statements that together were representative of the range of phenomenological experiences in the original list. They point out that the statements were selected "without commitment to any particular theoretical formulation" (Blatt et al., 1976, p. 384). The list of 66 statements was administered to 500 female and 160 male undergraduates who were asked to rate them on 7-point Likert scale. In the female as well as in the male sample, a Principal Component Analysis (PCA) with Varimax rotation revealed 3 major factors (Blatt, D'Aflitti, & Quinlan, 1979). The items that loaded high on the first 2 factors reflected dependent/sociotropic and self-critical/autonomous orientations. The third factor contained items that reflected a sense of trust in one's own potential and was labeled efficacy (Blatt et al., 1976). Instead of elaborating the questionnaire and selecting the items that load high and differential on the three factors, Blatt et al. (1976) chose to preserve all 66 items, including several items without high loadings on any of the factors (26 items in the female and 26 in the male sample without loadings >.40), and items with high loadings on more than 1 factor (2 in the female and 3 in the male sample with 2 loadings >.40). It is clear that with this approach one cannot use a simple unit-weighted scoring system. Blatt et al. (1979) solved this problem in an unusual way. They constructed a scoring program that uses means, standard deviations and factor score coefficients of their student sample to compute standardized factor scores. The advantage of this scoring program is that it results in a more subtle measurement by preserving the unique contribution of each of the items to each of the DEQ factors. In the past, several researchers expressed their doubts about the complexity of this scoring procedure (e.g., Flett, Hewitt, Endler and Bagby, 1995) and some have developed shortened versions of the DEQ on which another – unit weighted – scoring procedure could be applied. In the thirty years of research conducted into dependency/sociotropy and self-criticism/autonomy, the DEQ is by far the most widely used instrument.

Shortcomings of the DEQ

In their reviews of theories on personality vulnerability to psychopathology, Coyne and Whiffen (1995) and Coyne, Thompson, and Whiffen (2004) criticized empirical research from Blatt's theory from on an

epistemological and methodological perspective. Five methodological issues are of particular interest for our project, because they concern the measurement of dependency/sociotropy and self-criticism/autonomy by means of the DEQ. With respect to this criticism of Coyne and Whiffen (1995) an interesting discussion subsequently took space between Coyne, Thompson, and Whiffen (2004) on the one hand and Zuroff, Mongrain, and Santor (2004a, 2004b) on the other hand.

A first issue (Coyne & Whiffen, 1995) concerns the fact that while Blatt often talks about dependent/sociotropic and self-critical/autonomous *types*, the operationalization of the personality traits by the DEQ as continuous variables seems to fit a *dimensional* approach rather than a typology. Zuroff et al. (2004a) rightly noted that although Blatt often talks in terms of a typology, it is clear that his theory as well as the classic Freudian theory on which it is based, are compatible with a dimensional approach. The use of terms such as dependent/sociotropic *types* and self-critical/autonomous *types*, indicates that it concerns people who score high on one dimension while scoring low on the other dimension. Besides these relatively 'pure types', there is a majority of subjects that score comparably high on both dimensions and that thus are called 'mixed types'. The same holds for classic Freudian theory. While using terminology such as hysterical and obsessional *types*, Freud (1896, 1918) explicitly states that hysteria and obsessional neurosis should be conceived as *dimensions* in the field of the neuroses.

A second criticism of Coyne and Whiffen (1995) concerns the fact that the internal structure of the DEQ has been almost exclusively investigated in student samples. They doubt whether dependency/sociotropy and self-criticism/autonomy can be measured as independent and distinct variables in clinical samples, since high intercorrelations are often observed when scores are computed by simply adding the item scores of the respective scales in clinical research (e.g. Franche & Dobson, 1992; Klein, 1989; Riley & McCraney, 1990). Coyne and Whiffen state that Blatt et al. (1976) used orthogonal rotation to generate the factor solution upon which the original scoring procedure of the DEQ is based. By using orthogonal rotation, Blatt et al. (1976) seem to suggest that they conceived dependency and self-criticism as two independent theoretical constructs. However, the high correlations with unit weighted scoring procedures show that the two personality traits are not independent at all. Zuroff et al. (2004a) replied to this criticism, but this reply sometimes seems to be a little besides the point. They state that high correlations between dependency/sociotropy and self-criticism/autonomy are not observed when using the original – factor weighted – scoring system of the DEQ or the McGill scoring system. These two scoring systems yield scores that are almost completely uncorrelated. According to Zuroff et al. (2004a), the high correlations are only observed when using the alternative – unit-weighted – scoring systems of the DEQ. However, this is exactly the point that Coyne and Whiffen (1995) make: if the two personality traits are independent from each other, then a simple unit-weighted scoring system should yield unrelated scores and empirical research shows that this is not the

case (see references above). Although this empirical argument of Zuroff et al. (2004a) makes little sense, we do agree with another argument of these authors with regard to this point of criticism. This argument merely states that high correlations are not necessarily in conflict with psychoanalytic theory, nor do they necessarily entail a pragmatical problem. From a theoretical point of view, dependency and self-criticism are part of the same neurotic structure and therefore, slight to moderately high correlations are not against theoretical expectations. In this context, we could for example refer to Freud's statement that obsessional neurosis is a *dialect* of hysteria, or that every obsessional neurosis has a hysterical core (Freud, 1896). On the other hand, correlations that are *too* high are against the theoretical assumptions that it concerns clearly distinguishable dimensions in neurosis (see also Vanheule, Desmet, & Meganck, 2007). From a pragmatical point of view, correlations that are too high exclude the observation of differential associations of the personality traits with different types of symptoms. More specific, Zuroff et al. (2004b) put forward an upper limit of .60 for the intercorrelations between dependency/sociotropy and self-criticism/autonomy. Beneath this limit, correlations cannot be considered to be at constrast with theoretical statements and will probably not entail pragmatical problems. With regard to this criticism, we conclude that further research should address in clinical samples the internal structure of questionnaires that measure the personality traits, with specific attention to the question as to whether they can be measured as distinct variables with adequately low intercorrelations (i.e. lower than .60).

A third criticism of Coyne and Whiffen (1995) and Coyne et al. (2004) concerns the fact that associations between personality styles and symptoms are almost exclusively investigated in student samples. Coyne et al. (2004) argue that associations found in nonclinical samples cannot be extrapolated to clinical samples. Zuroff et al. (2004b) confirm that indeed it may be unjustified to generalize from nonclinical to clinical populations. However, they argue that this does not mean that the study of distress or subsyndromal depression is *irrelevant*, since it is a serious threat to well-being and a key risk factor for the onset of clinical depression. We agree with these authors that research in student samples is not irrelevant; yet, we believe that this does not take away that the associations should in the first place be investigated in clinical samples.

A fourth criticism is about the lack of construct validity of the DEQ. According to Coyne et al. (2004) there is a gap between the 'often dramatic psychoanalytic theorizing of Blatt' (p. 512) and the constructs measured by the DEQ. Coyne et al. (2004) did not really put forward arguments for this statement, yet they probably react to the fact that the DEQ was constructed atheoretically, and has subsequently been used to measure complex psychoanalytic concepts. In their article, Zuroff et al. (2004b) do not reply on this criticism. We agree with Coyne and Whiffen in this respect that if future research with the DEQ wants to be more convincing, then there will first have to be demonstrated that DEQ dependency and DEQ self-criticism are valid measures of the psychoanalytic constructs they are supposed to measure.

A fifth and last criticism also concerns the construct validity of the DEQ but from a different point of view. While the DEQ alludes to measuring personality traits, the majority of the items (especially of the self-criticism scale) would show considerable content overlap with the items of measures of depressive symptoms. Coyne and Whiffen (1995) state that the degree of content overlap between the self-criticism scale of the DEQ and symptom measures of depression is so high that "it is questionable whether the self-criticism scale of the DEQ measures anything different from the intense self-denigration that is the hallmark of depression" (Coyne & Whiffen, 1995, p 364). With regard to this issue, Zuroff et al. (2004a) present empirical evidence that shows that self-criticism/autonomy cannot be considered to be identical to manifest depression. Although this shows that the criticism of Coyne and Whiffen (1995) is somewhat overstated, the lack of content purity of the DEQ remains a problem that asks for further investigation. Therefore, further research should try to get a clearer sight on the impact of the content overlap on the observed correlations between the scales of the DEQ and measures of manifest depression.

Construction of the Personal Style Inventory –II

Ironically, the review article of Coyne and Whiffen (1995) seems to have crossed the article of Robins et al. (1994) on the construction of the Personal Style Inventory-II (PSI-II), a questionnaire that measures similar constructs as the DEQ. Otherwise, Coyne and Whiffen would probably have noticed that the majority of their criticism on the DEQ did not hold for the PSI-II. Unlike Blatt et al. (1976), who adopted an atheoretical perspective in the construction of DEQ, Robins et al. (1994) started from a review of the theoretical literature of Blatt (1974) and Beck (1983). They distinguished three interpersonal aspects in each of the two personality traits, sociotropy and autonomy, in line with the theorizing of Beck (1983). 'Concern What Others Think', 'Dependency', and 'Pleasing Others' are discerned as three aspects of sociotropy; 'Perfectionism/Self-criticism', 'Need for Control' and 'Defensive separation' are discerned as three aspects of autonomy. Starting from these theoretical constructs, Robins et al. (1994) selected items from the DEQ, the Sociotropy and Autonomy Scales (SAS; Beck, Epstein, Harrison, & Emery, 1983), the Dysfunctional Attitude Scale (DAS; Cane, Olinger, Gotlib, & Kuiper, 1986) the Interpersonal Style Inventory (ISI; Lorr & Youniss, 1973), and the Inventory of Interpersonal Problems-64 (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000). Subsequently, they rephrased the selected items in order to avoid the psychometric limitations of the DEQ: namely the high correlations between the personality traits and the content overlap with symptom measures. Although the PSI-II is a promising (relatively new) instrument, attempts to replicate its factor structure are scarce and were not always successful (e.g. Bagby, Parker, Joffe, Schuller, & Gilchrist, 1998; Hong & Lee, 2001). However, empirical research with the PSI-II showed that Robins et al. (1994) succeeded in their attempt to avoid high correlations

between the traits (Robins et al., 1994, Bagby et al., 1998). Furthermore, the theory-driven construction of the PSI-II and the special attention paid to the problem of content overlap with symptom measures is an answer to the criticisms of Coyne and Whiffen (1995) with regard to the construct validity of the DEQ. In this light, it is puzzling that Zuroff et al. (2004a, 2004b) did not refer to the PSI-II in their comments on the criticism of Coyne and Whiffen (1995).

Summary of Research Objectives

In this introduction, we reminded the reader that Freud – on the basis of numerous analyses of neurotic symptoms – put forward two interpersonal dimensions that underlie the field of neurotic symptoms: a hysterical dimension which is associated with depressive symptoms, phobia's, anxiety, and somatic symptoms, and an obsessional dimension which is associated with depressive symptoms, obsessional symptoms and symptoms centred on aggressive urges. In more general terms, the hysterical dimension is associated with symptoms primarily experienced at the level of the body, while the obsessional interpersonal dimension is associated with symptoms primarily experienced at the cognitive level.

These hypothetical associations – also known as the symptom specificity hypothesis – are also of crucial importance in Blatt's theory on dependent/sociotropic and self-critical/autonomous depression. This theory can be considered to be the Anglo-Saxon equivalent of Freud's theory on hysteria and obsessional neurosis, and is of particular importance for our project since it has been investigated in an extensive empirical research program. Coyne and Whiffen (1995) and Coyne, Thompson, and Whiffen (2004) voiced epistemological and methodological criticism on this program that gave rise to an interesting debate between them and Zuroff, Mongrain, and Santor (2004a, 2004b). Although Zuroff and his colleagues countered some of the epistemological and theoretical concerns of Coyne and Whiffen – such as the criticism that stated that Blatt uses *typological* theoretical language while he operationalizes his constructs as *dimensions* – we concluded that four of the methodological and psychometric criticisms were justified and require further investigation (see also Gotlib & Hammen, 2002, p. 127): First, the internal structure of the DEQ should be addressed in clinical samples, with specific attention for the question as to whether it measures distinct variables. Second, associations between the DEQ scales and symptom measures should be addressed in clinical samples. Third, research should investigate to what degree there is a gap between the DEQ scales and the psychoanalytic constructs that they are supposed to measure. Fourth, research should try to get a clearer view on the impact of content overlap on observed associations between the DEQ and symptom measures. Therefore, rather than addressing highly complex theoretical matters about the personality dimensions, the present project will investigate these basic issues. We did not

formulate our hypotheses specifically for the DEQ but addressed the measurement of the hysterical and obsessional interpersonal dimension in general:

> *Research hypothesis 1:* The two interpersonal dimensions can be measured by means of a questionnaire with a theoretically consistent internal structure in clinical samples. Intercorrelations between the two dimensions will not be higher than .60.
> *Research hypothesis 2:* Scores on this questionnaire show the predicted differential associations with scores on questionnaires that measure neurotic symptoms in clinical samples (i.e. the symptom specificity hypothesis).
> *Research hypothesis 3:* Scores on this questionnaire are associated with clinicians' ratings of patients on the complex psychoanalytic dimensions of hysteria and obsessional neurosis.

The fourth criticism – about content overlap between DEQ and symptom measures – was not translated into a specific hypothesis, yet, this issue will be considered every time the observed associations are interpreted and discussed. In function of these hypotheses different questionnaires were evaluated in non-clinical as well as in clinical samples. Although the atheoretical construction of the DEQ has drawbacks for the construct validity, we believe that this instrument is an interesting alternative for the theoretically constructed PSI-II[1] and therefore merits further investigation. Therefore, we first use the DEQ to measure the interpersonal dimensions and the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) to measure depressive symptoms. Subsequently, we use the IIP-64 to measure the interpersonal dimensions and the Symptom Checklist (SCL-90-R; Derogatis, 1992) to measure the different neurotic symptom clusters. Finally, we use the PSI-II for the interpersonal dimensions and the SCL-90-R for the symptoms.

The hypothesis concerning the internal structure of the questionnaires will be investigated in student as well as in heterogeneous clinical samples. After all, the internal structure of these questionnaires should be stable over a wide variety of normal and clinical subpopulations, since testing hypotheses concerning the interpersonal dimensions often requires comparison between different groups. The hypothesis concerning the differential associations between the interpersonal dimensions and neurotic symptoms were mainly addressed in samples of patients with a DSM-IV diagnosis of a mood disorder. The category of the mood disorders shows remarkable comorbidity with other Axis I pathology like generalized anxiety, panic, agoraphobia, social phobia, and somatization disorder is the rule rather than the exception (Stefanis & Stefanis, 2002, pp. 22-24). This suggests that this category –

[1] The SAS – another measure for dependency/sociotropy and self-criticism/autonomy – was not used in our project because the PSI-II can be considered as an amended version of this instrument.

which contains up to 60 % of the patients in our samples – comes close to the category of the neurosis in Freud's conceptualisation. At the same time, a diagnosis of mood disorder often excludes severe personality disorders and other types of severe psychopathology, which bring about a dramatic inflation of the proportion of error variance in scores on questionnaires. We can expect that the more error variance scores on questionnaires reflect, the more difficult it will be to observe associations that are empirically present in a given sample. This means that if symptom specificity exists in clinical reality, it will be easier to demonstrate it in samples of mood disordered patients than in heterogeneous clinical samples. Thus, given the lack of univocal results in past research, we decided to be modest and test our hypotheses in the samples where the probability of observing the predicted associations was maximal, namely in mood disordered samples and not in heterogeneous clinical samples.

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Part I

Measuring Hysterical and Obsessive-compulsive Depression: The Depressive Experiences Questionnaire

Chapter 1

Dependency, Self-criticism, and the Symptom Specificity Hypothesis in a depressed clinical sample[1]

Several theorists have suggested that interpersonal dependency and excessive self-criticism are characteristics of personalities prone to depression. The present study investigates whether these personality styles are connected to specific depressive symptoms in a sample of depressed outpatients (N = 163). Hypotheses were that dependency is specifically associated with the somatic symptom cluster of the Beck Depression Inventory-II and that self-criticism is specifically associated with the cognitive symptom cluster. In measuring the personality styles, the Depressive Experiences Questionnaire was used. Evidence to suggest that dependency is specifically connected to somatic depressive symptoms was not found. Self-criticism was specifically associated with cognitive depressive symptoms. However, the results suggest that content overlap might explain the relationship between self-criticism and cognitive depressive symptoms.

Several theorists have suggested that interpersonal dependency and excessive self-criticism are characteristics of personalities prone to depression (Arieti & Bemporad, 1980; Beck, 1983; Blatt, 1974; Bowlby, 1977). These theories maintain that people are susceptible to specific life stressors and show distinct depressive symptom patterns depending on the underlying personality trait (Zuroff, Mongrain, & Santor, 2004).

Blatt (2004) put forward explicit hypotheses about associations of dependency and self-criticism with specific depressive symptoms: the dependent depression type is characterized by physical and psychosomatic symptoms while symptoms in the autonomous depression type are at a cognitive-mental level, rather than at a somatic level (Blatt, p. 155).

Thus, a dichotomy is introduced between somatic and cognitive depressive symptoms, which are respectively associated with dependency and self-criticism as predisposing personality traits. It is remarkable that the same dichotomy is also detected in the factor structure of common measures of depressive symptoms, like the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996) and the Zung Depression Scale (ZDS; Zung, 1969).

[1] This chapter is based on Desmet, M., Vanheule, S., & Verhaeghe, P. (2006). Dependency, self-criticism, and the symptom specificity hypothesis in a depressed clinical sample. *Social Behavior and Personality, 34(8),* pp 1017-1026.

Items of these scales usually load on two factors, which represent a somatic and a cognitive dimension in depressive symptoms (Dozois, Dobson, & Ahnberg, 1998).

The hypothesis that dependency is connected to the somatic and self-criticism to the cognitive dimension of depressive symptoms has been put to the test in a student sample by Blatt, D'Aflitti, and Quinlan (1976). Blatt and his colleagues (1976) found that dependency was significantly associated with five somatic ZDS items. Self-criticism was significantly associated with 14 cognitive ZDS items.

Several studies in which the symptom specificity hypothesis was tested in clinically depressed samples yielded mixed results (see also Gotlib & Hammen, 2002, p. 127): two studies supported symptom specificity (Robins & Luten, 1991; Robins, Hayes, Block, Kramer, & Villena, 1995), three studies only partially supported symptom specificity (Persons, Miranda, & Perloff, 1991; Robins, Bagby, Rector, Lynch, & Kennedy, 1997; Robins, Block, & Peselow, 1989) and two studies found no evidence at all for symptom specificity (Jolly, Dcyk, Kramer, & Wherry, 1996; Klein, Harding, Taylor, & Dickstein, 1988). However, unlike Blatt et al. (1976), who measured depressive symptoms by means of an empirically well-established instrument, these studies comprised a variety of symptoms – often selected from different questionnaires (e.g., Robins et al., 1997) – that are theoretically connected to either dependency or self-criticism in clusters. This method has serious methodological drawbacks since no inquiry into the factor structure of these symptom clusters took place and low internal consistency and weak reliability were often observed (e.g., Robins & Luten, 1991). Consequently, the question arises as to whether these inconsistent findings are due to the poor psychometric characteristics of the symptom clusters or whether it indicates that the symptom specificity hypothesis does not hold in clinical samples.

In this study, we use the somatic and cognitive subscales of the BDI-II to put the symptom specificity hypothesis to the test in a sample of depressed outpatients (N = 163). We use the Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976) to measure dependency (DEQ-DEP) and self-criticism (DEQ-SC). First, we test the hypothesis that DEQ-DEP is significantly, and significantly more than DEQ-SC, associated with the somatic subscale of the BDI-II (BDI-SOMA), and that DEQ-SC is significantly, and significantly more than DEQ-DEP, associated with the cognitive subscale of the BDI-II (BDI-COGN). The dependence and relatedness subscales that are usually discerned in DEQ-DEP (Blatt, Zohar, Quinlan, et al., 1995) showed extremely low internal consistency and reliability in our sample ($\alpha = .07$ and $\alpha = .32$, respectively) and were therefore not included in this study. Since scores on BDI-SOMA and BDI-COGN usually show high intercorrelations, we corrected for a general tendency to complain. Furthermore, we explore the associations of the personality traits with individual BDI-II symptoms.

Method

Participants

Our sample consisted of 163 outpatients (117 female, 46 male, average response rate across all centres = 71.93%) from 35 mental health care centres. The participants ranged in age from 19 to 64 years (M = 39.45, SD = 9.97) and met *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; American Psychiatric Association, 2000) criteria of recurrent major depressive disorder (50%), major depressive disorder, single episode (29%), or dysthymic disorder (21%).

Procedure

A letter with a concise description of the research design was sent to 91 mental health care centres in the Flemish part of Belgium. Thirty-five were willing to participate in our study. We visited each of these centres and provided information letters and questionnaires for patients. Psychiatrists and psychologists gave the information letters to their patients. In this letter we explained our research in lay language and asked if the patient was willing to participate. If the answer to this question was positive, the caregiver provided the patient with a set of questionnaires. When completed, the patient returned the questionnaires to the psychiatrist or psychologist. Before posting, a psychiatrist added a DSM-IV diagnosis.

Measures

All participants filled out the Dutch translations of the DEQ and the BDI-II. The *Depressive Experiences Questionnaire* (DEQ; Blatt et al., 1976) is a 66-item self-report questionnaire, in which all items are scored on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The Dutch translation was made by a front-and-back translation procedure and has proven to have good internal consistency and good reliability (Luyten, Fontaine, Soenen et al., under review). Blatt's original procedure was used to score the DEQ (Blatt, D'Aflitti, & Quinlan, 1979). Examples of items loading high on the DEQ-DEP scale are: 'I worry a lot about offending or hurting someone who is close to me' (#45), and 'After an argument, I feel very lonely' (#55). Examples of items loading high on the DEQ-SC scale are: 'I often find that I don't live up to my own standards or ideals' (#7) and 'There is a considerable difference between how I am now an how I would like to be' (#13).

The *Beck Depression Inventory-II* (BDI-II; Beck et al., 1996) is a self-report measure of severity of depressed mood, which is widely used. It contains 21 items that assess different symptoms of depression (e.g., guilt, sadness, energy loss, etc.). For each symptom, statements are listed in ascending order, from *nondepressed* to *severely depressed*. The psychometric

properties of the Dutch translation are acceptable and comparable to those of the original BDI-II (Van der Does, 2002). Studies into the factorial structure of the BDI-II usually discern a somatic and a cognitive factor in the BDI-II (Beck et al., 1996; Dozois et al., 1998; Steer, Ball, Ranieri, & Beck, 1999).

Data Analysis

Regression analyses were performed using scores on BDI-SOMA, BDI-COGN and separate BDI-II symptoms as dependent variables, and DEQ-DEP and DEQ-SC as independent variables. Demographic control variables were included in all analyses.

To test whether BDI-SOMA and BDI-COGN were significantly more related to one personality trait than to the other, F-tests on significance of differences between coefficients of DEQ-DEP and DEQ-SC were performed in every analysis.

Results

Preliminary Analysis

The mean BDI-II total score for this sample was in the severe range (*M*=30.25, *SD*=11.22). Cronbach alpha's indicated acceptable internal consistency and reliability for DEQ-DEP (α = .64), DEQ-SC (α = .67), BDI-SOMA (α = .83), and BDI-COGN (α = .80). There was a trend for women to score higher than men on DEQ-DEP [$t(161) = 1.664$, $p < .10$]. No significant differences were found between men and women in scores on DEQ-SC. Furthermore, t-tests revealed no significant differences in DEQ-DEP and DEQ-SC between participants living with or without a partner, between participants with or without a paid job, between participants with or without a degree in higher education, or between participants with or without children. There was no significant correlation between age and DEQ-DEP but age correlated significantly negative with DEQ-SC ($r = -.199$, $p < .05$).

Table 1: *Pearson Correlations Among the Scales of the DEQ and the BDI-II*

	DEQ-DEP	DEQ-SC	BDI-SOMA	BDI-COGN
DEQ-DEP	--			
DEQ-SC	.03	--		
BDI-SOMA	.11	.20**	--	
BDI-COGN	.22**	.45**	.68**	--

Note. DEQ-DEP = Dependency scale of the DEQ; DEQ-SC = Self-criticism scale of the DEQ; BDI-SOMA = Somatic dimension of the BDI; BDI-COGN = Cognitive dimension of the BDI. *p < .05. **p < .01.

To avoid multicollinearity between independent variables and control variables, we did not control for age. Table 1 shows that BDI-SOMA and BDI-COGN were significantly correlated with each other; DEQ-DEP was significantly correlated with BDI-COGN; and DEQ-SC was significantly correlated with BDI-SOMA and BDI COGN.

Regression Analysis

DEQ-DEP showed no significant associations with BDI-SOMA [β = .072, F (1,163) = .834, $p < .10$]; DEQ-SC showed significant positive associations with BDI-SOMA [β = .194, F (1,163) = 6.225, $p < .01$]. The difference between these two associations was not significant [F (1,163) = 1.353, $p > .10$].
DEQ-SC [β = .438, F (1,163) = 40.102, $p < .001$] and DEQ-DEP [β = .180, F (1,163) = 6.538, $p < .05$] showed significant positive associations with BDI-COGN. DEQ-SC was significantly stronger associated with BDI-COGN than DEQ-DEP [F (1,163) = 7.770, $p < .01$].

To control for a general complaint factor, we ipsatized the scores on the BDI-II by subtracting a subject's mean score across all items from every raw item score. Thus, a subject's tendency to complain is eliminated. After ipsatization, BDI-SOMA and BDI-COGN correlated highly negative with each other (r = -.886, p = .000). This negative association maximizes the chance to find differential associations with DEQ-DEP and DEQ-SC.
After ipsatization, DEQ-DEP showed no significant associations with BDI-SOMA [β = -.137, F (1,163) = 3.136 $p > .05$] and DEQ-SC showed significant negative associations with BDI-SOMA [β = -.302, F (1,163) = 15.905, $p < .001$]. The difference between both associations was not significant [F (1,163) = 2.705, $p > .05$].

DEQ-SC showed significant positive associations with BDI-COGN [β = .291, F (1,163) = 14.437, $p < .001$] and DEQ-DEP showed no significant associations with BDI-COGN [β = .124, F (1,163) = 2.514, p = .115]. The difference between both associations was not significant [F (1, 163) = 2.680, p = .104].

Subsequently, we performed the same type of regression analyses to explore associations between the personality traits and separate BDI-II symptoms. We used a conservative significance test because of the large number of analyses ($p < .01$). When analysing raw item scores (see Table 2), DEQ-DEP showed significant positive associations with 'Indecisiveness' and 'Worthlessness'; DEQ-SC showed significant positive associations with eight BDI-II symptoms: 'pessimism', 'past failure', 'guilty feelings', 'self-dislike', 'self-criticalness', 'crying', 'indecisiveness', and 'worthlessness'. DEQ-SC explained significantly more variance than DEQ-DEP in three of these symptoms: 'past failure', 'self-dislike', 'self-criticism'. A general finding when analysing raw item scores was that 'agitation' and 'changes in appetite' were the only items that showed stronger associations with DEQ-DEP than with DEQ-SC.

Table 2: *F-tests on Differences of Associations of Dependency and Self-criticism with BDI-II symptoms*

	F statistic DEQ-DEP			F statistic DEQ-SC			F difference DEQ-DEP/DEQ-SC	
BDI-II symptoms	β	F(1,163)	p	β	F(1,163)	p	F(1,163)	p
Sadness [b]	-.025	.091	.764	.114	2.037	.156	1.523	.219
Pessimism [b]	.076	.918	.339	.215	7.551	.007	1.727	.191
Past Failure [b]	.024	.098	.755	.324	19.123	.000	8.574	.004
Loss of Pleasure [a]	-.026	.105	.747	.180	5.146	.025	3.439	.066
Guilty Feelings [b]	.173	5.341	.022	.356	23.325	.000	3.522	.062
Punishment Feelings [b]	.122	2.455	.119	.185	5.840	.017	.430	.513
Self-Dislike [b]	.137	3.531	.062	.390	29.484	.000	6.795	.010
Self-Criticalness [b]	.069	.852	.357	.391	28.675	.000	10.323	.002
Suicidal Thoughts [b]	.045	.321	.572	.166	4.436	.037	1.261	.263
Crying	.131	2.842	.094	.240	9.772	.002	1.174	.280
Agitation [a]	.107	1.784	.184	.089	1.269	.262	.013	.911
Loss of Interest [a]	-.037	.208	.649	.156	3.900	.050	3.011	.085
Indecisiveness [b]	.229	8.811	.003	.234	9.561	.002	.030	.863
Worthlessness [b]	.251	12.280	.001	.396	31.599	.000	2.630	.107
Loss of Energy [a]	.104	1.649	.201	.172	4.723	.031	.457	.500
Changes in Sleeping [a]	.083	1.057	.305	.134	2.823	.095	.248	.619
Irritability [a]	.048	.353	.553	.108	1.846	.176	.321	.572
Changes in Appetite [a]	.084	1.099	.296	.056	.509	.476	.044	.833
Concentration	.044	.299	.585	.170	4.585	.034	1.350	.247
Tiredness or Fatigue [a]	.082	1.063	.304	.128	2.645	.106	.209	.648
Loss of Interest in Sex [a]	-.010	.016	.900	.088	1.264	.263	.802	.372

Note. DEQ-DEP = Dependency; DEQ-SC = Self-Criticism; [a] = Symptom belonging to the somatic symptom cluster; [b] = Symptom belonging to the Cognitive symptom cluster; factor structure according to Dozois et al., 1998.

When analysing ipsatized scores, DEQ-DEP showed significant positive associations with the item 'Worthlessness' [β = .008, F (1,163) = 8.849, p = .003]. DEQ-SC showed significant positive associations with 'Self-dislike' [β = .390, F (1,163) = 8.228, p = .005], 'Self-criticalness' [β = .391, F (1,163) = 10.219, p = .002] and 'Worthlessness' [β = .396, F (1,163) = 12.086, p = .001]. For none of the symptoms was there a significant difference in the amount of variance accounted for by DEQ-DEP and DEQ-SC.

Conclusion and Discussion

In this paper, we set out by testing the hypothesis that dependency is significantly, and significantly more than self-criticism, associated with somatic depressive symptoms. Concurrently, we tested the hypothesis that

self-criticism is significantly, and significantly more than dependency, associated with cognitive depressive symptoms. We used the DEQ to measure dependency and self-criticism. The two subscales of the dependency scale – dependence and relatedness – were not included in the analyses because Cronbach's alpha indicated unacceptable internal consistency. We were unable to find any support for a specific association of dependency with somatic symptoms, independent of whether or not we controlled for a general complaint factor in the self-reports of depressive symptoms. Conversely, we did find the predicted specific associations between self-criticism and cognitive depressive symptoms. However, after controlling for a general complaint factor, the difference between the associations of dependency and self-criticism with the cognitive symptoms was no longer significant.

It is interesting to note that, when exploring associations of personality traits with separate BDI-II symptoms, self-criticism explained more variance than dependency in all symptoms, except in 'agitation' and 'changes in appetite'. After controlling for a general complaint factor, self-criticism was significantly associated with three BDI-II symptoms: 'worthlessness', 'self-dislike', and 'self-criticalness'. It is striking that these three symptoms all show extensive content overlap with the items of the self-criticism scale of the DEQ. For example, 'worthlessness' of the BDI-II shows content overlap with 'If I fail to live up to expectations, I feel unworthy' of the DEQ, 'self-dislike' of the BDI-II overlaps with 'There is a considerable difference between how I am now and how I would like to be', and 'self-criticalness' of the BDI-II is nearly identical to 'I tend to be very critical of myself' of the DEQ. Cognitive BDI-II symptoms that show less content overlap with the self-criticism scale of the DEQ, like 'sadness' and 'loss of pleasure', were not specifically associated with self-criticism. These findings suggest that the observed association of self-criticism with cognitive depressive symptoms could be due to content overlap. Therefore, the results of our study support the doubts previously cast by other researchers who queried whether the self-criticism scale of the DEQ "measures anything different from the intense self-denigration that is the hallmark of depression" (Coyne & Whiffen, 1995).

Therefore, the conclusion of our study on the symptom specificity hypothesis in a clinically depressed sample is twofold. First, we found no evidence supporting the hypothesis that dependency is specifically connected to somatic depressive symptoms. Secondly, we did observe the hypothesized specific association between self-criticism and cognitive depressive symptoms. However, our results suggest that this observation may be an artefact of content overlap between the self-criticism scale of the DEQ and some of the items of the BDI-II.

Finally, several limitations of this study should be noted. First, although the size of our sample was more than sufficient, no structured interviews were used to diagnose the patients. Second, all of the measures we used were based on self-reports. Clinicians' ratings of personality traits and depressive symptoms would be an important extension of these measures.

Third, although the DEQ has often been used in clinical samples, its validity has been studied almost exclusively in student samples. Our results show that future research should direct attention to the construct validity of the DEQ – in particular of the self-criticism scale – in clinical samples. Removing items that show too much content overlap with measures of depressive symptoms will be necessary. Otherwise, dependency and self-criticism, which are supposed to be personality traits associated with depression, are not measured independently from depression itself.

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Chapter 2

The Symptom Specificity Hypothesis and Subtypes of Depression[1]

Theorists from diverse orientations have suggested that interpersonal dependency and excessive achievement strivings are characteristics of personalities prone to depression. Blatt called these sets of personality characteristics the anaclitic and introjective personality style, respectively. The present study tests the hypothesis that these personality styles are connected to specific depressive symptoms. Hypotheses were that the anaclitic style is specifically associated with the somatic symptom cluster of the Beck Depression Inventory (BDI-II; Beck, Steer and Brown, 1996) and the introjective style is specifically associated with the cognitive symptom cluster. To measure the personality styles, clinicians' ratings were used to avoid the limitations of classical self-report measures as the Depressive Experiences Questionnaire and the Sociotropy and Autonomy Scales. Three judges rated interviews with 32 patients on a scale from 1 to 10 on anaclitic and introjective personality style. No specific associations between clinicians' ratings of the personality styles and BDI-II symptoms were found.

Theorists from diverse orientations have suggested that interpersonal dependency and excessive achievement strivings are characteristics of personalities prone to psychopathology in general (Blatt & Shichman, 1983) and depression in particular (Arieti & Bemporad, 1980; Beck, 1983; Blatt, 1974; Bowlby, 1977). Blatt (1974) calls these sets of personality traits the anaclitic and introjective personality styles, respectively. The first personality style predisposes people to anaclitic depression, characterized by feelings of helplessness and weakness, by wishes to be cared for loved and protected (Blatt, D'Aflitti, & Quinlan, 1976), and by physical and psychosomatic symptoms and crying (Blatt, 1974). The second personality style makes people susceptible to introjective depression, which is developmentally more advanced and characterized by self-criticism and feelings of inferiority, guilt, and worthlessness (Blatt et al., 1976). Symptoms in this type of depression are at a cognitive-mental level rather than at a somatic level (Blatt, 2004).

[1] This chapter is based on Desmet, M., Van Hoorde, H., Verhaeghe, P., & Vanheule, S. (under review). The symptom specificity hypothesis and subtypes of depression.

In this paper, we focus on the hypothesis that the personality styles are connected to specific depressive symptoms (i.e. the symptom specificity hypothesis). This hypothesis has already received a fair deal of attention in previous empirical research. All studies (Blatt et al., 1976; Desmet, Vanheule, & Verhaeghe, 2006; Klein, Harding, Taylor, & Dickstein, 1988; Robins, Block, & Peselow, 1989; Robins, Hayes, Block, Kramer, & Villena, 1995) used self-report measures like the Depressive Experiences Questionnaire (DEQ) or the Sociotropy and Autonomy Scales (SAS) to measure the anaclitic and introjective personality styles. Overall, these studies yielded mixed results. Going through these publications made us conclude that no symptoms proved to be consistently related to the personality dimensions. Several factors can be deemed responsible for this instability. First, the different studies used different instruments to assess personality traits and symptoms. Second, assessment took place in student as well as in clinical samples, which are populations that differ strongly with respect to severity of complaints. Third, all studies failed to control for demographic variables, which possibly have a substantial impact on certain symptoms and might cause between-study instability. Fourth, DEQ and SAS have substantial psychometric weaknesses that may contribute to the instability of the results.

In the present study, we used clincians' ratings to measure anaclitic and introjective personality styles and the BDI-II to measure somatic and cognitive depressive symptoms. depressive symptoms. We hypothesize that ratings on anaclitic personality style will be significantly, and significantly more than ratings on introjective personality style, related to the somatic symptom cluster of the BDI-II (BDI-SOMA); and that ratings on introjective personality style will be significantly, and significantly more than anaclitic personality style, related to the cognitive symptom cluster of the BDI-II (BDI-COGN).

Our study is unique in this respect that we control for demographic control variables and that we avoid the psychometric problems associated with the self-report measures by relying on clinicians' ratings to measure the personality styles. This research design offers another important advantage compared to studies that measure both personality dimensions and symptoms by means of self-reports. When different variables are measured by self-reports, they always share a substantial amount of error variance with each other that is typical to self-reports. This error variance is caused by the sensitivity of self-report measures to several variables – like for example a tendency to complaint, negative affectivity, and acquiescence – that are often irrelevant to the research question. These variable influence the scores on the variables under investigation in the same way, and thus, raise the association between the latter variables in an artificial way (see also Meyer et al., 2001). Put in other words: the observed association between the variables of interest becomes *spurious*.

Method

Participants

Participants in this study were 32 mental health outpatients, randomly selected from a sample of 404 outpatients involved in a broader research project on depression. Of the participants, 16 were married or living with a partner; 17 used psychoactive drugs. The mean age in the sample was 42.7 (SD=7.5). All patients met *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; American Psychiatric Association, diagnostic criteria, 2000) criteria. DSM-IV-diagnoses on Axis I included mood disorders (n=20; major depressive disorder n=15, dysthymic disorder n=3, bipolar disorder n=1, mood disorder not otherwise specified=1), anxiety disorders (n=3), somatoform disorder (n=1), eating disorder (n=1), adjustment disorders (n=2), impulse-control disorder not elsewhere specified (n=1), and relational problems (n=3). The diagnosis was deferred for 1 patient. Fifteen patients had an additional diagnoses of a personality disorder (PD) on Axis II (avoidant PD n=2, borderline PD n=1, paranoid PD n=1, dependent PD n=4, narcissistic PD n=2, histrionic PD n=1, obsessive-compulsive PD n=1, PD not otherwise specified n=3).

Procedure

All participants in the original sample (N = 404) obtained written information on the study and gave informed consent. The subjects were asked if they were willing to participate in an interview. In total, 227 persons were prepared to do so. With the aim of withholding at least 30 interviews for further analyses, 32 participants were randomly selected for an interview. Once the 32 patients were selected, the interviewer (MD) called the mental health care centres and asked to arrange an appointment at the centre with the patient. Interviews were unstructured and took on average two hours. Every interview started with the question: 'Can you tell me something about the reasons why you consult a therapist in this centre?' Starting from this question, the interviewer followed and explored the story of the interviewee. All interviews were recorded on mini-disc and were typed out verbatim.

Two psychoanalytically trained clinicians (HV and PV, each more than 20 years of clinical experience) received the transcriptions of the interviews (in total over 1000 pages) and rated every patient on a scale from 1 to 10 for anaclitic style and introjective style. In this first step, no auditive records were used to save time. In a second step, a third researcher (MD) compared the scores and selected the cases (N = 10) with large discrepancies between both raters. Both clinicians rated these cases a second time, this time making use of the auditive version of the interview, which contains extra information as intonation, speed of talking, etc. (step 2). After this step, interrater-reliability was .662 ($p < .000$) for anaclitic style and .846 ($p < .000$) for introjective style.

After the second step, consensus scores were computed by taking the average of the clinicians' scores for the cases without large discrepancies, cases for which the scores of the clinicians were still very different after the second step (N=3) were discussed until consensus was reached. The ratings on anaclitic and introjective style showed a strong negative association with each other (r = -.821).

In the first as well as the second step, the two clinicians rated the patients totally independent from each other. The clinicians knew that their scores would be used in a validation study of the DEQ (authors, under review), but were totally blind with regard to the research question of the present study.

Criteria used to rate the patients on anaclitic and introjective style were based on theoretical writings of Blatt (1974, 2004) and Blatt and Shichman (1983). It is important to note that the clinicians did not only score the phenomenological characteristics of both personality configurations, but also paid attention to underlying personality structure. In classical psychoanalytic terms, the underlying personality structure of the anaclitic and introjective style is the hysterical and the obsessional structure, respectively (Blatt and Shichman, 1983; Blatt, 2004). Over and above this, clinicians used the following criteria in their ratings of anaclitic style: feelings of helplessness and weakness, fears of being abandoned, wishes to be cared for loved and protected (Blatt et al;, 1976, p. 383), struggles to maintain direct physical contact with love-objects (Blatt, 1974, p. 107), difficulty tolerating delay and postponement, object relations that are primarily incorporative, (Blatt, 1974, p 116). Clinicians used the following criteria in their ratings of introjective style: guilt over strong feelings of ambivalence and hostility towards the object, feelings of having failed to live up to expectations and standards, exceedingly high ideals and overly harsh super-ego, constant self-scrutiny and evaluation, intense overstated standards and perfectionism with little lasting satisfaction when goals are reached (Blatt, 1974, pp. 117-118).

Measures

All patients filled out the *Beck Depression Inventory-II* (BDI-II; Beck et al., 1996). The BDI-II is 21-item self-report questionnaire which is a widely used to measure severity of depressed mood. Item content reflects the diagnostic criteria for major depressive disorder described in the DSM-IV-TR. For each symptom, statements are listed in ascending order, from 1 (non-depressed) to 3 (severely depressed). The psychometric properties of the Dutch translation are acceptable and comparable to those of the original BDI-II (Van der Does, 2002). Beck, Steer, Brown, and Van Der Does (2002) discern a cognitive, a somatic, and an affective factor in the BDI-II. Recently, Vanheule, Desmet, Groenvinck, Rosseel, and Fontaine (under review) confirmed the validity of this three-factor model in a Dutch non-clinical and clinical sample.

Data Analysis

Regression analyses were performed with scores on BDI-SOMA and the BDI-COGN as dependent variables, and clinicians' ratings on anaclitic and introjective styles as independent variables. Analyses were performed with demographic control variables.
To test if BDI-SOMA and BDI-COGN were significantly more related to one personality trait than to the other, F-tests on significance of differences between coefficients of anaclitic and introjective styles were performed in every analysis.

Results

Preliminary Analysis

The average BDI-II score for this sample was in the severe range ($M = 26.5$, $SD = 15$).
Women were rated significantly higher than men on anaclitic style [$t(30) = 5.13$, $p = .000$]. Men were rated significantly higher than women on introjective style [$t(30) = 4.44$, $p = .000$]. Participants living without a partner were rated significantly higher on anaclitic style than participants living with a partner [$t(30) = 2.30$, $p = .029$]. Participants living with a partner were rated significantly higher than participants living without a partner on introjective style [$t(30) = 2.42$, $p = .029$]. T-tests revealed no significant differences in anaclitic and introjective personality style between participants with and without a paid job, between participants with and without a degree in higher education, and between participants with and without children. No significant correlations between age and the ratings on the personality styles were observed.

To avoid multicollinearity between independent variables and control variables, we only controlled for age, having a paid job or not, having a degree in higher education or not, and having children or not.

Regression Analysis

Anaclitic style [$\beta = 2.953$, $F(1, 32) = 9.486$, $p = .008$] and introjective style [$\beta = 1.679$, $F(1,32) = 4.754$, $= P = .047$] were both significantly ($p < .05$) associated with BDI-SOMA. The difference between the associations of anaclitic and introjective style with BDI-SOMA was not significant [$F(1,32) = 2.894$, $p = .111$].

Anaclitic style [$\beta = 2.862$, $F(1, 32) = 8.849$, $p = .009$] and introjective style [$\beta = 1.957$, $F(1,32) = 4.789$, $= p = .044$] were both significantly associated with BDI-COGN. Anaclitic style showed a stronger association with BDI-COGN than introjective style. The difference between the

associations of anaclitic and introjective style with BDI-COGN was not significant [$F(1,32) = 1.703$, $p = .210$].

Conclusion and Discussion

Clinicians' ratings on introjective style as well as the ratings on anaclitic style showed significant associations with both types (cognitive and somatic) of depressive symptoms. These results seem to suggest that the ratings on the personality styles partially expressed negative affectivity, which was responsible for the observed significant associations with the different types of depressive symptoms. The hypothesized specific associations between personality styles and types of depressive symptoms were not observed. Remarkably, anaclitic style showed stronger associations with both types of depressive symptoms than introjective style. This is in conflict with a finding generally obtained when using the DEQ, namely that introjective style (measures by the self-criticism scale of the DEQ) shows the strongest associations with both types of depressive symptoms (e.g. Desmet et al., 2006). These results could be interpreted as a confirmation of the suggestion of Desmet et al. (2006) that the strong associations between the self-criticism scale of the DEQ and the scales of the BDI-II might be an artefact of content overlap between the items of both scales.

Several limitations should be considered when interpreting our results. A first type of limitations is associated with the sample, which was small and not balanced for gender. Heterogeneity of our sample is not considered to be a limitation, since the BDI-II aims at measuring severity of depressed mood in a wide range of psychological disorders, and anaclitic and introjective personality styles are theoretically supposed to be personality dimensions underlying the whole field of psychopathology (Blatt and Shichman, 1983). A second type of limitations concerns the rating process, in which only two raters were involved and in which the interrater-reliability was modest, especially after the first step of the rating procedure. The limitations of the sample and of the rating procedure entail that this study is best considered to be a pilot study for a larger project, in which a larger sample of patients is studied and in which five or more clinicians are involved in the rating procedure.

