Alexithymia and interpersonal functioning in psychiatric patients:
An empirical study

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Proefschrift ingediend tot het behalen van de academische graad
van Doctor in de Psychologie

2011
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AKNOWLEDGEMENTS

This doctoral dissertation was written while I was working at the Department of Psychoanalysis and Clinical Consulting and the research was supported by the Special Funds of Ghent University. I want to thank both institutions for providing me the opportunity to write this dissertation. I also want to thank Prof. Dr. Paul Verhaeghe and Prof. Dr. Stijn Vanheule for creating this opportunity. Special thanks go to my promotor Prof. Dr. Stijn Vanheule for his motivating guidance and always being prepared to read my texts and providing fruitful advice and new perspectives. I would also like to thank Prof. Dr. Johnny Fontaine, Prof. Dr. Filip De Fruyt and Dr. Mattias Desmet for their membership of my guidance committee and for their constructive feedback on this project.

Furthermore I want to thank all colleagues at the department for their useful suggestions at our meetings and for creating a stimulating environment to work in. Some of them deserve a special note. I want to thank Eline and Virginie for their careful coding work and interesting (clinical) discussions, Reitske for always reading my texts thoroughly and the many discussions on research topics and other things in life, Clare for the careful editing work and Els for her practical help. I also want to thank the hospitals and the psychologists there for participating in our research project and for making time to ask patients to participate and fill in questionnaires. Special thanks goes also to the patients for willing to fill in questionnaires and provide us in the interviews with their perspective on their lives.

Finally I want to thank my family and friends for their support and the nice moments I had with them. My friends for their enjoyable presence, animated discussions and laughter during holidays, dinner evenings or other activities, Bert’s parents for their helping hands when we were rebuilding our house and for their encouraging words. Finally I want to thank my parents for giving me the opportunity, support and freedom to find out which roads I wanted to take in life. And last but not least, I want to thank Bert for being my loving partner on this road and for being there both in difficult moments and in moments of joy, but also for helping me so much in these last busy months.
The aim of this doctoral dissertation is to investigate the association between alexithymia and interpersonal functioning. The concept of alexithymia was first coined by Peter Sifneos based on his clinical experience with patients affected by psychosomatic illness. With the concept of alexithymia he drew attention to the difficulties patients displayed in psychically experiencing and verbalizing affects (Sifneos, 1973). In relation to the problems encountered in psychosomatic patients, Nemiah and Sifneos (1970) distinguished two main features of their psychic life. The first feature noted was “a striking incapacity of the verbal description and expression of feelings”; the second feature noted was that these patients’ associations and thoughts refer to “external events and actions rather than to internal fantasies” (Nemiah and Sifneos, 1970, p. 159). Based on Nemiah and Sifneos’ conceptualization, Taylor, Bagby, and Parker more recently formulated a definition of alexithymia that consists of four interrelated facets: (1) difficulty identifying feelings and distinguishing between feelings and the bodily sensations of emotional arousal; (2) difficulty describing feelings to other people; (3) restricted imaginal processes, as evidenced by a paucity of fantasies; and (4) a stimulus-bound, externally orientated cognitive style (Taylor, Bagby, & Parker, 1997, p. 29).

From the nineteen seventies onwards, interest in alexithymia has moved beyond the psychosomatic clinic. Indeed, research on the construct of alexithymia has grown exponentially, as illustrated by the more than 16000 hits in the database PubMed for the search term ‘alexithymia’ (retrieved August 2011). Alexithymia has been investigated in relation to various medical and psychiatric disorders, including depression (e.g. Honkalampi, Hintikka, Saarinen, Lehtonen, & Viinamäki, 2000), anxiety disorders (e.g. Hendryx, Haviland, & Shaw, 1991), post traumatic stress disorder (e.g. Frewen et al., 2008) and somatization disorders (e.g. De Gucht & Heiser, 2003) (for an overview see Taylor et al., 1997; Taylor & Bagby, 2004). Nowadays alexithymia is considered a transnosographic clinical dimension. It is
conceptualized as a dimensional construct that is distributed normally in the general population (Franz, et al., 2008; Parker, Keefer, Taylor & Bagby, 2008). Nevertheless, few prevalence studies have been executed. In two studies with large Finnish and German populations prevalence rates (TAS-20 score > 61) of almost ten percent have been observed (Franz et al., 2008; Mattila, Salminen, Nummi, & Joukamaa, 2006). However, these studies used the self-report 20-item Toronto Alexithymia Scale (TAS-20) as the sole measurement method and thus the findings should be interpreted cautiously.

For Taylor and colleagues (2007) alexithymia is indicative of deficits both in the cognitive-experiential domain of emotion response systems and in the interpersonal regulation of emotions. The association between alexithymia and interpersonal functioning is touched upon in the early clinical research on the concept of alexithymia, but is often only referred to in an anecdotal way or limited to a discussion of the therapeutic alliance. In the last decade, however, this topic has gained popularity in empirical research. Notwithstanding this recent interest, we believe that the broader question of the association between affect regulation and interpersonal functioning can find its predecessor in the works of Freud. We therefore believe that a study of the association between alexithymia and interpersonal functioning from a psychoanalytic perspective should start there.

Chapter 1 comprises the general introduction to this dissertation. In this chapter we discuss two of Freud’s concepts, ‘the actual neuroses’ and the concept of ‘binding’, which lay the foundation for further theoretical and clinical writing on the topic of alexithymia and interpersonal functioning. Next to that, we briefly outline the literature concerning the association between alexithymia and interpersonal functioning. We also introduce the aim of this study, our research questions and the measures used.

In Chapter 2 we discuss the first clinical insights into the subject of interpersonal problems in alexithymia in more detail and provide an
overview of the empirical literature on the topic. Next to that, we consider the recent theoretical developments in the areas of affect regulation, mentalization and interpersonal functioning that indicate why an association between alexithymia and specific interpersonal problems is expected.

Chapter 3 and 4 focus on the validity of two of the main measures used in this study. In Chapter 3 the reliability, factor structure and convergent validity of the Toronto Structured Interview for Alexithymia (TSIA; Bagby, Taylor, Parker, & Dickens, 2006) is examined. Confirmatory factor analyses are used to examine different factor models. In Chapter 4 the Social Cognition and Object Relations Scale (SCORS) is investigated. The SCORS assesses social cognition and object relations, understood to be processes that mediate interpersonal functioning. This study examines the reliability and convergent validity of two versions of the SCORS, one for use with Thematic Apperception Test narratives (SCORS-TAT; Westen, 1990) and one for use with clinical interview data (SCORS-CDI; Westen, Barends, Leigh, Mendel, & Silbert, 1990). Four SCORS dimensions are evaluated. Regression analyses are used to examine whether the presence of a personality disorder operates as a moderator for the convergence between corresponding dimensions.

Chapter 5 includes a quantitative study of the relation between alexithymia and interpersonal functioning. In this chapter self-reported interpersonal problems and cognitive-structural aspects of internal interpersonal representations in narratives are examined. Alexithymia is measured using the TSIA and the 20-item Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994). To measure interpersonal problems, dominance and affiliation scores of the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000) are used and cognitive-structural characteristics of interpersonal representations are measured using the Social Cognition and Object Relations Scale (SCORS) coding system.
In Chapter 6 we explore whether and how cold and detached interpersonal functioning and impaired mentalizing capacities, understood to be typical of alexithymic patients (Vanheule, Inslegers, Meganck, Ooms, & Desmet, 2010), are evident in interpersonal accounts retrieved from clinical interviews of alexithymic patients. This is examined in Clinical Diagnostic Interviews (CDI) with ten patients scoring high for alexithymia in the TSIA, selected from the sample of 74 psychiatric inpatients.

Finally, Chapter 7 comprises a general discussion in which we integrate the findings of the different studies presented in this dissertation. The theoretical and clinical relevance of our findings is considered. Limitations of each study are discussed and directions for further research are given.
REFERENCES


GENERAL INTRODUCTION

In this first chapter we discuss the development of the alexithymia construct and investigate how Freud’s conceptualization of mental problems can lead us to recent theories about affect regulation and interpersonal functioning. We give an overview of some recent theoretical developments about the association between affect regulation and interpersonal functioning. We conclude this general introduction by indicating the shortcomings of recent empirical research into this subject and a discussion of how the research questions, design and measures used in this study address these issues.
INTRODUCTION

The concept of alexithymia was introduced by Sifneos based on his clinical experience with patients with psychosomatic illness. With the concept of alexithymia he drew attention to the difficulties patients displayed in psychically experiencing and verbalizing affects (Sifneos, 1973). In relation to the problems encountered with psychosomatic patients, Nemiah and Sifneos (1970) distinguished two main features of their psychic life. The first feature noted was “a striking incapacity of the verbal description and expression of feelings”; the second feature noted was that these patients’ associations and thoughts refer to “external events and actions rather than to internal fantasies” (Nemiah & Sifneos, 1970, p. 159). Authors such as Pierre Marty (Marty, 1990; Marty, de M’Uzan, & David, 1963), Henry Krystal (1979; 1988) and more recently McDougall (e.g. McDougall, & Coen, 2000), Mitrani (1995) and Verhaeghe, Vanheule and De Rick (2007) discuss similar problems in affect regulation and mentalization in psychosomatic patients. Many of these authors refer to Freud’s concepts of actual neurosis and binding when discussing the interplay between affect regulation and mentalization in patients suffering from psychosomatic diseases. McDougall (1980; 1984) describes how the phenomena observed in anxiety neurosis and neurasthenia should be considered as signs and follow somatic, rather than psychic laws. She also refers to Freud when describing two types of somatization: hysterical conversion on the one hand and actual neurosis on the other. In hysterical conversion a leap is made from the psychic to the somatic, whereas in actual neurosis it is exactly the other way around. There we find the movement in the opposite direction, namely from the somatic to the psychic sphere. In 1995 Mitrani introduces the concept of