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Chapter 3

The Depressive Experiences Questionnaire: An Inquiry into the Different Scoring Procedures[1]

The Depressive Experiences Questionnaire (DEQ; Blatt, D'Aflitti, & Quinlan, 1976) is a self-report questionnaire designed to differentiate between dependency and self-criticism, two personality traits associated with increased risk for psychopathology in general and depression in particular. Over the years, different shortened versions of the DEQ have been constructed, attempting to offer an alternative for the complex scoring procedure of the original DEQ. In this article, the authors studied the factorial validity of the original DEQ and six shortened versions in a student sample (N = 636) and in a clinical sample (N = 404) by means of confirmatory factor analysis. Furthermore, the construct validity of the different versions of the DEQ was studied by computing correlations with different types of depressive symptoms and interpersonal problems. Dependency was hypothesized to be associated with somatic depressive symptoms and with nonassertive, overly accommodating, and self-sacrificing interpersonal behaviour; self-criticism would be associated with cognitive depressive symptoms and with vindictive, cold, and socially inhibited interpersonal behaviour. In the present study, the reconstructed DEQ (Bagby, Parker, Joffe, & Buis, 1994) demonstrated the best psychometric properties. This factor model showed good fit to student and clinical (raw as well as ipsatized) data. Furthermore, intercorrelations between scores on dependency and self-criticism were adequately low (around .45) and the associations with different types of depressive symptoms and interpersonal characteristics were in line with theoretical predictions. Importantly, ipsatization was necessary to observe the hypothesized associations with depressive symptoms. Overall, the authors concluded that the reconstructed DEQ is a simple and valid scoring procedure with some important advantages compared to more complex scoring procedures of the DEQ.

According to Blatt (1974, 2004) two phenomenologically different subtypes of depression can be distinguished on the basis of the individual's underlying personality structure. The *anaclitic* personality structure is

[1] This chapter is based on Desmet, M., Vanheule, S., Groenvynck, H., Verhaeghe, P., Vogel, J. & Bogaerts, S. (2007). The Depressive Experiences Questionnaire: An inquiry into the different scoring procedures. European Journal of Psychological Assessment, 23(2). 89-98.

characterized by interpersonal dependency and underlies a subtype of depression with strong feelings of helplessness and weakness, intense fears of being abandoned, and desperate wishes to be cared for, loved and protected (Blatt, 1974). Symptoms in this type of depression would be experienced primarily at the somatic level. The *introjective* personality structure is characterised by excessive achievement strivings and underlies a developmentally more advanced subtype of depression with intense feelings of inferiority, guilt, and worthlessness, fears of loss of approval and recognition, and a sense that one has failed to live up to expectations and standards (Blatt, 1974). Symptoms in this type of depression would be experienced primarily at the cognitive level. Similar differentiations in subtypes of depression based on personality structure are made by Arieti and Bemporad (1978, 1980), Beck (1983) and Bowlby (1977).

The most widely used instrument to differentiate between these two subtypes of depression is the Depressive Experiences Questionnaire (DEQ, Blatt et al., 1976). To construct the DEQ, Blatt and his colleagues reviewed clinical literature and formulated 150 statements that reflected subjective experiences frequently reported by depressive patients. Subsequently, judges selected 66 of these statements that together were representative of the range of phenomenological experiences in the original list. They point out that the statements were selected "without commitment to any particular theoretical formulation" (Blatt et al., 1976, p. 384). The list of 66 statements was administered to 500 female and 160 male undergraduates who were asked to rate them on 7-point scale. In the female as well as in the male sample, a Principal Component Analysis (PCA) with Varimax rotation revealed 3 major factors that together explained 25% of the variance (Blatt et al., 1979). The items that loaded high on the first 2 factors reflected anaclitic and introjective orientations and were named 'dependency' and 'self-criticism', respectively. The third factor contained items that reflected a sense of trust in one's own potential and was labeled 'efficacy' (Blatt et al., 1976). Examples of items loading high on the dependency scale are: 'I often think about the danger of losing someone who is close to me' (#23), and 'After an argument, I feel very lonely' (#55); examples of items loading high on the self-criticism scale are: 'I often find that I don't live up to my own standards or ideals' (#7) and 'There is a considerable difference between how I am now and how I would like to be' (#13); examples of items loading high on the efficacy scale are: 'Other people have high expectations of me' (#24), and 'I have many inner resources' (#33). Blatt and his colleagues (1976) tested the stability of the DEQ factor structure by means of a split-half procedure, and obtained for each of the factors Phi-coefficients of Congruence with their split-half duplicates that were higher than .90.

While the stability of the factor structure has been proved several times in non-clinical populations (e.g. Bagby et al., 1994; Jerdonek, 1980; Zuroff, Quinlan, & Blatt, 1990), only few efforts have been made to replicate the original DEQ factors in clinical samples. Jerdonek (1980) found only 2 factors in a clinical sample: a first factor on which items from both the

dependency and the self-criticism subscale loaded high, and a second factor that corresponded to the efficacy subscale. However, as Blatt, Schaffer, Bers and Quinlan (1992, p. 84) noted, the sample size was too small to perform a PCA on. Luyten (2002, p. 369) computed phi-coefficients of congruence between the original DEQ factors of Blatt et al. (1976) and three Procrustes-rotated factors he extracted from a Dutch clinical sample (N=136). He found two factors resembling dependency and self-criticism but no factor resembling Efficacy. As this author remarked himself, his sample was rather small and his findings needed further exploration in a larger clinical sample (Luyten, 2002, p. 369).

Instead of elaborating the questionnaire and selecting the items that load high and differential on the three factors, Blatt et al. (1976) chose to preserve all 66 items, including several items without high loadings on any of the factors (26 items in the female and 26 in the male sample without loadings >.40), and items with high loadings on more than 1 factor (2 in the female and 3 in the male sample with 2 loadings >.40). It is clear that with this approach one cannot use a simple unit-weighted scoring system. Blatt et al. (1979) solved this problem in an unusual way. They constructed a scoring program that uses means, standard deviations and factor score coefficients of their student sample to compute standardized factor scores. The advantage of this scoring program is that it results in a more subtle measurement by preserving the unique contribution of each of the items to each of the DEQ factors. In the past, several researchers expressed their doubts about the complexity of this scoring procedure (e.g. Flett, Hewitt, Endler and Bagby, 1995) and some have tried to develop shortened versions of the DEQ for which another – unit weighted – scoring procedure could be applied. Welkowitz, Lish, and Bond (1985) constructed the *Revised Depressive Experiences Questionnaire* (RevDEQ) by selecting 43 items (20 dependency, 15 self-criticism, 8 efficacy) that loaded high and differential on the DEQ-scales in the original study of Blatt et al. (1976). Bagby et al. (1994) developed the *Reconstructed Depressive Experiences Questionnaire* (RecDEQ) by selecting 19 items (9 dependency, 10 self-criticism) that showed high and differential loadings in an Exploratory Factor Analysis (EFA) of DEQ data of a 'normal' adult sample. The RecDEQ was replicated by means of Confirmatory Factor Analysis (CFA) in a student and a clinical sample. Viglione, Lovette, Gottlieb, and Friedberg (1995) constructed the *Theoretical Depressive Experiences Questionnaire-21* (TDEQ-21) by selecting 21 items (10 dependency and 11 self-criticism) that matched Blatt's theoretical concepts and that loaded higher than .40 on the corresponding factor in the study of Blatt et al. (1976). The factor structure of the TDEQ-21 was replicated by means of PCA in a student sample and in a clinical sample (Viglione et al., 1995). The *Theoretical Depressive Experiences Questionnaire-12* [TDEQ-12, Viglione et al., 1995)] is a further elaboration of the TDEQ-21. Viglione et al. (1995) used PCA to select 12 items (5 dependency and 7 self-criticism) with loadings higher than .40 on the scales of the TDEQ-21 both in their student and in their clinical sample. Santor, Zuroff, and Fielding (1997) constructed

the *McGill version of the Depressive Experiences Questionnaire* (McGillDEQ) by selecting 48 items (18 dependency items, 18 self-criticism items, and 12 items that assess both dependency and self-criticism, yet in opposite direction) that showed high correlations with factor scores on dependency and self-criticism and that optimally preserved between-scale orthogonality. Furthermore, Blatt, Zohar, Quinlan, Zuroff, and Mongrain (1995) discerned two subscales in the dependency scale of the DEQ. According to Blatt and his colleagues (1995), the relatedness subscale measures a more mature form of connectedness with others and contains items like 'I would feel like I would be losing an important part of myself if I lost a very close friend' (#20), and 'I worry a lot about offending or hurting someone who is close to me' (#45). The dependence subscale measures an undifferentiated, generalized dependence on others and contains items like 'I urgently need things that only other people can provide' (#6), and 'Many times I feel helpless' (#11).

Because of the abundance of different versions of the DEQ, there is a need to determine which model is the best representation of empirical data and should thus be used to score the DEQ. In the present study, the seven different DEQ models described above were put to the test by means of CFA in a student sample (N=636) and in a heterogeneous clinical sample (N=404). Although some might argue that it would be better to include only depressive patients in the clinical sample, we believe there are two arguments to use a heterogeneous clinical sample. First, dependency and self-criticism are theoretically supposed to be dimensions underlying the whole field of psychopathology (Blatt and Shichman, 1983). Second, the testing of hypotheses concerning dependency and self-criticism as vulnerability factors for depression requires the comparison of DEQ scores across depressed and nondepressed samples. This means that it should be possible to replicate the DEQ factor structure in a heterogeneous sample. Besides studying the factorial validity, we also study the construct validity of the different versions of the DEQ by correlating dependency and self-criticism with different types of depressive symptoms and interpersonal problems. We hypothesize that dependency will be associated with somatic depressive symptoms (Blatt, 2004, p 155) and with non-assertive, overly accommodating and self-sacrificing interpersonal behaviour (Blatt, 2004, pp 180-183); self-criticism will be associated with cognitive depressive symptoms (Blatt, 2004, p 155), and with vindictive, cold and socially inhibited interpersonal behaviour (Blatt, 2004, pp 180-183). For the subscales of the dependency scale, we hypothesize that dependence will be associated with the same depressive symptoms and interpersonal problems as those specified for dependency (see above); relatedness – as a mature form of connectedness with others – will show no significant associations with depressive symptoms nor with interpersonal problems.

Method

Participants

Student Sample. The student sample consisted of 636 first and second year psychology students of the university of Ghent (519 female, 114 male, 3 missing values for sex), ranging in age from 18 to 55 years (M=19.31, SD=2.77).

Clinical Sample. The clinical sample consisted of 404 outpatients (283 female, 117 male, 4 missing values for sex), ranging in age from 18 to 72 years (M = 38.4, SD = 10.6). According to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, American Psychiatric Association, 2000), mood disorders were the most frequently occurring diagnoses (44% of total, recurrent major depressive disorder 22%, single episode major depressive disorder 13%, dysthymic disorder 7%, bipolar disorder 2%), followed by anxiety disorders (15%), other conditions that may be a focus of clinical attention (11%), adjustment disorders (4%), somatoform disorders (4%), substance-related disorders (3%) and eating disorders (2%). All other categories contained less than 1% of the participants. For 12% of the cases there was no diagnosis on axis I, or diagnosis on this axis was deferred. Seventy-four percent of the participants received a diagnosis on axis II. Borderline Personality Disorder (PD) (12% of the total sample), PD not otherwise specified (also 12%), and dependent PD (9%) were the most frequently occurring diagnoses.

Procedure

Students were asked to participate in a questionnaire study. Those who agreed, filled out the DEQ, and returned it to their instructors. To recruit the clinical sample, we initially contacted 91 mental health care centres and asked if they were willing to participate in a questionnaire study. Psychiatrists and/or psychologists from the 35 centres that agreed presented an informational letter to their patients. In this letter, we briefly explained that we were studying mental health and asked them to participate in the study by filling out a questionnaire. Those who agreed filled out the questionnaire at the centre or at home and returned them to us via the psychiatrists/psychologists.

Measures

Students and patients filled out the Dutch version of the DEQ.

The *Depressive Experiences Questionnaire* (DEQ, Blatt et al., 1976) is a 66-item self-report questionnaire, in which all items are scored on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The DEQ scoring program yields scores on three scales: dependency, self-criticism, and efficacy. Since the efficacy scale does not measure a theoretical

concept of Blatt, it is of minor importance for the present study. The Dutch translation was made by a front-and-back translation procedure and has proven to have good internal consistency and good reliability (Luyten, Fontaine, Soenen et al., under review). Prognostic validity of the DEQ was tested in a study of Blatt, Quinlan, Chevron, McDonald and Zuroff (1982). Patients were assigned to 4 different groups on the basis of their scores on the DEQ (high scores on dependency, self-criticism, on both, or on neither of these dimensions). Judges used criteria specified in the theory of Blatt about anaclitic and introjective personality styles and were able to differentiate between the four groups (group membership in 56% of the cases correctly predicted, $p < .0001$) on the basis of written clinical case records.

Patients additionally filled out the Dutch versions of the BDI-II and the IIP-64.

The *Beck Depression Inventory-II* (BDI-II, Beck, Steer and Brown, 1996) is a 21-item self-report questionnaire that measures severity of depressed mood. For each symptom, statements are listed in ascending order, from 1 (non-depressed) to 3 (severely depressed). The psychometric properties of the Dutch translation are acceptable and comparable to those of the original BDI-II (Van der Does, 2002). Beck, Steer, Brown, and Van Der Does (2002) discern a cognitive, a somatic, and an affective factor in the BDI-II. Recently, Vanheule, Desmet, Groenvinck, Rosseel, and Fontaine (under review) confirmed the validity of this three-factor model in a Dutch non-clinical and clinical sample.

The *Inventory of Interpersonal Problems-64* (IIP-64, Horowitz, Alden, Wiggins, & Pincus, 2000) is a 64-item self-report questionnaire that measures interpersonal problems on a 5-point Likert scale from 0 (not at all) to 4 (extremely). Eight subscales can be discerned that are mutually correlated in the pattern of a circumplex: domineering, vindictive, cold, socially inhibited, nonassertive, overly accommodating, self-sacrificing and intrusive. The two underlying dimensions are friendly-hostile and submissive-domineering. Recently, Vanheule, Desmet, and Rosseel (2006) evaluated the psychometric properties of the Dutch translation positively.

Data Analysis

The CFA's were performed using Lisrel 8.50, maximum likelihood estimation.

To evaluate model fit, the Chi square statistic was supplemented with four fit indices (Browne & Cudeck, 1993). First, we considered two badness-of-fit statistics: the Standardized Root Mean Square Residual (SRMR), for which a value of .09 or lower indicates good fit; and the Root Mean Square Error of Approximation (RMSEA), for which a value of .06 or lower indicates a good fit. Subsequently, we reported two goodness-of fit measures: the Comparative Fit Index (CFI) for which a value of .90 or higher indicates reasonable model fit and a value of .95 or higher indicates good fit; and the

Goodness-of-Fit Index (GFI), for which a value of .90 or higher indicates good fit.

Results

Confirmatory Factor Analysis

The base models of all DEQ versions – except the original DEQ (see infra) – are shown in Table 1. For every version of the DEQ, we put different variants of these base models to the test. Estimates of the correlations between the latent factors of dependency and self-criticism and correlations between the scores on dependency and self-criticism (yielded by the different scoring procedures) are shown in Table 2. Fit statistics for all models in the student sample (Table 3) and in the clinical sample (Table 4) are presented.

Table 1: *Factor Models of Five Shortened Versions of the DEQ and of the DEQ with Subscales*

Scale	Items
RevDEQ	
Dep	#2, #9, #10, #18, #19, #20, #22, #23, #26, #28, #32, #34, #38, #41, #45, #46, #50, #52, #55, #65
SC	#7, #11, #13, #16, #17, #27, #30, #35, #36 , #37, #43, #53, #56, #58, #62
Eff	#1, 14#, 15#, 24#, 33#, #42, #59, #60
RecDEQ	
Dep	#19, #20, #22, #23, #32, #34, #45, #46, #52, #55
SC	#7, #11, #13, #17, #27, #30, #35, #37, #62
TDEQ-21	
Dep	#2, #19, #20, #22, #23, #28, #46, #50, #52, #55
SC	#4, #7, #13, #30, #36, #41, #43, #51, #53, #64, #66
TDEQ-12	
Dep	#2, #19, #23, #50, #55
SC	#7, #13, #30, #36, #53, #64, #66
McGill DEQ	
Dep	#2, #9, #12, #18, #19, #22, #23, #27, #28, #34, #40, #42, #45, #46, #50, #52, #55, #61, #3*, #14*, #20*, #26*, #31*, #32*, #35*, #38*, #44*, #49*, #62*, #65*
SC	#5, #7, #10, #11, #13, #16, #17, #21, #30, #36, #39, #43, #53, #56, #58, #61, #64, #66, #3*, #14*, #20*, #26*, #31*, #32*, #35*, #38*, #44*, #49*, #62*, #65*
Subscales Dep	
Dce	#2, #19, #22, #23, #26, #28, #38, #42, #46, #52
Rel	#9, #20, #32, #34, #45, #50, #55, #65

Note. DEQ = Depressive Experiences Questionnaire; TDEQ-21 = Theoretical DEQ with 21 items ; TDEQ-12 = Theoretical DEQ with 12 items; McGill DEQ = McGill revision of the DEQ; M = Mean ; SD = Standard Deviation; Dep = Dependency; SC = Self-criticism; Dce = Dependence; Rel = Relatedness; * = item of the McGillDEQ that is supposed to load (in the opposite direction) on both the Dependency and the Self-criticism scale; Subscales of Dep. = Selection of dependency items loading on two subfactors (dependence and relatedness).

To perform a classical CFA, one has to build a so-called simple structure in which one specifies which items are ought to load on which factors. In our opinion, the scoring procedure of the original DEQ cannot be tested by means of classical CFA. As mentioned in the introduction, almost 50% of the items of the DEQ have no substantial loadings at all or have high loadings on more than one factor. Thus, if we were to use classical CFA, half of the items of the DEQ would be excluded from the analysis. Since taking into account the unique contribution of each item to each factor is an essential feature of the original scoring procedure (Blatt, 2004, p.97), we conclude that testing the original scoring procedure by means of a simple structure is not an appropriate technique. As a solution for this problem we perform an adjusted CFA. A model was constructed where not only the number of factors and the item-to-factor relations where fixed a priori, but we also hard-wired the factor-loadings: that is, the factor-loadings of the dependency, the self-criticism and the efficacy scale were fixed to the same value as used in Blatt's original scoring program. This implies a straightforward test of the DEQ-scoring program.

For this three-factor model, the SRMR and the RMSEA indicated acceptable model fit in both samples. The CFI and the GFI indicated bad fit. Since the efficacy scale is of minor theoretical importance, we also tested a two-factor model in which only the loadings on the dependency and self-criticism factors were hard-wired. For this model too, only the SRMR and the RMSEA indicated acceptable model fit. Correlations between the latent factors of dependency and self-criticism were low.

For the RevDEQ, the RecDEQ, the TDEQ21, and the TDEQ12, all items are supposed to load on one and only one pre-determined factor, meaning that there is no problem to use classical CFA to put them to the test. For the three-factor model of the RevDEQ, the SRMR, the RMSEA, and the CFI indicated acceptable model fit in both samples; the GFI indicated bad fit. The fit statistics indicated a slightly better fit of a two-factor model in which the efficacy scale was deleted in both samples. All fit indices indicated acceptable or good model fit for the models of the RecDEQ, the TDEQ-21, and the TDEQ-12 in both samples. Correlations between the dependency and self-criticism latent factors were moderately high (RecDEQ) to high (RevDEQ, TDEQ-21, TDEQ-12). Notwithstanding the height of the correlations, we observed that a two-factor model fitted the data better than a one-factor model for these four versions of the DEQ in both samples. Subsequently, we added a factor on which all items load to control whether the high correlations between dependency and self-criticism might be due to a general complaint factor. For all four DEQ versions, all fit statistics indicated good (RevDEQ) to excellent (RecDEQ, TDEQ-21, TDEQ-12) fit of these models in both samples. To control whether the general complaint factor could be removed by an ipsatization procedure, we ipsatized the raw item scores (for the four versions separately) and tested the two-factor models again. All fit statistics indicated bad fit of the two-factor models of the RevDEQ, the TDEQ-21, and the TDEQ-12 to the ipsatized data. For the

RecDEQ, the SRMR, the RMSEA and the GFI indicated good fit of the two-factor model to ipsatized data.

For the McGillDEQ, we specified in the base model that 18 items were supposed to load on the dependency factor, 18 items on the self-criticism factor, and 12 items on both the dependency and the self-criticism factor, yet in the opposite direction. All fit indices indicated bad fit of this two-factor model in both samples. We observed that contrary to the specifications in the model, 10 of the 12 common items loaded in the same direction on the dependency and self-criticism factor. Therefore, we tested a two-factor model in which we specified no direction for the loadings of the common items. For this model, SRMR, RMSEA and CFI indicated acceptable model fit. While the correlations between the latent factors were high, the correlations between the McGill scores were close to zero.

Finally, we tested a second-order model with two subfactors (dependence and relatedness) in the dependency factor. All fit statistics indicated good or acceptable model fit in both samples. However, this model did not fit the data significantly better than a first-order model without subscales in the student sample (χ^2 difference = 2.62; df = 2; $p > .10$) and in the clinical sample (χ^2 difference = .56; df = 2; $p > .10$).

Table 2: *Correlations Between Latent Factors and Scores of the Dependency and Self-criticism Scales of the DEQ and of Five Shortened Versions of the DEQ*

	Model					
Sample	OrigDEQ	RevDEQ	RecDEQ	TDEQ-21	TDEQ-12	McGillDEQ
			Latent Factors			
Student	.62	.70	.61	.60	.68	.74
Clinical	.74	.83	.69	.75	.76	.83
			Scores			
Student	.05	.62	.44	.54	.52	-.01
Clinical	.11	.53	.47	.54	.42	.02

Note. OrigDEQ = Original DEQ ; RevDEQ = Revised DEQ ; RecDEQ = Reconstructed DEQ ; TDEQ-21 = Theoretical DEQ with 21 items ; TDEQ-12 = Theoretical DEQ with 12 items; McGill DEQ = McGill revision of the DEQ.

Correlations with External Measures

To evaluate the external validity of the different versions of the DEQ, we studied associations with different types of depressive symptoms and interpersonal problems. Table 5 shows that the hypothesized associations with depressive symptoms were not found: all types of depressive symptoms were associated significantly stronger with self-criticism than with dependency. The hypothesized associations with specific types of interpersonal problems

Table 3: *CFA Fit Indices for DEQ Models in Student Sample*

	Student Sample					
Model	χ^2	df	SRMR	RMSEA	CFI	GFI
OrigDEQ						
Three-Factor	5347.24*	2139	.092	.061	.83	.70
Two-Factor	8757.23*	2142	.089	.069	.80	.67
RevDEQ						
Three-Factor	3085.65*	815	.084	.066	.90	.78
Two-Factor	1996.42*	525	.069	.066	.93	.82
One-Factor	3163.89*	527	.078	.089	.87	.74
Two-Fact. + GP	1279.96*	498	.056	.050	.96	.85
Two-Fact. (ID)	2093.10*	433	.098	.081	.48	.79
RecDEQ						
Two-Factor	533.64*	151	.066	.063	.93	.90
One-Factor	1037.90*	152	.081	.096	.85	.83
Two-Fact. + GP	239.39*	130	.046	.036	.98	.94
Two-Fact. (ID)	426.66*	151	.078	.064	.76	.91
TDEQ-21						
Two-Factor	618.90*	188	.057	.060	.95	.90
One-Factor	1112.78*	189	.071	.088	.89	.83
Two-Fact. + GP	330.03*	165	.047	.040	.98	.93
Two-Fact. (ID)	570.16*	188	.120	.071	.52	.78
TDEQ-12						
Two-Factor	175.47	53	.052	.060	.96	.95
One-Factor	439.31*	54	.079	.110	.86	.88
Two-Fact. + GP	51.42	39	.041	.022	1.00	.97
Two-Fact. (ID)	495.27*	53	.097	.110	.52	.87
McGillDEQ						
Opp. Load.	11209.66*	2083	.116	.067	.52	.65
No Opp. Load.	3830.94*	1021	.072	.066	.88	.77
Subscales Dep						
Second Order	476.06*	133	.077	.064	.94	.88
First Order	528.47*	135	.059	.068	.93	.90

Note. OrigDEQ = Original DEQ; RevDEQ = Revised DEQ; RecDEQ = Reconstructed DEQ; TDEQ-21 = Theoretical DEQ with 21 items ; TDEQ-12 = Theoretical DEQ with 12 items; Three-Factor = Model with dependency, self-criticism and efficacy factors; Two-Factor = Model with dependency and self-criticism factors; Two-Fact. + GP = Model with dependency and self-criticism factors and a general complaint factor; Two-Fact. (ID) = Model with dependency and self-criticism factor tested on Ipsatized Data;
McGill DEQ = McGill revision of the DEQ; Opp. Load. = Model with dependency and self-criticism factors in which the items that load on both factors are supposed to have Opposite Loadings; No Opp. Load. = Model with dependency and self-criticism in which the items that load on both factors are
Not supposed to have Opposite Loadings; Subscales of Dep. = Selection of dependency items loading on two subfactors (dependence and relatedness); Second Order = Selection of dependency items loading on two subfactors (dependence and relatedness ; First Order: Selection of dependency items loading on one factor without subfactors.

Table 4: *CFA Fit Indices for DEQ Models in Clinical Sample*

	Clinical Sample					
Model	χ^2	df	SRMR	RMSEA	CFI	GFI
OrigDEQ						
Three-Factor	7341.43*	213	.084	.062	.84	.70
Two-Factor	5755.90*	214	.094	.065	.81	.67
RevDEQ						
Three-Factor	1955.48*	815	.072	.059	.91	.79
Two-Factor	1290.80*	525	.064	.060	.93	.82
One-Factor	1469.81*	527	.067	.067	.91	.80
Two-Fact. + GP	815.10*	498	.055	.041	.97	.85
Two-Fact. (ID)	1879.14*	433	.110	.091	.24	.71
RecDEQ						
Two-Factor	336.44*	151	.063	.055	.94	.91
One-Factor	469.52*	152	.070	.072	.90	.87
Two-Fact. + GP	152.54*	130	.047	.021	.99	.93
Two-Fact. (ID)	326.56*	151	.078	.054	.76	.91
TDEQ-21						
Two-Factor	429.03*	188	.063	.057	.93	.89
One-Factor	522.55*	189	.066	.067	.87	.91
Two-Fact. + GP	199.28*	165	.047	.023	.99	.93
Two-Fact. (ID)	934.55*	188	.080	.079	.46	.86
TDEQ-12						
Two-Factor	96.72*	53	.051	.045	.97	.96
One-Factor	135.69*	54	.059	.062	.94	.94
Two-Fact. + GP	13.30	39	.030	.000	1.00	.98
Two-Fact. + (ID)	227.20*	53	.130	.091	.51	.84
McGillDEQ						
Opp. Load.	9662.04*	208	.121	.076	.77	.63
No Opp. Load.	2573.17*	102	.069	.062	.87	.76
Subscales of Dep.						
Second Order	319.48*	133	.066	.059	.92	.89
First Order	404.65*	135	.066	.070	.88	.88

Note. OrigDEQ = Original DEQ; RevDEQ = Revised DEQ; RecDEQ = Reconstructed DEQ; TDEQ-21 = Theoretical DEQ with 21 items ; TDEQ-12 = Theoretical DEQ with 12 items; Three-Factor = Model with dependency, self-criticism and efficacy factors; Two-Factor = Model with dependency and self-criticism factors; Two-Fact. + GP = Model with dependency and self-criticism factors and a general complaint factor; Two-Fact. (ID) = Model with dependency and self-criticism factor tested on Ipsatized Data; McGill DEQ = McGill revision of the DEQ; Opp. Load. = Model with dependency and self-criticism factors in which the items that load on both factors are supposed to have Opposite Loadings; No Opp. Load. = Model with dependency and self-criticism in which the items that load on both factors are Not supposed to have Opposite Loadings; Subscales of Dep. = Selection of dependency items loading on two subfactors (dependence and relatedness); Second Order = Selection of dependency items loading on two subfactors (dependence and relatedness ; First Order: Selection of dependency items loading on one factor without subfactors.

were found for all versions of the DEQ, except for the TDEQ-21 and the TDEQ-12. For the latter versions, the self-criticism scale shows stronger associations than dependency with all types of interpersonal problems, except with intrusiveness. Furthermore, Table 5 shows that the two subscales of the dependency scale – dependence and relatedness – were both significantly associated with depressive symptoms. Correlations with interpersonal problems were basically the same for the two subscales, except the significantly stronger correlation of the relatedness subscale with self-sacrificing interpersonal behaviour.

For the DEQ models for which an ipsatized model was tested, we ipsatized the scale scores and computed correlations with the ipsatized scales of the BDI-II and the IIP-64 (see Table 6). Correlations with the different types of depressive symptoms were in line with theoretical predictions for the RevDEQ, the RecDEQ, the TDEQ-21, and the TDEQ-12; correlations with different types of interpersonal problems were only in line with theoretical predictions for the RevDEQ and the RecDEQ.

Table 6: *Correlations between Ipsatized Scores on Dependency and Self-criticism and Ipsatized Scores on Depressive Symptoms and Interpersonal Problems*

	RevDEQ		RecDEQ		TDEQ21		TDEQ12	
Ext Var	Dep	SC	Dep	SC	Dep	SC	Dep	SC
BDI So	.15**	-.15**	.20**	-.20**	.24**	-.24**	.17**	-.17**
BDI Co	-.11*	.11*	-.16**	.16**	-.28**	.28**	-.19**	.19*
BDI Aff	-.07	.07	.07	-.07	.04	.04	-.02	.02
IIP Dom	-.22**	-.22**	-.11	.11	-.04	.04	-.05	.05
IIP Vin	-.34**	.34**	-.24**	.24**	-.07	.07	-.02	.02
IIP Co	-.41**	.41**	-.35**	.35**	-.14**	.14**	-.08	.08
IIP SI	-.13*	.13*	-.20**	.20**	-.13*	.13*	-.07	.07
IIP NA	.18**	-.18**	.09	-.09	.02	-.02	-.02	.02
IIP OA	.36**	-.36**	.29**	-.29**	.07	-.07	-.01	.01
IIP SS	.38**	-.38**	.34**	-.34**	.12*	-.12*	.06	-.06
IIP Int	.15**	-.15**	.17**	-.17**	.20*	-.20*	.19	-.19

Note. RevDEQ = Revised DEQ; RecDEQ = Reconstructed DEQ; TDEQ-21 = Theoretical DEQ with 21 items; TDEQ-12 = Theoretical DEQ with 12 items; BDI So = BDI Somatic Symptoms; BDI Co = BDI Cognitive Symptoms; IIP Dom = IIP Domineering; IIP Vin = IIP Vindictive; IIP Co= IIP Cold; IIP SI = IIP Socially Inhibited; IIP NA = IIP Nonassertive; IIP OA = Overly Accommodating; IIP SS = IIP Self-sacrificing; IIP Int = IIP Intrusive *p < .05. ** p < .01.

Discussion and Conclusion

In this study, we tested seven different scoring procedures of the DEQ by means of CFA in a clinical sample and a student sample. Special attention was paid to the height of the correlations between dependency and self- criticism. As other researchers remarked (Robins et al., 1994; Zuroff, Mongrain, &

Santor, 2004b), high correlations pose a serious empirical problem, because they hinder the demonstration of differential relations with other variables. In the case of the DEQ, this is of particular importance, since the theory of Blatt (2004) states that dependency and self-criticism are differentially associated with different types of depressive symptoms and interpersonal behaviour. Therefore, we put these differential associations to the test in our clinical sample. We hypothesized that dependency would be associated with somatic depressive symptoms and non-assertive, overly accommodating, and self-sacrificing interpersonal behaviour; self-criticism would be associated with cognitive depressive symptoms and vindictive, cold, and socially inhibited interpersonal behaviour.

For the original scoring procedure of the DEQ, we tested a model with hard-wired factor loadings and found in both samples that two fit statistics indicated acceptable model fit and that two other statistics indicated bad fit. Taking into account the stringency of this model, we could say that it fitted the data surprisingly well. Scores on dependency and self-criticism showed low intercorrelations with the original scoring method (.05 in the student sample and .11 in the clinical sample). However, estimates of associations between the latent factors of dependency and self-criticism were much higher (.62 in the student sample and .83 in the clinical sample). This suggests that the items do not reflect independent constructs and thus, that orthogonality is an artefact of the rotation procedure that Blatt and his colleagues (1976) applied in their original student sample (see also Coyne and Whiffen, 1995). The predicted differential associations with somatic and cognitive depressive symptoms were not found: self-criticism showed stronger associations than dependency with both types of symptoms. On the other hand, the predicted associations with different types of interpersonal problems were observed.

A second-order model in which the subscales dependence and relatedness were discerned in the dependency scale showed acceptable fit in both samples. However, it did not fit the data significantly better than a first-order model in which the subscales were not discerned. Furthermore, correlations with depressive symptoms and interpersonal problems yielded evidence against the idea that the subscales measure mature and immature connectedness with other people: both subscales correlated significantly and equally strong with depressive symptoms and interpersonal problems. Interestingly, there was little or no difference between the type of interpersonal problems associated with dependence and relatedness. In fact, the two subscales were both associated with the interpersonal problems theoretically ascribed to the dependency scale. Together, our results yield little support for dividing the dependency scale in a mature and an immature subscale.

The McGillDEQ was the only DEQ version for which the CFA fit statistics unequivocally indicated bad fit. In this scoring procedure, 12 DEQ items are scored on both the dependency and the self-criticism scale, yet in the opposite direction. A model in which the direction of these item loadings was not specified, fitted the data better than a model in which the direction was specified. When taking a closer look at the loadings of the 12 common items, we observed that 10 of these items loaded in the same direction on the dependency and self-criticism factor. This accounts for the observed

discrepancy between the intercorrelations of the latent factors and the scores of dependency and self-criticism: while the latent factors were highly correlated in both samples (r = .74 in the student and r = .83 in the clinical sample), the scores were uncorrelated (r = -.01 in the student sample and r = .02 in the clinical sample). Thus, the orthogonality of the McGill scores seems to be based on a model that is inconsistent with the structure of empirical data. In line with the findings with the original DEQ scoring procedure, the McGill scores on dependency and self-criticism did not show the expected correlation pattern with depressive symptoms. However, they correlated in the theoretically predicted way with interpersonal problems.

The CFA evaluation was predominantly positive for the other DEQ versions: for the RevDEQ, three fit-statistics indicated acceptable model fit and one fit-statistic indicated bad fit in both samples; for the RecDEQ, the TDEQ-21, and the TDEQ-12, all fit statistics indicated acceptable model fit in both samples. We observed moderately high correlations between the latent factors of dependency and self-criticism for the RecDEQ and high correlations for the RevDEQ, the TDEQ-21, the TDEQ-12, and the McGillDEQ in both samples. We hypothesized that a general complaint factor might be responsible for these correlations between dependency and self-criticism. Therefore, we extended these DEQ models with a factor on which all items loaded and subsequently tested them again. A better fit was observed for all models in both samples, especially for the RecDEQ, the TDEQ-21 and the TDEQ-12. To test if ipsatization is a justified method to remove this general complaint factor, we ipsatized the item-scores and tested the theoretical models again. Ipsatization removed the impact of a general complaint factor and changed the correlation between dependency and self-criticism from (highly) positive to maximally negative (r = -1). Therefore, ipsatized scores on dependency and self-criticism are more suitable for testing hypotheses concerning differential associations with symptom measures (see above) and to study intra-individual stability over time of the DEQ scores (see Zuroff, Mongrain, & Santor, 2004). However, after ipsatizing the item scores of these four versions of the DEQ, only the theoretical model of the RecDEQ showed an acceptable fit. The predicted associations with different types of depressive symptoms were not found for any of these four DEQ versions when using raw scale scores: all types of depressive symptoms correlated significantly stronger with self-criticism than with dependency. A certain amount of content overlap between the items of the self-criticism scale of the DEQ and the items of the BDI-II is possibly responsible for this observation (see also Desmet, Vanheule, Verhaeghe, 2006). However, after ipsatization, all four DEQ versions generated scores on dependency and self-criticism that correlated in the theoretically predicted way with the different types of depressive symptoms. The correlations with different types of interpersonal problems confirmed the external validity of the RevDEQ and the RecDEQ. Surprisingly in the light of the results of the CFA's, the self-criticism scale of the TDEQ-21 and the TDEQ-12 did not correlate in the predicted way with interpersonal problems.

The dissimilarity between the results of the CFA's and the results of the tests on the external validity prompt us to phrase our conclusions with caution. We are inclined to put forward the Reconstructed DEQ of Bagby and his colleagues (1994) as the most interesting DEQ model, since it was the

only model that demonstrated good CFA fit to both raw and ipsatized data (in the student as well as the clinical sample) and that at the same time showed good external validity. Furthermore, scores on dependency and self-criticism obtained with the RecDEQ showed lower intercorrelations (around .45) than those obtained with the RevDEQ, the TDEQ-21 and the TDEQ-12. This means that the intercorrelations observed with the RecDEQ are amply below the threshold of .60 that Zuroff et al. (2004b) consider to be pragmatically and theoretically problematic. Moreover, the RecDEQ was the only model that showed a good fit to ipsatized item scores. The lack of transparency and simplicity of the original and McGill scoring procedure are cumbersome and entail problems to ipsatize the scores on dependency and self-criticism. This is particular importance for the DEQ since our results show that ipsatization was *necessary* to demonstrate the specific associations with somatic and cognitive depressive symptoms. A final advantage of the RecDEQ is the substantial reduction of the scale length (containing four times less items than the original DEQ), which can be important when the DEQ is administered in low-energetic depressed samples.

Finally, some limitations should be considered in interpreting our results. This study started from the Dutch translation of the DEQ, which means that some impact of cross-cultural factors might play a role. Furthermore, we relied exclusively on self-reports in our analyses and only few external variables were used to study the external validity of the DEQ. Therefore, it would be interesting if future research tried to replicate our findings in other countries, making use of alternative measurements of external variables, like for example structured interviews on depressive symptoms and interpersonal behaviour.

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Table 5: *T-tests on Differences Between Correlations of Dependency and Self-criticism with Depressive Symptoms and Interpersonal Behaviour*

	OrigDEQ			RevDEQ			RecDEQ			TDEQ-21			TDEQ-12			McGillDEQ			Subscales of Dep.		
Ext Var	Dep	SC	t	Dep	SC	t	Dep	SC	t	Dep	SC	t	Dep	SC	t	Dep	SC	t	Rel.	Dce	t
BDI So	.26	.43	1.44	.37	.51	1.68	.36	.50	1.58	.33	.42	1.03	.33	.42	.93	.23	.42	1.53	.31	.33	.25
BDI Co	.31	.62	3.08	.47	.67	2.80	.37	.64	3.40	.35	.63	3.72	.37	.62	2.96	.27	.62	3.34	.41	.37	.52
BDI Aff	.18	.47	2.16	.32	.52	2.40	.27	.53	2.95	.25	.42	1.93	.29	.44	1.55	.17	.46	2.35	.27	.26	.12
IIP Dom	-.12	.38	4.04	.03	.32	3.17	.00	.26	2.54	.03	.19	1.69	.04	.20	1.50	-.17	.37	4.19	.03	-.01	.40
IIP Vin	-.04	.51	4.73	.16	.47	3.61	.10	.44	3.57	.15	.32	1.85	.16	.31	1.45	-.10	.52	5.18	.09	.12	.37
IIP Co	-.03	.47	4.21	.13	.45	3.70	.09	.47	4.07	.12	.32	2.18	.13	.31	1.74	-.07	.46	4.24	.06	.11	.54
IIP SI	.22	.45	1.97	.33	.48	1.75	.24	.52	3.07	.27	.43	1.83	.26	.41	1.52	.19	.44	2.10	.24	.30	.77
IIP NA	.39	.33	.51	.43	.39	.46	.35	.43	.85	.33	.44	1.27	.26	.39	1.31	.38	.31	.57	.34	.39	.69
IIP OA	.46	.32	1.28	.50	.36	1.66	.4	.38	1.09	.39	.42	.35	.30	.40	1.02	.44	.30	1.17	.47	.41	.84
IIP SS	.45	.30	1.29	.49	.34	1.77	.47	36	1.19	.38	.39	.11	.32	.38	.61	.42	.29	1.07	.52	.35	2.33
IIP Int	.25	.30	-.34	.35	.32	.33	.29	.27	.20	.34	.28	.66	.30	.25	.59	.20	.31	.84	.31	.32	.06

Note. OrigDEQ = Original DEQ; RevDEQ = Revised DEQ; RecDEQ = Reconstructed DEQ; TDEQ-21 = Theoretical DEQ with 21 items; TDEQ-12 = Theoretical DEQ with 12 items; McGill DEQ = McGill revision of the DEQ; Subscales of Dep. = Subscales dependence and relatedness of the dependency scale; ExtVar = External Variables; Dep. = Dependency; SC = Self-criticism; Dce = Dependence; Rel. = Relatedness; t = t-test on differences between correlations of external variable with dependency and self-criticism; BDI So = BDI Somatic Symptoms; BDI Co = BDI Cognitive Symptoms; IIP Dom = IIP Domineering; IIP Vin = IIP Vindictive; IIP Co= IIP Cold; IIP SI = IIP Socially Inhibited; IIP NA = IIP Nonassertive; IIP OA = Overly Accommodating; IIP SS = IIP Self-sacrificing; IIP Int = IIP Intrusive; Single underline $p < .05$. double underline $p < .01$.

Chapter 4

The Depressive Experiences Questionnaire : Can we make use of a Student-based Scoring Program in a Clinical Sample?[1]

In nonclinical as well as clinical samples, the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) is scored in an unusual way, with a program that computes factor scores by using means, standard deviations and item-loadings of a student sample of Blatt and his colleagues. The underlying assumption of the use of this program in clinical samples is that factor scores computed on the basis of the student factor solution are similar to factor scores computed on the basis of a clinical factor solution. This assumption has never been put to the test in the almost 30 years that the DEQ is used in research practice. In the present paper, the authors built an alternative scoring program based on the factor solution of a clinical sample (N = 400) and compared scores of this clinical scoring program with scores of the original (student based) program. Results of this test were inconsistent with the underlying assumption and failed to support the use of the student-based scoring program in our clinical sample. Furthermore, our results suggested that standards for assessing factorial similarity used in Confirmatory Factor Analysis might be too lenient.

According to Blatt (1974) two phenomenologically different subtypes of depression can be distinguished on the basis of the individual's underlying personality structure. The *anaclitic* personality structure is characterized by interpersonal dependency and underlies a subtype of depression with strong feelings of helplessness and weakness, intense fears of being abandoned, and desperate wishes to be cared for, loved and protected (Blatt, 1974). The *introjective* personality structure is characterised by excessive achievement strivings and underlies a developmentally more advanced subtype of depression with intense feelings of inferiority, guilt, and worthlessness, fears of loss of approval and recognition, and a sense that one has failed to live up to expectations and standards (Blatt, 1974). Similar differentiations in subtypes of depression based on personality structure are made by Arieti and Bemporad (1980), Beck (1983) and Bowlby (1977).

[1] This chapter is based on Desmet, M., Vanheule, S., Verhaeghe, P., Meganck, R., Bogaerts, S., & Vogel, J. (Under Review). The Depressive Experiences Questionnaire: Can we make use of a student-based scoring program in clinical samples?

The most widely used instrument to differentiate between these two subtypes of depression is the Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976). To construct the DEQ, Blatt and his colleagues reviewed clinical literature and formulated 150 statements that reflected subjective experiences frequently reported by depressive patients. Subsequently, judges selected 66 of these statements that together were representative of the range of phenomenological experiences in the original list. They point out that the statements were selected "without commitment to any particular theoretical formulation" (Blatt et al., 1976, p. 384). The list of 66 statements was administered to 500 female and 160 male undergraduates who were asked to rate them on 7-point scale. In the female as well as in the male sample, a Principal Component Analysis (PCA) with Varimax rotation revealed 3 major factors that together explained 25% of the variance (Blatt, D'Aflitti, & Quinlan, 1979). The items that loaded high on the first 2 factors reflected anaclitic and introjective orientations and were named 'Dependency' and 'Self-Criticism' respectively. The third factor contained items that reflected a sense of trust in one's own potential and was labeled 'Efficacy' (Blatt et al., 1976). Blatt and his colleagues (1976) tested the stability of this factor structure by means of a split-half procedure, and obtained for each of the factors Phi-coefficients of Congruence with their split-half duplicates that were higher than .90.

Instead of elaborating the questionnaire and selecting the items that load high and differential on the three factors, Blatt et al. (1976) chose to preserve all 66 items, including several items without high loadings on any of the factors (26 items in the female and 26 in the male sample without loadings >.40), and items with high loadings on more than 1 factor (2 in the female and 3 in the male sample with 2 loadings >.40). It is clear that with this approach one cannot use a simple unit-weighted scoring system. Blatt et al. (1979) solved this problem in a very unusual way. They constructed a scoring program that uses means, standard deviations and factor score coefficients of their student sample to compute standardized factor scores. The advantage of this scoring program is that it results in a more subtle measurement by preserving the unique contribution of each of the items to each of the DEQ factors. Since the female sample of the original study of Blatt et al. (1976) generated the most stable factor solution, and since congruence coefficients between item loadings of the male and the female sample were sufficiently high, the use of a scoring program based on the factor solution of the female student sample is generally advised for the computation of scores for both men and women (Zuroff , Quinlan, & Blatt, 1990).

In the past, several researchers expressed their doubts about the complexity of this scoring procedure (see also Flett, Hewitt, Endler and Bagby, 1995) and some tried to develop shortened versions of the DEQ for which another –unit weighted– scoring procedure could be applied (Bagby, Parker, Joffe, & Buis, 1994; Santor, Zuroff, & Fielding, 1997; Viglione, Lovette, Gottlieb, & Friedberg, 1995; Welkowitz, Lish, & Bond, 1985). However, none of these attempts to simplify the questionnaire has been very

successful and a simple search on the web of science shows that the original DEQ with the original scoring procedure is still widely used both in non-clinical and clinical samples (e.g. Kutcher, Kusumakar, LeBlanc, Santo, Lagace, & Morehouse, 2004; Kuwakara, Sakado, Sakado, Sato, & Someya, 2004; Mongrain, Lubbers, Struthers, 2004; Thompson & Zuroff, 2004).

This means that researchers often take for granted that the student-based scoring program can be applied to clinical populations. However, it is clear that this is only justified if it can be proved that the subjects for whom the scores are computed belong to a population in which (at least) the loadings of the DEQ-items on the factors are similar to those of the seminal student sample. If the latter is not the case, the scoring procedure forces subjects into a structure that doesn't apply. The assumption underlying the use of the student-based scoring program in clinical samples is that factor scores computed on the basis of a student factor solution do not differ significantly from factor scores computed on the basis of a clinical factor solution, meaning that they are ought to be interchangeable. In the context of an earlier publication (authors, manuscript accepted for publication), we reviewed the literature on the DEQ and observed that this assumption has never been put to the test during the almost 30 years that the DEQ-scoring program is used in research. The reason for this omission probably is that there exists no ready-made data-analytic technique to put this unusual procedure to the test. An additional problem is that one needs a large clinical sample on which factor analysis can be properly performed. Therefore, we decided to hardwire the factor loadings, means, and standard deviations of Blatt's student sample in a Confirmatory Factor Analytic (CFA) model and put it to the test in a clinical sample. This test yielded mixed results: two fit measures indicated good fit of the student factor structure to the clinical data; two other fit measures indicated bad fit. Thus, the CFA test did not really yield convincing evidence nor against nor in favour of the use of the student based scoring program in clinical samples.

In this paper, we put the assumption underlying the use of the student-based scoring program in clinical samples to the test in more pragmatic way. We built an alternative, clinical scoring program and compared scores of this program (clinical scores, CS) with scores of the original (student based) program (standard scores, SS). To build the clinical scoring program, we followed exactly the same data-analytic path as Blatt et al. (1979) followed to construct the student-based scoring program. We first extracted three factors from our data by means of Principal Components Analysis (PCA) with Varimax rotation. Since the spatial orientation of factors extracted by PCA is arbitrary, we subsequently performed a Procrustes rotation (Schönemann, 1966) to orientate our factor solution towards the solution of Blatt et al. (1976). We then substituted in the original scoring program the means, standard deviations and factor score coefficients from the student sample of Blatt et al. (1976) by means, standard deviations and factor score coefficients of the Procrustes rotated components of our clinical sample. Subsequently, we use both the original and the clinical scoring program to compute DEQ-scores

in our clinical sample. According to the assumption underlying the DEQ scoring program, both series of scores should be very similar and should lead to similar conclusions when studying correlations with variables of central importance in the theory of Blatt. To check this, we did an experimental study in which we correlated both series of scores with different types of depressive symptoms and interpersonal characteristics – both crucial variables in the theory of Blatt – and looked if we reached the same conclusions with both scoring procedures.

Besides merely looking whether or not SS and CS lead up *to the same conclusions,* we will also study whether or not the observed associations are *in line with theoretical predictions*. We expect that dependency will be associated with somatic depressive symptoms and with non-assertive, overly accommodating, and self-sacrificing interpersonal problems; that self-criticism will be associated with cognitive depressive symptoms and with vindictive, cold, and socially inhibited interpersonal problems; and that efficacy will show negative associations with all types of depressive symptoms and interpersonal problems.

Method

Procedure

Psychiatrists and psychologists of 35 mental health care centres of the Flemish part of Belgium gave information letters with a brief description of our research design to their patients. Those who were willing to participate were provided with a bundle of questionnaires. Patients completed the questionnaires at the centre or at home and returned it to the caregiver. Before posting, the caregiver added a *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR, American Psychiatric Association, 2000) diagnosis.

Participants

Our sample consisted of 404 outpatients (283 female, 117 male, 4 missing values for sex, average response rate = 71.93%), ranging in age from 18 to 72 years (M = 38.4, SD = 10.6). All patients met DSM-IV diagnostic criteria. Mood Disorders were the most frequently occurring diagnoses (44% in total, 22% recurrent major depressive disorder, 13 % major depressive disorder, single episode, 7% dysthymic disorder, and 2% bipolar disorder), followed by Anxiety Disorders (15%). Seventy-four percent of the participants received a diagnosis on axis II. Borderline PD (12% of the total sample), PD Not Otherwise Specified (also 12%), and Dependent PD (9%) were the most frequently occurring diagnoses.

Measures

All participants filled out the Dutch translations of the DEQ, the BDI-II and the IIP-64. The *Depressive Experiences Questionnaire* (DEQ; Blatt, D'Aflitti, & Quinlan, 1976) is a 66-item self-report questionnaire, in which all items are scored on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The DEQ scoring program yields scores on three scales: Dependency, Self-criticism, and Efficacy[2]. The Dutch DEQ was made by a front-and-back translation procedure and has proven to have good internal consistency and good reliability (Luyten, Fontaine, Soenen et al., under review).

The *Beck Depression Inventory-II* (BDI-II, Beck, Steer, & Brown, 1996) is a 21-item self-report questionnaire that measures severity of depressed mood. For each symptom, statements are listed in ascending order, from 1 (non-depressed) to 3 (severely depressed). The psychometric properties of the Dutch translation are acceptable and comparable to those of the original BDI-II (Van der Does, 2002). Beck, Steer, Brown, and Van Der Does (2002) discern a cognitive, a somatic, and an affective factor in the BDI-II. Recently, Vanheule, Desmet, Groenvinck, Rosseel, and Fontaine (under review) confirmed the validity of this three-factor model in a Dutch non-clinical and clinical sample.

The *Inventory of Interpersonal Problems-64* (IIP-64, Horowitz, Alden, Wiggins, & Pincus, 2000) is a 64-item self-report questionnaire with that measures interpersonal problems on a 5-point Likert scale from 0 (not at all) to 4 (extremely). Eight subscales can be discerned in the IIP-64: domineering, vindictive, cold, socially inhibited, nonassertive, overly accommodating, self-sacrificing and intrusive/needy. Recently, Vanheule, Desmet, and Rosseel (2006) evaluated the psychometric properties of the Dutch translation positively.

Results

Correlations between SS and CS for dependency, self-criticism and efficacy were moderately high (.725, .769 and .621 respectively). The t-tests on differences between dependent correlations in table 1 show that there are significant differences between 19 out of 33 correlations of SS and CS with the scales of the BDI-II and the IIP-64.

For dependency, both SS and CS show significant and equally strong associations with cognitive and somatic depressive symptoms; SS are significantly associated with different types of interpersonal problems, especially with non-assertive, overly accommodating, and self-sacrificing problems; CS show significant associations with all types of interpersonal problems. For self-criticism, both SS and CS are significantly associated with

[2] The latter factor is of minor theoretical importance but is included for reasons of comprehensiveness.

cognitive and somatic depressive symptoms, yet, associations are strongest with cognitive symptoms; both SS and CS show significant associations with all types of interpersonal problems, yet, SS show the strongest associations with vindictive, cold, and socially inhibited problems while CS show the strongest associations with non-assertive, overly accommodating and self-sacrificing problems. For efficacy, SS show no significant associations with any type of depressive symptoms while CS show significant negative associations with all types of depressive symptoms; both SS show significant positive associations with domineering, self-sacrificing, and intrusive problems, and significant negative associations with socially inhibited and non-assertive problems; CS show significant positive associations with domineering, vindictive, and intrusive problems and significant negative associations with socially inhibited, non-assertive, overly accommodating, and self-sacrificing problems.

Table 1: *T-tests on differences between correlations of DEQ Standard Scores and Clinical Scores with external variables*

	DEQ-Dependency			DEQ-Self-Criticism			DEQ-Efficacy		
Ext Var	SS	CS	t	SS	CS	t	SS	CS	t
BDI Co	.30**	.33**	.44	.63**	.53**	1.93*	-.09	-.32**	2.69**
BDI So	.26**	.31**	.58	.43**	.36**	1.13	-.10	-.29**	2.27
BDI Aff	.17**	.26**	1.29	.48**	.38**	1.66*	-.15	-.26**	1.36
IIP Dom	-.13*	.06	2.55**	.37**	.15**	3.69**	.18**	.32**	1.67*
IIP Vin	-.04	.13**	2.38**	.50**	.29**	3.61**	.00	.13**	1.46
IIP Co	-.03	.11**	1.88*	.48**	.31**	2.71**	-.05	.01	.66
IIP SI	.21**	.20**	.21	.45**	.42**	.49	-.18**	-.27**	1.06
IIP NA	.39**	.18**	3.02**	.33**	.47**	2.36**	-.19**	-.46**	3.51**
IIP OA	.45**	.16**	4.52**	.31**	.51**	3.38**	.01	-.38**	5.05**
IIP SS	.45**	.17**	4.25**	.31**	.46**	2.57**	.18**	-.24**	5.37**
IIP Int	.26**	.30**	.62	.29**	.14**	2.22	.14**	.17**	.35

Note. DEQ = Depressive Experiences Questionnaire; BDI = Beck Depression Inventory; IIP = Inventory of Interpersonal Problems ; SS = Standard Scores ; CS = Clinical Scores ; t = t-test on differences between correlations of external variable with Standard Scores and Clinical Scores; BDI So = BDI Somatic Symptoms; BDI Co = BDI Cognitive Symptoms; IIP Dom = IIP Domineering; IIP Vin = IIP Vindictive; IIP Co= IIP Cold; IIP SI = IIP Socially Inhibited; IIP NA = IIP Nonassertive; IIP OA = Overly Accommodating; IIP SS = IIP Self-sacrificing; IIP Int = IIP Intrusive *p < .05. **p < .01.

Discussion and Conclusion

Different conclusions could be drawn from our results. Our first conclusion is that we were not able to replicate the student factor structure in our clinical sample: we observed that the factor scores generated by the student-based scoring program show only modest associations with the factor scores based on our clinical data, and more important, both series of factor scores correlated in significantly different ways with theoretically important

variables and lead up to different conclusions concerning the associations of dependency and self-criticism with depressive symptoms and interpersonal problems. Thus, we have to conclude that the student factor scores are not interchangeable with clinical factor scores, and thus, that the assumption underlying the use of the student-based program in clinical samples did not hold in our sample. These conclusions are of particular interest when confronting them with the conclusions drawn from the CFA performed on the same data (authors, manuscript accepted for publication). While this study clearly shows that there are significant differences in the factor structure of our clinical data and the factor structure of Blatt's student data, two out of four CFA fit indices (namely the standardized root mean square residual, SRMR, and the root mean square error of approximation, RMSEA) indicated good fit of the student factor structure to the clinical data. Thus, we could question what a good CFA fit means and to what degree it is an 'objective' criterion for factorial stability.

Interpretation of the results becomes more complicated if one does not only consider whether or not the standard scores and the clinical scores correlated *in the same way* with depressive symptoms and interpersonal problems, but also to what degree these correlations were *in line with theoretical predictions*. For dependency and self-criticism, correlations were more in line with theoretical predictions for the standard scores than for the clinical scores, especially the correlations with the different types of interpersonal problems; for efficacy, correlations were more in line with theoretical predictions when using the clinical scores.

Thus, the first conclusion is that the student-based scoring program created artefacts in our clinical sample, because it forces patients into a structure that does not apply; the second conclusion, in conflict with the first, is that the student based scoring program yields scores that are more in line with theoretical predictions. The general conclusion then seems to be that the student-based scoring program created 'theory-syntonic' artefacts in our sample. We do not agree with those who suggest that the standard scoring method could nevertheless be applied, since it showed acceptable construct validity in our study. The aim of studying the factorial validity of a questionnaire is to control whether or not the subjects interpreted the items in the way the researcher expects them to be interpreted (i.e. in the direction of the underlying theoretical constructs). Therefore, problems with the factorial validity should not be ignored, since it means that one basically does not know what the scores on the different scales represent.

Some limitations should be considered in interpreting our results, like the fact that we did not only compare a student sample with a clinical sample, but also an American sample with a Flemish sample. In other words: we could question whether the failure to replicate the factor structure has primarily to do with the dichotomy student-clinical sample or with cross-cultural differences. Similar 'pragmatic tests' should be performed in future research and shed light on the degree to which the DEQ factor structure is stable across different populations.

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Chapter 5

Convergent Validity of the Depressive Experiences Questionnaire[1]

The Depressive Experiences Questionnaire (DEQ; Blatt, D'Aflitti, & Quinlan, 1976) is a self-report questionnaire designed to differentiate between anaclitic (dependent) and introjective (self-critical) depression. According to some researchers (Viglione, Lovette, Gottlieb, & Friedberg, 1995; Flett, Hewitt, Endler, & Bagby, 1995; Coyne, Thompson, & Whiffen, 2004), there is a gap between the actual item content of the dependency and self-criticism scales of the DEQ and the rich theoretical descriptions of anaclitic and introjective depression of Blatt). The present paper evaluated the degree to which the DEQ scores converge with clinicians' ratings of patients on anaclitic and introjective personality styles in a sample of 56 outpatients (28 female, 28 male). Convergence was found between the dependency scale and clinicians' ratings on anaclitic style in the full sample as well as in the female and the male sample separately; convergence between the self-criticism scale and clinicians' ratings on introjective style was only observed in the male sample. An agreeing-response bias associated with high levels of anacliticism was possibly responsible for the lack of convergence between the self-criticism scale and clinicians' ratings on introjective style in the female sample. Further cross-method research is needed to evaluate the gender-specific validity of the DEQ scales.

According to Blatt (1974) two phenomenologically different subtypes of depression can be distinguished on the basis of the individual's underlying personality structure. The *anaclitic* personality structure underlies a subtype of depression characterized "by feelings of helplessness and weakness, by fears of being abandoned, and by wishes to be cared for, loved and protected" (Blatt et al., 1976, p. 383). The *introjective* personality structure underlies a subtype of depression that "is developmentally more advanced and characterized by intense feelings of inferiority, guilt, and worthlessness and by a sense that one has failed to live up to expectations and standards" (Blatt et al., 1976, pp. 383-384). Similar differentiations in subtypes of depression

[1] This chapter is based on Desmet, M., Verhaeghe, P., Van Hoorde, H., Meganck, R., & Vanheule, S. (under review). Convergent validity of the Depressive Experiences Questionnaire.

based on personality structure are made by Arieti and Bemporad (1980), Beck (1983) and Bowlby (1977).

The most widely used instrument to differentiate between these two subtypes of depression is the Depressive Experiences Questionnaire (DEQ; Blatt et al., 1976). To construct the DEQ, Blatt and his colleagues reviewed clinical literature and formulated 150 statements "that were not direct symptomatic expressions of depression but rather reflected experiences frequently reported by depressed patients" (Blatt et al., 1976, p. 384). Subsequently, judges selected 66 of these statements that together were representative of the range of phenomenological experiences in the original list. The authors note that all statements were selected "without commitment to any particular theoretical formulation" (Blatt et al., 1976, p. 384). The list of 66 statements was administered to 500 female and 160 male undergraduates who were asked to rate them on 7-point Likert scale. In the female as well as in the male sample, a Principal Component Analysis (PCA) with Varimax rotation revealed three major factors that together explained 25% of the variance (Blatt, D'Aflitti, & Quinlan, 1979). The items that loaded high on the first two factors reflected anaclitic and introjective orientations and were named 'dependency' and 'self-criticism' respectively. The third factor contained items that reflected a sense of trust in one's own potential and was labeled 'Efficacy' (Blatt et al., 1976). Blatt and his colleagues (1976) tested the stability of this factor structure by means of a split half procedure. The authors randomly divided their student sample in half and obtained Phi-coefficients of congruence between the split-half duplicates of each of the factors that were higher than .90.

Instead of elaborating the questionnaire and selecting the items that load high and differential on the three factors, Blatt et al. (1976) chose to preserve all 66 items, including several items without high loadings on any of the factors (26 items in the female and 26 in the male sample without loadings >.40), and items with high loadings on more than one factor (two in the female and three in the male sample with two loadings >.40). The goal was to get a more subtle measurement of dependency and self-criticism by preserving the unique contribution of each of the items to each of the DEQ factors (Blatt 2004, p 97). It is clear that with this approach one cannot use a simple unit-weighted scoring system. Blatt et al. (1979) solved this problem in an unusual way. They constructed a scoring program that uses means, standard deviations and factor score coefficients of their student sample to compute standardized factor scores. The advantage of this scoring program is that it can compute factor scores in samples that are too small to perform a PCA on. Since the female sample of the original study of Blatt et al. (1976) generated the most stable factor solution, and since congruence coefficients between item loadings of the male and the female sample were sufficiently high, the use of a scoring program based on the factor solution of the female student sample is generally advised for the computation of scores for both men and women (Zuroff, Quinlan, & Blatt, 1990).

In the past, several researchers expressed their doubts about the complexity of this scoring procedure (see also Flett et al., 1995) and some tried to develop shortened versions of the DEQ for which another – unit weighted – scoring procedure could be applied (Bagby, Parker, Joffe, & Buis, 1994; Santor, Zuroff, & Fielding, 1997; Viglione, Lovette, Gottlieb, & Friedberg, 1995; Welkowitz, Lish, & Bond, 1985). However, the original DEQ with the original scoring procedure is still widely used in both non-clinical and clinical samples (e.g. Kutcher et al., 2004; Kuwakara, Sakado, Sakado, Sato, & Someya, 2004; Mongrain, Lubbers, Struthers, 2004; Thompson & Zuroff, 2004).

It has been remarked (Viglione et al., 1995; Flett et al., 1995) that there is a poor match between the actual item content of the DEQ and the rich theoretical descriptions of anaclitic and introjective personality styles of Blatt (1974, 2004) and Blatt and Shichman (1983). While dependency and self-criticism are personality traits, the anaclitic and introjective personality style refer to broad personality organizations. With regard to this issue, Coyne, Thompson, and Whiffen (2004, p. 512) stated that there is a gap between Blatt's psychoanalytic theorizing and the hypotheses tested in the research over the past few decades. If future research with the DEQ is to be more convincing, it will first have to be demonstrated that DEQ dependency and DEQ self-criticism are valid measures of the anaclitic and introjective personality style as theoretically described.

Only one study tested the convergent validity of the DEQ before. In a study of Blatt, Quinlan, Chevron, McDonald and Zuroff (1982), patients were assigned to four different groups on the basis of their scores on the DEQ (high scores on dependency, self-criticism, on both, or on neither of these dimensions). Judges used criteria specified in the theory of Blatt about anaclitic and introjective personality styles and were able to differentiate between the four groups (group membership in 56% of the cases correctly predicted, $p<.0001$) on the basis of written clinical case records. However, we agree with Coyne et al. (2004), who state that the uniform conclusion of methodologists is that the use of continuous variables to categorize subjects in groups ('the extreme groups design') is a strategy 'of which the drawbacks outweigh whatever benefits such a data reduction may have' (Coyne et al., 2004, p. 515).

In this paper, we investigate the convergent validity of the original DEQ and of five shortened versions of this questionnaire by correlating scores on DEQ dependency and DEQ self-criticism with scores of clinicians on anaclitic and introjective personality configurations. Scores on the DEQ as well as scores of clinicians are treated as continuous variables, no categorization takes place. We expect significant positive correlations between clinicians' ratings for anaclitic personality configuration and DEQ dependency, and between ratings for introjective personality configuration and DEQ self-criticism. We leave the efficacy scale out of consideration since it is not an operationalization of a theoretical construct.

Method

Participants

Participants in this study were 56 mental health outpatients, randomly selected from a sample of 404 that are involved in a broader research project on depression. All participants obtained written information on the study and gave informed consent. The subjects were asked if they were willing to participate in an interview. In total, 227 persons were prepared to do so. Of this group, 28 males and 28 females were randomly selected for an interview. Of these participants, 27 were married or living with a partner; 27 used psychoactive drugs. The mean age in the sample was 42.5 (SD=7.6). All patients met diagnostic criteria of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; American Psychiatric Association, 2000). DSM-diagnoses on axis I included mood disorders (n=32; major depressive disorder n=24, dysthymic disorder n=6, bipolar disorder n=1, mood disorder not otherwise specified=1), anxiety disorders (n=8), somatoform disorder (n=5), eating disorder (n=1), adjustment disorders (n=2), impulse-control disorder not elsewhere specified (n=1), schizophrenia (n=1), and relational problems (n=3). The diagnosis was deferred for one patient. Three patients received no diagnosis on axis I. Twenty-two patients received a diagnoses of a Personality Disorder (PD) on axis II (paranoid PD n=2, schizoid PD n=1, borderline PD n=2, histrionic PD n=1, narcissistic PD n=2, avoidant PD n=2, dependent PD n=4, obsessive-compulsive PD n=2, PD not otherwise specified n=6).

Measures

All participants filled out the Dutch translation of the *Depressive Experiences Questionnaire* (DEQ; Blatt et al., 1976).

The original DEQ is a 66-item self-report questionnaire, in which all items are scored on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The Dutch translation was constructed by means of a front-and-back translation procedure (Luyten, Corveleyn, & Blatt, 1997). The original DEQ (OrigDEQ) was scored using the original scoring program (see above).

The five shortened versions of the DEQ are each comprised of a selections of items from the original questionnaire and are scored by means of unit-weighted procedures.

The *Revised Depressive Experiences Questionnaire* [RevDEQ; Welkowitz et al., (1985)] was developed by selecting 44 items (21 dependency, 15 self-criticism, and 8 efficacy items) based on the height of the factor-loadings in the original study of Blatt et al., (1979). The factor structure of the RevDEQ was replicated by means of PCA in a student population. Furthermore, the scales of the RevDEQ has demonstrated good internal

consistency (Cronbach's α was .81 and .86 for dependency and self-criticism, respectively).

The *Reconstructed Depressive Experiences Questionnaire* [(RecDEQ; Bagby et al. (1994)] was developed by selecting 19 items (10 dependency and 9 self-criticism items) based on the height of PCA factor-loadings in a non-clinical population. The RecDEQ was positively evaluated by means of Confirmatory Factor Analysis in a student and a clinical sample. Cronbach alpha's for the dependency and self-criticism scales ranged between .69 and .80 in student as well as clinical samples.

The *Theoretical Depressive Experiences Questionnaire-21* [(TDEQ-21); Viglione et al. (1995)] was developed by selecting items from the DEQ that on the one hand matched Blatt's theoretical constructs and that on the other hand had a factor-loading of greater than .40 in the original DEQ study of Blatt and his colleagues (1976). Based on these criteria, 21 items were retained (10 dependency and 11 self-criticism items). The scales of the TDEQ-21 demonstrated good internal consistency in a clinical sample (Cronbach alpha's of .83 and .85 for dependency and self-criticism, respectively) and reasonable internal consistency in the student sample (Cronbach alpha's of .67 and .76 for dependency and self-criticism, respectively).

The *Theoretical Depressive Experiences Questionnaire-12* [TDEQ-12; Viglione et al., 1995) is a further elaboration of the TDEQ-21. Viglione et al. (1995) selected in a nonclinical as well as a clinical sample 12 items (5 dependency and 7 self-criticism items) of the TDEQ-21 items based on the strenght of their PCA factor-loadings.

The *McGill revision of the Depressive Experiences Questionnaire* [(McGillDEQ; Santor et al. (1997)] was developed by selecting 48 DEQ items (18 dependency items, 18 self-criticism items, and 12 items that assess both dependency and self-criticism) based on the variance explained by the items and on their contribution to between-scale orthogonality. The McGill scales demonstrated reasonable internal consistency (Cronbach alpha's around .70).

A recent study addressed the validity of the Dutch version of the DEQ both in a sample of outpatients and in a student sample (Desmet, Vanheule, Groenvynck, Verhaeghe, Vogel, & Bogaerts, 2007). The construct validity was examined by computing correlations with different types of depressive symptoms and interpersonal problems; the factorial validity was examined by means of Confirmatory Factor Analysis (CFA). This study yielded evidence for the construct and factorial validity of the RevDEQ and the RecDEQ; the study yielded mixed results with regard to the validity of the other versions of the DEQ. Furthermore, the results of this study demonstrated that ipsatizing the scores on the RecDEQ and the RevDEQ is both appropriate (ipsatized scores showed good CFA fit to the theoretical models) and fruitfull (ipsatization was necessary to observe the hypothesized associations with different types of depressive symptoms).

Procedure

Once the 56 patients were selected, the interviewer (MD) called the mental health care centres and asked to arrange an appointment at the centre with the patient. Interviews were unstructured and took on average two hours. Every interview started with the question: 'Can you tell me something about the reasons why you consult a therapist in this centre?' Starting from this question, the interviewer followed and explored the story of the interviewee. All interviews were recorded on mini-disc and were typed out verbatim.

Two psychoanalytically trained clinicians (HV and PV, each more than 20 years of clinical experience) were involved in the rating procedure. The clinicians' received training before starting their rating task. First, the theoretical writings of Blatt (1974, 2004) and Blatt and Shichman (1983) were studied and characteristics of anaclitic and introjective personality styles were discussed. Several case studies from the literature (e.g. Blatt, 2004) and clinical interviews were explored to reach consensus about the precise content of the anaclitic and introjective personality styles. It is important to note that the clinicians did not only rate the phenomenological characteristics of both personality configurations, but also paid attention to the underlying personality structure. In classical psychoanalytic terms, the underlying personality structure of the anaclitic and introjective style is the hysterical and the obsessional structure, respectively (Blatt and Shichman, 1983; Blatt, 2004). The following criteria were used in rating the anaclitic style: feelings of helplessness and weakness, fears of being abandoned, wishes to be cared for loved and protected (Blatt et al, 1976, p. 383), struggles to maintain direct physical contact with love-objects (Blatt, 1974, p. 107), difficulty tolerating delay and postponement, object relations that are primarily incorporative, (Blatt, 1974, p 116). Clinicians used the following criteria in their ratings of introjective style: guilt over strong feelings of ambivalence and hostility towards the object, feelings of having failed to live up to expectations and standards, exceedingly high ideals and overly harsh super-ego, constant self-scrutiny and evaluation, intense overstated standards and perfectionism with little lasting satisfaction when goals are reached (Blatt, 1974, pp. 117-118).

Once the clinicians felt sufficiently familiar with the proposed rating criteria, we provided them with the transcriptions of the interviews (in total over 1600 pages). Both personality styles were rated on a scale from 1 to 10. In this first step, no auditive records were used to save time. Correlations between the ratings of both clinicians after completing this first step were .316 ($p=.078$) for anaclitic style and .522 for introjective style ($p=.002$).

After the first step, a third researcher (MD) compared the scores and selected cases that met two criteria: 1. There was a difference of three points or more between the ratings of at least one of the personality styles; and 2. The clinicians differed in the personality style that was ascribed the highest rating. These cases ($n=16$) were rated a second time, making use of the auditory version of the interview, which contains extra information as intonation, speed of talking, etc. (step 2). After this second step, interrater-

reliability *in the total sample* (N = 56) rose to .662 ($p < .001$) for anaclitic style and to .846 ($p < .001$) for introjective style. Cases that still showed strong differences (N = 4), according to the same two criteria as those mentioned above, between the ratings of the clinicians were discussed until consensus was reached. Consensus ratings for the other cases were obtained by computing the average between the ratings of the two clinicians. The consensus scores of the two personality styles showed strong negative associations with each other ($r = .798$).

In the first as well as the second step, the clinicians rated the patients totally independently of one another. The clinicians knew that their scores would be used in a validation study of the DEQ; and that this questionnaire measured dependency and self-criticism; yet, they had not read the items of this questionnaire and had no knowledge of the scores of the patients on this questionnaire.

Data Analysis

Pearson correlations were calculated to assess convergence between DEQ scores and clinicians' ratings. To assess the significance of the correlations, we computed p values and bootstrap confidence intervals. In a bootstrapping procedure, multiple sub-samples (1000 in the case of this article) are randomly drawn from the full sample and the statistic of interest is calculated in each of the sub-samples. In this way, it is possible to construct a confidence interval for this statistic, which gives information about the reliability of the association observed in the total sample.

Results

Descriptive statistics

Table 1 shows descriptive statistics, t-test values, and measures of effect sizes (Cohen's d) for the dependency and self-criticism scales of the different versions of the DEQ. No significant differences were found between DEQ scale scores of men and women (see t-values in Table 1). Furthermore, the DEQ scales showed no significant correlations with age, number of children and educational level.

Correlations Between DEQ-scores and Clinians' Ratings

The first part of Table 2 shows Pearson correlations of raw DEQ scores with consensus ratings of clinicians in the total sample. The dependency scales of all DEQ versions correlated positively with clinicians' ratings on anaclitic style; only the correlations with the dependency scales of the RevDEQ and the RecDEQ reached significance. The correlations between

Table 1: *Between-Gender Comparisons and Measures of Effect Sizes for the Dependency and Self-criticism Scales of the Different Versions of the DEQ and for Clinicians' ratings on Anaclitic and Introjective Personality Styles*

	Male (N=28)		Female (N=28)				
	M	SD	M	SD	t	Cohen's d	p
DEQ Scales							
OrigDEQ DE[1]	0.037	1.115	0.371	0.830	1.257	.342	.214
OrigDEQ SC[1]	0.139	0.990	0.274	1.142	0.462	.126	.646
RevDEQ DE	90.846	11.845	94.819	10.620	1.273	.346	.199
RevDEQ SC	63.039	14.542	66.867	12.286	1.025	.279	.612
RecDEQ DE	49.692	10.743	53.858	7.938	1.590	.433	.209
RecDEQ SC	38.192	9.700	39.674	7.191	0.626	.170	.310
TDEQ-21 DE	50.192	10.881	52.346	8.602	0.792	.216	.118
TDEQ-21 SC	50.808	10.774	53.846	9.498	1.079	.294	.534
TDEQ-12 DE	24.077	5.513	23.962	5.737	0.074	.020	.432
TDEQ-12 SC	32.192	6.651	34.731	7.231	1.317	.358	.286
McGillDEQ DE	143.548	22.935	150.562	15.623	1.305	.355	.941
McGillDEQ SC	122.539	19.908	125.363	20.686	0.510	.139	.194
Clinicians' Rating							
Anaclitic Style	3.536	1.986	6.679	1.461	6.746	1.836	.000
Introjective	6.232	2.355	3.000	1.876	5.681	1.546	.000

Note. [1] = Scores on the original DEQ are factor weighted; DE = Dependency; SC = Self-criticism.

the self-criticism scales of the different versions of the DEQ and clinicians' ratings on introjective style were all close to zero. The second and third parts of Table 2 show Pearson correlations of raw DEQ scores with clinicians' ratings in the female and the male sample, respectively. The dependency scales correlated positively with the ratings on anaclitic style in both samples. These correlations were slightly higher in the female sample than in the male sample but did not reach significance in any of the samples. The correlations of dependency with the ratings on introjective style were close to zero in the male sample and slightly higher (around .100) in the female sample. The self-criticism scales showed higher correlations with the ratings on anaclitic style (correlations sometimes up to .300) than with the ratings on introjective style (correlations close to zero and sometimes even negative) in the female sample; in the male sample, the self-criticism scales showed correlations close to zero with the ratings on anaclitic style and positive correlations (significant for the RevDEQ and the TDEQ-21) with the ratings on introjective style.

The bootstrap confidence intervals generally confirmed the p-values of the correlations obtained in the total sample: all significant correlations – except the correlation between RevDEQ dependency and anaclitic style in the total sample – showed a confidence interval with both a positive upper and lower limit; all non-significant correlations – except the correlation between

TDEQ-12 self-criticism and introjective style in the male sample – showed a confidence interval with a negative lower limit and a positive upper limit.

The first, second, and third part of Table 3 show Pearson correlations between ipsatized scores on all unit-weighted versions of the DEQ and clinicians' ratings in the total, the female, and the male sample, respectively. The correlations between the ipsatized dependency and self-criticism DEQ scores on the one hand and clinicians' ratings on anaclitic and introjective styles on the other hand were all close to zero in the total sample and in the female sample. In the male sample, the dependency scale showed positive correlations with the ratings on anaclitic style; the self-criticism scale showed positive correlations with the ratings on introjective style. None of these correlations were significant.

Again, the bootstrap confidence intervals confirmed the p values of the correlations obtained in the total sample, except for the correlation between RevDEQ self-criticism and introjective style in the male sample. In this case, the p value indicated non-significance while the bootstrap confidence interval had both a positive upper and lower limit.

Discussion

In this study we addressed the degree of convergence between scores on the dependency and self-criticism scales of the different versions of the DEQ and clinicians' ratings on anaclitic and introjective personality styles in a heterogeneous clinical sample, balanced for gender. In the full sample, we observed significant correlations between the dependency scales of the DEQ and ratings on anaclitic style. Scores on the self-criticism scales did not converge with the ratings on introjective style and even showed higher associations with the ratings on anaclitic styles in the total sample. In the female sample, similar associations as in the total sample were observed, with the difference that the self-criticism scales of the DEQ showed non-predicted positive associations with the ratings on anaclitic style. However, in the male sample, both the dependency and the self-criticism DEQ scales demonstrated positive associations with clinicians' ratings of the predicted personality style; correlations with the non-predicted personality styles were close to zero. Overall, the RecDEQ, the RevDEQ, and the TDEQ-21 showed the highest convergence with clinicians' ratings.

For a more adequate integration of our results with the larger body of literature on cross-method assessment, we refer to Meyer, Finn, Eyde, et al. (2001). These authors reviewed meta-analytic studies on convergence between adult self-reports and clinicians' ratings and reported the following average Pearson correlations; .29 (treatment related functioning, symptomatology, and outcome), .33 (DSM Axis II personality disorder characteristics), and .32 (Big Five personality traits), and average kappa coefficients of .18 (DSM Axis II disorders) and .34 (DSM Axid I disorders). Thus, although the significant correlations in this study were of modest

magnitude, they were not exceptionally low. This means that, apart from the self-criticism scale in the female sample, our study yielded no evidence for a dramatic gap between the DEQ scales and the theoretical constructs of Blatt (cfr. introduction, Coyne et al., 2004).

We were unable to determine why the self-criticism scores did not converge with clinicians' ratings on introjective style in the female sample. Women were rated significantly higher than men on anaclitic style, which is theoretically associated with both suggestibility and a tendency to complaint. Thus, the fact that both the dependency and the self-criticism scores were associated with the ratings on anaclitic style in the female sample might point in the direction of a general tendency to give an affirmative response to the items (i.e., the agreeing-response bias or acquiescence, e.g., Billiet & McClendon, 2000) and/or with a general tendency to complaint, irrespective of the precise item contents. The correlations of the ratings of the clinicians with the efficacy scale confirmed the hypothesis of an agreeing-response bias in anaclitic subjects. The efficacy scale is supposed to measure a sense of trust in one's resources and capacities and a sense of satisfaction with one's accomplishments. Therefore, the efficacy scale should correlate negatively with ratings of psychopathology. However, this was the case in the male sample ($r = -.069$ for anaclitic style and $r = -.195$ for introjective style) but not in the female sample ($r = .251$ for anaclitic style and $r = .005$ for introjective style). Thus, the higher women were rated on anaclitic personality style, the higher they scored on all DEQ scales, irrespective of their precise content. On the other hand, the results obtained with the ipsatized DEQ scores yielded no evidence for this hypothesis: the associations between ipsatized DEQ scores and personality styles were all close to zero in the female sample. Possibly, the ipsatization procedure removed too much variance in the DEQ scores. Furthermore, in the case that an agreeing-response bias is responsible for the lack of convergence, one would expect that the inter-correlations between the DEQ scales would be stronger in the female than in the male sample. However, this was not the case: the inter-correlations were close to .400 in both samples and were for most DEQ versions slightly higher in the male than in the female sample. Nevertheless, it is possible that the correlation of .400 in the male sample reflected an empirical association between the two personality styles (which makes sense in classical psychoanalytic terms, see also Zuroff, Mongrain, & Santor, 2004), while the same correlation in the female sample was due to an agreeing-response bias. Further research should address this hypothesis more thoroughly.

Our results are interesting with regard to the issue of content overlap between the self-criticism scale of the DEQ and measures of depressive symptoms like the BDI-II. For example, 'worthlessness' of the BDI-II shows content overlap with 'If I fail to live up to expectations, I feel unworthy' of the DEQ; 'self-dislike' of the BDI-II overlaps with 'There is a considerable difference between how I am now and how I would like to be'; and 'self-criticalness' of the BDI-II is nearly identical to 'I tend to be very critical of myself' of the DEQ. Coyne and Whiffen (1995) argued that this phenomenon

of content overlap might be responsible for the high correlations that are often observed between the self-criticism scale and measures of manifest depression. Therefore, these authors questioned if the self-criticism scale "measures anything different from the intense self-denigration that is the hallmark of depression" (Coyne & Whiffen, 1995, p 364), rather than measuring a personality trait that predisposes for depression and that is relatively independent from it. Our study yielded evidence against this statement in its extreme form. At least in the male sample, the self-criticism scale seemed to reflect to a substantial degree the personality style described by Blatt. However, this does not mean that content overlap is not responsible for an artificial inflation of the associations observed between the self-criticism scale and self-report symptom measures of depression. Future research should investigate the degree to which Coyne and Whiffen's statement holds for female samples.

Several limitations should be considered in interpreting our results. In the first place, we could mention some limitations associated with the rating procedure: only two clinicians were involved in the rating procedure; interrater reliability after the first rating was rather low; no rating scheme was used; and the clinicians were not totally blind with regard to the research questions. The substantial increase in reliability after the second rating – in which the audio version of the interview was available to the clinicians – suggests that the mere use of transcriptions during the first rating was one of the reasons of low reliability. Besides making use of auditory information, future research could also choose to use a rating scheme. However, in this case, it is important that the complexity of the psychoanalytic constructs is reflected in it. Furthermore, in an ideal case, five or more raters that are totally blind with regard to the research questions would be involved in the rating procedure

A second type of limitations is associated with the sample and concerns more specific the small size of the female and male sub-samples. Since the anaclitic and introjective personality styles are supposed to be dimensions underlying the whole field of psychopathology (Blatt and Shichman, 1983), heterogeneity is not a limitation from a theoretical point of view. Nonetheless, it would be interesting to study the convergent validity in homogenous samples.

A third type of limitations is associated with the fact that our study was conducted in Belgium, with the Dutch translation of the DEQ. It is unclear to what extent cross-cultural factors have an impact on our results. Furthermore, although empirical evidence suggests that the DEQ factor structure is stable across different countries, including Belgium (Blatt, 2004: Desmet et al., 2007), the Dutch version of the DEQ might not perfectly match the original American DEQ. With the exception of the studies of Desmet et al. (2007) and Bagby et al. (1994), the factor structure of the DEQ was exclusively investigated with exploratory factor analysis (and not with confirmatory factor analysis) in non-clinical samples (and not in clinical samples). Further research using confirmatory factor analysis in clinical

samples should be conducted to address the issue of the stability of the DEQ-factor structure across different countries. Furthermore, studies that address the factorial and construct validity of the DEQ scales should explicitly address the issue of gender differences.

We conclude that our study yielded mixed results with regard to the validity of the DEQ: on the one hand, the results are encouraging because we observed an acceptable degree of convergence in the male sample; on the other hand, the results indicate lack of convergence of the self-criticism scale in the female sample, possibly associated with an agreeing-response bias associated with high levels of anaclitic personality organization. Thus, our results call for further inquiry into the convergent validity of the DEQ scales, paying special attention for gender differences.

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Table 2: *Bootstrap Confidence Intervals of Pearson Correlations between Raw Scores on the Dependency and Self-criticism scales of the different versions of the DEQ and Clinicians Ratings on Anaclitic and Introjective Personality Style in the Full Sample, the Female Sample, and the Male Sample*

	Rating Anaclitic Style					Rating Introjective Style				
	Full Sample		Bootstrap Subsample			Full Sample		Bootstrap Subsample		
Scale	r	p	*M* r	*SD* r	95% CI r	r	p	*M* r	*SD* r	95% CI r
					Female + Male Sample (N = 56)					
OrigDEQ DE	.29	.04	.29	.13	.00 to .52	-.05	.72	-.05	.12	-.29 to .19
OrigDEQ SC	.04	.78	.04	.13	-.21 to .30	.14	.32	.13	.14	-.17 to .40
RevDEQ DE	.30	.03	.29	.13	-.03 to .52	-.07	.61	-.07	.13	-.32 to .18
RevDEQ SC	.14	.33	.14	.15	-.17 to .41	.06	.67	.06	.14	-.21 to .34
RecDEQ D	.33	.02	.33	.14	.05 to .56	-.07	.61	-.07	.13	-.32 to .17
RecDEQ SC	.16	.25	.16	.14	-.08 to .42	.08	.57	.08	.14	-.23 to .33
TDEQ-21 DE	.27	.06	.26	.15	-.06 to .54	-.03	.84	-.02	.13	-.31 to .21
TDEQ-21 SC	.13	.36	.13	.14	-.14 to .38	.07	.60	.07	.14	-.18 to .38
TDEQ-12 D	.15	.28	.16	.16	-.17 to .44	.07	.65	.06	.13	-.20 to .33
TDEQ-12 SC	.19	.18	.20	.13	-.08 to .41	.02	.87	.01	.14	-.24 to .31
McGillDEQDE	.31	.02	.31	.13	-.00 to .54	-.10	.48	-.10	.12	-.35 to .14
McGillDEQ	.08	.58	.07	.14	-.18 to .14	.10	.46	.10	.14	-.17 to .37
					Female Sample (n = 28)					
OrigDEQ DE	.22	.28	.20	.18	-.15 to .54	.17	.40	.19	.20	-.24 to .55
OrigDEQ SC	.06	.77	.06	.22	-.37 to .47	.09	.67	.07	.19	-.27 to .47
RevDEQ DE	.29	.16	.29	.16	-.12 to .54	-.04	.83	-.04	.15	-.31 to .24
RevDEQ SC	.20	.33	.20	.20	-.22 to .54	-.11	.60	-.11	.19	-.44 to .33
RecDEQ DE	.34	.09	.32	.18	-.06 to .65	.10	.60	.12	.17	-.27 to .41
RecDEQ SC	.30	.13	.30	.18	-.06 to .65	-.07	.72	-.09	.20	-.43 to .32
TDEQ-21 DE	.31	.13	.30	.18	-.06 to .61	.07	.74	.08	.17	-.28 to .39
TDEQ-21 SC	.15	.46	.16	.21	-.31 to .54	-.04	.86	-.04	.18	-.38 to .31
TDEQ-12 DE	.18	.38	.17	.20	-.28 to .50	.18	.39	.19	.18	-.20 to .50
TDEQ-12 SC	.24	.25	.24	.18	-.16 to .57	.02	.94	.01	.18	-.34 to .36
McGillDEQ	.18	.39	.17	.18	-.18 to .50	.15	.47	.15	.21	-.29 to .56
McGillDEQ	.13	.53	.13	.22	-.29 to .55	.03	.88	.02	.20	-.34 to .46
					Male Sample (N = 28)					
OrigDEQ DE	.21	.31	.21	.20	-.26 to .54	.06	.77	.07	.21	-.38 to .45
OrigDEQ SC	.04	.84	.06	.19	-.37 to .41	.28	.17	.27	.16	-.05 to .55
RevDEQ DE	.21	.29	.20	.16	-.11 to .52	.13	.54	.13	.18	-.26 to .43
RevDEQ SC	-.03	.87	-.0	.23	-.50 to .35	.42	.03	.42	.15	.01 to .65
RecDEQ DE	.21	.30	.21	.19	-.15 to .57	.08	.71	.08	.20	-.33 to .47
RecDEQ SC	.05	.82	.07	.20	-.39 to .42	.34	.09	.33	.17	-.02 to .63
TDEQ-21 DE	.23	.25	.23	.21	-.22 to .60	.00	.83	.06	.21	-.38 to .44
TDEQ-21 SC	-.04	.85	-.01	.21	-.44 to .35	.42	.03	.42	.13	.09 to .64
TDEQ-12 DE	.25	.21	.27	.20	-.20 to .63	-.02	.94	-.01	.19	-.35 to .36
TDEQ-12 SC	-.03	.90	-.00	.18	-.42 to .31	.34	.09	.33	.15	.04 to .63
McGillDEQ	.27	.18	.27	.22	-.30 to .61	-.02	.92	-.00	.21	-.41 to .44
McGillDEQ	.06	.78	.07	.21	-.39 to .45	.25	.22	.25	.16	-.11 to .53

Note. DE = Dependency; SC = Self-criticism; r = Correlation observed in the total sample; *M* r = Mean observed correlation across 1000 bootstrap sub-samples; *SD* r = Standard Deviation of r across 1000 bootstrap sub-samples; 95% CI r = 95% Confidence Interval of r based on 1000 bootstrap sub-samples; * $p < .05$.