1 Although various terms are used to denote the ability to make sense of mental states (e.g. mentalization, theory of mind, social cognition, psychological mindedness), these terms seem to refer to similar processes. We use these terms to denote the process by which we realize that having a mind mediates our and other people’s experience of the world and the ability to make and use mental representations of one’s own and other people’s emotional states (see also Dimaggio & Lysaker, 2010; Fonagy, Gergely, Jurist, & Target, 2002).
‘unmentalized experience’ and also refers to Freud’s category of the actual neuroses. An unmentalized experience is described as elementary vague sensations, internal or external, that are not transposed in symbols, mental representations or signal affects. These sensations are received as concrete objects in the psyche or as bodily states; people react to them in a physical way by means of somatic phenomena or actions. Such experiences comprise chains of stimuli that cannot be used for cognitive activities, nor can they be stored as memories (Mitrani, 1995).

In this general introduction we will investigate how Freud’s conceptualization of psychical problems can lead us to recent theories about affect regulation and interpersonal functioning. We will then summarize more recent theoretical developments that may help us show why it is essential to investigate the association between alexithymia and interpersonal functioning. We also give a brief overview of how alexithymia and interpersonal functioning were discussed in the early clinical writings on alexithymia. In Chapter 2 we discuss these early clinical writings on alexithymia in greater detail, and give a more comprehensive overview of the most important recent theoretical frameworks that could guide us in understanding the complex association between problems in affect regulation, mentalization and interpersonal functioning. We conclude this general introduction by indicating the limitations of recent empirical research and discuss how the design and measures used in this study address these limitations.

FREUD’S THEORY

Freud’s concept of the actual neuroses

In Freud’s work two concepts are particularly valuable for understanding the association between affect regulation,
mentalization and interpersonal functioning. Early in his work, he introduced the term *actual neuroses* and placed it in opposition to the neuro-psychoses of defense (later called the psychoneuroses). Whereas the psychoneuroses were studied throughout his work, the actual neuroses obtained far less attention. Freud made a clear distinction between the neuro-psychoses of defense and the actual neuroses, in terms of both their phenomenology and aetiology. The category of the neuro-psychoses of defense contains hysteria, obsessional neurosis and paranoia (Freud, 1894/1924). The category of the actual neuroses is seen by Freud as a continuum with hypochondria at the psychotic pole and the anxiety neurosis at the neurotic pole; neurasthenia can be found in the middle (Freud, 1895/1924; Hartocollis, 2002). The aetiology of the actual neurosis has to be situated, according to Freud, in actual life (Freud, 1914/1925) and psychological mechanisms do not take part in it (Freud, 1898/1924). Nonetheless, he stated that actual neurotic and psychoneurotic symptoms appear mixed and that the actual neuroses and the psychoneuroses make up two ends of a continuum (Freud, 1895/1924).

Freud considered neurasthenia as an actual nervous state comprised only of somatic complaints (Freud, 1896/1924; Hartocollis, 2002). However, for Freud the category of neurasthenia was too broad. He argued that a specific clinical facet should be separated from it and denoted it with the term ‘anxiety neurosis.’ In anxiety neurosis, all components can be situated around the main symptom of anxiety. The anxiety underlying the clinical symptoms of the anxiety neurosis, however, has no origin in psychological conflicts or representations. More specifically, the mechanism of the anxiety must be understood as a deviation of somatic excitation from the physiological sphere subsequently resulting in an abnormal processing of that excitation (Freud, 1895/1924). According to Freud, the specific cause has to be located in the accumulation of sexual tension, caused by abstinence or unconsumed sexual tension (Freud, 1895/1924). Later, Freud added hypochondria as a third actual neurosis (Freud, 1914/1925), which represents the psychotic form of actual neurosis.
Contrary to Freud’s clinical case studies and theoretical elaborations on the psychoneuroses, he did not pay much attention to the interpersonal dynamics characteristic of these patients in his discussion of the category of the actual neuroses. However, in his conceptualization of psychic elaboration or binding, he refers to the importance of early caregivers in the development of these capacities.

*Freud’s concept of binding*

According to Freud (1895/1924; 1912/1958; 1926/1936) the underlying dynamics of the actual neuroses can be located in the interplay between a somatic-sexual factor that serves as a source of excitation coming from within and the subject’s failure to psychically elaborate this excitation and thus discharge it via representations. This implies that the somatic excitation remains at a somatic level and has to be discharged through these channels. As discussed by Verhaeghe, Vanheule and De Rick (2007) the direct somatic-sexual aetiology of the actual neuroses must be seen separately from Freud’s metapsychological theory on causation. They argue that in contrast to direct somatic-sexual aetiologies, which appear to be connected to the specific time and culture, his metapsychological theory still forms an adequate framework for examining the underlying dynamics of the actual neuroses. Freud himself also describes how the ‘specific’ somatic-sexual factors are ambiguous, but that the aetiological factors discerned from them, such as inadequate disburdening (discharge) and psychical insufficiency, have an unambiguous and specific relation to the aetiology of the (actual) neuroses. Moreover, Freud stresses that he does not want to deny the existence of mentally determined (or neurotic) conflicts, but that in actual neuroses the symptoms or phenomena are not mentally determined and thus cannot be removed by analysis (1898/1924).

Freud coined the concept of *binding* to refer to psychic elaboration as well as the process of binding free floating energy. He denotes this

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3 Freud’s conceptualization of sexuality is much broader than genital sexuality. His notion of the mechanism of discharge of sexual tension and the (failure) in the transformation through psychic elaboration was elaborated to the accumulation of somatic excitation in general, which Freud qualifies as sexual (1894/1950, 1895/1924).
free floating energy with the ‘Q-factor’, the energetic flux that arises from within the body and therefore cannot be escaped (Freud, 1895/1954). This inner rise in tension or pressure has to be abreacted and a failure in binding this excitation may have “a toxic effect on the body” (Freud, 1895/1924; 1926/1936). In other words, the process of binding refers to the work of the psychic apparatus to bind excitation by linking it to representations and integrating them in an associative network. Central to actual neurosis, is the radical failure of this process (Freud, 1894/1950). In psychoneurosis, the representations have been distorted by defense mechanisms, however, in actual neurosis the subject fails to develop these representations which results in innervations on the body itself (Verhaeghe et al., 2007). There is an endogenous source of excitation that the subject is not able to psychically master and discharge via representations. Freud describes the process of binding excitation by linking it to representations as paramount for every subject (Freud, 1926/1936), but also remarks that this process may fail at a certain moment for every subject.

In his text ‘Inhibitions, Symptoms and Anxiety’ Freud emphasizes the importance of early caregivers in the development of the capacity for psychic elaboration.

In early infancy the individual is really not equipped to master psychically the large sums of excitation that reach him whether from without or within. Again, at a certain period of life his most important interest really is that the people he is dependent on should not withdraw their loving care of him. (Freud, 1926/1936, p.146)

In his Project for a Scientific Psychology, Freud (1895/1954) discusses how discharge of this excitation through internal change (e.g. the crying of the child) makes others attentive to the child’s inner state. This specific pathway of discharge thus obtains the important secondary function of communication. It is also in language that the human being finds a surrogate for the act, and with the use of language, affects can be discharged as strongly as through the act
itself (Freud, 1893/1955). Although Freud clearly indicates the association between affect regulation and interpersonal factors, he did not further elaborate on this, at least where the actual neuroses are concerned.

Mentalization and affect regulation after Freud

Although many authors since Freud reflected on psychosomatic problems from the perspective of the conflict model (or the model Freud puts forward for understanding psychoneurotic symptoms) and seemed to have overlooked Freud’s concepts of actual neurosis and binding, certain authors did pick up on these concepts (Hartocollis, 2002; Taylor, Bagby, & Parker, 1991). Ruesch (1948), for example, referred to a poor symbolic self expression in psychosomatic patients. He described how the first step in the development of the child is that he/she acquires the ability to consume or remove the surplus of excitation in interpersonal relationships. When this step cannot be taken due to insufficient interpersonal relations, then the self expression will remain at the level of organic responses, muscular, visceral or vascular (Ruesch, 1948). Building on Freud’s metapsychological theory on the binding of somatic sensations to mental representations, Krystal (1979) also proposed a model of affect development that connects alexithymic patients’ affective problems to their cognitive style of operational thinking and their detached interpersonal functioning. He argued that the concept of alexithymia could also be used to denote affect related problems in patients with post traumatic states (Krystal, 1988). Next to Krystal, McDougall (1974) also placed the problem in the mental encoding of somatic arousal within a broader affect-regulatory framework that is essentially interpersonal in nature.

Later psychoanalytic models, such as Bucci’s multiple code theory (1997a, 1997b), and Verhaeghe’s theory of actualpathology (2002; Verhaeghe, Vanheule, & De Rick, 2007) further elaborate Krystal’s basic idea that alexithymia is essentially a problem in the binding of affective arousal to mental representations. Both authors link the problem of mentally encoding affective arousal to recent findings in
attachment theory. Nowadays, many authors have reformulated the goal of attachment as consisting of the creation of a symbolic representational system through which affect regulation, the development of the self, and the capacity to mentalize the minds of others takes place (Fonagy et al., 2002; Vanheule, Verhaeghe, & Desmet, 2011; Verhaeghe et al., 2007). Only by interacting with others, particularly in close attachment relationships, can representations be acquired, thus enabling an individual to master somatic arousal. In the process of acquiring such representations a set of beliefs and expectations with regard to others is created (see also Vanheule et al., 2011; Verhaeghe et al., 2007).

From this overview, the role of interpersonal functioning and interpersonal mental representations in affect regulation is evident. However, when examining clinical studies on alexithymia, it appears that not much attention is paid to interpersonal functioning and the characteristics of underlying mental representations. Although the question of the relation between alexithymia and interpersonal relations was given mention in the early clinical studies on alexithymia, it was focused on a discussion of the therapeutic relation. Indeed, following a number of clinical interviews with psychosomatic patients, Nemiah and Sifneos (1970, p. 156) concluded that “the patient remains seemingly detached, unconcerned and distant” and that “the entire relationship appears to be pale, colorless, lifeless, dull and without any of the human warmth and resonance that usually develop between two people over a period of time” (Nemiah & Sifneos, 1970, p. 156). Marty (1980, p. 62) describes this relation to others as “devitalized” and “decathedected,” in that they function in a pattern of relative detachment from and unconcern for others. Nevertheless, in these studies the question of the broader interpersonal functioning of psychosomatic patients was not made explicit.

Twenty years later, researchers have begun to approach this topic empirically. Indeed, prompted by the development of self-report measures of alexithymia, the construct has been picked up within a wider field of psychological research and has been related to various
medical and psychiatric conditions. In other words, the current research on alexithymia is not limited to psychosomatic patients. Over the last decade a growing number of studies have investigated the relation between alexithymia and interpersonal problems (e.g. Humphreys, Wood, & Parker, 2009; Mattila, Luutonen, Yllinen, Salokangas, & Joukamaa, 2010; Qualter, Quinton, Wagner, & Brown, 2009; Spitzer et al., 2005; Vanheule, Desmet, Meganck, & Bogaerts, 2007; Weinryb et al., 1996). However, few studies explore the association between alexithymia and interpersonal functioning conceptually or theoretically. Moreover, these empirical studies do not seem to be very creative in terms of how they address the question of the association between alexithymia and interpersonal functioning. First, only a limited number of studies have investigated characteristics of mental interpersonal representations (Grynberg et al., 2010; Guttman and Laporte, 2002; Meinz et al., 2008; Moriguchi et al., 2006). Second, the majority of studies employ the 20-item self-report Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994), which is now the most widely used instrument for the measurement of alexithymia. In addition, in most studies this is combined with the measurement of interpersonal problems with the 64-item Inventory of Interpersonal Problems self-report scale (IIP-64; Horowitz, Alden, Wiggins, Pincus, 2000). In our view, this lack of creativity in research concerning alexithymia and interpersonal functioning poses some problems which are often overlooked.

First, because these studies mainly use only one measurement method (i.e. self-report questionnaires), we cannot exclude the possibility that the results are influenced by methodological artefacts, such as artificially high correlations caused by shared method variance (Meyer et al., 2001).

Second, a growing number of authors question whether the TAS-20 is the most adequate measure for alexithymia (e.g. Meganck, Inslegers, Vanheule & Desmet, in press). One of the problems with self-report questionnaires for alexithymia is that there is an inherent difficulty in asking someone to judge a process s/he may not be capable of
(Waller & Scheidt, 2004). Lumley (2000) also demonstrated that the TAS-20 is sensitive to negative affectivity. Next to that, some authors suggest that the TAS-20 total score might primarily assess general psychological distress (Leising, Grande, & Faber, 2009). Moreover, because of the absence of items measuring the reduced fantasy dimension of alexithymia, the TAS-20 could potentially measure something other than alexithymia as it was originally conceptualized (Sifneos, 1996). Concerning the psychometric properties of the TAS-20, some authors point out the low internal consistency of the EOT factor and find problems with how its negatively formulated items influence the factor structure, as illustrated by the better fitting models that include a method factor (Meganck et al., 2008). Following Meganck and colleagues (in press), who studied the convergence of five alexithymia measures and recommend including expert ratings based on the core alexithymia dimensions, like the Toronto Structured Interview for Alexithymia (TSIA; Bagby et al., 2006), and various other studies which indicate problems with the self-report TAS-20, we believe that the inclusion of expert ratings for the measurement of alexithymia is warranted for all studies addressing the topic of alexithymia.

Third, the relation between alexithymia and interpersonal problems has largely been examined quantitatively, whereby the relation is studied as a statistical trend on a group level. However, such studies do not allow us to gather information about how (individual) patients describe their interpersonal relations with different others. Findings from empirical research indicate that on a group level alexithymia is related to self-reported loneliness, interpersonal problems conceptualized as cold by the IIP-64, dissatisfaction in intimate relations and behaviour, such as less mobile phone use (for an overview see Chapter 1). However, these studies do not provide information concerning the issue of translating statistical relations at a group level to clinical features at the level of the individual. Nor is it clear from these studies how interpersonal dynamics come to the fore in individual patients or how internal representations should be characterized. Therefore, we believe that more detailed qualitative
studies which focus on narrative material of alexithymic patients are needed.

THIS STUDY

In this dissertation we investigate the association between alexithymia and interpersonal functioning in a sample of psychiatric inpatients. As discussed in Chapter 1, literature states that a cold and detached interpersonal functioning and impaired mentalizing capacities are typical of alexithymic patients. In order to investigate this association we started from the question concerning whether the main instruments we use are valid and reliable in measuring the constructs of alexithymia and internal interpersonal representations. The specific research questions we address are as follows:

- Can the Toronto Structured Interview for Alexithymia (TSIA) be used as a valid and reliable alternative for the measurement of alexithymia and has the TSIA a theoretically consistent internal structure in a clinical sample comprised of tinnitus outpatients and psychiatric inpatients?
- Can affective and cognitive-structural characteristics of interpersonal representations be scored reliably in thematic apperception test (TAT) narratives and in narratives of a clinical diagnostic interview (CDI)? Can we observe a high convergence between characteristics of interpersonal representations as scored in TAT narratives and in CDI narratives?
- Is alexithymia, as measured with the TSIA and the TAS-20 related to cold and withdrawn, but not dominant or submissive, interpersonal functioning? Is alexithymia, as measured with the TSIA and the TAS-20, associated with low levels of complexity and social causality of interpersonal representations indicating a link between alexithymia and mentalization?
- How does this cold and detached interpersonal functioning and impaired mentalization, being described as typically accompanying alexithymia, come to the fore in clinical interview material of alexithymic patients?
The sample used to address these research questions (except for the study on the TSIA) consists of patients from psychiatric hospitals in the Dutch speaking part of Belgium. The majority of the patients suffered from mood and anxiety disorders. Since alexithymia has been found to be related to depression (e.g. Honkalampi, Hintikka, Saarinen, Lehtonen, & Viinamäki, 2000) and anxiety disorders (e.g. Hendryx, Haviland, & Shaw, 1991), a wide range of alexithymia scores were expected in our sample.

In this study we investigate the association between alexithymia and interpersonal functioning in a way that enables us to address the three problems with recent empirical studies, indicated above. We believe our study enhances previous research in three ways:

First, alexithymia is assessed in a multi-method way, as recommended by Taylor and colleagues (1997), using both an interview (Toronto Structured Interview for Alexithymia, TSIA; Bagby et al., 2006) and a self-report questionnaire (20-item Toronto Alexithymia Scale, TAS-20; TAS-20; Bagby et al., 1994).

Second, the interpersonal dimension is measured in two ways: we measured interpersonal problems with the self-report Inventory of Interpersonal Problems (IIP-64; Horowitz et al., 2000), but combined this with an assessment of the characteristics of internal interpersonal representations. We therefore used the SCORS coding system in performance based test materials (Thematic Apperception Test, TAT; Murray, 1943) as well as transcripts of clinical interviews (Clinical Diagnostic Interview, CDI; Westen, 2006).

Third, we investigate the relation between alexithymia and the two domains of interpersonal functioning (i.e. interpersonal problems and internal interpersonal representations) quantitatively as well as qualitatively. We use transcribed interview data and select interpersonal accounts using the qualitative data analysis software Nvivo 9. This program allows us to review the interpersonal accounts.

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4 Specific sample characteristics will be discussed in the different studies.
from the CDI narratives and carefully investigate them. We then explore whether and how cold and detached interpersonal functioning and impaired mentalization, described as typical of alexithymia (Vanheule et al., 2010), come to the fore in ten clinical interviews with alexithymic patients.