Table 3: *Bootstrap Confidence Intervals of Pearson Correlations between Ipsatized Scores on the Dependency and Self-criticism scales of the different unit-weighted versions of the DEQ and Clinicians Ratings on Anaclitic and Introjective Personality Style in the Total Sample, the Female Sample, and the Male Sample*

	Rating Anaclitic Style					Rating Introjective Style				
	Full Sample		Bootstrap Subsample			Full Sample		Bootstrap Subsample		
Scale	r	p	*M* r	*SD* r	95% CI r	r	p	*M* r	*SD* r	95% CI r
					Female + Male Sample (N = 56)					
RevDEQ DE	.05	.72	.05	.14	-.24 to .34	-.12	.42	-.11	.15	-.41 to .17
RevDEQ SC	-.05	.72	-.05	.14	-.34 to .24	.12	.42	.11	.15	-.17 to .41
RecDEQ D	.16	.27	.16	.13	-.14 to .40	-.13	.32	-.13	.14	-.39 to .14
RecDEQ SC	-.16	.27	-.16	.13	-.40 to .14	.13	.32	.13	.14	-.14 to .39
TDEQ-21 DE	.14	.33	.13	.13	-.13 to .40	-.09	.55	-.09	.15	-.39 to .19
TDEQ-21 SC	-.14	.33	-.13	.13	-.40 to .13	.09	.51	.09	.15	-.19 to .39
TDEQ-12 D	-.02	.91	-.02	.14	-.29 to .26	.04	.77	.04	.15	-.28 to .31
TDEQ-12 SC	.02	.91	.02	.14	-.26 to .29	-.04	.77	-.04	.15	-.31 to .28
McGillDEQDE	.09	.51	.09	.13	-.16 to .35	-.14	.33	-.13	.13	-.36 to .14
McGillDEQ	-.22	.11	-.22	.13	-.46 to .07	.14	.34	.13	.12	-.12 to .36
					Female Sample (n = 28)					
RevDEQ DE	-.01	.08	-.02	.17	-.33 to .35	.08	.69	.11	.21	-.38 to .46
RevDEQ SC	.01	.08	.02	.17	-.35 to .33	-.08	.69	.11	.21	-.46 to .38
RecDEQ DE	.03	.15	.023	.17	-.32 to .36	.15	.46	.16	.19	-.24 to .48
RecDEQ SC	-.03	.15	-.03	.17	-.36 to .32	-.15	.46	-.16	.19	-.48 to .24
TDEQ-21 DE	.15	.47	.13	.20	-.23 to .55	.10	.63	.10	.20	-.34 to .44
TDEQ-21 SC	-.15	.47	-.13	.20	-.55 to .23	-.10	.63	-.10	.20	-.44 to .34
TDEQ-12 DE	-.03	.88	-.03	.19	-.41 to .32	.15	.47	.15	.21	-.32 to .52
TDEQ-12 SC	.03	.88	.03	.19	-.32 to .41	-.15	.47	-.15	.21	-.52 to .32
McGillDEQ	-.04	.84	-.05	.21	-.47 to .37	.03	.87	.05	.24	-.44 to .46
McGillDEQ	-.06	.78	-.05	.19	-.41 to .33	-.10	.64	-.11	.24	-.52 to .40
					Male Sample (N = 28)					
RevDEQ DE	.18	.38	.14	.23	-.22 to .65	-.38	.06	-.36	.15	-.62 t -.02
RevDEQ SC	-.18	.38	-.14	.23	-.65 to .22	.38	.06	.36	.15	.02 to .62
RecDEQ DE	.15	.47	.10	.20	-.25 to .52	-.24	.25	-.22	.21	-.62 to .21
RecDEQ SC	-.15	.47	-.12	.20	-.52 to .25	.24	.25	.22	.21	-.21 to .62
TDEQ-21 DE	.26	.21	.23	.21	-.20 to .59	-.32	.11	-.30	.20	-.65 to .10
TDEQ-21 SC	-.26	.21	-.23	.21	-.59 to .20	.32	.11	.30	.20	-.10 to .65
TDEQ-12 DE	.25	.21	.24	.16	-.08 to .54	-.28	.21	-.27	.24	-.61 to .16
TDEQ-12 SC	-.25	.21	-.24	.16	-.54 to .08	.28	.21	.27	.24	-.16 to .61
McGillDEQ	.10	.63	.08	.23	-.35 to .51	-.21	.31	-.21	.19	-.53 to .18
McGillDEQ	-.20	.32	-.19	.23	-.59 to .31	.13	.53	.13	.21	-.33 to .51

Note. DE = Dependency; SC = Self-criticism; r = Correlation observed in the total sample; *M* r = Mean observed correlation across 1000 bootstrap sub-samples; *SD* r = Standard Deviation of r across 1000 bootstrap sub-samples; 95% CI r = 95% Confidence Interval of r based on 1000 bootstrap sub-samples; * $p < .05$.

Part II

Measuring Hysterical and Obsessive-compulsive Depression: The Inventory of Interpersonal Problems

Chapter 6

Confirmatory Factor Analysis of the Dutch Version of the Inventory of Interpersonal Problems[1]

This paper evaluated the factor structure of the Dutch long and short versions (64 items and 32 items, respectively) of the Inventory of Interpersonal Problems (IIP) in both a clinical sample (N = 382) and a student sample (N = 287). First, the authors tested the hypothesis that both versions of the IIP consist of eight correlated uni-dimensional scales. This hypothesis was confirmed for the short version but not for the long version. Second, the authors tested the hypothesis that the correlations between the scales follow a circumplex pattern. This hypothesis was confirmed for both versions.

Given the central importance of interpersonal variables in several psychotherapeutical models (e.g. psychoanalytic and intersubjective model), sound assessment instruments of these variables are indispensable. Due to its solid clinical roots, the Inventory of Interpersonal Problems (IIP) (Horowitz, Alden, Wiggins, & Pincus, 2000) occupies a unique place among instruments that assess people's interpersonal functioning. The clinical strength of the IIP is that it could be demonstrated that different types of psychopathology are associated with different IIP-profiles. This makes that this instrument is most suitable for diagnostics and for the evaluation of psychotherapy (e.g., Frommer, Hoffmann, Hartkamp et al., 2004; Horowitz, 2004; Ruiz, Pincus, Borkovec et al., 2004; Vittengl, Clark & Jarrett, 2003).

Alden, Wiggins and Pincus (1990) constructed the IIP-64 by selecting 64 items from an original pool of 127 items that reflected common interpersonal difficulties experienced by persons that entered psychotherapy. Subsequently, Horowitz et al. (2000) constructed the IIP-32 by selecting the 32 items of the IIP-64 that demonstrated the highest item-total correlations in a stratified community sample. In both the IIP-64 and the IIP-32 , eight scales are discerned (see Table 1) that are organized as a circumplex (Alden et al., 1990), with affiliation (referring to communion and nurturance) and dominance (referring to agency and control) as underlying orthogonal axes (see Figure 1).

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[1] This chapter is based on Vanheule, S., Desmet, M., & Rosseel, Y. (2006). The factorial structure of the Dutch translation of the Inventory of Interpersonal Problems: A test of the long and short versions. *Psychological Assessment, 18(1),* 112-117.

Table 1: *Scales, Areas of Assessment, and Items of the IIP-32 and IIP-64*

Scale	Area of Assessment	Sample Item
Domineering/Controlling (PA)	Difficulties in relaxing control over others	"I manipulate other people too much to get what I want"
Vindictive/Self-centred (BC)	Problems of hostile dominance and the tendency to fight with others	"It is hard for me to be supportive of another person's goals in life"
Cold/Distant (DE)	Low degrees of affection for and connection with others	"It is hard for me to show affection to people"
Socially Inhibited (FG)	Tendency to feel anxious and avoidant in the presence of others	"It is hard for me to join in on groups"
Nonassertive (HI)	Problems taking initiative in relation to others and coping with social challenges	"It is hard for me to tell a person to stop bothering me"
Overly Accommodating (JK)	Excesses of friendly submissiveness	"It is hard for me to let other people know when I am angry"
Self-Sacrificing (LM)	Tendency to affiliate excessively	"I try to please other people too much"
Intrusive/Needy (NO)	Problems with friendly dominance	"It is hard for me to keep things private from other people"

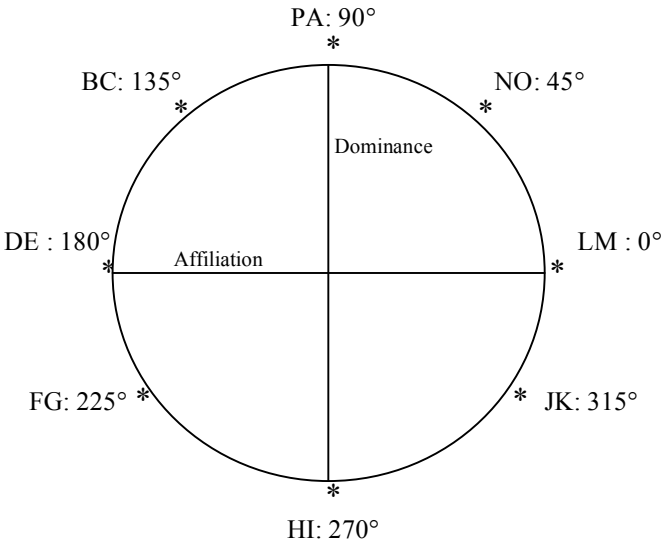
The characteristics of a theoretically perfect circumplex with eight scales are: (1) that each scale is correlated .707 with the adjoining scales; (2) that these intercorrelated scales can geometrically be represented on the circumference of a circle which has its centre at the crossing point of two orthogonal axes; (3) that the scales are located at the same distance from the centre of the circle (i.e. that they have an equal radius); and (4) that all rotations of the circumplex structure are equally good representations of the domain (Acton & Revelle, 2004; Alden, Wiggins, & Pincus, 1990; Horowitz, 2004; Vittengl, Clark & Jarrett, 2003).

Several studies have demonstrated the circumplex structure of the IIP-64 by means of either exploratory and confirmatory factor analysis or assessment of circular correlations of the scales with the underlying orthogonal axes (Acton & Revelle, 2002; Alden, Wiggins, & Pincus 1990; Horowitz et al., 2000; Pincus, Gurtman, & Ruiz, 1998; Tracey, Rounds & Gurtman, 1996; Vittengl, Clark, & Jarrett, 2003). However, no studies on the circumplex structure of the IIP-32 are yet available (Horowitz et al., 2000). Evaluations of other psychometric properties of the IIP-64 and the IIP-32 mainly yielded positive results: test-retest reliability of the IIP-64 and the IIP-32 proved to be acceptable (Horowitz et al., 2000; Vittengl et al., 2003);

criterion validity studies indicated that IIP-64 and IIP-32 scores are related to symptoms of subjective distress and to specific adult attachment styles (e.g. Horowitz, Rosenberg, & Bartholomew, 1993; Horowitz et al., 2000); convergent validity of the IIP-64 and the IIP-32 was found to be satisfying (Alden, Wiggins, & Pincus, 1990); and predictive validity of the IIP-64 and the IIP-32 was demonstrated in psychotherapy research (e.g., Gurtman, 1996).

In the present paper, we tested whether the scales of the IIP-64 and the IIP-32 are uni-dimensional and if their inter-correlations follow the pattern of a circumplex. Furthermore, we computed Cronbach alpha's and evaluated the convergence between the scales of the IIP-64 and the IIP-32.

Figure 1: *Geometric Representation of the Theoretical Circumplex Structure of the IIP*



Method

Participants

Clinical Sample. The clinical sample consisted of 382 outpatients (269 female) from 35 mental health care centres in the Flemish part of Belgium. The patients ranged in age from 18 to 72 years (M = 38.4, SD = 17.6) and met *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; American Psychiatric Association, 2000) criteria. Mood disorders were the most frequently occurring diagnoses (48% in total: 39% recurrent major depressive disorder, 7% dysthymic disorder, 2% bipolar disorder), followed by anxiety disorders (16%), other conditions that may be the focus

of clinical attention (12%), adjustment disorders (5%), somatoform disorders (4%), substance-related disorders (3%) and eating disorders (2%). Five percent of the participants had no axis I diagnosis (only axis II diagnosis). The other axis I categories comprised less than 1%. Forty-seven percent of the participants received a diagnosis on axis II. Borderline Personality Disorder (PD) (12% of the total sample), PD not otherwise specified (also 12%), and dependent PD (9%) were the most frequently occurring diagnoses.

Student sample. The student sample studied consisted of 287 college students (244 female). These participants ranged in age from 19 to 50 years ($M = 20.8$, $SD = 2.4$).

Instrument

All participants filled out the Dutch version of the IIP-64 (Alden et al., 1990). The items of the IIP-64 are rated on a 5-point Likert scale, ranging from 0 to 4 (0 = 'not at all'; 1 = 'a little bit'; 2 = 'moderately'; 3 = 'quite a bit'; 4 = 'extremely').

The IIP-64 was translated into Dutch by means of a front-and-back translation procedure according to the guidelines of the International Test Commission (Hambleton, 1994). A bilingual clinical psychologist translated the IIP-64 from English to Dutch and an independent bilingual clinical psychologist translated it back to English. Differences were discussed until consensus was reached. In order to ensure the conceptual equivalence of the original questionnaire and the Dutch translation, the author of the original IIP (L. Horowitz) was contacted to resolve specific issues. Subsequently, two bilingual experts from the domain of psychotherapy and clinical psychology (a Dutchman and a Belgian) evaluated the translation. Their comments were discussed with the two translators and until a new consensus was reached. This consensus version was presented to 10 inpatients (not included in the group of 382 patients). We asked how they interpreted the items and checked if these interpretations were in line with the constructs we wanted to measure. This was the case for all items and thus, no further adaptations were carried out.

Data Analysis

The uni-dimensionality of the scales of the IIP-64 and the IIP-32 was evaluated by means of Confirmatory Factor Analysis (CFA). Model fit was assessed using the Chi-square statistic ($\chi 2$), the standardised root-mean-square residual (SRMR), the root mean square error of approximation (RMSEA), the comparative fit index (CFI) and the goodness-of-fit index (GFI) (Browne & Cudeck, 1993; Hu & Bentler, 1998, 1999): the $\chi 2$ is a misfit statistic for which an indication of significance is given: the SRMR is a goodness-of-fit measure for which a value of .09 or lower indicates a good fit: the RMSEA is a badness-of-fit measure for which a value of .06 or lower indicates a close model fit and a value of .08 or lower a reasonable model fit: the comparative

fit index (CFI) is an incremental fit index for which a value of .90 or more indicates a good fit: the goodness-of-fit index (GFI) is an index of absolute fit for which a value of .90 or higher indicates good fit. For both the IIP-64 and the IIP-32, we constructed a CFA model with eight factors. We specified the following restrictions for both models: each item must have a non-zero loading on the predicted factor and zero loadings on all other factors; the eight factors must be correlated; the measurement error terms must be uncorrelated. The covariance matrices were based on ipsatized item-scores. The ipsatized item-scores correct for a general distress factor by balancing a respondent's item out with his/her overall mean item scores (Acton & Revelle, 2002; Alden, Wiggins, & Pincus, 1990; Horowitz et al., 1988, 2000)[2].

The circumplex structure of the IIP-32 and IIP-64 was assessed in a confirmatory way, based on the criteria Browne (1992) presented for assessing circumplex models. Analyses were conducted by means of the structural equation modelling program CIRCUM (Browne, 1996), in which maximum likelihood (ML) estimation was used. Browne (see: Yik & Russell, 2003a) suggested that ipsatized data are likely to be inappropriate for CIRCUM analyses that are based on ML-estimation[3]. Thus, we only made use of correlations between the raw scale scores for these analyses. In line with Browne (1992), we use the RMSEA and the 90% confidence interval (CI) of the RMSEA and estimates of the polar angle (θ) and the communality index (f) to assess model fit. The polar angle (θ) refers to the distance (number of degrees) between the scales on the circumference of the circle; the communality index (f) is the square root of the proportion of variance of a scale that is explained by the model (Yik & Russell, 2004b). We test four types of circumplex models: (1) a model in which the f's are fixed to be equal for all scales, and in which the θ's are fixed to 45° (equal distances between the scales); (2) a model in which the f's are free to be estimated for all scales, and in which the θ's are fixed to 45°; (3) a model in which the f's are fixed to be equal for all scales, but in which the θ's are free to vary between scales; and (4) a model in which both the f's and the θ's are free to be estimated for all scales.

Results

In Table 2 we present the CFA fit measures for the models of the IIP-32 and IIP-64. The fit statistics were generally consistent across the two samples. The SRMR and the RMSEA indicated that the global model fit of

[2] Alternatively we also analysed covariance matrices that were calculated based on unadjusted item-scores. In this case we explicitly included a complaint-factor in the CFA-model. The fit-values thus obtained were similar to the results we obtained starting from the ipsatized data. Overall, the SRMR values were slightly lower and the RMSEA values slightly higher in the models with the general factor.

[3] We confirm this suggestion. In our analyses we initially started from ipsatized scores. This resulted in errors at the level of one of the subroutines in the program, most probably because of negative eigenvalues that were associated with the ipsatized data-matrix (M Browne, pers. comm., 2004). CIRCUM analyses based on Ordinary Least Squares estimation were possible, but have not been preferred as these don't give information on model fit.

the IIP-64 was bad. At a more detailed level we observed for the IIP-64 that the upper bound of the 90% CI for the RMSEA was not below .08 in both samples. The IIP-64 model explained approximately 60% of the variance in the data of both samples. Values for the CFI were each time far below .90. The SRMR and the RMSEA indicated that the global model fit of the IIP-32 was good in both samples. For the IIP-32, we observed that the upper bound of the 90% CI for the RMSEA was below .08 in both samples. Values of the CFI and the GFI were each time just below the threshold of .90. Across the different samples and models, the paths between items and factors were significant at the 0.01 level.

Table 2: *Tests of the Uni-Dimensionality of the IIP-64 and IIP-32 Scales in a Clinical and a Student Sample on Ipsatized Data*

Model	df	Chi-Square	SRMR	RMSEA	90% CI RMSEA	CFI	GFI
IIP-64, clinical	1924	7732.77 *	.11	.09	.087 to .091	.79	.61
IIP-64, student	1924	6375.50 *	.11	.09	.088 to .092	.75	.59
IIP-32, clinical	436	1142.00 *	.08	.06	.061 to .070	.89	.84
IIP-32, student	436	931.28 *	.08	.06	.057 to .069	.86	.83

Note. * $p < .01$.

The Cronbach Alpha's of the different scales are shown in Table 3. Alpha's of all IIP-64 scales, except of the NO scale, are higher than .70; alpha's of the PA, JK, LM, and NO IIP-32 scales are lower than .70 in the clinical sample; alpha's of the DE, LM and NO IIP-32 scales are lower than .70 in the student sample; alpha's of the complete scales are all higher than .85.

Table 3: *Cronbach Alpha's of the IIP-64 and IIP-32 in a Clinical and a Student Sample*

Model	PA	BC	DE	FG	HI	JK	LM	NO	Total
IIP-64, clinical	.72	.75	.77	.83	.84	.80	.74	.65	.92
IIP-64, student	.73	.77	.76	.83	.82	.78	.74	.68	.93
IIP-32, clinical	.66	.81	.78	.75	.78	.67	.66	.68	.85
IIP-32, student	.70	.75	.66	.72	.72	.71	.64	.65	.86

Note. PA = Domineering; BC = Vindictive; DE = Cold; FG = Socially Inhibited; HI = Nonassertive; JK = Overly Accommodating; LM = Self-sacrificing; NO = Intrusive.

In a subsequent step we used CIRCUM to test whether the correlations between the IIP-64 and the IIP-32 scales follow a circumplex pattern. Table 4 shows that the RMSEA's of the most restrictive circumplex models (model 1 and model 2) were all higher than .08; the RMSEA's of the least restrictive models (model 3 and model 4) were all lower than .08.

Table 4: *Assessment of Four Circumplex Models of the IIP-64 and IIP-32 in a Clinical and a Student Sample*

		Circumplex		Circumplex		Circumplex		Circumplex	
		$f1$	$\theta1$	$f2$	$\theta2$	$f3$	$\theta3$	$f4$	$\theta4$
IIP-64, Clinical	PA	.87	0	.80	0	.90	0	.86	0
	BC	.87	45	.92	45	.90	49	.94	53
	DE	.87	90	.88	90	.90	78	.88	85
	FG	.87	135	.86	135	.90	122	.91	128
	HI	.87	180	.86	180	.90	168	.88	170
	JK	.87	225	.93	225	.90	200	.92	201
	LM	.87	270	.88	270	.90	227	.94	233
	NO	.87	315	.76	315	.90	295	.80	302
	RMSEA	.114		.114		.066		.078	
	90% CI	.097- .133		.093- .136		.044- .099		.049-.108	
IIP-32, Clinical	PA	.75	0	.64	0	.82	0	.69	0
	BC	.75	45	.73	45	.82	67	.82	76
	DE	.75	90	.90	90	.82	94	.85	110
	FG	.75	135	.68	135	.82	122	.75	136
	HI	.75	180	.79	180	.82	183	.84	187
	JK	.75	225	.93	225	.82	207	.90	216
	LM	.75	270	.71	270	.82	241	.80	252
	NO	.75	315	.63	315	.82	318	.67	339
	RMSEA	.121		.104		.077		.048	
	90% CI	.131- .139		.083- .126		.055-.100		.007-.081	
IIP-64, Student	PA	.88	0	.91	0	.91	0	.93	0
	BC	.88	45	.88	45	.91	44	.90	50
	DE	.88	90	.89	90	.91	87	.88	88
	FG	.88	135	.90	135	.91	129	.92	126
	HI	.88	180	.91	180	.91	172	.92	171
	JK	.88	225	.94	225	.91	199	.92	202
	LM	.88	270	.90	270	.91	230	.91	235
	NO	.88	315	.73	315	.91	296	.79	296
	RMSEA	.106		.098		.052		.060	
	90% CI	.088-.125		.077- .120		.026- .077		.029- .092	
IIP-32, Student	PA	.78	0	.76	0	.84	0	.78	0
	BC	.78	45	.79	45	.84	56	.92	62
	DE	.78	90	.80	90	.84	95	.79	105
	FG	.78	135	.76	135	.84	133	.79	129
	HI	.78	180	.79	180	.84	181	.82	175
	JK	.78	225	.90	225	.84	202	.90	202
	LM	.78	270	.81	270	.84	237	.90	250
	NO	.78	315	.64	315	.84	299	.70	315
	RMSEA	.096		.096		.058		.051	
	90% CI	.078-.115		.074- .118		.034-.082		.015- .084	

Note. f = communality index; θ = polar angle. Model 1 = equal f's and θ's; Model 2 = free f's and equal θ's; Model 3 = equal f's and free θ's; Model 4 = free f's and θ's.

Finally we computed correlations between the eight corresponding scales of the IIP-64 and the IIP-32. All correlations were about .90 in both samples, indicating strong correspondence between the scales of both questionnaires. Table 5 shows the correlations between the IIP-32 scales and the sum-scores of those items from the IIP-64 scales that are not included in the IIP-32. These correlations range between .31 and .74 in the clinical sample and between .45 and .69 in the student sample.

Table 5: *Pearson Correlations Between the IIP-32 Scales and the Sum-Scores of the Items from the IIP-64 Scales that are not Included in the IIP-32*

Sample	PA	BC	DE	FG	HI	JK	LM	NO
Clinical	.56	.31	.61	.65	.74	.70	.60	.40
Student	.60	.45	.62	.64	.69	.62	.58	.50

Note. PA = Domineering; BC = Vindictive; DE = Cold; FG = Socially Inhibited; HI = Nonassertive; JK = Overly Accommodating; LM = Self-sacrificing; NO = Intrusive.

Discussion

In the present paper, we first tested the uni-dimensionality of the scales of the IIP-32 and the IIP-64 by means of CFA in a clinical and a student sample. Only the IIP-32 model demonstrated acceptable fit to the data of both samples. This indicates that this questionnaire consists of mutually correlated uni-dimensional scales that measure distinct concepts. Model-fit for the IIP-64 was worse. Cronbach Alpha's indicated that this misfit cannot be attributed to the internal consistencies of the scales, which implies that the cause of the misfit needs to be situated at the level of cross-loadings (items that load on a wrong factor) and correlations between the measurement error terms. To our knowledge, no other studies have evaluated the uni-dimensionality of the IIP-64 and IIP-32 scales by means of a CFA. Thus, more research is necessary to conclude upon this issue.

Furthermore, we studied whether the scales of the IIP-64 and the IIP-32 are organized as a circumplex. We conclude that this is true for both the IIP-32 and IIP-64 on the condition that the polar angles are freely estimated and not rigorously fixed at 45°. These results confirm the previous findings with the IIP-64 that a model with estimated polar angles and fixed communalities fits the data with an acceptable margin of error (Pincus, Gurtman, & Ruiz, 1993). In general, our findings confirm the stability of the IIP-64 and the IIP-32 circumplex structure across the Dutch and English languages.

The alpha's we obtained for the IIP-64 scales are somewhat lower than those reported in studies with the original version of the scale (see: Horowitz et al., 2000; Vittengl, Clark & Jarrett, 2003). This difference might be an effect of cross-cultural differences in interpreting the IIP items. Furthermore, the alpha's of the IIP-32 scales are lower than those of the IIP-64 scales. This probably is an effect of the smaller amount of items included

in the IIP-32. In the light of the results of the CFA's, we do not think that these findings are problematic.

Finally, we assessed correlations between the corresponding scales of the IIP-32 and the IIP-64. The correspondence between the scales was confirmed by the observation of high correlations. Since the height of the correlations was partly due to item overlap, we also computed correlations between the scales of the IIP-32 and the sum-scores of the items from the corresponding IIP-64 scales that are not included in the IIP-32. In this case, the correlations were substantially lower, which might indicate that the IIP-64 measures aspects that the IIP-32 does not measure (especially at the level of the PA, BC, LM and NO scales). Future studies could address this by explicitly examining whether the IIP-32 and the IIP-64 differ significantly with respect to criterion validity.

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Chapter 7

Interpersonal Profiles and Neurotic Symptoms: Are they associated with each other?[1]

The idea that neurotic symptoms are determined by interpersonal characteristics is of central importance for psychoanalytic theory, diagnostics and treatment. In the present paper, the hypotheses were tested that (1) in general, neurotic symptoms are associated with interpersonal problems and (2) more specific, that a hysterical and an obsessional interpersonal dimension underlie the field of neurotic symptoms and that both dimensions are associated with specific types of neurotic symptoms. In a first study, the hysterical and obsessional interpersonal profiles were mapped by correlating clinicians' ratings on hysteria and obsessional neurosis with the scales of the IIP-64 interpersonal circumplex in a sample of neurotic outpatients. Hysteria was associated with non-assertive, overly accommodating, and self-sacrificing interpersonal behaviour and obsessional neurosis was associated with vindictive and cold interpersonal behaviour. In a second study, associations of these interpersonal profiles with different SCL-90-R neurotic symptom clusters were investigated in a second sample of neurotic patients and in student sample. The results showed that both interpersonal profiles were significantly associated with a wide range of neurotic symptoms. However, the hypothesized differential associations of the hysterical and obsessional interpersonal profile with distinguished types of neurotic symptoms were not observed.

Contemporary diagnostics as it is conceived in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 2000) is based upon phenomenological description of symptoms. Although description of symptoms is probably the starting point of every form of diagnostics, it is questionable whether a one-sided focus on it is fruitful (Verhaeghe, 2004). Striving for a purely descriptive approach – without reference to any psychological theory whatsoever – makes structural analysis of symptoms impossible. However, without structural analysis, the multiplicity in the phenomenological field of symptoms cannot be reduced

[1] This chapter is based on Desmet, M., Verhaeghe, P., Van Hoorde, H., Meganck, R. & Vanheule, S. (under review). Interpersonal profiles and neurotic symptoms: Are they associated with each other?

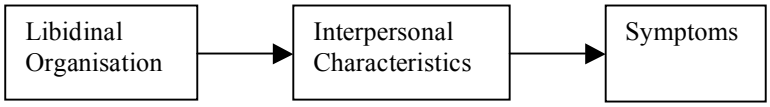
and the diagnostic system becomes ineffective. The inadequacy of a merely descriptive approach is illustrated by the fact that the daunting amount of diagnostic categories in the DSM-IV threatens diagnostic validity and reliability and leads up to ubiquity of comorbidity (Maleval, 2002). Stefanis and Stefanis (2002) refer to the Epidemiologic Catchment Area Study (Regier, Burke, & Burke, 1990), the US National Comorbidity Survey (Blazer, Kessler, McGonagle, & Swartz, 1994), and the WHO Study on Psychological Disorders in Primary Health Care (Sartorius, Ustun, Lecrubier, & Wittchen, 1996) and conclude that overall evidence leaves no doubt that comoridity is the rule rather than the exception (Stefanis & Stefanis, 2002, pp 22-24). Gotlib and Hammen (2002) confirmed this conclusion. They reviewed the same studies as Stefanis and Stefanis (2002), and found for example that 56% of the cases of major depressive disorder received an additional diagnosis on axis I and that 74% of the depressive patients received an additional diagnosis for a personality disorder.

The omnipresence of comorbidity in DSM-IV diagnoses is in line with the often observed high correlations between the different Symptom Checklist (SCL-90-R; Derogatis, 1992) subscales that measure neurotic symptoms (e.g., Vassend & Skrondal, 1999). These findings with the SCL-90-R are often interpreted as being more or less artificial, as being the effect of a strong general complaint factor in the responses to this questionnaire. However, the convergence of these findings with the phenomenon of comorbidity in DSM-IV diagnoses might suggest that these findings at least partially reflect clinical reality, namely that at a deeper level neurotic symptoms are connected to each other, and that the splitting up of the field of neurotic psychopathology in numerous isolated diagnostic categories is artificial (see also Jablensky, 2005). Therefore, we argue that, rather than postulating diagnostic categories on the basis of mere phenomenological description, diagnostics should aim at clarifying the underlying structure that connects neurotic symptoms with each other. It is on the level of this underlying structure that the multiplicity of different diagnoses can be turned into simplicity and that the problem of comorbidity can be solved.

In our opinion, an endeavour that aims at clarification of the underlying structure of symptoms must not start from zero but can find a predecessor in the work of Freud. Throughout his clinical work Freud developed his own, relatively simple diagnostic system with three main categories: neuroses (subdivided in transference and actual neuroses), psychoses (or narcissistic neuroses), and perversions. This diagnostic system, as a part of Freud's broader theoretical model, was based on the analyses of numerous symptoms and the mapping of their underlying, determining structures. The most basic level of Freud's theoretical model, the level at which Freud preferred to situate *the cause* of psychopathology, was the level of the libidinal organization, the level of the particularities of the sexual life of a subject. This level underlies and determines both character formation – which mainly boils down to a typical and stable mode of interpersonal relatedness – and the phenomenology of psychopathological symptoms. We

could tentatively say that in the causal chain of Freud's psychopathology model, the mode of interpersonal relatedness seems to be somewhere between the libidinal level and the symptom level.

Figure 1: *Implicit Causal Chain in Freud's Psychopathology Model*



Freud's analyses of neurotic symptoms – to which we confine ourselves in the present project – all testify of this line of reasoning: there is a (psycho)sexual drive, this drive creates a certain typical way of relating to other people, and in this relationship, fuelled by the drive, certain symptoms arises.(Verhaeghe, 2004; Verhaeghe & Vanheule, 2005). In the analysis of a hysterical patient, for example, neuralgia was analysed as an expression of the feeling of being humiliated by a loved one; anxiety as repressed sexual desire to the therapist; phobias as a way to stay close to the mother; and anorexia as an expression of disgust towards a brother (Breuer & Freud, 1895). Similarly, in the analysis of an obsessive-compulsive patient, Freud (1909, p. 192) substantiated that pathological doubt around the removal of a branch from the sidewalk was an expression of aggression towards his partner. The analysis of neurotic symptoms led Freud consistently into the interpersonal realm and therefore, the underlying and determining structures of symptoms were described in interpersonal terms. Freud (1924) stated that in the final analysis, all neurotic symptoms are rooted in a set of characteristic, drive-laden relationships between the child and the parents. Freud (1924) referred to this typical interpersonal constellation by the metaphor of the Oedipus complex. In Figure 2, we (tentatively) represented the Oedipus complex as a structure with three points that relate to each other along two characteristic interpersonal dimensions. The first interpersonal dimension boils down to attraction of the child towards one of the parents, a wish to enjoy his or hers (bodily) proximity (interpersonal dimension represented by α in Figure 2). The second interpersonal dimension concerns the aggressive strivings towards isolation from the second parent, accompanying the wish for fusion with the first parent (interpersonal dimension represented by β in Figure 2). We could juxtapose the Oedipal interpersonal constellation with a constellation in which there is a regulator of the distance (a symbolic law or rule, represented by φ in Figure 3) between the child and the parents (see Figure 3). In this case, the relationships are neither associated with enjoyment (fusion) nor aggression (isolation), but rather with joy and pleasure.

Figure 2: *Oedipal Organization Of the Parent-Child Relationships*

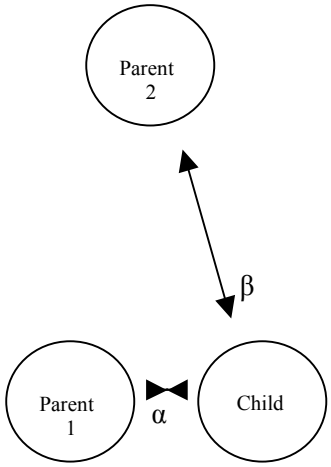
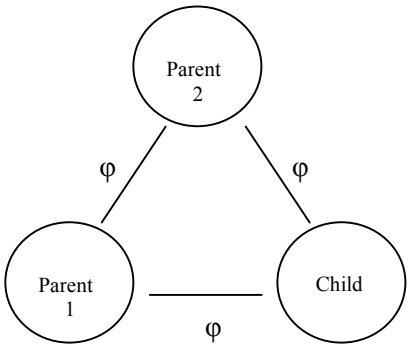


Figure 3: *Parent-Child Relationships with Symbolic Mediator*



As we mentioned above, the interpersonal level of the Oedipal constellation is underlain by the libidinal level. This means that these interpersonal positions are associated with enjoyment and are – be it not undivided – *strived for* by the subject. Thus, they acquire a certain degree of stability and form the basis of what is often called *the personality* of a subject. This is the reason why the structural qualities of the Oedipal relationships with the parents are reinstalled time and time again in relationships with other people in a process that Freud (1912) called 'transference'. In the field of the neuroses, two transference patterns are usually discerned (e.g. Verhaeghe, 2002), based on the two interpersonal dimensions of the Oedipus complex. The *hysterical transference pattern* is rooted in the attraction towards a parental love object and results in interpersonal behaviour directed at fusion with the other;the obsessional transference pattern is rooted in aggression towards the parent whom possesses the love object and whom is experienced as a rival, and results in interpersonal behaviour aiming at isolation and distance from the other.

Although the two interpersonal dimensions – based on striving for fusion with the one parent and striving for isolation from the other parent – are logically connected with each other via the Oedipus complex, one of the two dimensions often predominates upon the other and characterizes the interpersonal behaviour of a particular subject. Dependent on the interpersonal dimension that predominates, different types of neurotic symptoms will appear at the phenomenological level. The hysterical interpersonal dimension is supposed to be associated with depressive symptoms, phobia's, anxiety and somatic symptoms; the obsessional interpersonal dimension is supposed to be associated with depressive symptoms, obsessional symptoms and symptoms centred on aggressive urges (e.g. Freud, 1891). Speaking in terms of more

general levels at which the symptoms manifest themselves, we could say that the hysterical interpersonal dimension is associated with symptoms that primarily manifest themselves at the somatic level, while the obsessional interpersonal dimension is associated with symptoms that primarily manifest themselves at the cognitive level.

Post-Freudian authors – such as Sullivan, Kohut, and Bowlby – often focused on the interpersonal dimension of Freud's ideas. Within these traditions, interesting measures for modes of interpersonal relatedness – for example the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000) – have been developed. Furthermore, Blatt's (1974, 2002) psychoanalytic theory on an anaclitic and an introjective personality style, each associated with specific interpersonal characteristics and with specific types of psychopathology, mainly boils down to the same line of reasoning as the one put forward in the present paper. Blatt recently contributed to the development the Psychodynamic Diagnostic Manual (PDM; PDM Task force, 2006), which aims at presenting a psychoanalytically inspired, mixed categorical-dimensional diagnostic alternative for the purely categorical DSM-IV. Thirty years of empirical research from Blatt's paradigm yielded multiple findings that return to the discussion of our results.

Thus, in line with several post-Freudian authors, we could focus on the interpersonal dimension in the work of Freud and hypothesize that the heterogeneity found at the level of the manifest symptoms will not be found at the level of the underlying, determining interpersonal characteristics: symptoms appear in numerous forms at the phenomenological level, but they are all underlain by the same interpersonal structure with two interpersonal dimensions. While the different neurotic symptom clusters are conceived as constituents of separate diagnostic categories in the DSM-IV, the psychoanalytic diagnostic system groups them in two broad dimensions. Therefore, we argue that the 'enormous heterogeneity' (Gotlib & Hammen, 2002, p 3) of neurotic symptoms that co-occurs with depressive symptoms, can be ordered according to the two underlying interpersonal dimensions that arise from the work of Freud.

Besides being simple, a system of diagnostics based on the interpersonal structure and function of symptoms offers another important improvement compared to purely descriptive diagnostics: it is straightforwardly indicative for the modus operandi in psychotherapy (Verhaeghe, 2004). The fact that psychotherapy – which is essentially an interpersonal process – leads up to relief of suffering is ultimately based on the existence of a causal pathway between interpersonal characteristics and symptoms. In this context, Freud (1912/1958) stated that transference is the most important tool in the psychoanalytic cure and the conditio sine qua non for therapeutic success: if the relationship between patient and analyst does not reach a certain intensity, this relation will not be able to stir the drive fixated in the symptom and no relief of suffering will occur. Diagnostics aiming at the basic interpersonal structure that determines the symptomatology are predictive with regard to the transference that shall be

manifested during the therapy and alerts for pitfalls that could disturb the therapeutic relationship. This argument gains even more power when situated in the context of research that shows that the quality of the therapeutic relationship is the most powerful predictor of therapeutic success (Blatt & Zuroff, 2005).

Although the Freudian diagnostic system amply proved its worth in the clinical setting, the method by which it is developed lacks the consistency and transparency required to be a strong argument in a scientific debate. Therefore, we put to the test in an empirical study some necessary preconditions of the Freudian diagnostic view on the neuroses. In the present paper, we investigate (1) whether or not interpersonal problems are associated with neurotic symptoms in general; and (2) whether or not specific interpersonal characteristics are associated with specific types of neurotic symptoms[2]. In a first study, we map the hysterical and the obsessional interpersonal profiles by correlating clinicians' ratings on hysteria and obsessional neurosis with the scales of an interpersonal circumplex. Although it would be possible to put forward theoretically based hypotheses about the interpersonal profile of hysteria and obsessional neurosis in direct clinical situations, we believe it is difficult to predict which interpersonal profile will arise from self-reports. Therefore, we first study the interpersonal profiles in an exploratory way. In a second study, associations of these interpersonal profiles with different neurotic symptom clusters are investigated in a new sample of neurotic patients. We expect that the hysterical interpersonal profile will be associated with depressive symptoms, phobic complaints, anxiety, and somatic symptoms (i.e., the typical hysterical symptoms, Verhaeghe, 2004); and that the obsessional interpersonal profile will be associated with depressive symptoms, obsessive-compulsive symptoms and symptoms centred around aggressive urges (i.e., the typical obsessive-compulsive symptoms, Verhaeghe, 2004).

STUDY 1

Method

Participants

Participants in this study were 32 mental health outpatients [20 female, mean age 42.7 years (SD=7.5), 16 married or living with a partner; 17 used psychoactive drugs]. DSM-IV-diagnoses on Axis I included mood disorders (major depressive disorder n=15, dysthymic disorder n=3, bipolar disorder n=1, mood disorder not otherwise specified=1), anxiety disorder (n=3), somatoform disorder (n=1), eating disorder (n=1), adjustment disorder

[2]Investigation of the causal pathway between interpersonal characteristics and symptoms is beyond the possibilities of our research design.

(n=2), impulse-control disorders not otherwise specified (n=1), relational problem (n=3). The diagnosis was deferred for 1 patient. Fifteen patients had an additional diagnoses of a personality disorder on Axis II (avoidant PD n=2, borderline PD n=1, paranoid PD n=1, dependent PD n=4, narcissistic PD n=2, histrionic PD n=1, obsessive-compulsive PD n=1, PD not otherwise specified n=3).

Procedure

The participants were randomly selected from a sample of 404 (283 female) that are involved in a broader research project on personality vulnerability to psychopathology. The group of 404 has been studied by means of questionnaires. All participants obtained written information on the study and gave informed consent. On the last page of the questionnaires, the subjects were asked if they were willing to participate in an interview. In total, 227 persons were prepared to do so. With the aim of withholding at least 30 interviews for further analyses, 32 participants were randomly selected for an interview. Once the 32 patients were selected, the interviewer (MD) called the mental health care centres and asked to arrange an appointment at the centre with the patient. Interviews were unstructured and took on average two hours. Every interview started with the question: 'Can you tell me something about the reasons why you consult a therapist in this centre?' Starting from this question, the interviewer followed and explored the story of the interviewee. All interviews were recorded on mini-disc and were typed out verbatim.

Two psychoanalytically trained clinicians (HV and PV, each more than 20 years of clinical experience) received the transcriptions of the interviews (in total over 1000 pages) and rated on a scale from 1 to 10 every patient on hysterical and obsessive-compulsive traits. In this first step, no auditive records were used to save time. The clinicians had absolutely no prior knowledge of patients' scores on questionnaires, had absolutely no knowledge with regard to the research question and rated the interviews totally independently from each other. Correlations between the ratings of both clinicians after completing this first step were .316 (p=.078) for the hysterical dimension and .522 for the obsessional dimension (p=.002).

Before consensus scores were discussed, an intermediate step was taken: a third researcher (MD) compared the scores and selected cases with large discrepancies between both raters. Both clinicians rated these cases (n=10) again, this time making use of the audio version of the interview, which contains extra information as intonation, speed of talking, … (step 2). After this step, interrater-reliability in the full sample rose to .662 ($p < .001$) for the hysterical dimension and to .846 ($p < .001$) for the obsessive-compulsive dimension.

Subsequently, consensus scores were computed by taking the average of the clinicians' scores for the cases without large discrepancies, cases for which the scores of the clinicians were still very different after the second step (N=3) were discussed until consensus was reached.

Measures

All participants filled out the IIP-64.

The *Inventory of Interpersonal Problems-64* (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000) is a 64-item self-report questionnaire designed to assess interpersonal problems. Each item is rated on a 0 (not at all) to 4 (extremely) scale. Eight subscales can be discerned that are mutually correlated in the pattern of a circumplex: domineering, vindictive, cold, socially inhibited, nonassertive, overly accommodating, self-sacrificing and intrusive/needy. Two dimensions are underlying the eight subscales: hostility-friendliness and dominance-submissiveness. The validity of the Dutch translation of the IIP-64 was recently confirmed (Vanheule, Desmet, & Rosseel, 2006).

Data Analysis

We compute Pearson correlations to assess convergence between IIP-64 scores and clinicians' ratings. To assess the significance of the correlations, we provide p values and bootstrap confidence intervals. In a bootstrapping procedure, multiple sub-samples (1000 in the case of this article) are randomly drawn from the full sample and the statistic of interest is calculated in each of the sub-samples. In this way, it is possible to construct a confidence interval for this statistic, which gives information about the reliability of the association observed in the total sample. This procedure is particularly interesting when the sample size is small.

Results

As shown in Table 1, both the p values and the bootstrap confidence intervals indicated that the hysterical dimension was positively associated with nonassertive, overly accommodating and self-sacrificing interpersonal behaviour and negatively with domineering, vindictive and cold behaviour; the obsessional dimension was associated with vindictive and cold interpersonal behaviour. The hysterical dimension was associated significantly stronger than the obsessional dimension with nonassertive ($t = 4.33$; $df = 30$; $p < .01$), overly accommodating ($t = 3.72$; $df = 30$; $p < .01$), self-sacrificing ($t = 3.76$; $df = 30$; $p < .01$), and intrusive interpersonal behaviour ($t = 2.43$; $df = 30$; $p < .05$); the obsessional dimension was associated significantly stronger than the obsessional interpersonal dimension with domineering ($t = 3.50$; $df = 30$; $p < .01$), vindictive ($t = 4.76$; $df = 30$; $p < .01$), and cold ($t = 5.44$; $df = 30$; $p < .01$) interpersonal behaviour.

To operationalize the hysterical and obsessional interpersonal profile, we sum these IIP-64 scale scores that at the same time are significantly associated with clinicians' ratings of the corresponding dimension and that show significantly stronger associations with the corresponding dimension than with the other dimension. Thus, to operationalize the hysterical interpersonal profile, we sum the scores on the non-assertive, the overly accommodating and the self-sacrificing scale; to operationalize the obsessional interpersonal profile, we sum the vindictive and the cold scale.

Discussion

The IIP-64 scales correlated in a clear and distinctive way with clinicians' ratings on the hysterical and obsessional dimension. Although this was an exploratory study in which we did not start from explicit hypotheses, our findings are generally in line with theoretical statements about associations between interpersonal behaviour and hysteria and obsessional neurosis (Blatt, 2004, pp. 180-183; Verhaeghe, 2004). Furthermore, the interpersonal profiles observed in the present study show remarkable resemblance with the interpersonal profiles associated with measures of hysterical (dependent) and obsessional (self-critical) personality style as measured by the Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976; for interpersonal profiles associated with DEQ scales, see Desmet, Vanheule, Groenvynck, Verhaeghe, & Bogaerts, 2007). Thus, the results suggest that we can operationalize the hysterical and obsessional interpersonal profile by summing the IIP-64 subscales that are significantly and distinctively associated with the respective ratings of the clinicians (see results section).