The measurement of alexithymia

Although various authors explicitly recommend a multi-method approach (Meganck et al., in press; Taylor et al., 2007) to the measurement of alexithymia, few studies have used instruments other than the self-report TAS-20. Illustrative of this is that only three validation studies of the TSIA (the original English, German and Italian version) have been conducted since its development in 2006 (Bagby et al., 2006). Moreover, to-date only two studies known to us have examined the predictive validity or construct validity with other alexithymia instruments than the TAS-20: a pilot study by Meganck, Vanheule, Desmet, and Inslegers (2009) which observed different relationships between emotional language use and alexithymia as operationalized by the TAS-20 on the one hand and the TSIA on the other hand and a study by the same authors in which alexithymia was found to be related to a lower degree of complexity of communication words (Meganck et al., 2009). The latter study made use of both the TAS-20 and the TSIA for the measurement of alexithymia. However, consistent results were found only for the externally oriented thinking dimension of both instruments. Given that there is no study published that examines the reliability and factorial validity for the Dutch version of the TSIA, in our study we first examined the reliability, factor structure and construct validity of the Dutch version of the TSIA.

The Toronto Structured Interview for Alexithymia (TSIA; Bagby et al., 2006) consists of 24 questions addressing the four core dimensions of alexithymia. Each question is scored on a three-point Likert scale ranging from 0 to 2. Higher scores indicate a higher degree of alexithymia and total scores range from 0 to 48. For each question
there is a set of probes to elicit information in order to score the item accurately, which are also keyed to the thematic content of the item. The Dutch translation of the TSIA was obtained by means of a translation and back-translation procedure in consultation with R.M. Bagby, one of the original authors of the instrument (F. De Fruyt, personal communication). The reliability and factorial validity of the instrument are good (Bagby et al., 2006; Inslegers et al., under review).

The 20-item Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994) consists of three subscales: difficulty identifying feelings (DIF), difficulty describing feelings (DDF) and externally oriented thinking (EOT). Each item is rated on a five-point Likert scale. Total scores range from 20 to 100, with higher scores indicating greater alexithymia. Psychometric properties of the Dutch version of the TAS-20 were previously studied in a clinical and non-clinical sample and can be considered adequate (Meganck et al., 2008).

The measurement of interpersonal functioning

Empirical research into the association between alexithymia and interpersonal functioning can be divided in two domains: one domain investigates the association between alexithymia and cold interpersonal functioning and the other domain investigates more cognitive-structural aspects of internal interpersonal representations and functioning. In the first domain most studies use the self-report IIP-64 in combination with the TAS-20. In the second domain mostly relations between alexithymia and aspects of mentalization (using lab tasks) are investigated. To our knowledge, no studies have combined these two domains of research and few studies have investigated these domains of interpersonal functioning in narratives of patients. In this study, we will combine the two research domains and use two measures in a quantitative examination of interpersonal functioning. The self-report Inventory of Interpersonal Problems (IIP-64; Horowitz et al., 2000) will be combined with an assessment of the characteristics of internal interpersonal representations. We use the
SCORS coding system in performance based test materials (Thematic Apperception Test, TAT; Murray, 1943) as well as transcripts of clinical interviews (Clinical Diagnostic Interview, CDI; Westen, 2006). Since only two studies have investigated the convergent validity between the SCORS measured on TAT and the SCORS measured on CDI narratives, we choose to investigate this convergent validity prior to our quantitative study in which the relation between alexithymia and these two measures is examined.

The Inventory of Interpersonal Problems (IIP; Horowitz et al., 2000; Vanheule et al., 2006). The 64-item version of the IIP was created by Alden and colleagues (1990) specifically to provide a circumplex measure. Their instrument contains eight subscales that are correlated in the pattern of a circumplex. Each subscale consists of eight items that are scored on a five-point Likert scale and measure the following aspects of interpersonal problems: (1) ‘domineering/controlling’; (2) ‘vindictive/self-centered’; (3) ‘cold/distant’; (4) ‘socially inhibited’; (5) ‘non-assertive’; (6) ‘overly accommodating’, which indicates an excess of friendly submissiveness; (7) ‘self-sacrificing’; and (8) ‘intrusive/needy.’ The dimensional affiliation and dominance scores were calculated by a formula in which the sum was made of the products of the IIP-subscale and its weight based on the place on the circumplex. Psychometric research on the instrument in English-speaking communities (e.g., Horowitz et al., 2000) as well as in Dutch-speaking populations (Vanheule et al., 2006) demonstrated the validity (stability of the circumplex structure and of correlations with convergent measures) and the reliability (good internal consistency and test-retest reliability) of the IIP-64.

The Thematic Apperception Test (TAT; Murray, 1943) is a projective test. The original purpose of the TAT is to reveal dominant drives, emotions, feelings, complexes and conflicts of personality (Murray, 1943). Lesser (1981) stated that the TAT could be a useful instrument to study alexithymia because it encourages fantasy elaboration regarding affective and interpersonal material. In our study six pictures are used (Cards 1, 3BM, 4, 6BM, 8BM and 13MF). Standard
clinical instructions were given to participants to tell a story about what is happening, what led to the event, how the story will end and what the characters in the picture think and feel.

The Clinical Diagnostic Interview (CDI; Westen, 2006) was developed to provide a comprehensive assessment of personality, pathology and more particularly affective experiences and interpersonal dynamics. It can be used for research as well as for clinical purposes. In this two-hour long interview a range of questions tap into the patient’s complaints, symptoms and life-history. In our study CDIs were administered, audio-recorded and transcribed verbatim.

The Social Cognition and Object Relations Scale (SCORS; Westen, 1990, Westen et al., 1990) is a multidimensional measure for the clinical assessment of object relations. For scoring the TAT narratives, we used the seven-point rating scale with lower scores (e.g., 1 or 2) indicating greater pathology and higher scores (e.g., 6 or 7) indicating greater psychological health. For coding the interpersonal episodes of the CDI, we followed the manual for coding interview data (Westen et al., 1990) by using a five-point rating scale for Social Causality and a seven-point rating scale for Complexity. In this study, we assess the following two dimensions of the SCORS: a) Complexity of representations of people (Complexity), which refers to the richness and differentiation of an individual’s representations of self and others, i.e., the extent to which self and others are seen as psychological beings with stable multidimensional dispositions; b) Understanding of social causality (Social Causality), which refers to the extent to which attributions of the causes of people’s actions, thoughts, and feelings are logical, complex, and psychologically minded.
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INTERPERSONAL PROBLEMS IN ALEXITHYMIA: A REVIEW.

In this article we provide an overview of the literature on alexithymia and interpersonal problems. First, original clinical insights on the subject of interpersonal problems in alexithymia are discussed and an overview of the empirical literature on the topic is provided. Additionally, several theoretical frameworks are discussed that indicate why an association between alexithymia, as a problem in affectregulation, and specific interpersonal problems is expected. Both clinical and quantitative studies demonstrated that a detached interpersonal style is typical for alexithymia. At a conceptual level it is argued that the work of Bucci and Verhaeghe can be conceived as the most interesting theoretical frameworks which enable us to understand the interplay between alexithymia and interpersonal difficulties and their association with problems in mentalization. Directions for future research are discussed.

INTRODUCTION

A substantial number of psychiatric patients have difficulty grasping what is going on in their own mind and body. In emotionally arousing situations, affects overwhelm them and challenge their subjective integrity. Affective experiences burden them with intense but vague sensations of unease that give rise to dysfunctional and often destructive reactions, ranging from intense panic to numbness, and from violent outbursts of anger to avoidant behaviour. A frequently used concept for characterizing these problems in metacognitive monitoring is alexithymia.

Alexithymia is most often defined within the four-component structure developed by Taylor, Bagby, and Parker (1997) as a combination of (i) difficulties identifying feelings and distinguishing between feelings and the bodily sensations of emotional arousal; (ii) difficulties describing feelings to other people; (iii) constricted imaginal processes, as evidenced by a paucity of fantasy life; and (iv) a stimulus-bound, externally oriented cognitive style. These characteristics prove to be helpful in characterizing a broad range of psychiatric patients, ranging from those with eating disorders, somatization, mood disorders, psychosis, and various personality disorders (Dimaggio, Semerari, Carcione, Nicolo, & Procacci, 2007; Lumley, Neely, & Burger, 2007; Taylor et al., 1997). A substantial number of patients with these diagnoses have problems when experiencing sensations of internal arousal and understanding to which emotion these sensations refer. Reflecting on subjective determinants of affective experiences is also difficult for them, and as a consequence their mental life typically gives an impression of emptiness and inconsistency. In therapeutic interactions these patients tend to focus their thoughts on external events rather than on their own mental states. In general, communicating about affective experiences is difficult (Vanheule et al., 2008).

As Taylor, Bagby, and Parker (1997) make clear, alexithymia is not conceptualized as a categorically distinct mental disorder. Alexithymia is a characteristic that can be present to various degrees in patients with a range of different disorders. The concept enables
us to grasp a specific dimension of psychopathological mental life, and helps us focus on a patient’s capacity for regulating affective experiences.

At a macro level the concept can be used to gain insight into clinical characteristics that typically co-vary with alexithymic traits, and also helps us to refine our knowledge on the antecedents, dynamics, and consequences of poor metacognitive functioning. For example, in a study on depression, we observed that it was possible to discern a subgroup of alexithymic depressed patients. This group differed from non-alexithymic depressed patients with respect to the precise nature of their depressive symptoms as well as their interpersonal attitude. At the level of symptoms they had more vital-somatic depressive complaints, and in their contacts with others they displayed a more distance-taking position (Vanheule, Desmet, Verhaeghe, & Bogaerts, 2007). This symptomatic and interpersonal profile indicates that these patients are more ‘silent’ in the expression of what is going wrong, and rely less on others for solving their problems. These two characteristics pose a challenge for the therapists working with them.

At a micro level, in clinical practice the alexithymia construct can be used in diagnostic situations to get a better understanding of patients’ affective experiences. This helps therapists tailor their approach and focus on how to work with specific alexithymic difficulties. This is very important. One observation that persists since the early work with alexithymic patients is that therapeutic success is low. Strongly alexithymic patients are harder to treat than non-alexithymic patients (Grabe, Frommer, Ankerhold et al., 2008; Taylor et al., 1997; Ogrodniczuk, Piper, & Joyce, 2005). Research must be adjusted to make treatment more effective, and the interpersonal style of alexithymic patients is an important area of investigation. Due to their typically detached attitude, alexithymic patients tend to evoke rejecting or angry reactions in others. In therapeutic contexts these reactions are counterproductive, yet they often occur.

In this chapter we will review the literature on the interpersonal problems associated with alexithymia. We will also present a theoretical frame that can hopefully give a better explanation of
them. We propose that alexithymia should be understood as a problem in the metacognitive monitoring of affective states, which is inherent to a typical relational modus. The relation between alexithymia and the metacognitive monitoring of the self and others will be explored.

**INITIAL INSIGHTS ON INTERPERSONAL PROBLEMS IN ALEXITHYMIA**

Alexithymia was first coined by Sifneos and Nemiah in the 1970s. Based on their clinical experience with psychosomatic patients, the authors understood alexithymia as a form of restricted mental functioning and strongly focused on the intra-psychological side of the problem. The authors discerned two main characteristics. Firstly alexithymia should be understood as “a striking incapacity of the verbal description and expression of feelings,” hence the choice of the concept; ‘a-lexis-thymos’ or ‘no words for emotions’ (Nemiah & Sifneos, 1970, p. 159). Secondly the thoughts and associations of these patients were described as largely referring “to external events and actions rather than to internal fantasies” (Nemiah & Sifneos, 1970, p. 159). According to the authors, the thoughts these patients expressed and the answers they gave to questions came across as superficial. Their personal accounts did not come across as lived experiences and were not marked by subjectivity. The standard definition of Taylor, Bagby, and Parker (1997) is faithful to the descriptive characteristics outlined by Sifneos and Nemiah, and can be understood as a more nuanced version of them.

In their initial descriptions Nemiah and Sifneos (1970, p. 159) made very interesting observations on the subjective effect alexithymic patients had on them as psychiatrists. No doubt informed by the fact that counter-transferential reactions are important to take into account, the authors remarked that their “own introspections revealed a sense of frustration when interviewing the patients, and a feeling that they were dull, lifeless, colorless and boring. The general effect was a lack of communication between doctor and patient that frequently gave to their relationship the quality of being sterile and unproductive” (Nemiah & Sifneos, 1970, p. 159). It seems like the alexithymic patients enervated them just like they fascinated them; a
reaction frequently reported in alexithymia literature. Unfortunately, however, these comments remained largely anecdotal and did not give rise to more fundamental considerations of the interpersonal stance or broader metacognitive monitoring of alexithymic patients.

For example, in *Psychosomatic illness: a problem in communication* (Nemiah & Sifneos, 1970) the authors introduce the case of a 37 year old man, a union steward, who makes a consultation for psychosomatic problems. The case largely focused on this man’s difficulty in naming what he was experiencing emotionally. The discussion revealed that his affective difficulties were situated in the context of tense professional relationships. At work, this patient was pressed between an employer who refused to meet compelling demands from employees, and increasingly angry colleagues who exerted pressure on him to fight for their case. The key problem the patient faced was the question of how to deal with these pressures. From different sides he was confronted with demands that were placed upon him; the context, so to speak, was a situation where an act was expected of him. His dumbfounded reaction indicates that it was precisely the act of taking a subjectively meaningful position in relation to others that constitutes his problem. Indeed, it were his interpersonal difficulties that emerged as being the only relevant context within which his affective problems could be either expressed or understood. The patient gave no evidence of elaborate social cognitions, and obviously lacked the necessary social skills to react adequately to these demands. His answer is a-lexical and blank: no clear position towards others could be taken, no personal stance that would locate him as an ‘I’ within a perhaps embarrassing situation was occupied.

No doubt this same blank attitude is what returned in his relationship with the interviewing doctor. With respect to the relationship during the clinical interview, Nemiah and Sifneos (1970, p. 156) conclude that “the patient remains seemingly detached, unconcerned and distant” and that “the entire relationship appears to be pale, colorless, lifeless, dull and without any of the human warmth and resonance that usually develop between two people over a period of time” (Nemiah & Sifneos, 1970, p. 156). The same remark could probably be made for the patient’s interpersonal contacts at work,
yet Nemiah and Sifneos do not link this. In sum, it is remarkable that Nemiah and Sifneos discuss this patient’s difficulties in naming affective experiences, but neglect the dynamic link with the interpersonal difficulties. The effect is that the man’s difficulties in the metacognitive monitoring of own affective states are disconnected from the question of further metacognitive difficulties in the social sphere.

In later clinical literature, interpersonal problems of alexithymic patients are frequently indicated. Pierre Marty and colleagues (1980; Marty, De M’Uzan, & David, 1963) focused on a similar clinical picture and described individuals with a poor representational life as ‘operational’ in their thinking and living. By ‘operational’ the authors principally mean that their mental life is strongly limited to the actual and the factual, and is marked by poor phantasmatic activity. The authors suggest that such individuals have difficulties in processing affective states and that this ‘operational’ way of living implies poor psychic investment in the surrounding world. These patients do not care too much about others and social relationships. Marty (1980, p. 62) describes their relation to others as “devitalized” and “decathected,” in that the degree of preoccupation with others is low, and that they function in a pattern of relative detachment from and unconcern for others. Alexithymic persons may take a physical distance from others, and close connections will be avoided.

In addition to the distance-taking tendency of alexithymic patients, a marked vulnerability for conflict and emotionally tense situations has also been described (e.g., Krystal, 1979; Marty, 1980; Mc Dougall, 1974; Mitrani, 1995). This interpersonal problem is not that surprising. As a result of their poorly elaborated social cognitions, alexithymic individuals lack a sophisticated representational system that would work towards the interpretation of others and their actions. Those who make a strong appeal to them despite the distance taking attitude, typically cause confusion, destabilize these individuals, and will easily be experienced as intrusive.
WHAT HAS EMPIRICAL RESEARCH TAUGHT US?

A question we can ask is whether the above insights, which are gathered through intensive clinical contacts with relatively small groups of patients, are generalizable to alexithymic patients as such. We believe that detailed observation in clinical contexts is an invaluable tool for developing insight into psychiatric disorders, but empirical research with standardized methods can help to solve the question of generalizability. We will review and discuss a number of these studies with the aim of gaining more insight into the interpersonal functioning characteristic of alexithymia. Most of these studies make use of self-report questionnaires. Such questionnaires are popular in psychological research. They have the advantage of being less time consuming, where large groups of patients can be assessed with minimal effort. On the other hand these instruments tend to be imprecise in measuring the concept they intend to measure, which is why replication by independent researchers is important.

The self-report questionnaire that is most frequently used for measuring alexithymia is the 20-item Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994). This instrument measures three of the four characteristics of alexithymia defined by Taylor, Bagby, and Parker (1997): difficulty identifying feelings (DIF), difficulty describing feelings (DDF), and externally oriented thinking (EOT). While the TAS-20 is psychometrically acceptable, it has been observed that the EOT subscale is not as strongly related to the DIF and DDF subscales as one would theoretically expect (Meganck, Vanheule, & Desmet, 2008). A weakness in the current alexithymia research is that usually the TAS-20 is used as the sole instrument for measuring alexithymia. The authors of the TAS-20 advise against this and recommend the use of multiple methods to measure alexithymia. We believe that interview-based measures, such as the Toronto Structured Interview for Alexithymia (TSIA; Bagby, Taylor, Parker, & Dickens, 2006), and free response tasks, such as the Levels of Emotional Awareness Scale (LEAS; Lane, Quilan, Schwartz et al., 1990), should be included in upcoming studies.
In the last decade, a first series of studies addressed the question of interpersonal problems typical of alexithymia by using the TAS-20 in combination with the Inventory of Interpersonal Problems (IIP; Horowitz, Alden, Wiggins, & Pincus, 2000). The IIP is a self-report questionnaire that measures 8 categories of interpersonal problems: (1) ‘domineering/controlling’, which indicates difficulties in relinquishing control over others; (2) ‘vindictive/self-centred’, which describes problems of hostile dominance and the tendency to fight with others; (3) ‘cold/distant’, which refers to low degrees of affection for and connection with others; (4) ‘socially inhibited’, which refers to the tendency to feel anxious and avoidant in the presence of others; (5) ‘non-assertive’, which measures problems in taking initiative in relation to others and coping with social challenges; (6) ‘overly accommodating’, which indicates an excess of friendly submissiveness; (7) ‘self-sacrificing’, which indicates a tendency to affiliate excessively; and (8) ‘intrusive/needly’, which describes problems with friendly dominance. Based on the clinical observations mentioned above, it could be expected that cold and distant functioning would be typical for alexithymia.