STUDY 2

Participants

Clinical Sample. Participants in this study were 110 patients (65 female, 45 male) from different mental health care centres of the Flemish part of Belgium: 34 inpatients from a depression clinic, 37 inpatients from a psychiatric ward of a general hospital, and 39 outpatients from a group-practice of clinical psychologists. Mood disorders were the most frequently occurring diagnoses (55% in total, 23% were diagnosed with recurrent major depressive disorder, 6 % with major depressive disorder, single episode, 24% with dysthymic disorder, and 2% with a bipolar disorder), followed by anxiety disorders (24%), substance-related disorders (6%), eating disorders (4%), and somatoform disorders (3%). The other categories contained no more than one patient. Fourty-four percent of the participants received a diagnosis on axis II.

Borderline Personality Disorder (PD) (20% of the total sample), PD not otherwise specified (also 6%), and histrionic PD (4%) were the most frequently occurring diagnoses.

Student Sample. The student sample existed of 151 fifth year psychology students (133 female, 14 male, 4 missing values for sex), ranging in age from 21 to 42 years (M=23.35, SD=2.69).

Procedure

Clinical Sample. Psychiatrists and/or psychologists presented an informational letter to their patients. In this letter, we briefly explained that we were studying mental health and asked to participate in a study by filling out questionnaires. One hundred-and-ten patients agreed (response rate = 84,93%, 3 left out of analysis because of more than 5% missing values), filled out the questionnaire and returned them to us via thepsychiatrists/psychologists. All participants gave informed consent.

Student Sample. Students in psychology courses were asked to participate in a questionnaire study. Those who agreed filled out the questionnaires and returned it to their instructors.

Measures

All participants filled out the Dutch translations of the IIP-64 (see study 1), and the SCL-90-R.

The *Symptom Checklist* (SCL-90-R; Derogatis, 1992) is a 90-item self-report symptom inventory designed to assess psychiatric symptoms in psychiatric patients. Each item is rated on a 0 ('not at all') to 4 ('extremely') scale. Nine symptom clusters are discerned in the Dutch version of the SCL-90-R: Phobic Anxiety, Anxiety, Depression, Somatization, Obsessive-Compulsive[3], Interpersonal Sensitivity, Aggressive urges[4], Sleeping Problems, and Psychothicism[5].

[3] The item 'Feeling blocked in getting things done' (#28) was removed from the obsessive-compulsive scale. This item was translated in Dutch as 'Feeling obstructed in doing all kinds of things'. Correlations with the SCL-90-R symptom clusters showed that this item was not correlated with (the other items of) the obsessive-compulsive symptom cluster, but instead was associated with the interpersonal sensitivity cluster. This shows that this item was interpreted more in the direction of a feeling of *being obstructed by other people* in doing all kinds of things, rather than in the direction of feeling *internally blocked* in getting things done. However, the latter interpretation is the only one that is in line with the typically obsessional inhibition that the item originally was supposed to measure. Therefore, we propose that this item will be re-translated in the latter direction.

[4] This symptom cluster is usually called 'Hostility'. We use 'aggressive urges' to stress the fact that the content of the symptoms is intrapersonal rather than interpersonal.

[5] This symptom cluster is left out of consideration since the present paper is about neurotic symptoms.

Results

Scores on hysterical and obsessional profiles were correlated moderately highly with each other in the clinical sample (.367, $p < .01$) and in the student sample (.387, $p < .01$). Table 2 shows the associations of the hysterical and obsessional interpersonal profiles with the symptom clusters of the SCL-90-R in the clinical and the student sample. Similar results were obtained in both samples: both the hysterical and the obsessional profile demonstrated significant associations with all symptom clusters. T-tests on differences between dependent associations showed that there was no significant difference between the strength of the associations of the interpersonal profiles with any of the symptom clusters, except with 'aggressive urges', which showed a significantly stronger association with the obsessional profile than with the hysterical profile in the student sample [$t = 2.79$; $df = 149$; $p < .01$].

We computed correlations in the male and the female samples separately and in a subsample of depressives but found similar associations as those observed in the full samples.

With regard to the general association between interpersonal profiles and symptoms, we found that the overall sum scores on interpersonal problems and symptoms were highly associated with each other in the clinical sample ($r = .711$; $p < .001$) and in the student sample ($r = .570$; $p < .001$).

Table 2: *Pearson Correlations between the Hysterical and the Obsessional Interpersonal Profile and the SCL-90 Symptom Clusters in the Clinical Sample and in the Student Sample*

	Clinical Sample		Student Sample	
SCL-90-R scale	Hysterical Pr.	Obsess. Pr.	Hysterical Pr.	Obsess. Pr.
Phobic Anxiety	.45**	.31**	.27**	.41**
Anxiety	.47**	.39**	.32**	.38**
Depression	.57**	.54**	.38**	.48**
Somatization	.37**	.31**	.29**	.28**
Obsessive-compulsive	.52**	.41**	.40**	.40**
Interpersonal	.59**	.63**	.39**	.63**
Aggressive urges	.18	.32**	.29**	.47**
Sleeping Problems	.33**	.28**	.25**	.25**

Note. Hysterical Pr. = Hysterical Profile; Obsessi. Pr. = Obsessional Profile; * $p < .05$; ** $p < .01$.

Conclusion and Discussion

In the first study, we explored associations between clinicians' ratings on 32 patients on hysteria and obsessional neurosis and IIP-64 scales. We

found that clinicians' ratings of the hysterical and obsessional dimension were associated in a significant and distinctive way with the majority of the IIP-64 scales: the hysterical dimension was associated with self-reports of non-assertive, overly accommodating and self-sacrificing interpersonal behaviour; clinicians' ratings of the obsessional dimension were associated with self-reports of vindictive and cold interpersonal behaviour. Furthermore, we argued that these findings were in line with findings obtained with the DEQ in the context of Blatt's research paradigm on dependent (hysterical) and self-critical (obsessional) personality style. Based on the findings of the first study, we operationalized the hysterical and obsessional interpersonal dimension by summing the scores on the IIP-64 scales with which they were associated. In the second study, we investigated associations between the IIP-64 hysterical and obsessional interpersonal profiles (obtained in study one) and self-reports of neurotic symptoms. We hypothesized that the hysterical interpersonal profile would be associated with self-reports of depressive symptoms, phobia's, anxiety, and somatic symptoms, while the obsessive-compulsive profile would be associated with depressive symptoms, symptoms centred on aggressive urges, and obsessive-compulsive symptoms. The differential association between the obsessional profile and aggressive urges was observed in the student sample; the other symptom clusters showed significant but equally strong associations with both interpersonal profiles. On the other hand, the hypothesized associations between interpersonal problems and neurotic symptoms *in general* were observed in both samples. The correlation in the student and in the clinical sample, .711 and .570 respectively, were highly significant. Although these correlations were probably artificially inflated because of shared error variance between the IIP-64 and the SCL-90-R (e.g., agreeing response bias, general tendency to complaint, modest degrees of content overlap between some scales of the two questionnaires, …), the massive reporting of interpersonal problems in the 32 clinical interviews suggest that they at least partially reflect empirical ('real') associations.

Several limitations that should be considered when interpreting our results, like the small sample size in study one, and the fact that the initial interrater-reliability for the hysterical dimension was rather low. Furthermore, it would be interesting if clinicians wrote down more explicit what criteria they used in their ratings on hysteria and obsessional neurosis and eventually integrated these criteria in a rating scheme. This would make the rating process more transparent and would possibly result in higher interrater-reliability. Alternative measures of interpersonal characteristics, specifically designed to differentiate the interpersonal component of hysteria and obsessional neurosis, could be used. Although the present study confirmed the association between interpersonal characteristics and neurotic symptoms, we were not able to demonstrate that different interpersonal characteristics are associated with different types of symptoms. In the present study, we used the IIP-64, which is a common measure of interpersonal characteristics. Although this approach is attractive because it situates

hysterical and obsessional interpersonal characteristics in the delineated space of a circumplex, it might be that this instrument is not sufficiently sensitive for the singularities of hysteria and obsessional neurosis. Future research should find out whether hysterical and obsessional interpersonal characteristics are more optimal operationalized by means of questionnaires like the Personal Style Inventory – II (PSI-II, Robins et al., 1994), which is more specifically designed for that purpose. However, research on the construct validity of the PSI-II is scarce and yielded mixed results with regard to associations with specific types of symptoms (e.g. Robins, Bagby, Rector, Lynch, & Kennedy, 1997). The DEQ is another potential candidate to investigate our hypotheses. Yet, this instrument assesses a mix of inter-personal and intra-personal depressive and/or neurotic experiences that sometimes come close to symptoms. This makes it less suitable to investigate the relationships between the interpersonal realm and neurotic symptoms. Another option is that instead of measuring the interpersonal characteristics and the symptoms with questionnaires, one could try to develop coding schemes that could be applied to clinical interviews to measure these clinical entities. This approach definitely has the advantage that it is closer to clinical practice and that it avoids artificial inflation of the associations due to measurement error. On the other hand, it is time-comsuming and more difficult to maintain objectivity.

Finally, a more general limitation could be that the use of questionnaires to measure psychic phenomenae always entails serious limitations, especially when psychodynamic constructs are assessed. Questionnaires always apply to the surface of psychic life, to how people see themselves, and to how they want to be seen by others. Thus, it remains a question whether or not the absence of the predicted associations between interpersonal characteristics and neurotic symptoms is due to research methodology or rather reflects an absence of these associations in the clinical reality. Therefore, it would be interesting if future research additionally made use of alternative operationalizations. Since the same limitation holds to a certain extent for codings of clinical interviews – which after all are self-reports as well – it would be interesting to additionally use implicit measures (e.g. delay in reaction speed in emotional stroop task) and observational measures. These techniques would allow to draw more firm conclusions with regard to our research hypotheses.

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Table 1: *Bootstrap Confidence Intervals of Pearson Correlations between Clinicians' Ratings on the Hysterical and the Obsessional Dimension and the IIP-64 Scales*

	Rating Hysterical Dimension					Rating Obsessional Dimension				
	Full Sample		Bootstrap Samples			Full Sample		Bootstrap Samples		
IIP-64 Scale	r	p	*M* r	*SD* r	95% CI r	r	p	*M* r	*SD* r	95% CI r
Domineering	-.41	.02	-.42	.14	-.64 to -.06	.17	.38	.17	.15	-.15 to .44
Vindictive	-.43	.02	-.43	.14	-.65 to -.07	.40	.03	.40	.15	.06 to .66
Cold	-.46	.01	-.46	.13	-.68 to -.12	.46	.01	.46	.14	.17 to .70
Soc. Inhibited	-.05	.81	-.05	.17	-.38 to .30	.06	.76	.06	.16	-.26 to .39
Nonassertive	.47	.01	.47	.14	.11 to .69	-.24	.20	-.25	.16	-.53 to .10
Ov. Accommod.	.39	.03	.40	.14	.05 to .64	-.27	.15	-.28	.15	-.54 to .07
Self-sacrificing	.37	.05	.37	.12	.07 to .56	-.30	.10	-.30	.14	-.55 to -.01
Intrusive	.15	.44	.15	.13	-.15 to .37	-.29	.12	-.29	.11	-.49 to -.05

Note. Soc. Inhibited = Socially Inhibited ; Ov. Accommod. = Overly Accommodating.

Part III

Measuring Hysterical and Obsessive-compulsive Depression: The Personal Style Inventory

Chapter 8

Reconstruction and Validation of the Personal Style Inventory[1]

The Personal Style Inventory-II-R (Bagby, Parker, Joffe, Schuller, & Gilchrist, 1998; Robins, Ladd, Welkowitz, Blaney, Diaz, & Kutcher, 1994) was constructed to assess sociotropy and autonomy; two personality dimensions associated with increased susceptibility to depression. In the present study, the authors used Confirmatory Factor Analysis (CFA) to evaluate the fit of the theoretical model of the PSI-II-R in both a student sample (N = 799) and in a heterogeneous clinical sample (N = 267); the construct validity was evaluated by correlating the PSI-II-R scales with different types of interpersonal problems and different types of neurotic symptoms. A lack of fit of the original PSI-II-R model was observed in both samples. Yet, after progressive elimination of 18 items, a good fit was obtained in the clinical sample and replicated in the student sample. This shortened version demonstrated better construct validity than the original version PSI-II-R, especially in a depressed clinical sample: sociotropy was associated with nonassertive, overly accommodating, and self-sacrificing interpersonal behaviour, and with depressive symptoms, phobic complaints, anxiety and somatic symptoms; autonomy was associated with cold and vindictive interpersonal behaviour, and with obsessive-compulsive symptoms, and aggressive urges. In contrast to the original version, scores on the shortened version showed the predicted gender differences.

Several theorists (Arieti & Bemporad, 1980; Beck, 1983; Blatt, 1974; Bowlby, 1977) have suggested that interpersonal dependency or sociotropy and excessive strivings for self-reliance or autonomy, coupled with a harsh self-critical attitude, are characteristics of personalities prone to depression. Three of these theories [Arieti and Bemporad (1980), Blatt (1974), and

[1] This chapter is based on Desmet, M., Vanheule, S., Meganck, Y., Verhaeghe, P., Vogel, J., & Bogaerts, S. (under review). Reconstruction and validation of the Personal Style Inventory.

Bowlby (1977)] have psychoanalytic roots and the proposed personality traits are to a certain degree variants of the hysterical and obsessional personality structure of classical psychoanalysis (see also Blatt, 2002). As Blatt (2004, p 8) stresses, theories on personality vulnerability to depression are of particular clinical importance since they understand and treat depression as a primarily psychological phenomenon, rather than as a merely biological disease. Therefore, these theories expect therapeutic effects from exploration and understanding of the psychological constellation in which the depression-prone personality was 'constructed', rather than from chemical manipulation of the biological covariates of depressive phenomenology.

Blatt (2004) put forward explicit hypotheses about susceptibility to specific life stressors, associations with specific interpersonal styles and symptoms, and gender differences. Dependency/sociotropy would render people susceptible to stressors on the interpersonal level, such as disruption of a close relationship (Blatt, 2004, pp. 231-239). The interpersonal style of dependent/sociotropic people is marked by non-assertive, overly accommodating and self-sacrificing behaviour (Blatt, 2004, pp. 180-183). At the level of symptomatology, dependency/sociotropy is associated with depressive symptoms, phobic complaints, anxiety and physical and psychosomatic symptoms (Blatt, 2004, p. 156). In general, women would show higher levels of dependency/sociotropy than men (Blatt, 2004, p. 185).

On the other hand, self-criticism autonomy renders people susceptible to stressors pertaining to achievement, such as failure to graduate (Blatt, 2004, pp. 231-239). The interpersonal style of self-criticial/autonomous people is marked by hostile-submissive behavior vindictive, cold, and socially inhibited interpersonal behaviour (Blatt, 2004, pp. 180-183). At the level of symptomatology, self-criticism/autonomy is associated with obsessive-compulsive symptoms, aggressive urges, and ambivalence (Blatt, 2004, p. 157). In general, men would show higher levels of self-criticism/autonomy than women (Blatt, 2004, p. 185).

The Personal Style Inventory-II (PSI-II; Robins, Ladd, Welkowitz, Blaney, Diaz, & Kutcher, 1994) was constructed to assess these two personality characteristics. Robins et al. (1994) reviewed theoretical writings of Arieti and Bemporad (1980), Beck (1983), Blatt (1974) and Bowlby (1977) and identified three interpersonal constructs – 'concerns about what others think', 'dependency', and 'pleasing others' – and three autonomous achievement constructs – 'perfectionism/self-criticism', 'need for control', and 'defensive separation'. Forty-eight items were generated to assess these theoretical constructs. However, two CFA-studies (Bagby et al., 1998; Hong & Lee, 2001) showed that the four items of the Perfectionism/Self-criticism subscale were associated equally with sociotropy and autonomy. Subsequently, Bagby et al. (1998) eliminated this subscale from the model. This revised PSI-II (PSI-II-R) model showed a good CFA-fit in a student sample as well as in a sample of patients with major depressive disorder (Bagby et al., 1998). Although these results justify the use of the PSI-II-R to compare sociotropy and autonomy across students and depressed patients, it is

important to note that the research program on personality vulnerability to depression also requires comparison with patients with other clinical diagnoses (Zuroff, Mongrain, & Santor, 2004). Therefore, it is necessary that the theoretical model of the PSI-II-R also fits the data of heterogeneous clinical samples.

In the present study, we used CFA to assess the fit of the theoretical model of the PSI-II-R in a student sample (N = 643) and in a heterogeneous clinical sample (N = 154). Subsequently, we eliminate items of the original questionnaire to improve model fit. The construct validity of this shortened version is examined and compared to the original questionnaire.

Method

Participants and procedure

Student sample. The student sample consisted of 799 first, second, and fifth year psychology students of Ghent University (660 female, 132 male, 7 missing values for sex, 6 left out of analysis because of more than 5% missing values). Students ranged in age from 18 to 55 years (M=20.92, SD=3.10). The questionnaires were filled out during courses. All students obtained written information on the study and gave informed consent.

Clinical sample. The clinical sample consisted of 266 patients (176 female, 87 male, 3 missing values for sex, 9 left out of analysis because of more than 5% missing values) from different mental health care centres of the Flemish part of Belgium: 34 inpatients from a depression clinic, 133 inpatients from a psychiatric ward of a general hospital, 39 outpatients from a group-practice of clinical psychologists, and 62 outpatients of a public mental health care centres. The patients ranged in age from 18 to 74 years (M = 39.35 SD = 11.96). All patients obtained written information on the study and gave informed consent. For 7% of the cases there was no diagnosis on axis I, or diagnosis on this axis was deferred. Mood Disorders were the most frequently occurring diagnoses (49% in total, 23% were diagnosed with dysthymic disorder, 18% with recurrent major depressive disorder, 6 % with major depressive disorder, single episode, and 2% with a bipolar disorder), followed by Anxiety Disorders (21%), Somatoform Disorders (12%), Substance-Related Disorders (4%), Relational Problems (3%), and Eating Disorders (3%). The other categories contained less than 1% of the participants. Thirty-eight percent of the participants received a diagnosis on axis II. Borderline PD (16% of the total sample), and PD Not Otherwise Specified (8%) were the most frequently occurring diagnoses.

Psychiatrists and/or psychologists from the centres presented an informational letter to their patients, in which we briefly explained that we were studying mental health and asked them to participate in the study by filling out questionnaires. One hundred and sixty-three patients agreed

(response rate = 84.93%), filled out the questionnaire and returned them to us via the psychiatrists/psychologists. In addition to the questionnaire, the care centres gave a Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, American Psychiatric Association, 2000) diagnosis for each patient.

Measures

All participants filled out the Dutch translations of the PSI-II-R.

The *Personal Style Inventory-II-R* (PSI-II-R; Bagby et al., 1998) is a 44-item self-report questionnaire designed to assess sociotropy and autonomy (see introduction). Each item is rated on a 1 ('strongly disagree') to 6 ('strongly agree') scale. For the Dutch version, a front and back translation procedure was used. The English version was first translated into Dutch by the first author and a PhD-student in clinical psychology, independently from each other. The Dutch translations were compared and discussed until consensus was reached. The Dutch consensus version was then back translated into English by two bilingual researchers (second and fourth author) who had not seen the original English version. Finally, front and back translators met and discussed the translations until consensus was reached.

Additionally, 101 patients (all outpatients) and 152 students (fifth year psychology students) filled out the Dutch translations of the IIP-64 and the SCL-90-R.

The *Inventory of Interpersonal Problems-64* (IIP-64; Alden, Wiggins, & Pincus, 1990; Horowitz, Alden, Wiggins, & Pincus, 2000) is a 64-item self-report questionnaire designed to assess interpersonal problems. Each item is rated on a 0 ('not at all') to 4 ('extremely') scale. Eight subscales can be discerned that are mutually correlated in the pattern of a circumplex: domineering, vindictive, cold, socially inhibited, nonassertive, overly accommodating, self-sacrificing and intrusive. Two dimensions are underlying the eight subscales: hostility-friendliness and dominance-submissiveness. The validity of the Dutch translation of the IIP-64 was recently confirmed (Vanheule, Desmet, & Rosseel, 2006).

The *Symptom Checklist-90-R* (SCL-90-R; Derogatis, 1992) is a 90-item self-report symptom inventory designed to assess psychiatric symptoms in psychiatric patients. Each item is rated on a 0 ('not at all') to 4 ('extremely') scale. Nine symptom clusters are discerned in the Dutch version of the SCL-90-R: phobic anxiety, anxiety, depression, somatization, obsessive-compulsive, interpersonal sensitivity, hostility, sleeping problems, and psychoticism.[2]

[2] The item 'Feeling blocked in getting things done' (#28) was removed from the obsessive-compulsive scale. This item was translated in Dutch as 'Feeling obstructed in doing all kinds of things'. Correlations with the SCL-90-R symptom clusters showed that this item was not correlated with (the other items of) the obsessive-compulsive symptom cluster, but instead was associated with the interpersonal sensitivity cluster. This shows that this item was interpreted more in the direction of a feeling of *being obstructed by other people* in doing all kinds of things, rather than in the direction of feeling *internally blocked* in getting things done. However, the latter interpretation is the only one that is in line with the typically obsessional

Data Analysis

The factor structure of the PSI-II-R was evaluated by means of CFA. The analyses were performed using Lisrel 8.50, maximum likelihood estimation.

To assess model fit, we used the Satorra-Bentler corrected Chi square statistic and badness-of-fit and goodness-of-fit indices (Browne & Cudeck, 1993; Hu & Bentler, 1998; Hoyle & Panter, 1995; Jöreskog & Sörbom, 1993). Badness-of-fit indices are indices for which lower numbers indicate better fit. The opposite is true for goodness-of-fit indices: the higher they are, the better the model fits the data.

First, we considered two badness-of-fit statistics: the Standardized Root Mean Square Residual (SRMR), for which a value of .09 or lower indicates good fit; and the Root Mean Square Error of Approximation (RMSEA), for which a value of .06 or lower indicates a good fit.

Subsequently, we reported two goodness-of fit measures: the Comparative Fit Index (CFI) for which a value of .90 or higher indicates reasonable model fit and a value of .95 or higher indicates good fit; and the Adjusted Goodness-of-Fit Index (GFI), for which a value of .90 or higher indicates good fit.

To improve model fit, items with large item-to-item and item-to-factor error correlations were progressively eliminated in the clinical sample until good fit was reached. Subsequently, the shortened version was validated in the student sample.

Results

Preliminary Analysis

Table 1 shows the descriptive statistics of all scales used in this study, in both samples. Cronbach alpha's were high – usually around .80 or higher – except for the SCL-90 'aggressive urges' scale in the student sample. Patients scored significantly higher than students on all scales used in this study (see t-tests in table 1). Female patients scored significantly higher than male patients on PSI-II -sociotropy [$t(250) = 3.14$; $p < .01$], IIP-64 nonassertive [$t(250) = 2.29$; $p < .015$], SCL-90 agoraphobia [$t(250) = 2.39$; $p < .05$], SCL-90 somatization [$t(250) = 2.99$; $p < .01$]; male patients scored significantly higher than female patients on IIP-64 domineering [$t(250) = 2.81$; $p < .01$]. Female students scored significantly higher than male students on PSI-II sociotropy [$t(250) = 2.96$; $p < .01$], IIP-64 self-sacrificing [$t(250) = 2.32$; $p < .05$], and

inhibition that the item originally was supposed to measure. Therefore, we propose that this item will be re-translated in the latter direction.

SCL-90-R somatization [t(250) = 2.23, p < .05]. Scores on PSI-II sociotropy and autonomy were correlated moderately high to each other in the student sample (r = .196, p > .10) and in the clinical sample (r = .267, p < .01).

Table 1: *Means, Standard Deviations, and Cronbach Alpha's of the Scales of the PSI-II-R, the IIP-64, and the SCL-90-R*

	Clinical Sample			Student Sample			t
Scale	M	SD	α	M	SD	α	
PSI-II-R Soc	103.88	13.30	.89	93.31	13.22	.85	3.57***
PSI-II-R Aut	73.66	14.70	.84	66.32	11.58	.81	4.50***
IIP-64 Dom	8.68	6.50	.81	5.15	4.96	.82	4.64***
IIP-64 Vin	10.33	6.29	.78	4.91	4.40	.75	7.51***
IIP-64 Co	11.52	6.71	.83	4.19	4.27	.82	9.74***
IIP-64 SI	16.15	7.51	.86	7.53	5.67	.84	9.76***
IIP-64 NA	16.56	7.91	.86	11.11	6.22	.84	5.82***
IIP-64 OA	15.93	6.73	.79	9.97	6.03	.85	7.18***
IIP-64 SS	16.17	6.46	.78	9.52	5.85	.83	8.31***
IIP-64 Int	10.46	5.93	.70	6.61	5.55	.74	5.17***
SCL-90-R Pho	15.09	7.44	.90	8.13	2.15	.69	9.14***
SCL-90-R Anx	25.71	9.07	.90	14.91	4.98	.85	10.92***
SCL-90-R Dep	47.15	17.26	.95	25.00	9.79	.93	11.70***
SCL-90-R Som	26.47	9.27	.86	17.64	5.75	.83	8.54***
SCL-90-R O-C	24.11	8.04	.87	14.80	5.34	.82	9.91***
SCL-90-R IS	46.65	15.23	.92	25.42	8.12	.89	12.85***
SCL-90-R AU	12.14	5.21	.86	8.38	2.79	.59	6.63***
SCL-90-R SP	7.93	3.66	.79	5.21	2.82	.80	6.33***
SCL-90-R Psy	20.93	7.11	.80	11.58	3.05	.62	12.48***

*Note : Soc = Sociotropy; Aut = Autonomy; Dom = Domineering; Vin = Vindictive; Co = Cold; SI = Socially Inhibited; NA = Nonassertive; OA = Overly Accommodating; SS = Self-sacrificing; Int = Intrusive; Pho = Phobic Anxiety; Anx = Anxiety; Dep = Depression; Som = Somatization; O-C = Obsessive-Compulsive; IS = Interpersonal Sensitivity; AU = Aggressive Urges; SP =Sleeping Problems; Psy = Psychoticism; ***p<.001.*

Confirmatory Factor Analysis

Table 2 shows which items load on which factor in the theoretical model of the PSI-II-R.

First we tested several first- and second-order models to know if the hierarchical theoretical model was the best representation of the data (see Table 3). A first-order model in which the 44 items loaded on two factors, corresponding to the two main scales of the PSI-II, fitted the data significantly better than a first order model in which all 44 items loaded on the same factor in the student sample (χ^2 difference = 8.61; df = 1; p < .01), and there was a trend for a better fit in the clinical sample (χ^2 difference = 2.91; df = 1; p < .10). A first-order model in which the 24 sociotropy items loaded on three factors, corresponding to the three theoretical subscales of the sociotropy

Table 2: Factor Models of the PSI-II-R and the PSI-III

PSI-Scale	Items
Sociotropy	
Concern About What Others Think	7, 13, **23**, **31**, 33, **39**, **45**
Dependency	**3**, 11, **17**, 21, **27**, **37**, 43
Pleasing Others	1, **5**, **9**, **15**, 19, **25**, **29**, 35, **41**, **47**
Autonomy	
Need For Control	4, **12**, **18**, **22**, **36**, 40, **44**, 48
Defensive Separation	2, **6**, 10, **16**, **20**, 26, 28, 30, **34**, 38, **42, 46**

Note. Item numbers according to Robins et al. (1994); bold = Items of the PSI-III.

scale, fitted the data significantly better than a first-order model in which all 24 items loaded on one factor in the student sample (χ^2 difference = 50.88; df = 2; $p < .01$) and in the clinical sample (χ^2 difference = 17.70; df = 2; $p < .01$). A first-order model in which the 20 autonomy items loaded on two factors, corresponding to the two theoretical subscales of the autonomy scale, fitted the data significantly better than a first-order model in which all 20 items loaded on one factor in the student sample (χ^2 difference = 38.38; df = 1; $p < .01$), and there was a trend for a better fit in the clinical sample (χ^2 difference = 3.45; df = 1; $p < .10$). In general, fit-indices indicated poor model fit for all first-order models, except the CFI, who sometimes reached the pre-established cut-off values.

On the basis of the previous analyses, we concluded that a second-order model PSI-II model, with two second-order factors and 5 first-order factors, was indicated. In the student sample, only the SRMR indicated acceptable fit of this model, the RMSEA, the CFI, and the GFI indicated bad fit; in the clinical sample, the SRMR and the CFI indicated acceptable fit and the RMSEA and the GFI indicated bad fit.

We progressively eliminated 18 items of the PSI-II to obtain good model fit in the clinical sample (remaining 26 items are indicated in bold in table 1 and were called the PSI-III). In the clinical sample, only the CFI stayed slightly below the cut-off value (see Table 3). This model was validated in the student sample. A test in this sample showed that all four fit-indices reached the cut-off values and indicated excellent fit for this model.

Cronbach's alpha for the shortened sociotropy and autonomy scales were acceptable (.840 and .783 in the clinical sample and .799 and .789 in the student sample, respectively); patients scored significantly higher than students on both the sociotropy [$t(250) = 3.14$; $p < .01$] and autonomy [$t(250) = 2.50$; $p < .05$] scales; female patients scored significantly higher than male patients on sociotropy [$t(250) = 3.23$; $p < .01$]; female students scored significantly higher than male students on sociotropy [$t(250) = 3.53$; $p < .01$]; and male students scored significantly higher on autonomy than female students [$t(250) = 2.19$; $p < .05$]. Scores on the sociotropy and autonomy scales of the shortened versions were almost uncorrelated to each other in the student sample ($r = .051$, $p > .10$) and in the clinical sample ($r = .093$, $p > .10$).

Construct validity

The construct validity of the PSI-II and the PSI-III were evaluated and compared to each other by computing correlations with different types of interpersonal problems and different clusters of neurotic symptoms in a student sample, a heterogeneous clinical sample, and a homogeneously depressed sample, (selected from the heterogeneous sample) (see table 4). As predicted, sociotropy was significantly correlated with socially inhibited, non-assertive, overly accommodating, self-sacrificing, and intrusive interpersonal behaviour; autonomy was significantly correlated with domineering, vindictive, and cold interpersonal behaviour. These findings were stable across the three different samples and across the two different PSI versions. Besides the predicted associations, non-predicted significant associations were also observed, for example between the autonomy scales and self-sacrificing and intrusive interpersonal problems.

With regard to the associations with neurotic symptoms, the results are more complicated. The observed associations were most in line with theoretical predictions when using the PSI-III in the homogeneously depressed clinical sample: sociotropy was associated with phobic anxiety, anxiety, depression, somatization, and interpersonal sensitivity; autonomy was associated with obsessive-compulsive symptoms, aggressive urges, and sleeping problems. When using the PSI-III in the heterogeneous clinical sample, sociotropy and autonomy were both significantly associated with all types of neurotic symptoms (except sociotropy with aggressive urges), and sociotropy showed stronger associations with all types of symptoms, except with aggressive urges and sleeping problems. When using the PSI-III in the student sample, sociotropy and autonomy were both significantly and comparably high associated with all types of neurotic symptoms. When using the PSI-II, sociotropy and autonomy were both significantly associated with all types of neurotic symptoms in each of the samples. In the clinical samples, sociotropy showed stronger associations than autonomy with all types of symptoms, except with aggressive urges and sleeping problems; in the student sample, autonomy showed stronger associations than sociotropy with all types ofsymptoms.

Conclusion and Discussion

In the first part of the present study, we used CFA to evaluate the fit of the theoretical model of the PSI-II in a student sample (N = 799) and in a heterogeneous clinical sample (N = 266). We observed poor fit of the model to the data of both samples. After progressive elimination of 18 PSI items, a good fit was obtained in the student sample. This shortened version, which we called the PSI-III, was successfully replicated in the student sample. In contrast with the PSI-II, the PSI-III demonstrated the predicted gender differences not only found for the sociotropy scale (on which women scored

significantly higher than men), but also for the autonomy scale (on which men scored significantly higher than women).

Further inquiry confirmed better construct validity of the PSI-III scales over the PSI-II scales in a depressed clinical sample. Both the PSI-II and the PSI-III scales yielded the theoretically predicted associations with different types of neurotic symptoms: sociotropy was significantly correlated with socially inhibited, non-assertive, overly accommodating, self-sacrificing, and intrusive interpersonal behaviour; autonomy was significantly correlated with domineering, vindictive, and cold interpersonal behaviour. The associations with neurotic symptoms were only in line with theoretical predictions when using the PSI-III in a depressed clinical sample. In this case, sociotropy was associated with phobic complaints, anxiety, and somatic symptoms; autonomy was associated with aggressive urges, obsessive-compulsive symptoms, and sleeping problems. This suggests both that the PSI-III offers better construct validity compared to the PSI-II and that the hypothesized associations between the personality styles and neurotic symptoms only hold in depressed samples.

Both sociotropy and autonomy were also associated with nonpredicted interpersonal behaviour: sociotropy was associated with socially inhibited and intrusive behaviour and autonomy was associated with domineering behaviour. Another unexpected finding was that only sociotropy was significantly associated with the depressive symptom cluster of the SCL-90-R. However, considering that autonomy was significantly associated with sleeping problems, our findings suggest that autonomy is related to *other* depressive symptoms than sociotropy, rather than to *no* depressive symptoms. In general, our results support the idea of a differentiation between a sociotropic or hysterical depression type, associated with anxiety and numerous depressive, somatic, and phobic complaints, and an autonomous or obsessional depression type, associated with hostility, obsessive-compulsive symptoms and sleeping problems. In a broader perspective, our study yields evidence for the capacity of inter-personal as well as intra-personal characteristics to explain variance in the field of psychopathology (Beutel, Hoflich, Kurth, et al., 2005; Grande, Dahlbender, Schauenburg, et al., 2005).

In interpreting our results, it should be considered that limitations of this study included the relatively small clinical sample, the fact that we relied exclusively on self-reports, and the fact that we did not use structured interviews for the DSM-diagnoses. Further research into the validity of the PSI-III should be conducted to confirm our findings, preferably making use of alternative measures of interpersonal styles and symptoms, such as ratings of structured interviews.

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Table 3: *CFA Fit Indices for PSI Models*

Model	Student Sample						Clinical Sample					
	χ^2	df	SRMR	RMSEA	CFI	GFI	χ^2	df	SRMR	RMSEA	CFI	GFI
First Order (44 items)												
1-factor	9925.492	902	.113	.112	.559	.603	3782.482	902	.112	.110	.707	.567
2-factor	4639.237	901	.080	.072	.818	.766	2107.724	901	.084	.071	.877	.700
First Order (24 soc items)												
1-factor	2113.276	252	.082	.096	.834	.797	771.222	252	.082	.088	.908	.765
3-factor	971.746	249	.064	.060	.935	.895	522.098	249	.081	.064	.951	.831
First Order (20 aut items)												
1-factor	1133.858	170	.069	.084	.863	.853	492.577	170	.079	.085	.888	.820
2-factor	938.589	169	.065	.076	.892	.875	409.554	169	.078	.073	.916	.845
Second Order (5 subscales)												
1-factor	3323.853	897	.090	.058	.882	.821	1766.783	817	.101	.060	.912	.737
2-factor (PSI-II)	3175.454	896	.074	.056	.889	.827	1715.792	896	.085	.059	.917	.742
2-factor (PSI-III)	693.430	293	.053	.041	.947	.928	457.849	293	.067	.046	.951	.867

Note. Soc = Sociotropy; aut = Autonomy.

Table 4: *Correlations of PSI-II and PSI-III Scales with IIP-64 and SCL-90-R Scales*

	PSI-II						PSI-III					
	Het. Clin. S.		Depr. Sample		Stud. Sample		Het. Clin. Sample		Depr. Sample		Stud. Sample	
	Soc.	Aut.	Soc.	Aut.	Soc.	Aut.	Soc.	Aut.	Soc.	Aut.	Soc.	Aut.
IIIP-64												
Domineering	.13	.56**	.04	.39**	.06	.46**	.09	.57**	-.06	.38**	.03	.50**
Vindictive	.19	.55**	.05	.36**	.16	.59**	.16	.48**	-.01	.30*	.13	.46**
Cold	.18	.57**	.23	.49**	.15	.57**	.16	.44**	.23	.33*	.10	.43**
Socially	.40**	.47**	.42**	.31*	.36**	.49**	.36**	.35**	.36**	.15	.30**	.28**
Nonassertive	.48**	.24*	.44**	.21	.58**	.25**	.40**	.14	.29*	.15	.55**	.05
Overly	.56**	.27**	.55**	.16	.61**	.23**	.54**	.18	.45**	.07	.57**	.15
Self-sacrificing	.72**	.33**	.65**	.16	.53**	.22**	.65**	.29**	.51**	.11	.47**	.20*
Intrusive	.48**	.29**	.37**	.23	.26**	.08	.44**	.28**	.32*	.22	.25**	.12
SCL-90-R								.				
Phobic	.51**	.31**	.51**	.26	.20*	.32**	.52**	.20*	.49**	.09	.18*	.18*
Anxiety	.55**	.42**	.43**	.33*	.29**	.31**	.53**	.35**	.38**	.23	.25**	.19*
Depression	.55**	.48**	.44**	.34*	.31**	.39**	.53**	.36**	.41**	.18	.26**	.28**
Somatization	.42**	.32**	.35*	.34*	.21**	.25**	.41**	.26**	.32*	.21	.19*	.20*
Obsessive-	.45**	.44**	.32*	.41*	.33**	.36**	.42**	.32**	.25	.34*	.30**	.23**
Interpersonal	.57**	.54**	.50**	.38**	.28**	.46**	.52**	.44**	.38**	.23	.20*	.33**
Aggressive	.24*	.54**	.19	.48**	.23**	.36**	.18	.57**	.05	.45**	.20*	.28**
Sleeping	.28**	.27**	.23	.33*	.23**	.28**	.23*	.29**	.12	.36**	.24**	.19*

Note. Het. Clin. Sample = Heterogeneous Clinical Sample; Depr. Sample = Depressed Sample; Stud. Sample = Student Sample; Soc. = Sociotropy; Aut. = Autonomy
* $p < .05$; ** $p < .01$.

Chapter 9

Associations of Sociotropy and Autonomy with Neurotic Symptoms: A Further Validation of the Personal Style Inventory

The Personal Style Inventory-II (PSI-II, Robins, Ladd, Welkowitz, Blaney, Diaz, & Kutcher, 1994) was constructed to assess sociotropy and autonomy, two personality traits associated with increased vulnerability to depression. Recently, Desmet, Vanheule, Meganck, Verhaeghe, and Bogaerts (2006) reconstructed the PSI-II by applying an item-deletion procedure to obtain better confirmatory factor analytic fit in a clinical sample and in a student sample. The resulting instrument was called the PSI-III and yielded – in contrast to the original questionnaire - theoretically predicted associations with SCL-90-R neurotic symptom clusters in a depressed clinical sample: PSI-III sociotropy was associated with phobic complaints, anxiety, and somatic symptoms; PSI-III autonomy was associated with agressive urges, obsessive-compulsive symptoms (Desmet, Vanheule, Meganck et al., 2006). The present research note presents the results of a study that aimed at replication of these findings. The study yielded mixed results: the findings of Desmet, Vanheule, Meganck et al. (2006) were only partially replicated since the predicted associations of the personality traits with somatic and obsessive-compulsive symptoms were not observed. Furthermore, the superior construct validity of the PSI-III compared to the PSI-II was not fully confirmed. The authors conclude that future research in which symptoms are measured by means of clinicians' ratings of structured interviews is needed to draw firm conclusions.

Several theorists have suggested that interpersonal dependency or sociotropy and excessive strivings for self-reliance or autonomy are characteristics of personalities prone to depression (Arieti & Bemporad, 1980; Beck, 1983; Blatt, 1974; Bowlby, 1977). As Blatt (2004, p 8) stresses, theories on personality vulnerability to depression are of particular clinical importance since they understand and treat depression as a psychological phenomenon, rather than as a biological disease. Therefore, these theories expect therapeutic effects from exploration and understanding of the psychological constellation in which the depression-prone personality was

'constructed', rather than from chemical manipulation of the biological covariates of depressive phenomenology.

Blatt (2004) put forward hypotheses about associations of these personality styles with different types of neurotic and depressive symptoms: sociotropy would be associated with depressive symptoms, phobic complaints, anxiety and physical and psychosomatic symptoms (Blatt, 2004, p. 156); autonomy would be associated with depressive symptoms, symptoms centred on aggressive urges, and obsessive-compulsive symptoms (Blatt, 2004, p. 157). . When depressive symptoms are subdivided into a somatic and a cognitive cluster, then sociotropy would be associated with the somatic and autonomy with the cognitive cluster (Blatt, D'Aflitti, & Quinlan, 1976).

The Personal Style Inventory-II (PSI-II; Robins et al., 1994) was constructed to assess sociotropy and autonomy. Recently, Desmet, Vanheule, Meganck et al. (2006) reconstructed the PSI-II by applying an item-deletion procedure to obtain better confirmatory factor analytic fit in a clinical sample and in a student sample. The resulting instrument was called the PSI-III and yielded – in contrast to the original questionnaire - theoretically predicted associations with SCL-90-R neurotic symptom clusters in a depressed clinical sample: PSI-III sociotropy was associated with phobic complaints, anxiety, and somatic symptoms; PSI-III autonomy was associated with agressive urges and obsessive-compulsive symptoms (Desmet, Vanheule, Meganck et al., 2006). In the same study, the predicted associations were not found in a heterogeneous clinical sample and in a student sample. The present research note presents the results of a study that aimed at replication of these findings. Additionally, we test the hypothesis that sociotropy is associated with the somatic symptoms cluster of the BDI-II and that autonomy is associated with the cognitive symptom cluster. Similar to Desmet, Vanheule, Meganck et al. (2006) we compare sociotropy and autonomy scores of the PSI-II and the PSI-III. Thus, this study can at the same time be considered as a test of a theoretical statement and as a comparison of the construct validity of two versions of the PSI.

Method

Participants

Our sample consisted of 114 in- and outpatients (31 female, 83 male) recruited from the psychiatric wards of nine general hospitals of the Flemish part of Belgium. The patients ranged in age from 18 to 59 years (M = 39.39, SD = 12.56). Psychiatrists provided us with a *Diagnostic and Statistical Manual of Mental Disorders IV-TR* (DSM-IV-TR; American Psychiatric Association, 2000) diagnosis for all patients. The most frequently occurring diagnosis on axis I were mood disorders (major depressive disorder, N = 48; dyshtymic disorder, N = 4) and anxiety disorders (N = 23). Thirty-nine patients received a diagnosis on axis I. Dependent personality disorder (N =

16) and borderline personality disorder (N = 12) were the most frequently occurring diagnosis. Axis II diagnosis was deferred for 20 patients.
The depressive sample of this study consists of all patients with a diagnosis of major depressive disorder and dysthymic disorder.

Procedure

Psychiatrists and/or psychologists from the psychiatric wards of nine general hospitals care centres presented an informational letter to their patients with a primary DSM-IV diagnosis of major depressive disorder or dysthymia. In this letter, we briefly explained that we were studying mental health and asked to participate in a study by filling out questionnaires. One hundred and twenty-two patients agreed (8 left out of analysis because of more than 5% missing values), filled out the questionnaire and returned them to us via the psychiatrists/psychologists.

Measures

All participants filled out the Dutch translations of the PSI-II, the SCL-90-R, and the BDI-II.

The *Personal Style Inventory-II* (PSI-II; Bagby et al., 1998; Robins et al., 1994) is a 44-item self-report questionnaire designed to assess sociotropy and autonomy. Each item is rated on a 1 ('strongly disagree') to 6 ('strongly agree') scale. The PSI-III is a 26 item shortened version of the PSI-II, which demonstrated superior Confirmatory Factor Analytic fit and construct validity compared to the PSI-II (Desmet, Vanheule, Meganck, et al, 2006).

The *Symptom Checklist – 90 - Revised* (SCL-90-R; Derogatis, 1992) is a 90-item self-report symptom questionnaire designed to assess psychiatric symptoms in psychiatric patients. Each item is rated on a 0 ('not at all') to 4 ('extremely') scale. Nine symptom clusters are discerned in the Dutch version of the SCL-90-R: phobic anxiety, anxiety, depression, somatization, obsessive-compulsive[1], interpersonal sensitivity, aggressive urges, sleeping problems, and psychothicism. Psychometric characteristics of this scale are satisfying (Derogatis, 1992).

The *Beck Depression Inventory-II* (BDI-II; Beck, Steer and Brown, 1996) is a 21-item self-report questionnaire that measures severity of depressed mood. For each symptom, statements are listed in ascending order, from 1 (non-depressed) to 3 (severely depressed). The psychometric

[1] The item 'Feeling blocked in getting things done' (#28) was removed from the obsessive-compulsive scale. This item was translated in Dutch as 'Feeling obstructed in doing all kinds of things'. Correlations with the SCL-90-R symptom clusters showed that this item was not correlated with (the other items of) the obsessive-compulsive symptom cluster, but instead was associated with the interpersonal sensitivity cluster. This shows that this item was interpreted more in the direction of a feeling of *being obstructed by other people* in doing all kinds of things, rather than in the direction of feeling *internally blocked* in getting things done. However, the latter interpretation is the only one that is in line with the typically obsessional inhibition that the item originally was supposed to measure. Therefore, we propose that this item will be re-translated in the latter direction.

properties of the Dutch translation are acceptable and comparable to those of the original BDI-II (Van der Does, 2002). Beck, Steer, Brown, and Van der Does (2002) discern a cognitive, a somatic, and an affective factor in the BDI-II. Recently, Vanheule, Desmet, Groenvinck, Rosseel, and Fontaine (2006) confirmed the validity of this three-factor model in a Dutch non-clinical and clinical sample.