Weinryb and colleagues (1996) applied the IIP to psychology students (n = 118) and discovered that specifically the cold/distant subscale was related to alexithymia (measured with two self-report instruments). Spitzer and colleagues (2005) studied psychiatric inpatients (n = 149) before and after an intensive group psychotherapy program. They observed that cold and socially avoidant behavior were typical for alexithymic patients, and also found that therapy did not change this pattern. In a mixed group of psychiatric outpatients (n = 404) and psychology students (n = 157) we observed that cold/distant and non-assertive social functioning was strongly related to alexithymia (Vanheule, Desmet, Meganck, & Bogaerts, 2007). We also observed that, in a group of depressed outpatients (n = 134), strongly alexithymic patients differed from others in terms of more pronounced cold/distant functioning. The association between alexithymia and interpersonal functioning explored by these independent research groups indicates that cold/distant functioning is typical.
Research that uses other self-report instruments further supports these findings. For example, studies examining the characteristics of adult and peer attachment relations associated with alexithymia found that experiences of attachment insecurity are typical. Alexithymic persons tend to develop avoidant attachments with others in general (De Rick & Vanheule, 2007a; Meins, Harris-Waller, & Lloyd, 2008) and with therapists in particular (Mallinckrodt, King, & Coble, 1998). Research into the relation between alexithymia and personality disorders shows that schizoid, avoidant, and antisocial personality disorder traits are related to alexithymia (De Rick & Vanheule, 2007b). These personality disorders share as a common feature social isolation or detachment in interpersonal relationships. In the schizoid personality, social isolation is accompanied by restricted affectivity; in the avoidant personality detachment comes with overwhelming fear (see also Dimaggio et al., 2007); whereas in the antisocial personality disorder, detachment is characterized by lack of empathy. These questionnaire studies indicate that alexithymia is concomitant with distance taking in interpersonal relations.

Empirical research using alternative measurement methods to study detachment in alexithymia is scarce. Such research is required if we are to avoid the typical sources of bias that are inherent to self-report questionnaires (e.g. the tendency to give socially desirable answers, and the tendency of people to over- or under-estimate their own capacities). Scheidt and colleagues (1999) have used the Adult Attachment Interview and a related Q-sort coding method to assess attachment relations. These attachment measures primarily tap into a person’s state of mind regarding their attachment in their family of origin. They observed that dismissing and deactivated attachment patterns were significantly related to alexithymia scores, in particular to the ‘externally oriented thinking’ subscale of the TAS-20. Their findings support the association found between interpersonal detachment and alexithymia, and the authors generalize these findings to patterns of attachment in childhood. Moreover, a longitudinal study, that examined attachment to parents and patterns of affect expression over a period of two years in 12-36 month old children, found that poor parental bonding and difficulties in affect-regulation coexist (Lemche, Klann-Delius, Koch, &
Joranschky, 2004). Using the Strange Situation Procedure (an attachment test in which a child is observed playing for 20 minutes while caregivers and strangers enter and leave the room), the authors observed that insecurely attached children have serious difficulties in verbalizing inner experiences. This was particularly noticeable for the socially avoidant children, i.e., those who seem to lack clear strategies for dealing with separation from their parents or dealing with unknown adults. These children display not only a generalized poor bonding to others, but simultaneously lack the linguistic ‘tools’ to process emotions and to understand causes and consequences of affects. The results from this study indicate that social detachment and alexithymic functioning (or poor metacognitive self-monitoring) coexist. Implicit measures have also been used to measure alexithymia. In a sample of psychiatric outpatients, we used lexical content analysis to measure both alexithymia (in combination with TAS-20) and their level of involvement in social processes. We observed that alexithymia, and especially the externally oriented thinking subscale of the TAS-20, was related to social detachment and unconcern for others (Vanheule, Meganck, & Desmet, in review). The outpatients with poor metacognitive self-monitoring proved to be less concerned about social processes and had a poor range of mental representations in relation to social processes. In two studies mapping central relationship patterns that pervade self–other interactions through detailed coding of clinical interviews, the same pattern of detachment was observed. One study examined psychiatric outpatients (Vanheule, Desmet, Rosseel, Verhaeghe, & Meganck, 2007) and the other, chronic fatigue patients (Vanheule, Vandenbergen, Desmet, Rosseel, & Inslegers, 2007). In both cases the Core Confictual Relationships Theme (CCRT) method was used (Luborsky & Crits-Christoph, 1998). This method maps the wishes and intentions that pervade people’s interactions; their subjective perceptions of how the other responds in relation to them; and their own typical responses to the other. In these studies we observed that alexithymia is related to a double interpersonal indifference: not much is expected from others, nor is there a personal urge felt to fulfill the expectations of others.
The observation that social detachment is associated with alexithymia indicates that alexithymic patients avoid interaction with others, but leaves us with the question as to why. A plausible hypothesis is that alexithymic patients have problems in ‘mentalization.’ By mentalization we refer to the ability by which people ‘read’ and understand the minds of others, such that their actions can be framed as meaningful and predictable (Fonagy, Gergely, Jurist, & Target, 2002). A normal capacity for mentalization enables people to react to others’ actions in flexible and adaptive ways; it gives them the capacity to account for others’ immediately observable actions in terms of mental state constructs (e.g., in terms of desires or beliefs). Poor mentalization implies that others are an enigma rather than knowable, and that interacting with them is strange and unpredictable rather than agreeable. We suggest that the tendency of alexithymic patients’ to withdraw from others can be interpreted as an effect of their poor mentalization. To the extent that others are blank entities, alexithymic persons will not solicit them, hence their distant attitude. If others persist in their attempt to obtain a deeper connection, these attempts can have a destabilizing effect. On the other hand, the cold or distant attitude that these patients display may result in rejecting reactions by the therapist, who no longer wants to work with them. The patient of Nemiah and Sifneos (1970), and their own reactions to this type of patient illustrate both points.

Research on the topic of mentalization and mind-reading in alexithymia is still in its infancy. We believe that it constitutes an important line of research that may connect two related fields of research. It may also lead to a more holistic understanding of metacognitive functioning in relation to self and others (Dimaggio, Lysaker, Carcione, Nicolo, & Semerari, 2008). Our finding, that alexithymic individuals have less concern about social processes compared to non-alexithymic individuals and a poor range of mental representations concerning social processes, indicates this connection (Vanheule et al., in review). Research on emotional awareness, for its part, indicates that awareness of one’s own emotions tends to be proportional to having awareness of others’ emotions: complex representations of one’s own emotions usually lead to complex representations of others’ emotions; poor
representations of one’s own emotions tend to correlate with poor representations of others’ emotions (Lane et al., 1990; Lane, 2008). Nevertheless, the connection between mentalization and alexithymia needs to be tested more explicitly.

Guttman and Laporte (2002) observed that alexithymia is inversely related to the capacity for empathy. The authors used self-report data from patients with anorexia and borderline personality disorder and their parents. Alexithymic individuals differed from non-alexithymic individuals in that they had more problems in perspective taking (the cognitive capacity to see things from the perspective of the other) and empathic concern (the tendency to experience the affective reaction of sympathy, concern and compassion for other people undergoing negative experiences), while experiencing more feelings of distress and discomfort in witnessing other people’s negative experiences. These results point to problems with mentalization, and support the clinically formulated idea that alexithymic persons have a marked vulnerability for tense interpersonal situations. Moriguchi and colleagues (2006) confirmed this finding in a study that compared alexithymic to non-alexithymic college students. These researchers observed that alexithymic participants perform worse in a theory of mind task that makes an appeal to mentalization. By means of fMRI they also examined brain activity during the execution of this theory of mind task. They detected that in the alexithymic group neural activity in the medial prefrontal cortex (the brain area concerned with the representation of mental states), was decreased. These results suggest that a common component like perspective taking, reflective awareness or mind-mindedness is involved in both alexithymia and mentalization. In both alexithymia and poor mentalization, interpreting inner states through vague cues (physiological signs in case of alexithymia and ambiguous visual or auditory information in case of mentalization) poses a problem. Meins, Harris-Waller, and Lloyd (2008) further studied alexithymia and mind-mindedness in students. Starting from a task that evokes stories about others, these authors coded whether participants were mindful to other people’s experiences and examined whether this score was related to alexithymia. It was observed that the more alexithymic a person is, and particularly the more strongly a person’s tendency towards externally oriented
thinking is, the more likely it is that this person will not describe or explain the behavior of other people in terms of internal states.

**EARLY THEORETICAL CONSIDERATIONS**

Current research in alexithymia rarely builds upon theoretical models. The a-theoretical starting point of Nemiah and Sifneos seems to have paved the way. This might be a reason why the link between alexithymia, interpersonal functioning, and mentalization is studied so infrequently. This is surprising since most of the theoretical models that were developed on the topic of alexithymia touch on interpersonal issues.

Henri Krystal (1979) and Joyce McDougall (1974), two psychoanalysts and pioneers of clinical alexithymia studies, formulated ideas on the connection between the mental and interpersonal functioning of alexithymic patients. Building on Freud’s metapsychological theory on the binding of somatic sensations to mental representations, Krystal (1979) proposed an ontogenetic model of affect development that connects alexithymic patients’ affective problems to their cognitive style of operational thinking and their detached interpersonal functioning. He regards alexithymia as the consequence of a failure or arrest in affective development. Two crucial steps in human affect development Krystal discerns are affect differentiation and affect verbalization. Krystal (1979) argues that emotions are primarily manifested as undifferentiated pleasurable or painful somatic sensations that respectively evoke a state of contentment or distress in the child. A child experiences these primitive affects as overwhelming, which might lead to abreaction by means of physical action. Yet, the appropriate method of mastering these affective experiences is through the mental act of verbalization. By naming, somatic sensations are gradually ‘de-somatized’ and turned into differentiated mental representations.

Krystal and McDougall placed the problem in the mental encoding of somatic arousal in a broader affect-regulatory framework that is essentially interpersonal in nature. McDougall (1974) attributes a crucial role to the maternal function early in human development.
She indicates that it is of crucial importance that mothering caregivers are available for a child and that they give meaning to the inner experiences an infant communicates non-verbally. If (m)others fail to fulfill their function as a shield against the various stimuli to which a baby is subjected, the process of naming is not properly developed. This will inhibit the child’s capacity to acquire meaning in relation to what he experiences and to attach psychical representations to his impulses. Krystal (1978) argues that mothering caregivers also have a role in permitting the child to mentally bear affective tension. A caregiver not only gives names to a child’s affective experience, but also provides the child with an example of how affective responses can be regulated within the context of certain norms for affective expression. Conversely, in cases where these mothering roles are not or only partially occupied, a state of psychic trauma may develop. If emotions are not differentiated or verbalized, reflective self-awareness of emotions will likewise be poor. As a result the child will remain in a blank intrapsychic world. Typical for alexithymia is that the inner void becomes filled by a preoccupation with details from external reality, hence the so-called operational way of living. In cases where the affective life remains largely somatic and undifferentiated, emotion will fail to supply ‘color’ to experience and memory, hence the result that others experience them as cold and unemotional in social contexts (Krystal, 1979).

Illustrative in this respect is the case of Karen, a chronically fatigued young woman who consults one of the authors. Her fatigue started in a context of strong emotional burdens and stress, by which she hardly seemed to be affected. In a short period of time her parents divorced; her mother with whom she still lived engaged in a new and turbulent relationship that finally fell through; her brother developed cancer; and she broke up with her boyfriend. Remarkable is that Karen did not complain about any of these events, which she described in neutral terms. For example, during the course of his disease she constantly took care of her brother: she visited him in hospital, nursed him at home, and combined these activities with her full-time job. Her mother, conversely, seemed to be emotionally distant from the whole situation and appeared hardly involved. The mother’s apparent lack of concern affected her brother deeply: he
told Karen several times that the situation weighed on him, and even declared that his cancer was caused by the emotional distress in the family. However, she reported the details of the whole situation without showing any signs of distress. At the time she obviously acted in an operational way, and likewise, there are no verbal or nonverbal indications of distress in her current account of the situation either. The therapeutic mistake easily made with a patient like this is that one could consider her as fundamentally unable to relate to others or as unmotivated, which would be most counterproductive as it would reinforce the patient’s initial failure to recognize or name their subjective reactions. What the treatment of alexithymic individuals needs is patience, and a therapist who can offer the opportunity to get in touch with their subjectivity. In the case of Karen, for example, the therapist repeatedly expressed his surprise that despite the events this woman went through she was not mournful; he noted that many other people would indeed express displeasure. She initially reacted to this comment with indifference, but it finally brought her to express elements of dissatisfaction. Via outbursts of tears she gradually came to tell stories of events that affected and hurt her.

LATER THEORETICAL DEVELOPMENTS

Later theoretical models, such as Lane and Schwartz’s emotional awareness theory (1987; Lane, 2008), Bucci’s multiple code theory (1997a, 1997b), and Verhaeghe’s theory of actualpathology (2002; Verhaeghe, Vanheule, & De Rick, 2007) further elaborate Krystal’s basic idea that alexithymia is essentially a problem in the binding of affective arousal to mental representations.

Lane and Schwartz (1987) elaborate this idea within a Piagetian developmental framework, and argue that emotional awareness is a cognitive skill that develops in a stage-like way. The authors discern five stages in affective development, which range from awareness of sensations of emotional arousal, to the creation of increasingly complex cognitive emotional schemas: “The five levels of emotional awareness in ascending order are awareness of physical sensations, action tendencies, single emotions, blends of emotions, and blends of
emotional experience (the capacity to appreciate complexity in the experiences of self and other)” (Lane, 2008, p.216). This model has received substantial neurological support. An interesting feature of this model is that it considers awareness of one’s own emotions and awareness of the emotions from others as two parallel processes. However, the authors do not sufficiently explain how this parallel should be understood.

Bucci’s multiple code theory and Verhaeghe’s theory of actual pathology are in this respect more explanatory. Both authors link the problem of mentally encoding affective arousal to recent findings from attachment theory. This accounts for the association between alexithymia and attachment difficulties. The original emphasis of early attachment theory was on the infantile attachment style and its determining effects on adult relationships. However, nowadays several authors reformulated the goal of attachment as consisting of the creation of a symbolic representational system through which affect regulation; the development of a self; and the development of capacities to mentalize the mind of others (Fonagy et al., 2002; Lemche et al., 2004; Verhaeghe et al., 2007). Attachment theorists have found substantial empirical support for the idea that identity arises through the caregiver’s mirroring of the child’s internal experiences of arousal whereby affect regulation is acquired (Fonagy et al. 2002). In moments of distress the infant performs attachment behavior, such as proximity-seeking and proximity-maintaining, in an effort of self-preservation and protection. In response to this appeal, caregivers will react by ‘mirroring’ the child’s distress. This means that the caregiver will mentally process the infant’s state expressive behavior, interpret it, and typically react to it in a soothing and regulating way. Through this interaction with the caregiver, automatic primary affects are transformed into differentiated representations. Adults transfer these representations to the child as an adequate mirror for the child’s distress. During this process a representational system is created which permits the child to gradually acknowledge and master its own bodily arousal. However, for this to occur, the other’s mirroring must meet a number of conditions. Fonagy and colleagues (2002) indicate that mirroring must be congruent (but not identical) with the emotional state of distress in the child. The mirroring of the child’s experience in a
modulated form makes this experience manageable. On the other hand, it is important that the child realizes that the reaction of the other is not real, but merely a reflection of the child’s inner state. This occurs through ‘marking,’ which is an exaggerated parental imitation of the child’s experienced emotions. This finally results in the child’s construction of a separate second-order representation of the primary somatic and affective experience, which has the effect of making this experience manageable. In other words: through the internalization of representations coming from significant others, arousal becomes regulated, and simultaneously, by acquiring representations a mental map of the other is created (see also Verhaeghe et al., 2007).

The models by Bucci (1997a, 1997b) and Verhaeghe (2002; Verhaeghe, et al., 2007) further elaborate the idea on the binding of arousal, and integrate it in a non-linear model of cognitive-emotional functioning (Bucci) or of the process of subject-formation (Verhaeghe). In contrast to the earlier linear theories, Bucci (1997a, 1997b) argues that the subsymbolic processing of emotions is not abandoned when verbal and logical processing is acquired. The author states that before sensory arousal experiences can be connected to language, connections with specific non-verbal imagery of emotions are necessary. In Bucci’s opinion alexithymia reflects a problem in making connections or ‘referential links’ between non-symbolic emotional arousal, non-verbal imagery of emotions, and verbal cognitive schemata (Bucci, 1997b). Consequently the problem of alexithymia might reflect difficulties in connecting basic mental images to subsymbolic somatic arousal sensations, as well as difficulties in connecting a verbal code to these nonverbal representations of emotion. The effect of poor referential linking is that arousal will not be encoded optimally, and will be expressed at a visceral, somatic, motoric or sensory level. This may form the pathway in which an alexithymic condition could manifest (Taylor et al., 1997).

In his theory of subject-formation, Verhaeghe stresses the socially mediated role of representation-building (Verhaeghe, 2002; Verhaeghe et al., 2007). Representations (constituted through imagery and language) are seen as the most stable ways to master
somatic arousal and are acquired through interaction with others, especially within close attachment relationships. In the wake of adopting these representations, a template for social bonding and a set of beliefs and expectations with regard to others is created. If an appeal to someone’s representational system is made, the relational template, as well as the set of expectations and beliefs, will be actualized. In case of alexithymia blankness is pivotal at all of these levels. The power of this model is that it enables us to understand the metacognitive self-monitoring typical for alexithymia, to problems in the metacognitive monitoring of others, as well as to typical relationship patterns that emerge each time an appeal to metacognitive monitoring is made.

CONCLUSION

Research investigating the interpersonal functioning of alexithymic patients took several years to commence. Both clinical and empirical research demonstrates that distance taking tendencies and vulnerability to conflict and emotionally tense situations are typical for alexithymia. We believe that the theories by Bucci and Verhaeghe are the most comprehensive and interesting frameworks for understanding these interrelations, and their association with problems in mentalization. Future research must closely examine the relation between alexithymia, interpersonal problems, and mentalization. In this chapter we hopefully demonstrated the relation between these phenomena, yet for the time being research investigating this is scarce. As these concepts are complex, we recommend the use of refined and clinically-based approaches for future research.
REFERENCES


RELIABILITY, FACTOR STRUCTURE AND CONVERGENT VALIDITY OF THE TORONTO STRUCTURED INTERVIEW FOR ALEXITHYMIA IN A DUTCH-SPEAKING PATIENT SAMPLE.