Results

Preliminary Analyses

Cronbach alpha's in Table 1 indicate acceptable internal consistency and reliability for all scales used in this study. Female patients scored significantly higher than male patients on PSI-II sociotropy [$t(111) = 2.67$; $p < .05$], PSI-II autonomy [$t(111) = 2.04$; $p < .05$], and PSI-III sociotropy [$t(111) = 2.36$; $p < .05$] in the heterogeneous sample. In the depressive sample, no significant differences between men and women were observed. Scores on sociotropy and autonomy were correlated moderately high to each other for the PSI-II ($r = .285$, $p < .10$) and the PSI-III ($r = .184$, $p > .10$).

Table 1: *Means, Standard Deviations and Cronbach Alpha's of the Scales of the PSI-II, the PSI-III, SCL-90-R, and the BDI-II*

	Heterogenous Sample			Depressive Sample		
	M	SD	α	M	SD	α
PSI-II						
Sociotropy	108.42	16.89	.88	110.38	16.31	.88
Autonomy	75.76	13.28	.81	77.83	12.34	.78
PSI-III						
Sociotropy	66.92	11.13	.83	68.40	10.70	.83
Autonomy	42.28	7.57	.72	43.07	6.94	.67
SCL-90-R						
Phobic Anxiety	16.47	6.76	.81	17.43	6.39	.78
Anxiety	29.22	8.94	.87	29.67	9.23	.89
Depression	53.29	13.09	.89	53.28	12.37	.89
Somatization	31.63	11.34	.90	32.22	11.50	.91
Obsessive-compulsive	27.04	7.63	.85	24.58	6.48	.85
Interpersonal	49.38	15.04	.91	51.00	14.38	.91
Aggressive Urges	12.33	5.11	.82	13.00	5.39	.85
Sleeping	9.20	3.47	.79	9.31	3.34	.79
BDI-II						
Cognitive	11.32	4.96	.83	11.06	4.60	.81
Somatic	14.50	4.68	.77	14.75	4.36	.74
Affective	7.40	3.15	.74	7.29	3.13	.76
Total	33.12	11.33	.90	33.10	10.83	.90

Associations of Sociotropy and Autonomy with Different Types of Neurotic and Depressive Symptoms

The results obtained with the PSI-II and the PSI-III were very similar in the heterogeneous sample: correlations between sociotropy and autonomy and all types of neurotic and depressive symptoms were significant, except the correlation between PSI-II and PSI-III autonomy and sleeping problems and the correlation between PSI-III autonomy and affective depressive symptoms. In general, sociotropy showed higher correlations than autonomy with the different types of symptoms, except with aggressive urges, somatic symptoms, and cognitive depressive symptoms.

There was also high resemblance between the results obtained with the PSI-II and the PSI-III in the depressed sample. However, while PSI-II autonomy correlated higher with obsessive-compulsive symptoms than PSI-II sociotropy; PSI-III autonomy showed lower correlations with the same symptom cluster than PSI-III sociotropy.

Table 2: *Correlations of PSI-II and PSI-III Scales with SCL-90-R and BDI-II Scales*

	PSI-II				PSI-III			
	Het. Clin.		Depr. Sample		Het. Clin.		Depr. Sample	
	Soc.	Aut.	Soc.	Aut.	Soc.	Aut.	Soc.	Aut.
SCL-90-R								
Phob. Anxiety	.48**	.39**	.56**	.30*	.44**	.35**	.52**	.39**
Anxiety	.54**	.38**	.50**	.21	.51**	.34**	.44**	.26
Depression	.52**	.38**	.50**	.32*	.47**	.32**	.47**	.30*
Somatization	.36**	.37**	.46**	.36**	.30**	.37**	.38**	.43**
Ob - Co	.44**	.37**	.40**	.30*	.43**	.28**	.36**	.27
Int. Sens.	.54**	.52**	.56**	.38**	.49**	.40**	.48**	.32*
Aggr. Urges	.23*	.39**	.06	.32*	.20*	.34**	.02	.30*
Sleeping	.29**	.12	.34*	.10	.24**	.09	.32*	.06
BDI-II								
Cognitive	.27**	.32**	.27	.36**	.23*	.24*	.25	.31*
Somatic	.44**	.33**	.36**	.30*	.43**	.21*	.38**	.21
Affective	.27**	.27**	.11	.23	.23*	.18	.11	.16
Total	.39**	.36**	.29*	.34*	.36**	.25**	.29*	.26

Note. Het. Clin. Sample = Heterogeneous Clinical Sample; Depr. Sample = Depressed Sample; Phob. Anxiety = Phobic Anxiety; Ob - Co = Obsessive-compulsive; Int. Sens. = Interpersonal Sensitivity ; Aggr. Urges = Aggressive Urges; Sleeping Prob. = Sleeping Problems; * $p < .05$; ** $p < .01$.

Conclusion and Discussion

The aim of the present study was two fold: on the one hand we wanted to test theoretical statements on asscociations between sociotropy and autonomy and different types of neurotic and depressive symptoms; on the other hand we wanted to compare the validity of the PSI-II and the PSI-III. Hypotheses were put to the test in a heterogeneous clinical sample and in a depressed subsample.

In general, we observed a lack of differentiation between the associations of sociotropy and autonomy with the different types of symptoms, especially in the heterogeneous sample. Nevertheless, the symptom clusters generally showed the highest associations with the predicted personality trait, in both samples: sociotropy showed the highest associations with phobia's, anxiety, and somatic depressive symptoms (of the BDI-II); autonomy showed the highest associations with aggressive urges and cognitive depressive symptoms (of the BDI-II). On the other hand, two theoretically important symptom clusters showed the highest associations with the non-predicted personality trait: obsessive-compulsive symptoms showed the highest association with sociotropy; somatic symptoms (of the SCL-90-R) generally showed the highest associations with autonomy. Whether the massive observation of significant correlations reflect 'real' empirical associations or must rather be interpreted as artefacts of shared error variance – due to acquiescence, tendency to complaint, content overlap, etc. – is difficult to say. However, the observation that two symptom clusters showed higher associations with the non-predicted than with the predicted personality trait, suggests either problematic construct validity of the questionnaires, either problematic validity of the theory. Thus, although the observed associations with the different types of symptoms were promising (especially those with the different types of depressive symptoms in the depressed sample), we conclude that full replication of the findings of Desmet, Vanheule, Meganck, et al. (2006), failed. Furthermore, we cannot confirm the superior construct validity – observed by Desmet, Vanheule, Meganck, et al. (2006) – of the PSI-III compared to the PSI-II. The comparison of the two PSI versions yielded rather mixed results in our study: the PSI-II performed better when studying associations with the SCL-90-R symptom clusters (cfr. associations with SCL-90-R somatic symptoms); the PSI-III performed better when studying associations with BDI-II symptom clusters (cfr. associations with BDI-II somatic symptoms).

In the past, several empirical studies that examined the associations between sociotropy/dependency and autonomy/self-criticism and symptoms yielded mixed results (see also Gotlib & Hammen, 2002, p 127): five studies supported symptom specificity (Blatt et al., 1976; Desmet, Vanheule, Meganck, et al., 2006; Desmet, Vanheule, Groenvinck, Verhaeghe, & Boagaerts, S., 2006), three studies only partially supported symptom specificity (Persons, Miranda, & Perloff, 1991; Robins, Bagby, Rector, Lynch, & Kennedy, 1997; Robins, Block, & Peselow, 1989) and three studies

found no evidence for symptom specificity at all (Desmet, Vanheule & Verhaeghe, 2006; Jolly, Dyck, Kramer & Wherry, 1996; Klein, Harding, Taylor, & Dickstein, 1988). One of the problems that might be responsible for the ambiguity of the results seems to be the questionable psychometric qualities of the instruments used to measure the symptom clusters. Most studies – except the studies of Blatt et al. (1976), Desmet, Vanheule, Groenvinck, et al. (2006), and Desmet, Vanheule, & Verhaeghe (2006) – used ad hoc constructed symptom composites into which little or no psychometric inquiry happened. Furthermore, the present study as well as the study of Desmet, Vanheule, Meganck, et al. (2006) used the SCL-90-R, which suffers from psychometric limitations as well (e.g. Vassend & Skrondal, 1999).

Therefore, if future research wants to draw firm conclusions, it should make use of alternative measures of symptoms, like clinicians' ratings based on structured interviews. Limiations of this study include the relatively small depressed sample, the fact that we relied exclusively on self-reports, and the fact that we did not use structured interviews for the DSM-diagnoses.

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General Discussion and Conclusion

In the present research project we started with the classical psychoanalytic theory of Freud and we proposed that neurotic symptoms (depressive and other) are underlain by a common interpersonal structure in which a hysterical and an obsessional dimension can be discerned. These two interpersonal dimensions are hypothesized to be associated with different types of neurotic symptoms: the hysterical dimension is associated with depressive symptoms, phobias, anxiety, and somatic symptoms; the obsessional dimension is associated with depressive symptoms, obsessional symptoms and symptoms centred on aggressive urges. Described in terms of the general level at which the symptoms manifest, we say that the hysterical dimension is associated with symptoms primarily experienced at the level of the body, while the obsessional interpersonal dimension is associated with symptoms primarily experienced at the cognitive level.

We showed how these statements have been investigated in the research programs on anaclitic and introjective depression of Blatt (1974, 2004) and Beck (1983). Yet, we stated that while this research often addresses highly complex theoretical matters, we agree with Coyne, Thompson, and Whiffen (2004) who argue that there is a lack of basic research into the validity of the instruments used to measure the interpersonal dimensions. This is especially the case in clinical samples. In response to this criticism, this dissertation addressed three hypotheses that reflect basic validity issues in clinical and student samples:

> *Research hypothesis 1:* The two interpersonal dimensions can be measured by means of a questionnaire with a theoretically consistent internal structure in clinical samples.
> *Research hypothesis 2:* Scores on this questionnaire show the predicted differential associations with scores on questionnaires that measure neurotic symptoms in clinical sampmles (i.e., the symptom specificity hypothesis).
> *Research hypothesis 3:* Scores on this questionnaire are associated with clinicians' ratings of patients on the complex psychoanalytic dimensions of hysteria and obsessional neurosis.

In function of these hypotheses, different questionnaires were evaluated in non-clinical as well as in clinical samples. Each of these hypotheses was addressed by means of different sets of questionnaires in student as well as clinical samples. Research hypotheses one and three, were mainly

investigated in heterogeneous clinical samples and student samples. Research hypothesis two, which focused directly at associations between the interpersonal dimensions and neurotic symptoms, was mainly investigated in samples of depressed patients.

Overview of the Main Results

Part 1: The Depressive Experiences Questionnaire

In *Part One* of this thesis, we used the Depressive Experiences Questionnaire (DEQ; Blatt, D'afflitti, & Quinlan, 1976) dependency scale to operaltionalize the hysterical interpersonal dimension; the DEQ self-criticism scale to operationalize the obsessional interpersonal dimension; and the Beck Depression Inventory II (BDI-II; Beck, Steer, & Brown, 1996) subscales were used to operationalize cognitive and somatic depressive symptoms. In *Chapter 1*, we tested the hypothesis that DEQ dependency is associated with somatic depressive symptoms, and that DEQ self-criticism is associated with cognitive depressive symptoms. To score the DEQ, we used the original scoring procedure, which makes use of a scoring program that computes factor scores based on a factor solution of a student sample of Blatt et al. (1976). The attractive idea that the distinction between cognitive and somatic depressive symptoms in common measures of depressive symptoms (like the BDI-II and the Zung Depression Scale, ZDS; Zung, 1969) might be based on a similar distinction at the level of underlying personality traits was investigated (and confirmed) in only one student sample (Blatt et al., 1976). However, no such research was carried out in a clinical sample. Therefore, we tested this hypothesis in a sample of depressed patients (N = 163). In line with our predictions, the results showed that self-criticism has a significantly stronger association with cognitive depressive symptoms than dependency. Contrary to our predictions, the specific association between dependency and somatic depressive symptoms was not found. Furthermore, additional analyses yielded two results that suggested that the specific association between self-criticism and cognitive depressive symptoms was an artefact. First, we observed that the self-criticism scale of the DEQ showed stronger associations with *all* depressive symptoms, somatic as well as cognitive. Second, analyses of associations between dependency and self-criticism with individual depressive symptoms showed that the only symptoms that showed a significantly stronger association with self-criticism than with dependency were those symptoms that showed extreme content overlap with the items of the self-criticism scale. Thus, the most plausible explanation for our observations was that the self-criticism scale showed the strongest associations with (somatic and cognitive) depressive symptoms, *not because there is an empirical association between the two entities, but because the questionnaires used to measure these theoretical constructs use highly similar*

items. Thus, our results confirm the criticism of Coyne and Whiffen (1995) that the self-criticism scale of the DEQ not only measures a personality trait that *underlies* depression, but also *manifest depression*.

In *chapter 2*, we investigated the same hypothesis as in Chapter 1 in a small sample of neurotic patients (N = 32). However, instead of using the DEQ, we used clinicians' ratings of unstructured interviews with patients to operationalize the hysterical and obsessional interpersonal dimension. To test our hypothesis, we correlated the ratings with scores on the cognitive and somatic subscales of the BDI-II. The hypothesized specific associations were not observed. We found that clinicians' ratings of hysteria and obsessional neurosis were significantly and almost equally associated with both somatic and cognitive depressive symptoms.

Given the negative results obtained with the original scoring procedure in Chapter 1, we decided to compare the validity of the different scoring procedures of the DEQ.

In *Chapter 3*, we investigated the internal structure of six different versions of the DEQ[1] – associated with six different scoring procedures – in a student sample (N = 636) and in a heterogeneous clinical sample (N = 404). We paid special attention to the strenght of the inter-correlations between dependency and self-criticism, since this was one of the criticisms of Coyne and Whiffen (1995): intercorrelations between the scales are so high that it becomes questionable whether they measure distinct traits. Furthermore, we examined the associations of the scores on the dependency and the self-criticism scales with scores on different types of depressive symptoms and interpersonal problems (which is a test of the construct validity of the scores obtained with the different scoring procedures). We hypothesized that dependency would be associated with somatic depressive symptoms and with non-assertive, overly accommodating, and self-sacrificing interpersonal behaviour; self-criticism would be associated with cognitive depressive symptoms and with vindictive, cold/distant, and socially inhibited interpersonal behaviour. The CFA tests showed that the underlying model of the McGill scoring procedure yielded a poor fit to the data of both samples. The other models showed acceptable (original scoring procedure, RevDEQ, and RecDEQ) to good fit (TDEQ-21 and TDEQ-12). As expected, the original and the McGill scoring procedure yielded scores on dependency and self-criticism with low intercorrelations (between -.01 and .11). However, further analyses showed that this orthogonality was obtained in a questionable way in both scoring procedures. The original scoring procedure yields orthogonal scores because it computes standardized factor scores based on an orthogonal rotation of the dependency and self-criticism factor; the McGill scoring

[1] In this chapter we use abbreviations for the different versions of the DEQ. The different abbreviations refer to the following: DEQ = Original Depressive Experiences Questionnaire (Blatt, D'Aflitti, & Quinlan, 1976); TDEQ-21 = Theoretical Depressive Experiences Questionnaire with 21 items (Viglione, Lovette, Gotlieb, & Friedberg, 1995); TDEQ-12 = Theoretical Depressive Experiences with 12 items (Viglione et al., 1995); RecDEQ = Reconstructed Depressive Experiences Questionnaire (Bagby, Parker, Joffe, & Buis, 1994); and RevDEQ = Revised Depressive Experiences Questionnaire (Welkowitz, Lish, & Bond, 1985).

procedure yields orthogonal scores because 12 items that are supposed to load in the opposite direction on both factors are scored in the opposite direction on the dependency and the self-criticism scale. However, parameter estimates of the relationship between the latent factors of dependency and self-criticism in the model of the original and the McGill scoring procedure were high (r between .62 and .83). Besides these estimates of high correlations between the latent factors, there are additional arguments against both scoring procedures. The CFA's clearly showed that the supposition of opposite loadings of 12 items in the McGill procedure was in contrast with empirical data, since the majority of the items loaded in the same direction on the two factors. With regard to the original scoring procedure, we were able to show in *Chapter 4* that the use of a student-based scoring program is highly questionable in clinical samples. We extracted three factors from a clinical sample (N = 404) by means of PCA, and subsequently, we rotated our factor solution towards the factor solution of Blatt and his colleagues (1979) and used these rotated factors to build an alternative scoring program. This program was exactly the same as the original scoring program, except that it used a clinical factor solution instead of a student solution. We were then able to show that the scores yielded by the clinical scoring program differed significantly from the scores of the original scoring program. Thus, the student-based scoring program seemed to force the patients into a student structure that did not apply to them.

On the other hand, in line with the results of previous studies (Franche & Dobson, 1992; Klein, 1989; Riley & McCranie, 1990), we found that the unit-weighted scoring procedures yielded moderately high to highly correlated scores (between .42 and .62) on dependency and self-criticism. In line with results of previous studies (Bagby, Parker, Joffe, & Buis, 1994), the lowest intercorrelations were observed with the RecDEQ. Additional CFA's showed that models with a general complaint factor fitted the data significantly better than the base models of the unit weighted procedures. In some cases, a general complaint factor can be removed by an ipsatization procedure. As Zuroff et al. (2004a) note, ipsatization is important to study intra-individual stability of the personality profile over time. Therefore, we ipsatized the data of these models and fitted the base models again. Only the RecDEQ showed a good fit to ipsatized data.

Importantly, the hypothesized associations of dependency with somatic depressive symptoms and of self-criticism with cognitive depressive symptoms were only found when scores on personality traits (as measured with either the the RevDEQ, the RecDEQ, the TDEQ-21, and the TDEQ-12) and depressive symptoms were first ipsatized. In contrast with the results of the CFA's, we found that the associations with different types of interpersonal problems were in line with theoretical predictions for all versions of the DEQ, except for the TDEQ-21 and the TDEQ-12. Overall, we concluded that the RecDEQ model demonstrated the best psychometric properties: the RecDEQ model showed good CFA fit to raw as well as ipsatized data; in contrast with the original and McGill scoring procedures, the RecDEQ offers simplicity and

transparency; the scores on dependency and self-criticism show relatively low intercorrelations; and RecDEQ dependency and self-criticism correlate in the theoretically predicted way with different types of depressive symptoms (only after ipsatization) and interpersonal problems (before and after ipsatization).

In *Chapter 5*, we evaluated the degree to which the scores on the DEQ dependency and self-criticism scale converge with clinicians' ratings on hysteria and obsessional neurosis (see research hypothesis 3) in a gender-balanced sample of neurotic patients (N = 56). Therefore, we used the same ratings as we used in Chapter 2 and computed correlations with scores on dependency and self-criticism generated by the original DEQ scoring procedure as well as by the scoring procedures of the different shortened versions of the DEQ. In the full sample, we observed significant correlations between the dependency scales of the DEQ and ratings on anaclitic style. Scores on the self-criticism scales did not converge with the ratings on introjective style and even showed higher associations with the ratings on anaclitic styles in the full sample. In the female sample, similar associations as in the full sample were observed, with the difference that the self-criticism scales of the DEQ showed non-predicted positive associations with the ratings on anaclitic style. However, in the male sample, both the dependency and the self-criticism DEQ scales had positive associations with clinicians' ratings of the predicted personality style; correlations with the non-predicted personality styles were close to zero. In line with the findings presented in Chapter 3, the scales of the RecDEQ and the RevDEQ showed the highest convergence with clinicians' ratings.

Thus, the studies presented in Chapters 3 and 5 point in the same direction: the DEQ should be scored using either the method of Bagby et al. (1994) or the method of Welkowitz et al. (1985). The factor models of these scoring procedures showed good fit to student and clinical data and demonstrated good construct validity. Importantly, the scores on the dependency/sociotropy and the self-criticism/autonomy scale only correlated in the predicted way with somatic and cognitive depressive symptoms after ipsatizing the scores on the personality traits as well as the scores on the depressive symptoms. Thus, we could conclude that people who report predominantly dependent/sociotropic attitudes rather than self-critical/autonomous attitudes, will report a preponderance of somatic rather than cognitive depressive symptoms, and vice versa. It is interesting to note that the widely observed distinction between somatic and cognitive depressive symptoms when using common measures of depressive symptoms (BDI-II, ZDS) is associated with different personality traits. With regard to the associations of dependency/sociotropy and self-criticism/autonomy with different types of interpersonal problems, we conclude that the hypothesized associations were found when using raw scores as well as ipsatized scores: dependency was associated with non-assertive, overly accommodating and self-sacrificing interpersonal behaviour; self-criticism was associated with vindictive, cold/distant, and socially inhibited interpersonal behaviour.

The findings with the RecDEQ in Chapter 3 show that the criticism of Coyne and Whiffen (1995) with regard to the impossibility of measuring dependency and self-criticism independently of each other, is overstated. The intercorrelations between dependency and self-criticism were around .45 in the student and the clinical sample. In the introduction, we argued that correlations under .60 are not a theoretical problem; in Chapter 3 we substantiated that they are not a pragmatical problem either, since differential associations with depressive symptoms and interpersonal problems were demonstrated. Therefore, we agree with Zuroff et al. (2004b) that correlations under .60 are neither a theoretical nor a pragmatical problem. However, we do not agree with Zuroff et al. (2004a) when they state that the original and the McGill scoring procedure should be preferred over the shortened versions because the scores of the former scoring procedures are not orthogonal. In line with the criticism of Coyne and Whiffen (2004b) the results reported in Chapters 3 and 4 suggest that indeed these scoring procedures 'force' DEQ data to be orthogonal. In light of the fact that unit-weighted scoring procedures like the RecDEQ yield scores with adequately low intercorrelations that proved to be differentially related to a variety of external variables (see Chapter 3), we can think of no good reasons why complex procedures like the original and the McGill scoring systems should be used any longer. Chapter 3 showed that the assumption of the McGill procedure that 12 items load in the opposite direction on dependency/sociotropy and self-criticism/autonomy is not supported by a CFA test and Chapter 4 showed that the original scoring program forced the clinical subjects into a student factor structure that does not apply to them. Moreover, ipsatization is hard if not impossible to perform when using the original scoring program, which means that the differential association with different types of depressive symptoms (see Chapter 3) and with clinicians' ratings (see Chapter 5) cannot be demonstrated. Even if one concludes that the original and the McGill scoring procedures yield scores with a certain construct validity (see Chapter 3), one has to admit that these scoring procedures operate like black boxes. We believe that to continue to use the original and the McGill scoring method (e.g., Zuroff et al., 2004a) is hard to justify and will only feed the aversion against Blatt's research paradigm (e.g., Flett et al., 1995; Coyne & Whiffen, 1995).

Unfortunately, the DEQ version that demonstrated the best psychometric properties – the RecDEQ – shows the same lack of item purity as the original DEQ (see Chapter 1). Thus, this criticism of Coyne and Whiffen (1995) is still in force. The DEQ was constructed out of a heterogeneous set of depressive experiences and includes, besides the many items with interpersonal content, some items which reflect intrapersonal and symptomatic content. This entails two problems: first, it is difficult to say whether the DEQ measures personality traits or interpersonal characteristics; second, it makes the RecDEQ less suitable to investigate associations with symptom measures.

Part II:
The Inventory of Interpersonal Problems

In Part two of this dissertation, we used the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000) to measure the interpersonal component of the hysterical and obsessional psychic structure and the Symptom Checklist 90 Revised (SCL-90-R; Derogatis, 1992). Unlike the DEQ, the IIP-64 contains items with pure interpersonal content. However, this questionnaire is not specifically constructed to measure the interpersonal characteristics of hysteria and obsessional neurosis and therefore it remains a question as to whether or not it will be sensitive for these clinical entities. In *Chapter 6*, we evaluated the internal structure of the Dutch version of the IIP-64[2] by means of CFA in a student (N = 382) and a clinical sample (N = 287). From a theoretical point of view, the internal structure of this questionnaire is considered to consist of 8 factors that are organized in the pattern of a circumplex. Our results showed that this circumplex model demonstrated acceptable fit to the IIP-64 data in both samples. In *Chapter 7*, the results of two studies are presented. In the first study of Chapter 7, we mapped the hysterical and obsessive-compulsive IIP-64 profile by correlating clinicians' ratings on hysteria and obsessional neurosis with the scales of the IIP-64 in a small clinical sample of neurotic patients (N = 32). Although it would be possible to put forward theoretically based hypotheses about the interpersonal profile of hysteria and obsessional neurosis in direct clinical situations, we argued that it is difficult to predict which interpersonal profile will arise from self-reports. Therefore, we studied the interpersonal profiles associated with hysteria and obsessional neurosis in an exploratory way. The interpersonal profiles that arose from this study were predominantly the same as those obtained with the DEQ in Chapter 3: clinicians' ratings on hysteria correlated with non-assertive, overly accommodating, and self-sacrificing interpersonal behaviour: obsessional neurosis correlated with vindictive and cold/distant interpersonal behaviour. In the second study of Chapter 7, associations of these interpersonal profiles with the different neurotic symptom clusters of the SCL-90-R were investigated in a new sample of neurotic patients (N = 110) and in a student sample (N = 159). This study yielded mixed results. In line with our predictions, phobic complaints, anxiety and somatic symptoms showed stronger associations with the hysterical than with the obsessive-compulsive interpersonal profile and symptoms centered on aggressive urges showed stronger associations with the obsessive-compulsive than with the hysterical interpersonal profile. However, there were also two problematic findings. First, obsessive-compulsive symptoms showed only a slightly stronger association with the obsessive-compulsive interpersonal profile than with the hysterical interpersonal profile. A second problematic observation was a lack of differentiation between the associations of the two interpersonal profiles with the symptom clusters. Although the symptom clusters generally

[2] Sample size was insufficiently large to put the factor structure of the SCL-90-R to the test.

showed the strongest associations with the predicted interpersonal profile, the association with the other interpersonal profile was often significant too.

Part III: The Personal Style Inventory

In Part three, we used the PSI-II to measure the hysterical (sociotropic) and obsessional (autonomous) interpersonal characteristics and the SCL-90-R to measure neurotic symptoms. In *Chapter 8*, we used Confirmatory Factor Analysis (CFA) to evaluate the internal structure of the PSI-II in both a student (N = 799) and a heterogeneous clinical sample (N = 286). Furthermore, we assessed associations of the PSI-II scales with different types of interpersonal problems and the different neurotic symptom clusters of the SCL-90-R. A lack of fit of the original PSI-II model was observed in both samples. Yet, after progressive elimination of 18 items, a good fit was obtained in the clinical sample and replicated in the student sample. This shortened version demonstrated better construct validity than the original version PSI-II, especially in a depressed clinical sample: sociotropy was associated with non-assertive, overly accommodating, and self-sacrificing interpersonal behaviour, and with depressive symptoms, phobic complaints, anxiety and somatic symptoms; autonomy was associated with cold and vindictive interpersonal behaviour, and with obsessive-compulsive symptoms, and aggressive urges. In contrast to the original version, scores on the shortened version showed the predicted gender differences. In *Chapter 9,* we tried to replicate the findings of Chapter and by testing additional hypotheses concerning associations between sociotropy and autonomy on the one hand and somatic and cognitive depressive symptoms on the other hand. Similar to Chapter 8, we compared sociotropy and autonomy scores of the PSI-II and the PSI-III. In doing so, this study could be simultaneously considered as a testing of a theoretical statement and a comparison of the construct validity of two versions of the PSI. In general, we observed a lack of differentiation between the associations of sociotropy and autonomy with the different types of symptoms, especially in the heterogeneous sample. Nevertheless, the symptom clusters generally showed the highest associations with the predicted personality trait, in both samples: sociotropy showed the highest associations with phobias, anxiety, and somatic depressive symptoms (of the BDI-II); autonomy showed the highest associations with aggressive urges and cognitive depressive symptoms (of the BDI-II). On the other hand, two theoretically important symptom clusters showed the highest associations with the non-predicted personality trait: obsessive-compulsive symptoms showed the highest association with sociotropy; somatic symptoms (of the SCL-90-R) generally showed the highest associations with autonomy.

Critical Consideration of the Findings

In this section, we will consider several critical issues that should be considered in interpreting our results. Moreover, we present some further analysis where we think that this might help in interpreting the results presented in this dissertation.

Are Questionnaires Suitable to Falsify a Theoretical Statement?

First, we consider the general strategy adopted in the research presented in this dissertation. We used three sets of questionnaires in order to test our hypotheses. In certain cases we removed some items of the questionnaires (or favoured a pre-existing shortened version of it) and subsequently tested our hypotheses again. Some might consider this a cumbersome strategy and argue that the authors are 'scientific' insofar as they put forward hypotheses that are falsifiable, yet, they are 'unscientific' when they refuse to accept that these hypotheses, and the theoretical statements from which they are deduced, must effectively be rejected when the observations are in conflict with them. However, in the case of questionnaire research, it seems questionable as to whether it is justified to reject a theory when the hypothesized associations are not observed. In this context we refer to Kalton and Schuman (1982) who state that 'at the current stage of theory development in the social sciences, a failure of data to fit a theory is usually as likely to cast doubt on the theory as on the measuring instruments' (Kalton & Schuman, 1982, p. 43). Although this article was written a few decades ago, we cannot find evidence to suggest that this statement no longer holds today. We believe that, instead of (immediately) rejecting the theory when item responses are observed that are at odds with the hypotheses, it is perfectly justified to try to improve the measuring instruments or to try another instrument to investigate the hypotheses. For those critics who are not convinced by our argument, we could compare a questionnaire with a measuring instrument used in medical science and ask them whether they would also find that a researcher is unscientific if he exchanged one type of scanner for another when he does not succeed in observing the hypothesized brain activity?

In the same line, we could consider a widely used technique in the construction of questionnaires – applied by us in the construction of the PSI-III – that is often considered to be in conflict with good practice. To construct a questionnaire, researchers often gather a relatively large pool of items relevant to the theoretical constructs under investigation. In a subsequent step, factor analyses are performed and the items with the highest and most differential loadings on the factors (in the case of exploratory factor analysis) or with the lowest error correlations (in the case of confirmatory factor analysis) are included in the questionnaire and the other items are removed. The problem with this strategy is that it is not always clear why a certain item loads highly on a factor and why another does not. Items which

straightforwardly reflect the theoretical concept under investigation sometimes show low and undifferentiated factor loadings, while items that measure the theoretical construct less directly sometimes show higher loadings. This inconsistency might be an argument for some researchers to consider the practice of selecting and removing items on the basis of exploration of their loadings (or error correlations) as an attempt to force the data into a theoretical structure or as an attempt to mask an essentially incorrigible lack of construct validity. However, we believe that removing items on the basis of their factor loadings – after having selected them on the basis of their content – is a necessary step in the construction of the majority of questionnaires and is not necessarily a cumbersome practice. We argue that the use of factor loadings as an inclusion criterion is necessary because it is virtually impossible to predict how respondents exactly will interpret an item. In this context, we refer again to Kalton and Schuman (1982) and to Schuman, Kalton, and Ludwig (1983), who convincingly demonstrate that responses to items of questionnaires as well as answers on questions in interviews are sensitive to small differences in wording, format, and placement. Besides these formal characteristics of items, there might be other characteristics that entail that an item is not interpreted in the intended direction. For example, the content of an item might reflect the theoretical construct in a direct way but might for certain reasons – associated with this directness or not – activate interpersonal and intrapersonal defence mechanisms which prevent the participant to respond in a valid way. This is not only supported by empirical research, but also by everyday life, which easily convinces us that the most straightforward way to phrase a question does not always elicit the most valid response. Thus, exploring the factor loadings and the error correlations of items is necessary to test if the majority of the respondents interpret the items in the direction of the intended theoretical construct. As a consequence, removing items that do not demonstrate high loadings is justified because there are numerous factors that might prevent the respondent to interpret the item in the intended direction, even when their content matches the intended theoretical construct perfectly. Therefore, purifying the item pool on the basis of factor loadings is not necessarily an attempt to mask a lack of construct validity but rather a necessary step in improving the construct validity. Trial and error – without always exactly knowing what the reasons of the errors are – is essential to the construction of any measuring instrument, in social sciences as well as in other sciences.

Nonetheless, we do not deny that in the case of questionnaire construction, this practice sometimes evokes the image of Procrustes, who chopped of the legs of his guests or stretched their limbs to make them fit in his bed. However, in this case, the findings will probably lack robustness. Therefore, questionnaire research absolutely needs replication before firm conclusions can be drawn from it.

The Issue of Content Overlap

The Problem of Content Overlap in Questionnaire Research

Second, we want to consider the problem of content overlap in our study, not only because it is a point of criticism of Coyne and Whiffen (1995) on the DEQ, but also because it is a widespread and underestimated problem in the whole field of empirical research that makes use of questionnaires. We could describe content overlap as the use of items with resembling or similar content to operationalize variables between which associations are investigated. Smedslund (1991) argues that content overlap entails a priori correlations, i.e., correlations that are logically necessary and therefore do not have to be investigated to know that they exist. We can illustrate this with the content overlap between some of the items of the DEQ and the BDI-II. There is a logically necessary (negative) relationship between the DEQ item 'I am very satisfied with myself and my accomplishments' and the 'Sense of failure' item of the BDI-II (with extreme options 'I do not feel like a failure' – 'I feel I am a complete failure as a person'). Therefore, finding an association between these items does not really prove anything, except that there is a certain consistency in the item responses of those who filled out the questionnaires. Smedslund (1991) calls research into a priori related variables *pseudo-empirical*, since one does not need to do empirical research to know that they are related to each other. According to this author, the likelihood of pseudo-empirical research is maximal in research that makes use of questionnaires. In most questionnaire studies, the items that measure the variables under investigation are more or less logically related to each other. This was not different with some of the questionnaires we used in our studies. Besides the content overlap between the items of the DEQ and the BDI-II, we find content overlap between the items of other questionnaires too. For example, there is a considerable degree of content overlap between the items of the PSI-III and the IIP-64. Therefore, computing correlations between the scores on these two questionnaires can only be considered as an attempt to confirm what one could easily predict on the basis of mere conceptual relationship of these constructs. For example, the PSI-III scale 'autonomy' comprises the subscales 'defensive separation from others' and 'Need for control'. Based on mere conceptual relationship, one can easily predict that PSI-III autonomy should be associated with the IIP-64 scales 'cold/distant' and 'vindictive'. Thus, studying these associations in an empirical way can be maximally considered as a test of the convergent validity of the questionnaires involved.

A Test of Reliability of the Item Responses in our Studies

When the degree of content overlap is too high, the results become trivial, even when conceived as a test of the convergent validity. In this case, the scientific value of studying these associations in an empirical way lies

only in the fact that it can be considered as a sort of reliability test in which the interval between the test and the retest is very small, because one could say that if the conceptual (logical) associations are not reflected in the observed correlations, one must question the reliability of this data. We performed this test for our data. We selected for every couple of questionnaires the items with the highest degree of content overlap and computed correlations between them (see appendix 1). This test yielded rather poor evidence for the reliability of the item responses. For example, the PSI-III and the IIP-64 contain an item that is literally the same: 'I try to please other people too much'. However, the correlation between these two identical items was no more than .66 (N = 52). The majority of the items that came close to being identical showed correlations around .70. Items that differed in precise wording but that only showed a logical association with each other were almost always significantly correlated with each other. However taking into account the stringency of the logical association, these items often showed surprisingly low associations with each other. For example, 'I am very satisfied with myself and my accomplishments' (DEQ) showed a negative correlation of no more than .39 with the 'Sense of failure' item of the BDI-II (with extreme options 'I do not feel like a failure' – 'I feel I am a complete failure as a person') and a negative correlation of no more than .30 with the 'Self-dislike' item of the BDI-II (with extreme options 'I do not feel disappointed in myself' – 'I hate myself') (N = 400). On the one hand, these findings indicate very modest reliability of the item responses and show that one must not overestimate the consistency with which questionnaires are filled out. Apparently, the same or similar items are answered differently in the context of different questionnaires. Possibly, preceding items function as primes that activate specific associative networks in which the construction of meaning for the following items takes place.

Controlling for the Impact of Content Overlap on the Associations Observed in our Studies

Although the associations between similar items often were surprisingly low when considered as a test of the reliability of the item responses, these findings still suggest that a substantial part of the observed associations between the variables are due to content overlap. Therefore, it is interesting to evaluate more explicitly the impact of content overlap on our findings by removing the items from the symptom measures that show substantial content overlap with the measures of interpersonal characteristics. After careful consideration, we decided that we could not check the impact of content overlap on the results obtained with the DEQ because almost all BDI-II items that measure cognitive depressive symptoms showed content overlap with the items of the self-criticism scale of the DEQ. This omnipresence of content overlap questions the validity of the results on specific associations between interpersonal characteristics and symptoms reported in Chapter 4. Possibly, the observation of the predicted associations between dependency

and somatic symptoms and between self-criticism and cognitive symptoms are artefacts, created by the joint action of content overlap and the ipsatization procedure.

The major type of shared content between the IIP-64 and the SCL-90-R was interpersonal in nature. Therefore, we removed all items of the SCL-90-R with interpersonal content (for an overview of the removed items, see appendix 4). Subsequently we used the remaining items to compute new scores on the symptom clusters and correlated these new scores with the interpersonal profiles (see appendix 2). After removing the interpersonal items of the SCL-90-R, the hysterical interpersonal profile showed highly significant associations with all symptom clusters (and with almost all individual symptoms too); the obsessional interpersonal profile also showed significant associations with all symptom clusters (and with more than half of the individual symptoms) but all of these associations were less strong than those with the hysterical interpersonal profile. Interestingly, these results confirm that there is a strong association between interpersonal problems and neurotic symptoms. However, with regard to the hypotheses about the associations between specific interpersonal profiles and specific neurotic symptoms, we have to conclude that controlling for the impact of shared interpersonal content further weakened the already poor cogency of the results presented in part 2.

In the same way, we controlled for the impact of content overlap on the associations between the sociotropic/hysterical and the autonomous/obsessional PSI-III scales on the one hand and the SCL-90-R symptom clusters on the other hand (see appendix 3). Since the items of the PSI-III are all interpersonal in nature, we again computed correlations with the SCL-90-R symptom clusters in which the symptoms with interpersonal content were removed. This time, after removing the impact of content overlap, the results were still in line with theoretical predictions: sociotropy was significantly associated with somatic symptoms, anxiety, and depression; autonomy was significantly associated with obsessive-compulsive symptoms, and sleeping problems. Interestingly, the only item that was removed from the obsessive-compulsive symptom cluster was ‘Feeling blocked in getting things done’. The reason why we considered it as an item with an interpersonal content has to do with the Dutch translation of this item. The item is translated in Dutch as ‘Feeling obstructed in doing all kinds of things’. Correlations with the SCL-90-R symptom clusters clearly showed that this item was not correlated with (the other items of) the obsessive-compulsive symptom cluster, but instead was associated with the interpersonal sensitivity cluster (see appendix 5). This shows that this item is interpreted more in the direction of a feeling of *being obstructed by other people* in doing all kinds of things, rather than in the direction of feeling *internally blocked* in getting things done. However, the latter interpretation is the only one that is in line with the typically obsessional inhibition that the item originally was supposed to measure. Therefore, we propose that this item will be re-translated in the latter direction.

Overall Conclusions

To conclude, we first make a concise evaluation of our results in function of the three research hypotheses that guided us throughout our project. In doing this, we consider our results in function of the criticism of Coyne and Whiffen (1995) and Coyne, Thompson, and Whiffen (2004) that served as the starting point of the empirical research in this dissertation.

The *first research hypothesis* stated that it is possible to measure the hysterical and obsessional interpersonal dimension by means of a questionnaire with a theoretically consistent internal structure in clinical samples. We investigated this hypothesis with three different questionnaires: the DEQ, the IIP-64, and the PSI-II. With regard to the internal structure of the DEQ, our research filled two gaps: we were the first to study the factor structure of the original DEQ and of the different shortened versions by means of CFA and we were the first to study it in a clinical sample of sufficient size (see introduction Chapter 3). Our research showed that the internal structures on which two simple scoring procedures – namely the RecDEQ and the RevDEQ – are based, show better fit to empirical data than the internal structure that underlie the complex original and McGill scoring procedures. With regard to the internal structure of the IIP-64, our CFA studies suggest acceptable fit of the circumplex-model with eight scales in student as well as clinical samples. With regard to the internal structure of PSI, our CFA studies showed that almost half of the items had to be deleted before a shortened version with a good fit to the theoretical model in student and clinical samples was obtained. Furthermore, CFA-tests showed clearly for each of the questionnaires that models with separate factors for the two interpersonal dimensions showed better fit than models in which the two dimensions were collapsed in one factor. With regard to the issue of the intercorrelations between the two interpersonal dimensions, all observed intercorrelations were below the upper limit of .60 under which Zuroff et al. (2004b) considered them to be neither a theoretical nor a pragmatical problem: for the unit-weighted version of the DEQ, intercorrelations were between .40 and .60; for the IIP-64 they were between .30 and .40 in the different samples; and for the PSI-III they were between .00 and .30. Thus, our research yielded evidence that the first criticism of Coyne and Whiffen – namely that it would not be possible to measure the hysterical and obsessional dimension as two distinct variables with adequately low intercorrelations in clinical samples – does not hold.

The *second research hypothesis* stated that scores on the questionnaires that measure the hysterical and obsessional interpersonal dimension would show the predicted associations with the different types of neurotic symptoms. With all questionnaires – the DEQ, the IIP, and the PSI-III – we observed significant associations of the scores on the hysterical and the obsessional interpersonal dimension and a wide variety of neurotic symptoms. However, only with the DEQ and the PSI-II, the predicted *differential* associations with different types of symptoms were observed.

With the DEQ, we found that dependency is associated with somatic symptoms while self-criticism is associated with cognitive symptoms. However, the predicted associations were only observed when scores on the DEQ were ipsatized. With regard to the impact of content overlap on the observed associations between the interpersonal dimensions of the DEQ and symptom measures of depression, we substantiated that this impact was indeed responsible for a substantial artificial inflation of the observed associations. Therefore, we conclude that the DEQ is an interesting questionnaire to measure the global personality traits – since it maps complex clusters of intra- and interpersonal characteristics and symptoms – yet, that it is not suitable to investigate associations with symptom measures. Therefore, to investigate these associations, we advise to use the PSI-II, the PSI-III or the IIP-64, since these questionnaires measure merely interpersonal characteristics and show little content overlap with symptom measures. With regard to the results obtained with the IIP-64 (Part 2), we conclude that the correlations with clinicians' ratings showed that this questionnaire has a certain capacity to distinguish between hysterical and obsessional interpersonal characteristics. However, correlations of the hysterical and obsessional interpersonal profiles with the clusters of neurotic symptoms yielded poor evidence for the hypothesis of specific associations between the two. Unlike the findings obtained with the DEQ and the IIP-64, the findings obtained with the PSI-III suggest that – beyond the associations that can be explained by content overlap – this questionnaire measures two distinct sets of interpersonal characteristics that are differentially related to neurotic symptom clusters and that have power to organize the heterogeneous field of neurotic symptoms. Thus, we were able to empirically demonstrate that an interpersonal position characterised by dependency, need for approval, and an inclination to try to please others is significantly associated with phobias, anxiety, depression, and somatic complaints; and that an interpersonal position characterised by defensive strivings for separation and isolation from other people and excessive attempts to control other people, proved to be associated with problems in controlling aggressive impulses, and obsessive-compulsive symptoms. However, replication of these findings in a second clinical sample succeeded only partially. Interestingly, in the latter study we found theoretically predicted associations of the hysterical and obsessional interpersonal profile (as measured with the PSI-III) and somatic and cognitive depressive symptoms (as measured with the BDI-II). Future studies should aim at replication of our findings with both the SCL-90-R and the BDI-II and additionally make use of more advanced measurements of symptoms. Thus, with regard to the second criticism of Coyne and Whiffen (1995), we conclude that our research suggests that the predicted differential associations are empirically verifiable; yet, this conclusion only holds under the condition that future research demonstrates the robustness of our findings.

The *third research hypothesis* stated that scores on the questionnaires that measure the hysterical and obsessional interpersonal dimensions would correlate with clinicians' ratings of patients on the complex psychoanalytic

dimensions of hysteria and obsessional neurosis. This hypothesis was only tested for the DEQ and the IIP-64. We found that scores on both questionnaires converged with clinicians' ratings as can generally be expected in the case of a well-validated questionnaire (correlations between .20 and .50, see Meyer et al., 2001). However, for the DEQ, convergence was tested in a female and male gender separately and we found that in the female sample, the predicted convergence was not observed for the obsessional dimension. Thus, with regard to the third criticism of Coyne and Whiffen (1995), we conclude that we found no evidence for a dramatic gap between the constructs measured by the questionnaires and the psychoanalytic clinical entities they are supposed to measure.

Limitations of Present Research and Directions for Future Research

The present project has several limitations. First of all, the original conception of this project had to be modified to the extent that it is quite different to the final one. For instance, we did not plan to focus extensively on validity issues, since we relied on statements in literature claiming that instruments like the DEQ have excellent and well-validated psychometric properties. However, our experiences with the first clinical sample prompted us to study literature more thoroughly, and we had to agree with the critics that there was a lack of basic psychometric research that proved that the measuring instruments were reliable and valid in clinical samples. Had we been aware of this lack of basic research, we would have conceived of a psychometric project from the outset, and included the DEQ, the IIP-64, the PSI, the SCL-90-R, and the BDI-II in the first clinical sample. This would have entailed less work than gathering two clinical samples, and, more important, allowed to study at the same time the convergence of DEQ, IIP-64, and PSI scores with clinicians ratings on hysteria and obsessional neurosis (cfr. Chapter 5). As we argued in Chapter 5, studying convergence of questionnaire scores is crucial to the research paradigm and thus, it will be necessary for future research to study this convergence for the PSI as well. This means that the tremendous work of interviewing patients and transcribing and rating the interviews will have to be done a second time.

A second limitation is associated with the measurement of symptoms. The present project focused on limitations in the measurement of the hysterical and obsessional interpersonal and personality characteristics. However, measuring the phenomenological, symptomatic field seems to be equally problematic. Instruments like the SCL-90-R are highly attractive because they cover more or less exhaustively the whole field of neurotic symptoms. Yet, factor analytic research shows that it is questionable as to whether they measure clearly distinctive symptom clusters or one general distress dimension (e.g., Cyr, McKenna-Foley, & Peacock, 1985; Vassend & Skrondal, 1999). The question is also whether the high correlations between

the SCL-90-R scales reflect genuine, empirical associations between the different symptom clusters or whether they are artefacts of shared error variance caused by acquiescence, tendency to complaint, or negative affectivity? In our opinion, the truth is somewhere in-between. The massive comorbidity between different neurotic disorders in DSM-IV diagnostics seems to suggest that the different neurotic symptom clusters are highly correlated in the clinical field. However, at the same time we could expect that shared error variance causes an artificial inflation of the associations and is a contributing factor to observed correlations that often amount to .80 or even more. A thorough psychometric investigation that tries to give a clearer view on the psychometric qualities of instruments that measure symptoms is necessary to draw firm conclusions with regard to our research questions. This research should study the convergence between clinicians' ratings of the symptoms of patients and SCL-90-R scores. A possible conclusion could be that the error variance in the questionnaire scores is too high to draw meaningful conclusions, and that future research should increasingly make use of clinicians' ratings to operationalize symptoms.

A third limitation has to do with the fact that we did not address the stability of the questionnaire scores over time. Stability of measurements over different points in time is of particular importance in the case of hysteria and obsessional neurosis, since it is important to know whether the questionnaire scores reflect stable characteristics or *traits* (see Coyne & Whiffen, 1995), or rather temporary *states* that fluctuate with environmental factors. Research into the intra-individual stability of the DEQ scores over time yielded predominantly positive results (e.g. Zuroff et al. 2004a). Future research should further address this issue and contrast the stability of the hysterical and obsessional inter- and intrapersonal characteristics to the (in)stability of the symptoms.

Theoretical and Clinical Implications

Although the presented research shed light on different basic issues of the research paradigm, it still is too early to draw firm theoretical conclusions before future research further addresses the construct validity and the test-retest stability of measures as the PSI. After all, attempts to replicate the positive findings in this project succeeded only partially. Moreover, even if future research succeeds to replicate these findings, the observation of theoretically predicted *associations* between neurotic symptoms and interpersonal characteristics does not allow pronouncing upon *causal relationships* between these variables.

For the same reason, our results cannot be straightforwardly indicative for clinical practice. Yet, we could prematurely suppose that we could clearly demonstrate that all neurotic symptoms are rooted in the same typical interpersonal structure with two dimensions and thus, that the psychoanalytic diagnostic system had a firm empirical basis. What clinical

advantages would this system have then compared to contemporary diagnostics that splits up the field of neurotic symptoms in numerous separate disorders?

A first clinical advantage of the psychoanalytic approach is associated with the ubiquity of comorbidity in DSM-diagnostics.

Diagnostic systems based upon mere phenomenological description – as for example the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) – are widely used, in spite of the fact that few seem to be satisfied with them (e.g. Gotlib & Hammen, 2002, p. 3). Although description of symptoms is probably the starting point of every form of diagnostics, it is questionable as to whether a one-sided focus on it is fruitful (Verhaeghe, 2004). Striving for a purely descriptive approach, without reference to any psychological theory whatsoever, makes a structural analysis of symptoms impossible. However, without structural analysis, the multiplicity in the phenomenological field of symptoms cannot be reduced. With regard to neurotic symptoms, the merely descriptive approach maintained in the DSM-IV has the effect that every symptom cluster is seen as constituent of one or more specific 'disorders': depressive symptoms constitute depressive disorders, anxiety symptoms constitute anxiety disorders, somatic symptoms constitute somatization disorders, etc. The inadequacy of this approach is illustrated by the fact that the daunting amount of diagnostic categories in the DSM-IV resulted in ubiquity of comorbidity and threats diagnostic validity and reliability (Gotlib & Hammen, 2002, p. 3; Hammen, 1998, p. 19; Maleval, 2002; Stefanis & Stefanis, 2002, van Praag, 2002).

Extensive review studies of the last decade all stress that the problem of comorbidity is especially pronounced in the group of the mood disorders (e.g. Gotlib & Hammen, 2002, p. 3; Hammen, 1998, p. 19; Stefanis & Stefanis, 2002, pp. 19-30). Stefanis and Stefanis (2002) refer to the Epidemiologic Catchment Area Study (Regier, Burke, & Burke, 1990), the US National Comorbidity Survey (Blazer, Kessler, McGonagle, & Swartz, 1994), and the WHO Study on Psychological Disorders in Primary Health Care (Sartorius, Ustun, Lecrubier, & Wittchen, 1996) and conclude that overall evidence leaves no doubt that comorbidity of depressive disorders with other Axis I disorders is the rule rather than the exception, especially with generalized anxiety, panic, agoraphobia, social phobia, and somatization disorder (Stefanis & Stefanis, pp 22-24). Gotlib and Hammen (2002) refer to the US National Comorbidity Study (Blazer, et al., 1994), and the National Institute of Mental Health Treatment of Depression Collaborative Research Program (Shea, Widiger, and Klein, 1992). In the same line as Stefanis and Stefanis (2002), they conclude that diagnostic comorbidity with Axis I pathology is present in 56% of the cases of major depressive disorder. Over and above this, 74% of the depressive patients received an additional diagnosis for a personality disorder. They specify that the personality disorders from the neurotic clusters (cluster B: antisocial PD, borderline PD, histrionic PD, narcissistic PD; and cluster C: avoidant PD, dependent PD,

obsessive-compulsive PD) predominated over the psychotic cluster (cluster A: paranoid PD, schizoid PD, schizotypal PD). Overall, Gotlib and Hammen conclude that the diagnosis of major depressive disorder seems to mask a phenomenon of "enormous heterogeneity" (Gotlib & Hammen, 2002, p 3).

Clearly, most people who are diagnosed as having a major depressive disorder do not show only depressive symptoms. On the contrary, they seem to show a wide range of other (predominantly neurotic) symptoms besides their depressive symptoms. The omnipresence of comorbidity in the present DSM-IV suggests that depressive symptoms are not isolated from other neurotic phenomena, and that the splitting up of the field of neurotic psychopathology into numerous isolated diagnostic categories is artificial (see also Jablensky, 2005; Van Hoorde, 1996). Therefore, we argue that rather than postulating diagnostic categories on the basis of mere phenomenological description, diagnostics should aim at clarifying the underlying structure that connects neurotic (depressive as well as other) symptoms with each other. It is on the level of this underlying structure that the multiplicity of different diagnoses can be turned into simplicity and that the problem of comorbidity can be solved.

Comorbidity becomes especially problematic in combination with a therapeutic practice which aspires to establish fixed treatment schedules or *protocols* for the different disorders. When one is consistent in considering the disorders as separate clinical entities, comorbidity entails that different protocols sequentially have to be applied on the same patient. However, it is in conflict with good sense and clinical intuition that a certain disorder should be treated with the same protocol when accompanied by the one or the other disorder. For example, it is at least unlikely that anorexia nervosa could be treated with the same protocol when it is accompanied by a delusional disorder, a phobia, or a depression. Therefore, making different protocols for the different combinations of disorders seems to be an unavoidable yet a daunting task of which we can rightly doubt if it will ever be accomplished. The psychoanalytic approach, on the other hand, does not know these problems, since it conceives the different neurotic symptoms of patients as expressions of the same underlying, problematic way of relating to (significant) others. This entails that the therapeutic labour – which tries to stir this typical way of relating to others – seems achievable no matter how diverse the symptoms are. This is not only encouraging for the therapist but also for the patient, who might feel relieved when it begins to dawn that the numerous complaints and symptoms all boil down to the same underlying problem. In the same way, the idea of one single underlying problem that expresses itself through a variety of symptoms dispels the feeling of fighting against an intangible enemy when during the therapeutic process new symptoms appear or one symptom is replaced by another.

Besides the advantages associated with the problem of comorbidity, diagnostics based on the interpersonal structure and function of symptoms offers at least one other improvement compared to purely descriptive diagnostics, namely that it is straightforwardly indicative for the modus

operandi in psychotherapy (Verhaeghe, 2004). The fact that psychotherapy – which is essentially an interpersonal process – leads up to relief of suffering is ultimately to be based on the existence of a causal pathway between interpersonal characteristics and symptoms. In this context, Freud (1912) stated that transference is the most important tool in the psychoanalytic cure and the conditio sine qua non for therapeutic success: if the relationship between patient and analyst does not reach a certain intensity, this relation will not be able to stir the drive fixated in the symptom and no relief of suffering will occur. Diagnostics aiming at the basic interpersonal structure that determines the symptomatology are predictive with regard to the transference that shall be manifested during the therapy and alerts for pitfalls that could disturb the therapeutic relationship. This argument gains even more power when situated in the context of research that shows that the quality of the therapeutic relationship is the most powerful predictor of therapeutic success (Blatt & Zuroff, 2005).

With regard to our criticism on DSM-IV diagnostics, one could ask whether it is not paradoxical to criticise DSM-IV diagnostics on vital points and at the same time, use this type of diagnostics as a sampling inclusion criterion. We partially agree with this objection but we don't think that it is difficult to say why the use of DSM-IV diagnostics was nevertheless the best strategy. First, our choice to use DSM-IV diagnoses certainly had to do with the fact that it is the only diagnostic system that is generally used. In that respect, there was not really a choice, since there were no alternatives. However, more important is that our criticism does not aim at the DSM-IV in general. The DSM-IV – when merely considered as a phenomenological-descriptive undertaking – certainly has its merits. We argued that the problem with the DSM-IV is that it *reduces* psychodiagnostics to phenomenological description. Since in the context of our articles, DSM-IV diagnostics was only used to describe our samples, we think there are no profound problems at this point. In the same context, one could put forward another critical remark. We stressed the problem of comorbidity in DSM-IV diagnostics and the ensuing problems for diagnostic validity and reliability. Yet, does the modest interrater-reliability, obtained after the first ratings on hysteria and obsessional neurosis in chapter 5, not straightforwardly demonstrate that psychoanalytic diagnostics does not really offer anything better than what we criticize? We could defend ourselves and argue that the ratings were merely based on transcriptions of interviews, which deprive the clinician of substantial information that is needed in the diagnostic process. Furthermore, rating patients on a scale from 1 to 10 on hysteria and obsessional neurosis is an odd reduction of the complex clinical reality, and entails all problems associated with the quantification of complex variables. Thus, it does not necessarily tell a lot about the performance of a diagnostic system in a clinical environment. Nevertheless, we believe that our results show that psychoanalysis would profit – at least in the context of empirical research - from more explicit diagnostic criteria and a more explicit diagnostic grid.

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Appendix 1

Table 1: *Correlations Between Items with Content Overlap of RecDEQ and BDI-II*[1] *in a Depressed Clinical Sample (Description Sample see Chapter 1)*

Item RecDEQ	Item BDI-II	r
'Ik heb vaak het gevoel mijn eigen normen en idealen niet na te leven' (#7)	'Als ik terugkijk zie ik een hoop mislukkingen' (#3)	.089
	'Ik voel me meestal erg schuldig' (#5)	.042
	'Ik ben teleurgesteld in mezelf' (#7)	.112
'Er is een aanzienlijk verschil tussen hoe ik nu ben en hoe ik zou willen zijn' (#13)	'Als ik terugkijk zie ik een hoop mislukkingen' (#3)	.355**
	'Ik ben teleurgesteld in mezelf' (#7)	.377**
	'Ik bekritiseer mezelf voor al mijn tekortkomingen' (#8)	.320**
	'Vergeleken met anderen voel ik me meer waardeloos' (#14)	.357**
'Vaak heb ik het gevoel dat ik anderen teleurgesteld heb' (# 30)	'Als ik terugkijk zie ik een hoop mislukkingen' (#3)	.295**
	'Ik voel me meestal erg schuldig' (#5)	.402**
	'Ik verwacht gestraft te worden' (#6)	.217**
	'Ik ben teleurgesteld in mezelf' (#7)	.254**
	'Vergeleken met anderen voel ik me meer waardeloos' (#14)	.350**
'Ik ben heel tevreden met mezelf en wat ik bereikt heb' (# 62)	'Ik voel me een groot deel van de tijd somber' (#1)	-.079
	'Als ik terugkijk zie ik een hoop mislukkingen' (#3)	**-.389****
	'Ik voel me meestal erg schuldig' (#5)	**-.290****
	'Ik ben teleurgesteld in mezelf' (#7)	**-.304****
	'Ik bekritiseer mezelf voor al mijn tekortkomingen' (#8)	-.224**
	'Vergeleken met anderen voel ik me meer waardeloos' (#14)	-.383**

Note. bold = BDI-II item that is logically necessary associated with the corresponding RecDEQ item; *p < .05; **p < .01.

[1] We present the third option for all the items of the BDI-II.

Table 2: *Correlations Between Items with Content Overlap of RecDEQ and IIP-64 in a Depressed Clinical Sample (Description Sample see Chapter 1)*

Item RecDEQ	Item IIP-64	r
'Ik heb moeite met het verbreken van een relatie die me ongelukkig maakt' (#22)	'Het is moeilijk voor mij om me assertief en zelfbewust op te stellen tegenover iemand anders' (#9)	.039
	'Het is moeilijk voor mij om agressief te zijn tegenover iemand als de situatie daarom vraagt' (#13)	.096
	'Het is moeilijk voor mlij om assertief te zijn zonder bezorgd te zijn dat ik andermans gevoelens zou kunnen kwetsen' (#38)	.135
'Ongeacht hoe intiem een relatie tussen twee mensen is, altijd is er veel onzekerheid en conflict' (#27)	'Het is moeilijk voor mij om andere mensen te vertrouwen' (#1)	.296**
	'Het is moeilijk voor mij om een gevoel van hechte verbondenheid te voelen ten aanzien van andere mensen' (#23)	.234**
	'Ik ben te wantrouwig tegenover andere mensen' (#56)	.311**
	'Ik ga te veel in discussie met andere mensen' (#59)	.186*
'Ik probeer voortdurend, en ga daarin vaak te ver, om mensen die ik goed ken te plezieren of te helpen' (#32)	'Het is voor mij moeilijk om op mijn eigen welzijn te letten als iemand in nood is' (#37)	.228**
	'Ik ben al te vrijgevig naar andere mensen toe' (#54)	.269**
'Ik vind het heel moeilijk om 'nee' te zeggen op vragen van vrienden' (#34)	**'Het is voor mij moeilijk om 'nee' te zeggen tegen andere mensen' (#2)**	**.639****
	'Het is voor mij moeilijk om me assertief en zelfbewust op te stellen tegenover iemand anders' (#9)	**.350****
	'Het is voor mij moeilijk om grenzen te stellen ten aanzien van andere mensen' (#21)	.327**
	'Het is voor mij moeilijk om assertief te zijn zonder bezorgd te zijn dat ik andermans gevoelens zou kunnen kwetsen' (#38)	.366**
	'Ik laat me te gemakkelijk overhalen door anderen' (#42)	.481**
	'Ik laat andere mensen te veel van mij profiteren' (#61)	.426**
'Ik voel me nooit echt veilig in een intieme relatie' (#35)	**'Het is voor mij moeilijk om andere mensen te vertrouwen' (#1)**	**.204****
	'Het is voor mij moeilijk om een langdurige verbintenis aan te gaan met iemand' (#11)	.470**
	'Het is voor mij moeilijk om een gevoel van hechte verbondenheid te voelen ten aanzien van andere mensen' (#23)	**.286****
	'Het is voor mij moeilijk om me bloot te geven en mijn gevoelens aan een ander te vertellen' (#35)	.270**
'Ik maak me veel zorgen dat ik iemand die ik goed ken beledig of kwets' (#45)	'Het is voor mij moeilijk om me assertief en zelfbewust op te stellen tegenover iemand anders' (#9)	.207**
	'Het is voor mij moeilijk om assertief te zijn zonder bezorgd te zijn dat ik andermans gevoelens zou kunnen kwetsen' (#38	**.319****

Note. bold = IIP-64 item that is logically necessary associated with the corresponding RecDEQ item; *p < .05; **p < .01.

Table 3: *Correlations Between Items with Content Overlap of IIP-64 and the SCL-90-R in a Depressed Clinical Sample (Description Sample see Chapter 7)*

Item IIP-64	Item SCL-90-R	r
'Het is moeilijk voor mij om andere mensen te vertrouwen' (#1)	**'Het gevoel dat de meeste mensen niet te vertrouwen zijn' (#18)**	.563**
	'Het gevoel dat mensen misbruik van je zullen maken als je ze hun gang laat gaan' (#83)	.579**
'Het is moeilijk voor me om me assertief en zelfbewust op te stellen tegenover iemand anders' (#9)	'Je tegenover anderen altijd de mindere voelen' (#41)	.329*
	'Gevoelens dat je niets waard bent' (#79)	.366**
'Het is moeilijk voor me om goed op te schieten met andere mensen' (#16)	'Het gevoel dat anderen je niet begrijpen of onaardig zijn' (#36)	.222
	'Het gevoel dat andere mensen onvriendelijk zijn of je niet mogen' (#37)	.400**
'Het is moeilijk voor me om een gevoel van liefde te ervaren voor iemand anders' (#20)	'Je nooit met iemand anders nauw verbonden voelen' (#88)	.341*
'Het is moeilijk voor me om een gevoel van hechte verbondenheid te voelen ten aanzien van andere mensen' (#23)	**'Je nooit met iemand anders nauw verbonden voelen' (#88)**	.484**
'Het is moeilijk voor me om tijd alleen door te brengen' (#26)	'Je zenuwachtig voelen als je alleen gelaten wordt' (#75)	.648**
'Het is moeilijk voor me om zelfverzekerd te zijn als ik bij andere mensen ben' (#39)	**'Je tegenover anderen de mindere voelen' (#41)**	.239
	'Gevoelens dat je niets waard bent' (#79)	.368**
'Ik maak te veel ruzie met andere mensen' (#40)	'Woede-uitbarstingen die je niet in de hand hebt' (#24)	.309*
	'Vaak in ruzies verzeild raken' (#74)	.682**
	'Schreeuwen of met dingen smijten' (#81)	.240
'Ik ben te agressief naar andere mensen' (#45)	'Woede uitbarstingen die je niet in de hand hebt' (#24)	.429**
	'Aandrang voelen anderen te slaan, te verwonden of pijn te doen' (#63)	.307*
	'Schreeuwen of met dingen smijten' (#81)	.318*
'Ik ga te veel in discussie met andere mensen' (#59)	'Gedachten of opvattingen hebben die anderen niet met je delen' (#68)	.568**
'Ik hou andere mensen te veel op een afstand' (#60)	'Je eenzaam voelen' (#29)	.315*
	'Je nooit met iemand anders nauw verbonden voelen' (#88)	.523**
'Ik voel me vaak verlegen in aanwezigheid van andere mensen' (#62)	'Je verlegen en niet op je gemak voelen bij andere sekse' (#21)	.537**
	'Je tegenover anderen de mindere voelen' (#41)	.520**
	'Je niet op je gemak voelen wanneer je iets eet of drinkt in het openbaar' (#73)	.052

Note. bold = SCL-90-R item that is logically necessary associated with the corresponding IIP-64 item; *p < .05; **p < .01.

Table 4: *Correlations Between Items with Content Overlap of PSI-III and the IIP-64 in a Depressed Clinical Sample (Description Sample see Chapter 10)*

Item PSI-III	Item IIP-64	r
'Ik probeer andere mensen teveel te behagen' (#6)	**'Ik probeer andere mensen teveel te behagen' (#46)**	.660**
'Ik vind het moeilijk als ik een hele dag alleen moet zijn' (#8)	**'Het is moeilijk voor mij om tijd alleen door te brengen' (#26)**	.840**
'Het is moeilijk voor me om instructies te aanvaarden van mensen die boven me staan' (#9)	**'Het is moeilijk voor mij om instructies te volgen van mensen die autoriteit hebben over mij' (#31)**	.753**
'Ik heb het gevoel dat ik aardig moet zijn tegen andere mensen' (# 13)	'Het is moeilijk voor mij om me assertief en zelfbewust op te stellen tegenover iemand anders' (#9)	.202
	'Het is moeilijk voor mij om agressief te zijn tegenover iemand als de situatie daar om vraagt' (#13)	.207
'Het is moeilijk voor mij anderen te laten weten dat ik kwaad op hen ben' (#26)	'Het is moeilijk voor mij om anderen te laten weten wat ik wil' (#5)	.255
	'Het is moeilijk voor mij om me assertief en zelfbewust op te stellen tegenover iemand anders' (#9)	.095
	'Het is moeilijk voor mij om agressief te zijn tegenover iemand als de situatie daar om vraagt' (#13)	.210
	'Het is moeilijk voor mij om mijn gevoelens tegenover andere mensen op een directe manier te uiten' (#18)	.172
	'Het is moeilijk voor mij om kwaad te zijn op andere mensen' (#34)	.425**

Note. bold = IIP-64 item that is logically necessary associated with the corresponding PSI-III item; *p < .05; **p < .01.

Table 5: *Correlations Between Items with Content Overlap of PSI-III and the SCL-90-R in a Depressed Clinical Sample (Description Sample see Chapter 10)*

Item PSI-III	**Item SCL-90-R**	r
'Ik vind het moeilijk om gescheiden te worden van mensen waar ik van hou' (#1)	'Je zenuwachtig voelen als je alleen gelaten wordt' (#75)	.459**
'Ik vind het moeilijk als ik een hele dag alleen moet zijn' (#8)	'Je zenuwachtig voelen als je alleen gelaten wordt' (#75)	.680**
'Het is moeilijk voor me om instructies te aanvaarden van mensen die boven mij staan' (#9)	'Je belemmerd voelen in het uitvoeren van allerlei dingen' (#28)	.127
	'Gedachten of opvattingen hebben die anderen niet met je delen' (#68)	.340*
'Ik ben heel bezorgd over hoe mensen op me reageren' (#16)	'Je niet op je gemak voelen als mensen naar je kijken of over je praten' (#61)	.324*
'Ik voel me het meest op mijn gemak als ik weet dat ik mij gedraag zoals anderen dat van mij verwachten' (#20)	'Je niet op je gemak voelen als anderen naar je kijken of over je praten' (#61)	.182
'Ik vertrouw zelden het advies van anderen bij het nemen van een belangrijke beslissing' (#22)	'Kritisch staan tegenover anderen' (#6)	.263
	'Het gevoel dat de meeste mensen niet te vertrouwen zijn' (#18)	.056
	'Het gevoel dat de mensen misbruik van je zullen maken als je ze hun gang laat gaan' (#83)	.202
'Ik beoordeel mijzelf op basis van wat ik denk dat andere mensen van mij vinden' (#24)	'Je niet op je gemak voelen als mensen naar je kijken of over je praten'	.237

Note. bold = SCL-90-R item that is logically necessary associated with the corresponding PSI-III item; *p < .05; **p < .01.

Appendix 2

Table 1: *Correlations between the hysterical IIP-64 profile (see chapter 7) and SCL-90-R scores on individual items that show no content overlap with items of the IIP-64 in a heterogeneous clinical sample (for description sample see chapter 7)*

Hysterical IIP-64 profile	SCL-90-R symptoms	r
‘Het is moeilijk voor mij om andere mensen te laten weten wat ik wil’ (#5) ‘Het is moeilijk voor mij om iemand te zeggen dat hij/zij moet stoppen met me lastig te vallen’ (#6) ‘Het is moeilijk voor me andere mensen op problemen te wijzen die zich voordoen’ (#8) ‘Het is moeilijk voor me om me assertief en zelfbewust op te stellen tegenover iemand anders’ (#9) ‘Het is moeilijk voor me om iemands baas te zijn’ (#12) ‘Het is moeilijk voor me om agressief te zijn tegenover iemand als de situatie daar om vraagt’ (#13) ‘Het is moeilijk voor me om zelfverzekerd te zijn als ik bij andere mensen ben’ (#39) ‘Het is moeilijk voor me om ‘nee’ te zeggen tegen andere mensen’ (#2) ‘Het is moeilijk voor me om anderen duidelijk te maken dat ik kwaad ben’ (#10) ‘Het is moeilijk voor me om te discussiëren met een ander’ (#25) ‘Het is moeilijk voor me om kwaad te zijn op andere mensen’ (#34) ‘Het is moeilijk voor me om assertief te zijn zonder bezorgd te zijn dat ik andermans gevoelens zou kunnen kwetsen’ (#38) ‘Ik laat me gemakkelijk overhalen door anderen’ (#42)	‘Hoofdpijn’ (#1)	..231*
	‘Duizeligheid’ (#4)	.319**
	‘Pijn in borst of hartstreek (#12)	.136
	‘Pijn onder in de rug’ (#27)	.044
	‘Misselijkheid of een maag die van streek is’ (#40)	.290**
	‘Pijnlijke spieren’ (#42)	.222*
	‘Moeilijk adem kunnen krijgen’ (#48)	.274**
	‘Je soms erg warm, dan weer erg koud voelen’ (#49)	.252*
	‘Een verdoofd of tintelend gevoel ergens in je lichaam’ (#52)	.269**
	‘Een brok in je keel’ (#53)	.374**
	‘Je lichamelijk ergens slap voelen’ (#56)	.386**
	‘Zwaar voelen in armen of benen’ (#58)	.278**
	Total somatic symptoms	***.410***
	‘Zenuwachtigheid of trillen van binnen’ (#2)	.384**
	‘Trillen’ (#17)	.278**
	‘Zomaar plotseling schrikken of bang worden’ (#23)	.416**
	‘Je bang voelen’ (#33)	.532**
	‘Hartkloppingen’ (#39)	.235*
	‘Je gespannen voelen’ (#57)	.564**
	‘Aanvallen van angst of paniek’ (#72)	.319**
	‘Je zo rusteloos voelen dat je niet stil kunt blijven zitten’ (#78)	.397**
	‘Het gevoel dat iets naars je gaat overkomen’ (#80)	.450**
	‘Gedachten en bepaalde voorstellingen van angstige aard’ (#86)	.318**
	Total anxiety symptoms	**.546****
	‘Nare gedachten of ideëen niet kwijt kunnen raken’ (#3)	.443**
	‘Weinig energie hebben’ (#14)	.369**
	‘Denken om er een eind aan te maken’ (#15)	.419**
	‘Weinig eetlust hebben’ (#19)	.347**
	‘Gauw huilen’ (#20)	.307**
	‘Het gevoel in de put te zitten’ (#30)	.533**
	‘Te veel over de dingen piekeren’ (#31)	.428**
	‘Nergens meer belangstelling in hebben’ (#32)	.424**
	‘Een gevoel van leegte’ (#51)	.529**
	‘Je wanhopig over de toekomst voelen’ (#54)	.649**
	‘Denken aan dood of sterven’ (#59)	.397**
	‘Gevoelens dat je niets waard bent’ (#79)	.602**
	Total depressive symptoms	***.581****
	‘ Moeilijk iets kunnen onthouden’ (#9)	.453**
	‘Piekeren over een slordigheid of iets wat je vergeten bent’ (#10)	.346**
	‘Iets langzaam moeten doen om er zeker van te zijn dat je het goed doet ‘ (#38)	.124
	‘Steeds maar moeten controleren wat je doet’ (#45)	.340**
	‘Moeilijk beslissingen kunnen nemen’ (#46)	.534**
	‘Je moeilijk kunnen concentreren’ (#55)	.621**
	‘Alsmaar hetzelfde moeten doen, zoals dingen even aanraken, tellen of wassen’ (#65)	.194
	‘Het gevoel dat alles moeite kost’ (#71)	.411**
	Total obsessive-compulsive symptoms	***.554****
	‘Moeilijk in slaap kunnen komen’ (#44)	.287**
	‘Te vroeg wakker worden’ (#64)	.263*
	‘Een onrustige of gestoorde slaap’ (#66)	.430**
	Total sleeping problems	***.385****

Table 2: *Correlations between the obsessional IIP-64 profile (see chapter 7) and SCL-90-R scores on individual items that show no content overlap with items of the IIP-64 in a heterogeneous clinical sample (for description sample see chapter 7)*

Obsessional IIP-64	SCL-90-R symptoms	
	'Te vroeg wakker worden' (#64)	.157
	'Een onrustige, gestoorde slaap' (#66)	.282**
	Total sleeping problems	***.288***
	'Duizeligheid' (#4)	.029
	'Pijn in borst of hartstreek (#12)	.175
	'Pijn onder in de rug' (#27)	.071
	'Misselijkheid of een maag die van streek is' (#40)	.123
	'Pijnlijke spieren' (#42)	.059
	'Moeilijk adem kunnen krijgen' (#48)	.082
	'Je soms erg warm, dan weer erg koud voelen' (#49)	.028
	'Een verdoofd of tintelend gevoel ergens in je lichaam' (#52)	.177
	'Een brok in je keel' (#53)	.327**
	'Je lichamelijk ergens slap voelen' (#56)	.280**
	'Zwaar voelen in armen of benen' (#58)	.326**
	Total somatic symptoms	***.224****
	'Zenuwachtigheid of trillen van binnen' (#2)	.187
	'Trillen' (#17)	.146
	'Zomaar plotseling schrikken of bang worden' (#23)	.193
	'Je bang voelen' (#33)	.212*
	'Hartkloppingen' (#39)	.179
	'Je gespannen voelen' (#57)	.438**
	'Aanvallen van angst of paniek' (#72)	.269**
	'Je zo rusteloos voelen dat je niet stil kunt blijven zitten' (#78)	.497**
	'Het gevoel dat iets naars je gaat overkomen' (#80)	.352**
	'Gedachten en bepaalde voorstellingen van angstige aard' (#86)	.236*
	Total anxiety symptoms	***.382****
	'Nare gedachten of ideëen niet kwijt kunnen raken' (#3)	..374**
	'Weinig energie hebben' (#14)	.271**
	'Denken om er een eind aan te maken' (#15)	.505**
	'Weinig eetlust hebben' (#19)	.191
	'Gauw huilen' (#20)	.147
	'Het gevoel in de put te zitten' (#30)	.462**
	'Te veel over de dingen piekeren' (#31)	.419**
	'Nergens meer belangstelling in hebben' (#32)	.489**
	'Een gevoel van leegte' (#51)	.522**
	'Je wanhopig over de toekomst voelen' (#54)	.557**
	'Denken aan dood of sterven' (#59)	.447**
	'Gevoelens dat je niets waard bent' (#79)	.441**
	Total depressive symptoms	***.517****
	' Moeilijk iets kunnen onthouden' (#9)	.217*
	'Piekeren over een slordigheid of iets wat je vergeten bent' (#10)	.152
	'Iets langzaam moeten doen om er zeker van te zijn dat je het goed doet ' (#38)	.256*
	'Steeds maar moeten controleren wat je doet' (#45)	.277**
	'Moeilijk beslissingen kunnen nemen' (#46)	.314**
	'Je moeilijk kunnen concentreren' (#55)	.338**
	'Alsmaar hetzelfde moeten doen, zoals dingen even aanraken, tellen of wassen' (#65)	.151
	'Het gevoel dat alles moeite kost' (#71)	.445**
	Total obsessive-compulsive symptoms	***.395****
	'Moeilijk in slaap kunnen komen' (#44)	.291**

Appendix 3

Table 1: *Correlations between PSI-III sociotropy (total scale score) and SCL-90-R scores on individual items that show no content overlap with items of the PSI-III in a depressed clinical sample (for description sample see chapter 10)*

PSI-III sociotropy	SCL-90-R symptoms	r
	'Hoofdpijn' (#1)	.350*
	'Duizeligheid' (#4)	.513**
	'Pijn in borst of hartstreek (#12)	-.032
	'Pijn onder in de rug' (#27)	.020
	'Misselijkheid of een maag die van streek is' (#40)	.216
'Ik vind het moeilijk om gescheiden te worden van mensen waar ik van hou' (#1)	'Pijnlijke spieren' (#42)	-.006
	'Moeilijk adem kunnen krijgen' (#48)	.360**
'Ik ben heel gevoelig voor de effecten die ik heb op de gevoelens van andre mensen' (#2)	'Je soms erg warm, dan weer erg koud voelen' (#49)	.355**
	'Een verdoofd of tintelend gevoel ergens in je lichaam' (#52)	.052
	'Een brok in je keel' (#53)	.347*
'Ik ben vaak bezorgd dat ik andere mensen kwets of beledig' (#4)	'Je lichamelijk ergens slap voelen' (#56)	.180
	'Zwaar voelen in armen of benen' (#58)	.125
	Total somatic symptoms	***.324****
'Ik probeer andere mensen teveel te behagen' (#6)	'Zenuwachtigheid of trillen van binnen' (#2)	.498**
	'Trillen' (#17)	.315*
'Ik vind het moeilijk als ik een hele dag alleem moet zijn' (#8)	'Zomaar plotseling schrikken of bang worden' (#23)	.200
	'Je bang voelen' (#33)	.401**
'Het is heel belangrijk voor mij dat anderen mij graag hebben of bewonderen' (#12)	'Hartkloppingen' (#39)	.113
	'Je gespannen voelen' (#57)	.240
	'Aanvallen van angst of paniek' (#72)	.312*
'Ik heb het gevoel dat ik aardig moet zijn tegen andere mensen' (#13)	'Je zo rusteloos voelen dat je niet stil kunt blijven zitten' (#78)	.204
	'Het gevoel dat iets naars je gaat overkomen' (#80)	.028
	'Gedachten en bepaalde voorstellingen van angstige aard' (#86)	.279*
	Total anxiety symptoms	***.376****
'Ik ben er graag zeker van dat er iemand in de nabijheid is die ik kan contacteren in het geval er iets onaangenaams met mij gebeurt' (#14)	'Nare gedachten of ideëen niet kwijt kunnen raken' (#3)	.254
	'Weinig energie hebben' (#14)	.244
	'Denken om er een eind aan te maken' (#15)	.130
	'Weinig eetlust hebben' (#19)	.191
	'Gauw huilen' (#20)	.384**
'Ik verontschuldig me te vaak bij andere mensen' (#15)	'Het gevoel in de put te zitten' (#30)	.392**
	'Te veel over de dingen piekeren' (#31)	.259
	'Nergens meer belangstelling in hebben' (#32)	.342*
	'Een gevoel van leegte' (#51)	.266
'Ik ben heel bezorgd over hoe mensen op me reageren' (#16)	'Je wanhopig over de toekomst voelen' (#54)	.299*
	'Denken aan dood of sterven' (#59)	.196
	'Gevoelens dat je niets waard bent' (#79)	.384**
	Total depressive symptoms	***.379****
'Ik geraak overstuur als er mij iets overkomt en er is niemand in de buurt om mee te spreken' (#19)	' Moeilijk iets kunnen onthouden' (#9)	.017
	'Piekeren over een slordigheid of iets wat je vergeten bent' (#10)	.156
	'Iets langzaam moeten doen om er zeker van te zijn dat je het goed doet ' (#38)	-.001
	'Steeds maar moeten controleren wat je doet' (#45)	.220
	'Moeilijk beslissingen kunnen nemen' (#46)	.331*
	'Je moeilijk kunnen concentreren' (#55)	.323*
	'Alsmaar hetzelfde moeten doen, zoals dingen even aanraken, tellen of wassen' (#65)	.130
	'Het gevoel dat alles moeite kost' (#71)	.162
	Total obsessive-compulsive symptoms	***.246***
	'Moeilijk in slaap kunnen komen' (#44)	.241
	'Te vroeg wakker worden' (#64)	-.053
	'Een onrustige of gestoorde slaap' (#66)	.113
	Total sleeping problems	***.117***

Table 2: *Correlations between PSI-III autonomy (total scale score) and SCL-90-R scores on individual items that show no content overlap with items of the PSI-III in a depressed clinical sample (for description sample see chapter 10*

PSI-III autonomy	SCL-90-R symptoms	r
	'Hoofdpijn' (#1)	.117
	'Duizeligheid' (#4)	.065
	'Pijn in borst of hartstreek (#12)	.116
	'Pijn onder in de rug' (#27)	.137
	'Misselijkheid of een maag die van streek is' (#40)	.127
	'Pijnlijke spieren' (#42)	.089
	'Moeilijk adem kunnen krijgen' (#48)	.005
'Ik hou er niet van om op andere mensen aangewezen te zijn voor hulp' (#3)	'Je soms erg warm, dan weer erg koud voelen' (#49)	.077
	'Een verdoofd of tintelend gevoel ergens in je lichaam' (#52)	.155
	'Een brok in je keel' (#53)	.274*
'In relaties zijn mensen vaak te veeleisend voor elkaar' (#5)	'Je lichamelijk ergens slap voelen' (#56)	.205
	'Zwaar voelen in armen of benen' (#58)	.140
	Total somatic symptoms	***.210***
'Ik hou er niet van als andere mensen mijn privacy binnendringen' (#7)	'Zenuwachtigheid of trillen van binnen' (#2)	-.026
	'Trillen' (#17)	.147
	'Zomaar plotseling schrikken of bang worden' (#23)	.227
'Het is moeilijk voor me om instructies te aanvaarden van mensen die boven mij staan' (#9)	'Je bang voelen' (#33)	-.004
	'Hartkloppingen' (#39)	.156
	'Je gespannen voelen' (#57)	.043
	'Aanvallen van angst of paniek' (#72)	.208
'Ik een vaak belangrijke beslissingen zonder er iemand anders over te vertellen' (#10)	'Je zo rusteloos voelen dat je niet stil kunt blijven zitten' (#78)	.228
	'Het gevoel dat iets naars je gaat overkomen' (#80)	.369**
	'Gedachten en bepaalde voorstellingen van angstige aard' (#86)	.148
	Total anxiety symptoms	***.225***
'Het is moeilijk voor mij om iemand te hebben die afhankelijk van mij is' (#11)	'Nare gedachten of ideëen niet kwijt kunnen raken' (#3)	.267
	'Weinig energie hebben' (#14)	.095
	'Denken om er een eind aan te maken' (#15)	.248
	'Weinig eetlust hebben' (#19)	.342*
	'Gauw huilen' (#20)	.010
	'Het gevoel in de put te zitten' (#30)	.019
'Gedurende een belangrijke beslissing ervaar ik gewoonlijk het advies van anderen als opdringerig' (#17)	'Te veel over de dingen piekeren' (#31)	.066
	'Nergens meer belangstelling in hebben' (#32)	.044
	'Een gevoel van leegte' (#51)	.228
	'Je wanhopig over de toekomst voelen' (#54)	.205
	'Denken aan dood of sterven' (#59)	.042
	'Gevoelens dat je niets waard bent' (#79)	.022
'Het stoort mij als mensen mijn gedrag of activiteiten proberen te sturen' (#18)	***Total depressive symptoms***	***.175***
	' Moeilijk iets kunnen onthouden' (#9)	.139
	'Piekeren over een slordigheid of iets wat je vergeten bent' (#10)	.148
'Ik vertrouw zelden het advies van anderen bij het nemen van	'Iets langzaam moeten doen om er zeker van te zijn dat je het goed doet ' (#38)	.480**
	'Steeds maar moeten controleren wat je doet' (#45)	.270
	'Moeilijk beslissingen kunnen nemen' (#46)	.221
	'Je moeilijk kunnen concentreren' (#55)	.047
	'Alsmaar hetzelfde moeten doen, zoals dingen even aanraken, tellen of wassen' (#65)	.275*
	'Het gevoel dat alles moeite kost' (#71)	.299*
	Total obsessive-compulsive symptoms	***.340****
	'Moeilijk in slaap kunnen komen' (#44)	.243
	'Te vroeg wakker worden' (#64)	.289*
	'Een onrustige of gestoorde slaap' (#66)	.382**
	Total sleeping problems	***.360****

Appendix 4

Table 1: *Items of the SCL-90-R with interpersonal content (content overlap with IIP-64 and PSI-III)*

SCL-90-R item
'Geen seksuele interesse meer hebben of er geen plezier meer aan beleven' (#5)
'Kritisch staan tegenover anderen' (#6)
Het idee dat iemand anders je gedachten kan beheersen' (#7)
'Het gevoel dat anderen schuld hebben aan de meeste van je problemen' (#8)
'Je angstig voelen in open ruimten of op straat' (#13)
'Stemmen horen die andere mensen niet horen' (#16)
'Het gevoel dat de meeste mensen niet te vertrouwen zijn' (#18)
'Je verlegen en niet op je gemak voelen bij de andere sekse' (#21)
'Woede-uitbarstingen die je niet in de hand hebt' (#24)
'Bang zijn om alleen uit huis te gaan' (#25)
'Je belemmerd voelen in het uitvoeren van allerlei dingen' (#28)
'Je eenzaam voelen' (#29)
'Je bang voelen' (#33)
'Je gauw gekwetst voelen' (#34)
'Het idee dat andere mensen je geheime gedachten kennen' (#35)
'Het gevoel dat anderen je niet begrijpen of onaardig zijn' (#36)
'Je tegenover anderen de mindere voelen' (#41)
'Bang zijn om te reizen in bussen, treinen of trams' (#47)
'Bepaalde dingen of plaatsen moeten vermijden, omdat je er angstig wordt' (#50)
'Je niet op je gemak voelen als mensen naar je kijken of over je praten' (#61)
'Gedachten hebben die niet van jezelf afkomstig zijn' (#62)
'Aandrang voelen anderen te slaan, te verwonden of pijn te doen' (#63)
'Aandrang voelen dingen te vernielen of stuk te gooien' (#67)
'Gedachten of opvattingen hebben die anderen niet met je delen' (#68)
'Je pijnlijk bewust zijn van je aanwezigheid bij anderen' (#69)
'Je niet op je gemak voelen in menigten, zoals bij het winkelen of in de bioscoop' (#70)
'Je niet op je gemak voelen wanneer je iets eet of drinkt in het openbaar' (#73)
'Vaak in ruzies verzeild raken' (#74)
'Je zenuwachtig voelen als je alleen gelaten wordt' (#75)
'het gevoel dat anderen je niet op juiste waarde schatten' (#76)
'Je alleen voelen, zelfs bij andere mensen' (#77)
'Gevoelens dat je niets waard bent' (#79)
'Het gevoel dat iets naars je gaat overkomen' (#80)
'Schreeuwen of met dingen smijten' (#81)
'Bang zijn om in het openbaar flauw te vallen' (#82)
'Het gevoel dat andere mensen misbruik van je zullen maken, als je ze hun gang laat gaan' (#83)
Je nooit met iemand anders nauw verbonden voelen' (#88)

Appendix 5

Table 1: *Correlations Between the SCL-90-R item 'Feeling blocked in getting things done' and the Symptom Clusters of the SCL-90-R*

SCL-90-R Scale	'Je belemmerd voelen in het uitvoeren van allerlei dingen' (#28)
Phobieën	.120
Angst	.198
Depressie	.208
Somatisatie	.336*
Obsessief-Compulsieve symptomen	.219
Interpersoonlijke sensitiviteit	.434**
Agressieve impulsen	.059
Slaapproblemen	.044

Appendix 6

Table 1: *Correlations Between an SCL-90-R Negative Affectivity Cluster (Items Selected According to their Similarity with the Items of the PANAS) and SCL-90-R Somatization, Anxiety, Depression, Obsessive-compulsive, and Sleeping Problems Clusters*

SC9R Scale	SCL-90-R Negative Affectivity
SCL-90-R Somatization	.716**
SCL-90-R Anxiety	.825**
SCL-90-R Depression	.851**
SCL-90-R Obsessive-compulsive	.757**
SCL-90-R Sleeping Problems	.322*

Note: * $p < .05$; ** $p < .01$

Appendix 7

Confirmatory Factor Analysis of the Beck Depression Inventory II[1]

This study examines the factor structure of the Beck Depression Inventory-II (BDI-II), starting with the data of 404 adult mental health outpatients and 695 non-clinical adults. The authors analyzed 9 published factor-structure models of the BDI-II using confirmatory factor analysis (CFA) and did not judge any of these models acceptable. After applying an item-deletion procedure embedded within CFA, the authors developed well-fitting shortened factor-structure models. By favoring the models that retained most items and that have acceptable internal consistency, it was concluded that shortened versions of a two-factor model detected by Beck and colleagues (1996) and of the three-factor model formulated by the same group of authors (Beck et al., 2002) are to be preferred. Replication studies and examinations of convergent and discriminant validity are needed to further validate these findings.

Worldwide, the Beck Depression Inventory II (BDI-II) (Beck et al., 1996) is a frequently used scale for assessing depressiveness in both clinical and non-clinical populations. Although many studies use the BDI-II, few have addressed its factor structure (e.g. Storch et al., 2004). Studies with both large clinical samples and non-clinical samples are especially rare. However, both from conceptual and clinical viewpoints, refined understanding of how people spontaneously structure self-reported depressive complaints is most interesting. If the factor structure of the BDI-II is reasonably stable both in mixed clinical groups and non-clinical ones, the result suggests that similar dimensions underlie people's depressive symptoms across populations. This is important for research and practice as it assures us that the measurement of the underlying subconstructs is valid, and that the instrument can be applied to a wide range of populations.

In their manual to the BDI-II, Beck and associates (1996) discuss a two-factorial structure underlying the 21 BDI-II items. This structure was detected with principal-factor analysis with oblique rotation (Promax), on data collected in a large outpatient population (N = 500). On the one hand they

[1] This appendix is based on Vanheule, S., Desmet, M., Groenvynck, H., Rosseel, Y., & Fontaine, J. (Manuscript under review). The Factor Structure of the Beck Depression Inventory II: An Evaluation.

discern a somatic-affective dimension (12 items), and on the other a cognitive factor (9 items). Kojima and colleagues (2002) confirmed this model by means of Confirmatory Factor Analysis (CFA) in a general population (N = 353); Grothe et al. (2005) observed good CFA fit for it in a sample (N = 220) of medical outpatients. However, Beck and coworkers (1996) themselves failed to replicate this factor-structure in a student population (N = 120). Several studies that tried to replicate the original factor structure could not confirm it (see below). This gave rise to the development of a number of alternative factor-structure models that fit well in at least one sample. For several of these models results of replications have not yet been published.

An alternative[2] factor-structure model that slightly differs from Beck's original model of Beck et al. (1996) has been formulated by Steer and colleagues (1999). This model assesses a cognitive (8 items) and a non-cognitive (13 items) factor, and has been confirmed (CFA) by the authors in a population of clinically depressed outpatients (N = 210). By means of Exploratory Factor Analysis (EFA) Dozois et al. (1998) observed an alternative two-factorial structure in a student sample (N = 611). This model differentiates a cognitive-affective factor (10 items) from a somatic-vegetative one (11 items), and has been replicated by means of CFA in a similar group of students (N = 611). A somewhat different model with a cognitive-affective factor (12 items) and a physiological factor (9 items) has been observed by Endler et al. (1999) based on Principal Components Analysis (PCA) of data from a student sample (N = 565). Helm and Boward (2003) started from the same method and also from student data (N = 623), and discerned a similar model with two factors: a cognitive-affective one (12 items) and a physiological one (9 items). This model differs from the Endler model only at the level of two items. Again based on student data (N = 576), Whisman et al. (2000) observed that Beck's 1996 factor model found in their student sample could be replicated with CFA on the condition that three error correlations among items were allowed. Storch et al. (2004) confirmed the adequate fit for this last model (student sample, N = 414). Starting from data collected in a primary care medical setting (N = 340) and using PCA, Arnau et al. (2001) also formulated a two-factorial model with a somatic-affective factor (12 items) and a cognitive one (8 items). The BDI-II item on self-criticalness (item 8) did not fit in this structure.

Three-factor models underlying the BDI-II items have been published as well. Starting from data collected in a student sample (N = 230) and by means of CFA Osman et al. (1997) demonstrated that only a three-factorial model that is based on Byrne & Baron (1993), and not a two-factorial one based on Beck et al. (1996) or a one-factor model, accounts for the variability in their BDI-II data. The elements of their well-fitting model are: negative attitude (10 items), performance difficulty (7 items), and somatic elements (5

[2] The alternative factor-structure models have been mapped based on a literature study starting from the ISI Web of Knowledge (search topics: BDI-II, validity, confirmatory factor analysis) and on a systematic study of the cross-references indicated in the literature thus collected.

items).The model also contains one item (crying) that loads on both negative attitude and somatic elements. Another three-factorial model has been formulated by Beck's group (Beck et al., 2002) starting from EFA of clinical (N = 260) and non-clinical (N = 505) data. This model discerns cognitive, somatic, and affective factors.

Starting from the idea that only well-fitting models should be used in research, this paper provides a new evaluation of the BDI-II factor structure based on data collected in both a large sample of mental health outpatients (N = 404) and in a large non-clinical sample (N = 695) that is representative of the general population. We start from the Dutch translation of the BDI-II and evaluate by means of CFA which of the factor-structure models discussed above fits data well. CFA is not only suited for testing whether hypothetical models of the mutual relations between items and factors fit empirical data well. In cases where model fit is unsatisfactory, CFA offers opportunities for developing alternative models. In this paper we apply an item deletion algorithm to enhance model fit. We aim at obtaining parsimonious models that provide a good unidimensional measure of underlying constructs. Models with a good fit are compared starting from the number of items and the Cronbach's alpha of the subscales.

Subjects and Procedures

The clinical sample of this study consisted of 404 adult outpatients (71% females, mean age=37.88, *sd*=10.63, range=18–72) from mental health care centers in Belgium. All patients met diagnostic criteria set forth in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, American Psychiatric Association, 2000) on axis I (clinical diagnoses given by treating psychiatrists): 44% mood disorders (23% recurrent major depressive disorder; 13% major depressive disorder single episode, 6% dysthymic disorder, 2% bipolar disorder); 19% anxiety disorders, 11% other conditions that may be a focus of clinical attention, 6% adjustment disorders, 4% somatoform disorders, 16% other disorders. Moreover, 47% received a diagnosis on axis II. Of these participants 40% had a BDI-II score > 29, which indicates severe depression (*M*=26, *sd*=12). The non-clinical sample was collected as a norm sample for the Dutch-speaking population in Belgium. It consisted of 695 adults balanced in terms of gender, age (mean age=35.19, *sd*=8.86, range=20–51), and educational level. Of these participants 1% had a BDI-II score > 29 (*M*=7, *sd*=7).

All participants from the clinical sample obtained written information on the study from their psychiatrist, gave informed consent, and filled out the Dutch translation of the BDI-II. All participants from the non-clinical sample were recruited by psychology students, gave informed consent, and filled out the same questionnaire.

Data Analysis

CFAs were conducted with Lisrel 8.70 using maximum likelihood estimates from the sample covariance matrices. In correcting for non-normality in the distribution of the data we applied the Satorra-Bentler correction procedure. The factors were allowed to correlate. Correlations between residual variances and cross-loadings other than those described in models were not included.

We evaluated model fit starting from the Confirmatory Fit Index (CFI) based on the minimum fit function Chi-Square, the Standardized Root Mean Square Residual (SRMR), and the Root Mean Square Error of Approximation (RMSEA) (Hu and Bentler, 1999). The CFI is an incremental fit index that compares a proposed model to the null model; values >.90 indicate good fit. The SRMR is a normed measure of average residual correlation and provides an indication of the goodness-of-fit of a model; values <.05 indicate good fit. The RMSEA is a badness-of-fit measure of the error approximation in the population that indicates the discrepancy per degree of freedom; values <.05 indicate good fit.

In developing factor models that fit the data well, we designed and applied an item deletion algorithm aimed at developing models that better fit the data. The algorithm is based on bootstrapping and evaluates the modification indices for a given model. First it determines the item that contributes most to the bad fit. If the highest modification index is a cross-loading, this item is considered as most problematic. If the highest modification index is a correlated error between two items, the algorithm performs an additional analysis that tests a model without one item and subsequently a model without the other item. The item that decreases the Chi-Square value most is considered the problematic item. For each model and in each sample, this procedure was applied to 100 bootstrap samples. The item that returned most often as problematic was the one the algorithm finally removed from the model. The item deletion algorithm went on until CFI was >.90 and RMSEA was <.05.

Results

In a first stage we performed CFAs on the 9 factor-structure models described in the introduction. Table 1 indicates that as we applied our criteria for good fit, none of these models were acceptable in any of the samples. In the clinical sample, some models had acceptable values for the CFI, but for all models the values of the RMSEA and the SRMR were higher than our threshold of .05. In the non-clinical sample, the CFI was never higher than .90, and only for the model formulated by Osman et al. (1997) was the SRMR lower than our threshold of .05. The RMSEA was acceptable each time. [3]

[3] We also tested whether the models originally formulated by Osman et al. [1997] and Whisman et al. [2000], which both contain 3 correlated error variances, fit the data acceptably. For the Osman model this

Table 1: *Confirmatory factor analysis fit indices for nine BDI-II factor-structure models in a non-clinical and a clinical group*

Model & Sample	Nr it.	Chi²	Df	CFI	SRMR	RMSEA
Beck et al. 1996, nc	21	372.866	188	.876	.051	.038
Beck et al. 1996, c	21	473.333	188	.905	.056	.064
Osman et al. 1997, nc	21	355.734	185	.885	.048	.036
Osman et al. 1997, c	21	453.864	185	.910	.055	.063
Dozois et al. 1998, nc	21	389.817	188	.864	.053	.039
Dozois et al. 1998, c	21	443.523	188	.915	.054	.061
Endler et al. 1999, nc	21	445.820	188	.827	.057	.044
Endler et al. 1999, c	21	541.259	188	.883	.059	.072
Steer et al. 1999, nc	21	401.638	188	.856	.053	.040
Steer et al. 1999, c	21	485.212	188	.901	.057	.065
Whisman et al. 2000, nc	21	415.023	188	.847	.056	.042
Whisman et al. 2000, c	21	516.937	188	.891	.062	.069
Arnau et al. 2001, nc	20	391.525	169	.846	.053	.043
Arnau et al. 2001, c	20	445.650	169	.904	.058	.067
Beck et al. 2002, nc	21	385.997	186	.866	.052	.039
Beck et al. 2002, c	21	420.445	186	.922	.054	.059
Helm and Boward 2003, nc	21	420.955	188	.843	.054	.042
Helm and Boward 2003, c	21	566.685	188	.874	.061	.074

Note. nc = Nonclinical; c = clinical; Nr It = Number of Items.

In a second stage we applied the item deletion algorithm and developed a shortened version of each model. In both samples we removed the problematic items and for all models we selected the items that were commonly retained as fitting well in both samples (see Table 2). We then calculated the fit-indices of the shortened versions (see Table 3). From Table 3 it can be concluded that in both samples all had a good fit. Only in a Beck model (Beck et al. 2002) did we observe a negligible violation for the RMSEA in the clinical sample (RMSEA = .051). In the Beck models (Beck et al., 1996, 2002) and the Osman model (Osman et al., 1997) the smallest amount of items had to be removed to obtain good fit.

Subsequently we determined the internal consistency of the models' subscales by calculating the Cronbach alpha values of the different models (see Table 2). By considering a value of .70 as the lower boundary for acceptable internal consistency, we found that only the models formulated by Osman et al. (1997) and Whisman et al. (2000) had inadequate consistency.

was true in the non-clinical sample (χ^2=308.117; df=182; CFI=.915; SRMR=.044; RMSEA=.032), but not in the clinical sample (χ^2=389.641; df=182; CFI=.931; SRMR=.051; RMSEA=.056). For the Whisman model the fit was not acceptable in any of the groups (non-clinical population: χ^2=402.459; df=185; p=0; CFI=.854; SRMR=.055; RMSEA=.041; clinical population: χ^2=488.665; df=185; CFI=.899; SRMR=.062; RMSEA=.067).

Table 3: *Confirmatory factor analysis fit indices for 9 shortened BDI-II factor-structure models in a non-clinical and a clinical group*

Model & Sample	Nr It	Chi²	Df	CFI	SRMR	RMSEA
Beck et al. 1996, nc	16	174.256	103	0.923	0.043	0.031
Beck et al. 1996, c	16	180.563	103	0.960	0.043	0.045
Osman et al. 1997, nc	17	195.435	115	0.920	0.043	0.031
Osman et al. 1997, c	17	218.260	115	0.943	0.045	0.049
Dozois et al. 1998, nc	15	148.710	89	0.925	0.044	0.031
Dozois et al. 1998, c	15	171.627	89	0.951	0.047	0.049
Endler et al. 1999, nc	14	123.826	76	0.932	0.043	0.030
Endler et al. 1999, c	14	139.095	76	0.961	0.046	0.043
Steer et al. 1999, nc	15	141.309	89	0.935	0.041	0.029
Steer et al. 1999, c	15	149.929	89	0.967	0.043	0.042
Whisman et al. 2000, nc	10	58.078	34	0.945	0.039	0.031
Whisman et al. 2000, c	10	60.959	34	0.970	0.042	0.046
Arnau et al. 2001, nc	13	91.184	64	0.959	0.036	0.024
Arnau et al. 2001, c	13	95.142	64	0.979	0.040	0.035
Beck et al. 2002, nc	17	200.181	116	0.919	0.044	0.032
Beck et al. 2002, c	17	230.594	116	0.944	0.046	0.051
Helm and Boward 2003, nc	15	129.126	89	0.951	0.042	0.025
Helm and Boward 2003, c	15	160.314	89	0.958	0.045	0.046

Note. nc = Nonclinical; c = clinical ; Nr It = Number of Items.

Conclusion

This study tested 9 models on the factor structure of the BDI-II based on substantial samples of mental health outpatients (N = 404) and a non-clinical group (N = 695) representative of the general population from which the participants have been selected. To our knowledge this kind of study has not been undertaken since Beck and colleagues' work in 1996. As none of the models had an adequate fit we applied an automated item deletion algorithm to construct a shortened version of each of them. These models have an adequate fit, and on behalf of a cross-loading that the Osman group (1997) included, they provide us with unidimensional measurement of constructs underlying the BDI-II. As we favor the models that retained most items and that have acceptable internal consistency, we conclude that Beck's shortened versions of the two-factor and the three-factor model are to be preferred.

There are a number of limitations to this study. First, although we think that both the type of samples we used and the item selection procedure we applied enabled us to retain models that will likely be confirmed in other samples, replication is needed. Our data were selected among Dutch-speaking persons in Belgium and started from the Dutch translation of the BDI-II. In order to exclude culture-specific effects, replication in other populations and

with other versions of the scale are needed. Secondly, the study has a weakness at the level of sampling because DSM diagnoses for the clinical group were not obtained by a standardized interview, which makes it difficult to make conclusions about specific diagnostic groups. A third limitation is that no information on convergent or divergent validity of the shortened versions was discussed.

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Table 2: *Overview of the factors and items from 9 shortened BDI-II factor-structure models. Models were Developed based on confirmatory factor analysis and an item deletion in a clinical and a non-clinical sample. Alpha Clin. = Chronbach Alpha of the subscale in the clinical group. Alpha Non-Clin.= Chronbach Alpha of the subscale in the non-clinical group*

Model	Factor	Alpha Clin.	Alpha Non-Clin.	BDI-II item loading on factor																			
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Beck et al. 1999	Cognitive	0.828	0.824	X	X	X			X	X		X					X							
	Somatic/affective	0.809	0.756				X						X	X	X			X	X		X	X		X
Steer et al. 1999	Cognitive	0.823	0.787			X		X	X	X	X	X					X							
	Somatic/affective	0.802	0.756				X						X		X			X		X	X	X		X
Osman et al. 1997	Negative attitude	0.834	0.814		X	X		X	X	X	X	X	X				X							
	Performance	0.792	0.691				X								X			X				X		
	Somatic	0.633	0.554										X	X					X		X			X
Dozios et al. 1998	Cognitive-affective	0.809	0.763			X		X	X	X	X	X				X								
	Somatic-vegatative	0.782	0.726				X						X	X	X				X		X	X		X
Endler et al. 1999	Cognitive affective	0.819	0.775		X			X	X	X	X	X				X								
	Physiological	0.755	0.710										X	X	X						X	X	X	X
Whisman et al. 2000	Cognitive-affective	0.754	0.728	X					X	X			X			X	X							X
	Somatic	0.586	0.551																X		X	X		
Arnau et al. 2001	Somatic-affective	0.805	0.744				X								X			X		X	X	X		X
	Cognitive	0.758	0.721					X	X	X	X		X				X							
Beck et al. 2002	Cognitive	0.803	0.731					X	X	X	X					X	X							
	Somatic	0.721	0.703										X	X					X	X	X	X		X
	Affective	0.789	0.722	X	X		X					X												
Helm and Boward	Cognitive-affective	0.817	0.824	X	X	X			X	X		X	X				X							
2003	Physiological	0.771	0.724											X	X				X		X	X	X	X

Nederlandstalige Samenvatting

Hysterische en Obsessionele Depressie: Een Psychometrische Studie

Het fenomeen dat in deze doctoraatsverhandeling bestudeerd werd is het neurotisch symptoom in al zijn verscheidenheid. De theoretische basis van waaruit we daarbij vertrokken is de klassieke psychoanalytische theorie omtrent de neurose. Teneinde deze theorie empirisch te onderzoeken vertaalden we haar in een aantal toetsbare uitspraken. We vertrokken daarbij van de Freudiaanse theorie over het Oedipus-complex, begrepen als de onderliggende structuur van alle neurotische symptomen. We stelden dat er twee interpersoonlijke dimensies kunnen onderscheiden worden in het Oedipuscomplex.: een obsessionele dimensie die voornamelijk gebaseerd is op de anale drift en die gericht is op afstand en isolatie van de ander, en een hysterische dimensie die voornamelijk een manifestatie is van de orale drift en die gericht is op fusie met de ander. De hypothese was dat deze twee interpersoonlijke dimensies verbonden zijn met verschillende types neurotische symptomen: de hysterische interpersoonlijke dimensie is verbonden met lichamelijke symptomen, fobieën en angst; de obsessionele interpersoonlijke dimensie met obsessionele symptomen (bvb. obsessionele ideeën, dwanggedachten, pathologische twijfel, remmingen,…). Bovendien zouden allebei de interpersoonlijke dimensies geassocieerd zijn met depressieve symptomen. In meer algemene termen vermoedden wij dat de hysterische en obsessionele dimensie geassocieerd zijn met symptomen die zich respectievelijk manifesteren op lichamelijk en cognitief niveau.

Deze hypothesen omtrent associaties tussen interpersoonlijke trekken en neurotische symptomen werden reeds gedurende drie decennia empirisch-kwantitatief onderzocht vanuit de theorie van Blatt (1974, 2004). Deze theorie is psychoanalytisch geïnspireerd en kan gezien worden als het Angelsaksische equivalent van de Freudiaanse theorie over hysterie en dwangneurose. Vanuit deze theorie werden complexe theoretische stellingen omtrent anaclitische of hysterische en introjectieve of obsessionele persoonlijkheidsstijl getoetst. Echter, recentelijk werd dit onderzoeksparadigma sterk bekritiseerd door Coyne en Whiffen (1995) en Coyne, Thompson en Whiffen (2004). Deze auteurs stellen dat, alvorens complexe theoretische kwesties onderzocht worden, er eerst meer onderzoek zou moeten komen naar de validiteit van de instrumenten die gebruikt worden om de persoonlijkheidsstijlen te meten. Meer in het bijzonder betwijfelen Coyne en zijn collega's of (1) de persoonlijkheidsstijlen gemeten kunnen worden als twee onafhankelijke

variabelen aan de hand van een vragenlijst met een theoretisch consistente interne structuur, (2) of de scores op deze vragenlijst in de theoretisch voorspelde richting correleren met de verschillende types neurotische symptomen, (3) of de scores op die vragenlijst wel degelijk de complexe psychoanalytische constructen meten die ze bedoelen te meten. Coyne en zijn collega's benadrukken daarbij dat voorafgaand onderzoek naar de validiteit van de meetinstrumenten steeds in studentensteekproeven gebeurde, terwijl het onderzoeksparadigma eigenlijk beoogt om uitspraken te doen over klinische groepen. Bovendien suggereren deze auteurs dat het huidig meest gebruikte instrument om de persoonlijkheidsstijlen te meten - namelijk de Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) – artificieel hoge correlaties met maten voor depressieve symptomen genereert doordat er een hoge inhoudelijke overlap is met de items van vragenlijsten die pijlen naar depressieve symptomen. We gingen in grote lijnen akkoord met de oproep van deze auteurs naar degelijk onderzoek naar de validiteit van de instrumenten om de hysterische en obsessionele interpersoonlijke stijl te meten en we vertaalden de voornaamste punten van kritiek in drie hypothesen

- Hypothese 1: De twee interpersoonlijke dimensies kunnen gemeten worden aan de hand van een vragenlijst met een theoretisch consistente interne structuur in klinische steekproeven. De correlaties tussen de twee dimensies zullen niet hoger zijn dan .60.
- Hypothese 2: Scores op deze vragenlijst vertonen de theoretisch voorspelde associaties met maten van neurotische symptomen in klinische steekproeven (i.e. de symptoom specificiteitshypothese).
- Hypothese 3: Scores op deze vragenlijst zijn geassocieerd met ratings door clinici van patiënten op de complexe psychoanalytische dimensies van hysterie en obsessionele neurose.

In functie van deze hypothesen evalueerden we verschillende vragenlijsten in niet-klinische zowel als in klinische steekproeven. Hypothese 1 en 3 werden hoofdzakelijk onderzocht in heterogene klinische steekproeven en in studentensteekproeven. Om methodologische redenen werd gekozen om hypothese 2, die rechtstreeks focust op associaties tussen de interpersoonlijke dimensies en neurotische symptomen, hoofdzakelijk in steekproeven van depressieve patiënten te onderzoeken.

Resultaten

Deel I: Het meten van hysterische en obsessionele depressie aan de hand van de Depressive Experiences Questionnaire

De eerste vragenlijst die we onderzochten is de DEQ. Dit instrument bestaat uit 66 items en werd aanvankelijk *niet* geconstrueerd om anaclitische en

introjectieve persoonlijkheidsstijl te meten, maar wel om subjectieve depressieve ervaringen te meten. Toen Blatt en zijn collega's echter een exploratorische factoranalyse deden op de responses van studenten op de items, vonden ze dat de items die laadden op de twee belangrijkste factoren anaclitische en introjectieve persoonlijkheidstrekken weerspiegelden. Blatt et al. (1976) raden aan om de DEQ te scoren – in klinische steekproeven zowel als in studentensteekproeven – aan de hand van een scoringsprogramma dat factorscores berekent op basis van de factorladingen in de oorspronkelijke studentensteekproef. Naast deze originele scoringsprocedures werden een zestal verkorte versies van de DEQ ontwikkeld die unit-weighted gescoord worden.

In *Hoofdstuk 1* toetsten we de hypothese dat de anaclitische en de introjectieve stijl geassocieerd zijn met somatische en cognitieve depressieve symptomen (i.e. hypothese 2). De persoonlijkheidsstijlen werden geoperationaliseerd aan de hand van de DEQ; de twee types depressieve symptomen aan de hand van de Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). Om de DEQ te scoren gebruikten we in de hoofdstuk het originele scoringsprogramma. De aantrekkelijke idee dat het onderscheid tussen cognitieve en somatische symptomen, dat algemeen teruggevonden wordt in de factorstructuur van vragenlijsten die peilen naar depressieve symptomen (e.g. Beck et al., 1996), gebaseerd zou zijn op een overeenkomstig onderscheid op het niveau van de onderliggende persoonlijkheidstrekken, werd voordien slechts één keer onderzocht (en ook bevestigd) in een studentensteekproef (zie Blatt et al., 1976). Dit idee werd echter nooit onderzocht in een klinische steekproef. Daarom testten we deze hypothese in een steekproef van depressieve patiënten (N = 163). Zoals voorspeld observeerden we dat de introjectieve stijl significant sterker geassocieerd was met cognitieve depressieve symptomen dan de anaclitische stijl. Echter, in tegenspraak met onze voorspellingen werd geen specifieke associatie gevonden tussen de anaclitische stijl en somatische symptomen. Verder leverden bijkomende analyses twee resultaten op die suggereerden dat de specifieke associatie tussen introjectieve stijl en cognitieve symptomen tot op zekere hoogte artificieel was. Ten eerste observeerden we dat introjectieve stijl sterker geassocieerd was met *alle* depressieve symptomen, somatische zowel als cognitieve. Ten tweede toonden analyses van de associaties tussen de persoonlijkheidsstijlen en individuele depressieve symptomen aan dat de enige symptomen die significant meer met introjectieve dan met anaclitische stijl geassocieerd waren, deze symptomen waren die extreme inhoudelijke overlap vertoonden met de items van de introjectieve schaal van de DEQ. Dit betekent dat de meest plausibele verklaring voor onze observaties is dat introjectieve stijl sterkere associaties vertoonde met cognitieve depressieve symptomen *niet omdat er een empirische associatie bestaat tussen deze twee entiteiten, maar omdat de vragenlijsten die gebruikt worden om ze te meten uit overeenkomstige items bestaan.* Onze resultaten bevestigen dus de kritiek van Coyne en Whiffen (1995) dat er een artificiële inflatie is van de geobserveerde correlaties tussen introjectieve stijl en depressieve symptomen

doordat de DEQ items inhoudelijke overlap vertonen met de items van de instrumenten die gebruikt worden om depressieve symptomen te meten.

In *Hoofdstuk 2* onderzochten we dezelfde hypothesen als in hoofdstuk 1 in een kleine steekproef van neurotische patiënten (N = 32). Echter, in de plaats van de DEQ te gebruiken, gebruikten we ratings van clinici van ongestructureerde interviews als operationalisaties van de interpersoonlijke dimensies. Om onze hypothesen te toetsen, correleerden we deze ratings met de scores van de patiënten op de somatische en cognitieve subschaal van de BDI-II. De veronderstelde associaties werden niet teruggevonden. We vonden dat de ratings op zowel de hysterische als de obsessionele dimensie significant en ongeveer even sterk geassocieerd waren met zowel somatische als cognitieve depressieve symptomen.

Om na te gaan in hoeverre de negatieve resultaten in hoofdstuk 1 het gevolg waren van het gebruik van het originele scoringsprogramma, besloten we de validiteit van de verschillende scoringsprocedures van de DEQ met elkaar te vergelijken in *Hoofdstuk 3*. We onderzochten de interne structuur van zeven verschillende versies van de DEQ – geassocieerd met zeven verschillende scoringsprocedures – in een studentensteekproef (N = 636) en in een heterogene klinische steekproef (N = 404) aan de hand van Confirmatorische Factor Analyse (CFA). We besteedden daarbij specifieke aandacht aan de grootte van de intercorrelaties tussen de anaclitische en introjectieve stijl, aangezien dit één van de kritieken van Coyne en Whiffen (1995) was: de intercorrelaties tussen de twee stijlen, zoals ze gemeten worden door de DEQ, zijn zo hoog in klinische steekproeven dat het twijfelachtig is of men ze wel als afzonderlijke trekken kan beschouwen. Verder onderzochten we voor de verschillende versies van de DEQ de associatie tussen de persoonlijkheidsstijlen en verschillende types van depressieve symptomen en interpersoonlijke problemen. We stelden de hypotheses dat de anaclitische stijl geassocieerd is met somatische symptomen en met non-assertief, overmatig aanpassend en zelfopofferend interpersoonlijk gedrag en dat de introjectieve stijl geassocieerd is met cognitieve symptomen en met vindicatief, koud/afstandelijk en sociaal geïnhibeerd interpersoonlijk gedrag. De CFA tests toonden dat het onderliggende model van de McGill scoringsprocedure een extreem slechte fit opleverde in beide steekproeven. De andere modellen toonden acceptabele (originele scoringsprocedure, RevDEQ, en RecDEQ) tot goede fit (TDEQ-21 en TDEQ-12)[1]. Zoals verwacht, genereerden de McGill en de originele

[1] In de tekst worden enkel de afgekorte namen voor de verschillende versies van de DEQ gegeven.. Voluit geschreven staan deze afkortingen echter voor het volgende: DEQ = originele Depressive Experiences Questionnaire; TDEQ-21 = Theoretical DEQ with 21 items (Viglione, Lovette, Gotlieb, & Friedberg, 1995); TDEQ-12 = Theoretical DEQ with 12 items (Viglione et al., 1995);; McGill DEQ = McGill revision of the DEQ (Santor, Zuroff, & Fielding, 1997); RecDEQ = Reconstructed DEQ (Bagby, Parker, Joffe, & Buis, 1994); en RevDEQ = Revised DEQ (Welkowitz, Lish, & Bond, 1985).

procedure scores op anaclitische en introjectieve stijl die nauwelijks gecorreleerd waren (r tussen -.01 en .11). Echter, verdere analyses toonden dat deze orthogonaliteit voor beide procedures verkregen werd op een twijfelachtige manier. De originele procedure genereerde orthogonale scores omdat het scoringsprogramma gestandaardiseerde factor scores berekent gebaseerd op een orthogonale rotatie van de onderliggende factoren; de McGill procedure genereerde orthogonale scores omdat 12 items die verondersteld worden in tegenovergestelde richting op beide factoren te laden, in omgekeerde richting gescoord worden op de twee persoonlijkheidsstijlen. Echter, parameterschattingen van de relatie tussen de latente factoren van de persoonlijkheidsstijlen voor zowel de originele als de McGill procedure waren hoog (r tussen .62 en .83), wat in strijd is met de orthogonaliteit van de scores. Bovendien waren er andere argumenten die suggereerden dat de orthogonaliteit van de scores artificieel was. De CFA's toonden duidelijk aan dat de veronderstelling van tegengestelde ladingen van de 12 items in de McGill procedure in strijd is met de empirie, aangezien de meerderheid van deze items *in dezelfde richting* laadde op de twee onderliggende factoren. Met betrekking tot de originele scoringsprocedure toonden we in *Hoofdstuk 4* aan dat het gebruik in klinische steekproeven van het scoringsprogramma, gebaseerd op een factoranalyse van studentendata, hoogst twijfelachtig is. Om dit te onderzoeken extraheerden we, net zoals Blatt et al. (1976), aan de hand van Principale Componenten Analyse (PCA) drie factoren uit een klinische steekproef (N = 404), en we roteerden onze factoroplossing naar de factoroplossing van Blatt en zijn collega's toe aan de hand van Procrustes-rotatie. Vervolgens gebruikten we de geroteerde factorladingen om een alternatief scoringsprogramma te construeren. Dit programma was exact hetzelfde als het originele programma, behalve dat het op klinische in plaats van op studentendata gebaseerd was. We toonden echter aan dat de scores gegenereerd door het studentenprogramma significant verschilden van de scores gegenereerd door het klinische programma. Dus, het studentenprogramma 'dwong' patiënten in een studentenfactorstructuur die niet op hen van toepassing was.

In dezelfde lijn als wat vorige studies vonden (Franche & Dobson, 1992; Klein, 1989; Riley & McCranie, 1990), vonden we dat de unit-weighted procedures van de overige DEQ versies middelmatig hoge tot hoge intercorrelaties tussen de twee stijlen (r tussen .42 en .62) opleverden. Eveneens in overeenkomst met vorige studies vonden we dat de RecDEQ de laagste intercorrelaties opleverde. Bijkomende CFA's toonden dat voor de unit-weighted scoringsprocedures modellen met general complaint factor significant beter fitten dan modellen zonder een dergelijke factor. In sommige gevallen kan een general complaint factor verwijderd worden met een ipsatisatie-procedure. Zoals Zuroff et al. (2004) opmerkten is ipsatisatie belangrijk om de intra-individuele stabiliteit van het persoonlijkheidsprofiel over tijd te bestuderen. Daarom ipsatiseerden we de data voor alle verkorte versies en fitten de modellen opnieuw. Alleen het RecDEQ model fitte de geïpsatiseerde data goed. Belangrijk is dat de hypothetische associaties van de

persoonlijkheidstrekken met de twee types depressieve symptomen alleen gevonden werden als de scores op beide variabelen geïpsatiseerd werden. In contrast met de resultaten van de CFA's vonden we dat de associaties met de verschillende types interpersoonlijke problemen conform de theoretische predicties waren voor alle versies van de DEQ, uitgezonderd voor de TDEQ-21 en de TDEQ-12. Over het algemeen concludeerden we dat de RecDEQ de beste psychometrische eigenschappen demonstreerde: dit model fitte zowel ruwe als geïpsatiseerde data goed; in contrast met de originele en de McGill scoringsprocedure is de procedure om de RecDEQ te scoren eenvoudig en transparant; de intercorrelaties tussen de anaclitische en de introjectieve schaal van de RecDEQ zijn voldoende laag (r lager dan .60, zie onderzoekshypothese 1); en de RecDEQ persoonlijkheidsstijlen correleren in de theoretisch voorspelde richting met verschillende types depressieve symptomen (alleen na ipsatisatie) en interpersoonlijke problemen (zowel met als zonder ipsatisatie).

In Hoofdstuk 5 evalueerden we de mate van convergentie tussen de ratings van clinici op hysterie en obsessionele neurose en de scores op de schalen van de verschillende DEQ versies (i.e. hypothese 3). Dit onderzoek gebeurde in een steekproef van 52 neurotische patiënten, gebalanceerd voor geslacht. Zoals voorspeld vonden we in de volledige steekproef significante correlaties tussen de anaclitische DEQ schaal en de ratings op hysterie. Echter, de voorspelde correlaties tussen de introjectieve schaal en de ratings op obsessionele neurose werden niet teruggevonden. In de vrouwelijke steekproef observeerden we gelijkaardige correlaties als in de volledige steekproef, met dit verschil dat tegen de predicties in de introjectieve schaal eveneens correleerde met de ratings op hysterie. Echter, in de mannelijke steekproef werden de voorspelde correlaties voor beide DEQ schalen geobserveerd. In overeenstemming met de resultaten die we verkregen in hoofdstuk 3 vonden we dat de schalen van de RecDEQ en de RevDEQ de meest valide operationalisaties van de theoretische concepten waren. Onze resultaten pleiten dus tegen de stelling van Zuroff et al. (2004) dat de originele en de McGill scoringsprocedure verkozen moeten worden boven de andere, eenvoudige procedures.

Deel II: Het meten van hysterische en obsessionele depressie aan de hand van de Inventory of Interpersonal Problems

In het tweede gedeelte van dit doctoraat gebruikten we de Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000) om de interpersoonlijke component van hysterie en obsessionele neurose te meten. In tegenstelling tot de DEQ bevat de IIP-64 alleen maar items met interpersoonlijke inhoud. Deze vragenlijst werd echter niet speciaal geconstrueerd om interpersoonlijke karakteristieken van hysterie en obsessionele neurose te meten en het blijft dus de vraag of ze sensitief zal zijn voor deze klinische entiteiten. In *Hoofdstuk 6* onderzochten we de interne structuur van de Nederlandse versie van de IIP-64 aan de hand van CFA in

een klinische (N = 382) en in een studentensteekproef (N = 287). Vanuit theoretisch oogpunt veronderstelt men dat de IIP-64 bestaat uit acht schalen die in een circumplex-patroon georganiseerd zijn. We vonden een goede fit van het circumplex model in beide steekproeven. In *Hoofdstuk 7* presenteerden we de resultaten van twee studies. In de eerste studie brachten we in een kleine steekproef van neurotische patiënten (N=32) het hysterisch en obsessioneel IIP-64 profiel in kaart door de scores van de patiënten op de IIP-64 te correleren met de ratings van clinici van ongestructureerde interviews op hysterie en dwangneurose. Het interpersoonlijk profiel dat naar voor kwam uit deze studie was overwegend hetzelfde als hetgeen we in hoofdstuk 3 verkregen met de DEQ: de ratings op hysterie correleerden met non-assertief, overmatig aanpassend, en zelfopofferend gedrag: de ratings op obsessionele neurose correleerden met vindicatief en koud/afstandelijk gedrag. In de tweede studie onderzochten we associaties tussen het hysterische en obsessionele IIP-64 profiel en de verschillende symptoomclusters van de Symptom Check List (SCL-90-R; Derogatis, 1992) in een steekproef van neurotische patiënten (N = 110) en in een studentensteekproef (N = 151). Zoals voorspeld waren fobische klachten, angst, en somatische symptomen sterker geassocieerd met het hysterische dan met het obsessionele interpersoonlijke profiel en vertoonden symptomen die te maken hadden met agressieve impulsen een sterkere associatie met het obsessionele dan met het hysterische profiel. Er waren echter ook twee problematische bevindingen. Ten eerste waren obsessionele symptomen nauwelijks sterker geassocieerd met het obsessionele interpersoonlijke profiel dan met het hysterische profiel. Ten tweede observeerden we in het algemeen een gebrek aan differentiatie tussen de associaties van de symptoomclusters met de interpersoonlijke profielen. Alhoewel de symptoomclusters over het algemeen de sterkste associaties vertoonden met het voorspelde interpersoonlijke profiel was de associatie met het andere profiel ook vaak significant.

Deel III: Het meten van hysterische en obsessionele depressie: De Personal Style Inventory

In het derde deel van dit doctoraat gebruikten we de Personal Style Inventory-II (PSI-II; Robins et al. 1994) om de hysterische en obsessionele interpersoonlijke karakteristieken te meten. In *Hoofdstuk 8* onderzochten we de interne structuur van de PSI-II in een studenten (N = 799) en een heterogene klinische steekproef (N = 266) aan de hand van CFA. Verder onderzochten we ook de associaties van de PSI-II schalen met verschillende types interpersoonlijke problemen (gemeten met de IIP-64) en neurotische symptomen (gemeten met de SCL-90-R). We observeerden een gebrek aan fit van het theoretische model van de PSI-II met de data van een klinische en een studentensteekproef. Echter, na progressieve eliminatie van 18 items verkregen we een goede fit in de klinische steekproef. Deze goede fit werd vervolgens gerepliceerd in de studentensteekproef. Deze verkorte versie (PSI-

III) vertoonde ook een betere constructvaliditeit dan de originele PSI-II, in het bijzonder in een depressieve substeekproef. In deze steekproef was de hysterische dimensie geassocieerd met non-assertief, overmatig aanpassend, en zelfopofferend interpersoonlijk gedrag, en met depressieve symptomen, fobische klachten, angst, en somatische symptomen; de obsessionele dimensie was geassocieerd met koud/afstandelijk en vindicatief interpersoonlijk gedrag en met obsessionele symptomen en symptomen die te maken hebben met agressieve neigingen. Verder vertoonden de scores op de schalen van de PSI-III ook de voorspelde geslachtsverschillen, terwijl dit bij de PSI-II niet het geval was. In *Hoofdstuk 9* probeerden we de bevindingen uit het voorgaande hoofdstuk te repliceren in een heterogene klinische steekproef (N = 114) en in een steekproef van depressieve patiënten (N = 52). Verder toetsten we een aantal bijkomende hypothesen omtrent het verband tussen de hysterische en obsessionele interpersoonlijke dimensie enerzijds en somatische en cognitieve symptomen anderzijds. Net zoals in het voorgaande hoofdstuk vergeleken we de PSI-II met de PSI-III. Over het algemeen observeerden we een gebrek aan verschil in sterkte tussen de associaties van de hysterische en de obsessionele interpersoonlijke dimensie met de verschillende symptoomclusters, in het bijzonder in de heterogene steekproef. Niettemin vertoonden de symptoomclusters over het algemeen in beide steekproeven de hoogste associaties met de voorspelde interpersoonlijke dimensie: de hysterische dimensie vertoonde de hoogste associaties met fobische klachten, angst, en somatische depressieve symptomen (van de BDI-II); de obsessionele dimensie vertoonde de hoogste associaties met symptomen die te maken hebben met agressieve neigingen en met cognitieve depressieve symptomen. Aan de andere kant vertoonden twee theoretisch belangrijke symptoomclusters het sterkste verband met de niet-voorspelde interpersoonlijke dimensie: obsessionele symptomen waren sterker geassocieerd met de hysterische stijl en somatische symptomen (van de SCL-90-R) was sterkst geassocieerd met de obsessionele stijl.

Discussie en Conclusie

We besluiten met een beknopte evaluatie van onze resultaten in functie van de drie onderzoekshypothesen die onze leidraad waren in dit project. Daarbij zullen we ook naar de kritiek van Coyne en Whiffen (1995) en Coyne et al. (2004) refereren waarvan de onderzoekshypothesen werden afgeleid (zie inleiding).

De eerste hypothese stelde dat het mogelijk was om de hysterische en obsessionele interpersoonlijke dimensie te meten aan de hand van een vragenlijst met een theoretisch consistente interne structuur in klinische steekproeven. We onderzochten deze hypothese met drie verschillende vragenlijsten: de DEQ, de IIP-64 en de PSI. Met betrekking tot de DEQ vulde ons onderzoek twee leemtes op: (1) we waren de eerste om de verschillende versies van de DEQ te bestuderen aan de hand van CFA's en (2) we waren de

eersten om het te bestuderen in een klinische steekproef die voldoende groot was. Ons onderzoek toonde aan dat de interne structuur van twee verkorte versies van de DEQ met een eenvoudige scoringsprocedure – namelijk de RecDEQ en de RevDEQ – een beter fit opleverden dan de interne structuur van de complexe originele en McGill scoringsprocedure. Met betrekking tot de interne structuur van de IIP-64 vonden we een acceptabele fit van het circumplexmodel met acht schalen in de klinische zowel als in de studentensteekproef. Met betrekking tot de interne structuur van de PSI-II vonden we een slechte fit van het theoretische model voor de originele versie. Een verkorte versie – die we de PSI-III noemden – leverde echter zowel in een klinische als in een studentensteekproef een goede fit op. Voor elk van de drie vragenlijsten toonden CFA-tests aan dat modellen met twee afzonderlijke factoren voor de interpersoonlijke dimensies beter fitten dan modellen waar de twee dimensies in één factor gecomprimeerd zijn. Verder was het zo dat alle geobserveerde intercorrelaties tussen de twee dimensies lager waren dan .60 (met uitzondering van één correlatie van .62 in een studentensteekproef met de RevDEQ, zie hoofdstuk 3). Dit betekent dat de correlaties beneden de cutoff waarde van .60 lagen en dat de kritiek van Coyne en Whiffen (1995) – namelijk dat het onmogelijk zou zijn om de hysterische en obsessionele dimensies als onderscheiden variabelen met voldoende lage intercorrelaties te meten – niet terecht is.

De tweede onderzoekshypothese stelde dat scores op de vragenlijsten die de hysterische en obsessionele interpersoonlijke dimensies meten, de verwachtte verbanden zouden vertonen met scores op vragenlijsten die verschillende types neurotische symptomen meten. Met elk van de vragenlijsten – de DEQ, de IIP-64, en de PSI – werden significante associaties gevonden met een verscheidenheid aan types van neurotische symptomen. Met de DEQ vonden we dat de anaclitische stijl geassocieerd is met somatische symptomen en dat de introjectieve stijl geassocieerd is met cognitieve symptomen, echter alleen onder de voorwaarde dat de scores op zowel de vragenlijsten die de persoonlijkheidsstijlen meten als de vragenlijsten die de symptomen meten geïpsatiseerd werden. Verder toonden onze resultaten aan dat er wel degelijk een artificiële inflatie is van de correlaties tussen de DEQ en vragenlijsten die depressieve symptomatologie meten door inhoudelijke overlap tussen de items. Daarom besloten we dat de DEQ een interessant instrument is om globale persoonlijkheidsstijlen te meten, aangezien het complexe clusters van intra- en interpersoonlijke karakteristieken en symptomen meet, maar dat de DEQ niet geschikt is om associaties te onderzoeken tussen interpersoonlijke karakteristieken en symptomen. Tot dit doel gebruiken we beter maten als de IIP-64 of de PSI, aangezien deze vragenlijsten louter interpersoonlijke karakteristieken meten. Met de IIP-64 besloten we dat de hysterische en obsessionele interpersoonlijke stijl significant geassocieerd waren met vrijwel alle clusters van neurotische symptomen. Echter, de voorspelde differentiële correlaties werden niet geobserveerd. In contrast met de resultaten verkregen met de DEQ en de IIP-64 vonden we met de PSI dat deze vragenlijst twee sets van

interpersoonlijke karakteristieken mat die op de theoretisch voorspelde manier met verschillende types neurotische symptomen van de SCL-90-R geassocieerd waren. Bovendien konden we aantonen dat deze associaties niet veroorzaakt werden door inhoudelijke overlap tussen de items van de vragenlijsten. Echter, replicatie van onze bevindingen in een tweede klinische steekproef mislukte.

De derde onderzoekshypothese stelde dat scores op de vragenlijsten die de interpersoonlijke dimensies meten significant zouden correleren met ratings van clinici op de complexe psychoanalytische dimensies van de hysterie en de dwangneurose. Deze hypothese werd alleen getoetst voor de DEQ en de IIP-64. We vonden dat scores op beide vragenlijsten convergeerden met de ratings van clinici, en dit in de mate waarin goed gevalideerde vragenlijsten gewoonlijk convergeren met ratings van clinici (correlaties tussen .20 en .50, zie Meyer et al., 2001). Voor de DEQ testten we de convergentie in de vrouwelijke en in de mannelijke steekproef afzonderlijk en vonden we de voorspelde convergentie niet terug voor de obsessionele dimensie in de vrouwelijke sample. Over het algemeen besluiten we echter met betrekking tot de derde kritiek van Coyne en Whiffen (1995) dat we geen evidentie vonden voor de gesuggereerde dramatische kloof tussen de constructen gemeten door de vragenlijsten en de psychoanalytische klinische entiteiten die ze bedoelen te meten.

Verder onderzoek lijkt vooral met betrekking tot de laatste twee onderzoekshypothesen nodig te zijn. Met betrekking tot de associaties van de twee persoonlijkheidsstijlen met verschillende types neurotische symptomen vonden we dat de hypothesen slechts partieel bevestigd werden. Verder onderzoek zou daarom moeten uitmaken in welke mate de onderzoeksmethode de resultaten beïnvloedde. Bij het berekenen van correlaties tussen scores op twee vragenlijsten krijgen we bijna altijd een inflatie van de empirische correlaties als een effect van gemeenschappelijke errorvariantie die eigen is aan vragenlijstenmetingen (zie Meyer et al., 2001). Deze artificiële inflatie kan mogelijks verantwoordelijk zijn voor het gebrek aan differentiatie tussen de associaties dat we vaststelden en dus zou het interessant zijn mocht toekomstig onderzoek aan de hand van een andere methode neurotische symptomen operationaliseren. Met betrekking tot de convergentie tussen de scores op de vragenlijsten en klinische ratings op hysterie en dwangneurose zou het interessant zijn mochten clinici in toekomstig onderzoek gebruik maken van coderingsschema's. Dit zou de link van de gecodeerde klinische entiteiten met de theoretische constructen duidelijker maken en zou in het geheel resulteren in grotere transparantie van het codeerproces. Bovendien is het ook ten zeerste aangewezen dat toekomstig onderzoek meer dan twee codeurs betrekt in het proces.

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Redactiesecretariaat: Universiteit Gent, Vakgroep Psychoanalyse en Raadplegingspsychologie, H.Dunantlaan 2, 9000 Gent