The aim of this study was to evaluate the psychometric properties of a Dutch language translation of the Toronto Structured Interview for Alexithymia (TSIA) in a clinical sample. The TSIA and the 20-item Toronto Alexithymia Scale (TAS-20) were administered to 85 psychiatric inpatients and to 76 medical outpatients with the symptom of tinnitus. All interviews were audio-recorded. Acceptable levels of internal reliability and interrater reliability were demonstrated. Confirmatory factor analyses supported the hierarchical, 4-factor structure with 4 lower-order factors nested within 2 higher-order latent factors, previously obtained with the original English version and with German and Italian versions. This structure is consistent with the underlying theoretical model of the alexithymia construct. Concurrent validity, as examined by Pearson correlations between the TSIA and the TAS-20, was confirmed, but differences between the psychiatric subsample and the tinnitus subsample are discussed. Although the convergence between TSIA and TAS-20 scores requires further study, it is argued that the inclusion of the TSIA for the measurement of alexithymia may be required, especially in certain clinical populations.

This chapter is based on Inslegers, R., Meganck, R., Ooms, E., Vanheule, S., Bagby, R. M., Taylor, G. J., De Fruyt, F., & Desmet, M. (under review). Reliability and factorial validity of the Toronto Structured Interview for Alexithymia in a Dutch-speaking patient sample. Psychiatry Research. (See appendix)
INTRODUCTION

The concept of alexithymia was introduced by Peter Sifneos almost 40 years ago to describe difficulties in psychically experiencing and verbalizing affects, problems he mainly encountered in psychosomatic patients (1973). Nemiah and Sifneos extensively investigated characteristics of the mental life of psychosomatic patients and in doing so clearly distinguished two main features of these patients’ psychic life. The first is “a striking incapacity for the verbal description and expression of feelings”; therefore the choice of the term ‘a-lexis-thymos’ or literally ‘no words for emotions’ (Nemiah & Sifneos, 1970, p. 159). The second feature they observed was that these patients’ associations and thoughts refer “to external events and actions rather than to internal fantasies” (Nemiah & Sifneos, 1970, p. 159). This feature corresponds closely to the concept of pensée opératoire developed by Marty and de M’Uzan (1963). Marty (1990) describes operatory thinking as a conscious thinking, without connection to noticeable fantasmatic or representative movements. This way of thinking seems to attach to things and not to products of imagination or to symbolic expressions.

Based on Nemiah and Sifneos’ conceptualization, Taylor and colleagues formulated a definition of the alexithymia construct that consists of four logically interrelated facets: (1) difficulty identifying feelings and distinguishing between feelings and the bodily sensations of emotional arousal; (2) difficulty describing feelings to other people; (3) restricted imaginary processes, as evidenced by a paucity of fantasies; and (4) a stimulus-bound, externally orientated cognitive style (Taylor, Bagby, & Parker, 1997, p.29).

Since the 1970s there has been an expansion of research on the construct of alexithymia, which is illustrated by the more than 15000 hits in the databank PubMed for the search term ‘alexithymia’ nowadays. It has been investigated in relation to various medical and psychiatric disorders including depression (e.g. Honkalampi, Hintikka, Saarinen, Lehtonen, & Viinamäki, 2000), anxiety disorders (e.g. Hendryx, Haviland, & Shaw, 1991), post traumatic stress disorder (e.g. Frewen et al., 2008) and somatization disorders (e.g. De Gucht &
Heiser, 2003) (for an overview see Taylor et al., 1997; Taylor & Bagby, 2004).

Most of the research examining the association between alexithymia and several disorders or personality characteristics measured alexithymia with the 20-item self-report Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994). This self-report scale assesses three salient facets of the alexithymia construct: difficulty identifying feelings (DIF), difficulty describing feelings to others (DDF), and externally oriented thinking (EOT). The TAS-20 does not include an imaginal processing factor as it was noted, during the development of the scale, that items for assessing reduced imaginal activity were confounded by a social desirability response bias and had low magnitude corrected item-total correlations with the full scale (Bagby, Parker, et al., 1994). A number of investigations in diverse cultures and using different language translations of the TAS-20 have judged the psychometric properties of the scale to be adequate (e.g. Taylor, Bagby, & Parker, 2003; Meganck, Vanheule, & Desmet, 2008). However, some methodological issues have been raised concerning the low internal consistency of the EOT factor and the influence of the negatively formulated items on the factor structure, which is illustrated by the better fit of models that include a method factor (Meganck et al., 2008). Moreover, several authors have questioned the adequacy of the use of a self report questionnaire for the measurement of alexithymia. Waller and Scheidt (2004) point at the problem of asking persons suffering from alexithymia to judge a capacity they may lack. Other authors have argued the important influence of negative affectivity on TAS-20 answers, especially on the DIF and DDF factor scales (Lumley, 2000) or discuss the possibility that the TAS-20 total score primarily assesses general psychological distress (Leising, Grande, & Faber, 2009). The original authors of the TAS-20 as well as many others recommend a multi-method approach to the measurement of alexithymia (e.g. Taylor et al., 1997; Meganck et al., 2008). For an overview of recent developments in alexithymia measures, we refer to Lumley, Neely and Burger (2007).

One of the recently developed measures is the Toronto Structured Interview for Alexithymia (TSIA; Bagby, Taylor, Parker, & Dickens,
2006), an interview-based observer rated measure for assessing alexithymia. The first results of the validation process of the original version of the TSIA demonstrated adequate interrater, internal and test-retest reliability, and adequate item characteristics as well as a significant correlation with the TAS-20 total score in a clinical population, suggesting sufficient reliability and concurrent validity of the instrument (Bagby et al., 2006). The internal and inter-rater reliability were confirmed in subsequent investigations with German and Italian language versions of the TSIA (Caretti et al., 2011; Grabe et al., 2009). With the English, German and Italian language versions confirmatory factor analyses supported a hierarchical, four-factor structure of the TSIA, with 4 lower-order factors [difficulty identifying feelings (DIF), difficulty describing feelings (DDF), externally oriented thinking (EOT) and imaginal processes (IMP)] nested within 2 higher-order latent factors [affect awareness (AA) containing DIF and DDF, and operative thinking (OT) containing EOT and IMP]. However, the goodness of fit indices of this model showed no or only small differences with the fit indices of a non-hierarchical, four-factor model with the four factors DIF, DDF, EOT and IMP.

The aim of the current study was to evaluate the psychometric properties of a Dutch language version of the TSIA in a clinical sample comprised of psychiatric inpatients and tinnitus outpatients. We estimated the internal reliability of the Dutch TSIA and its 4 subscales in the total sample, and the inter-rater reliability in a smaller randomly selected sub-sample of the psychiatric sample (N = 40). The factorial validity of the Dutch TSIA was evaluated in the total sample (N = 161). We tested the eight models also examined in the studies of Bagby et al. (2006) and Caretti et al. (2011) investigating the validity of the TSIA. We also compared the two models, the non-hierarchical four-factor model and the hierarchical four-factor model nested within two higher order factors, providing the best fit in previous research (Bagby et al. 2006; Caretti et al., 2011; Grabe et al., 2009). Finally we assessed the concurrent validity of the TSIA by investigating its relations with the Dutch translation of the TAS-20.
CHAPTER 3

METHOD

Instruments

The 20-item Toronto Alexithymia Scale (TAS-20; Bagby, Taylor et al., 1994) consists of three factor scales: difficulty identifying feelings (DIF), difficulty describing feelings (DDF) and externally oriented thinking (EOT). Each item is rated on a five-point Likert scale. Total scores range from 20 to 100, with higher scores indicating greater alexithymia. The Dutch translation of the TAS-20 was obtained by means of a translation and back-translation procedure and the final version was established in consultation with the original authors of the instrument (Kooiman, Spinhoven, & Trijsburg, 2002). The psychometric properties of this version were evaluated recently in both clinical and non-clinical samples and can be considered adequate (Meganck et al., 2008).

The Toronto Structured Interview for Alexithymia (TSIA; Bagby et al., 2006) consists of 24 questions addressing the four core dimensions of alexithymia. Each question is scored on a Likert scale from zero to two. A score of “0” is given if the characteristic is never or rarely present, or is not a feature of the respondent: a score of “1” indicates that the characteristic is present sometimes or is a partial feature of the respondent and a score of “2” is assigned if the characteristic is present most of the time or is a clear feature of the respondent. Higher scores indicate a higher degree of alexithymia for each item and facet scale and for the total TSIA score. Total scores range from 0 to 48. For each question there is a set of probes to elicit information assisting in the accurate scoring of the item, which are also keyed to the thematic content of the item. The same set of questions and prompts of the original English language version was translated into Dutch by means of a translation and back-translation procedure in consultation with two of the original authors of the instrument.
Participants

The sample consisted of 161 patients (81 women, 80 men) with a mean age of 43.65 years ($SD = 13.38$). In terms of education level, 13.7% of the participants attended elementary school only; 18% completed a first cycle (3 years) and 39.8% a second cycle (6 years) in high school; 21.1% obtained a non-academic degree and 7.5% an academic degree in higher education.

Part of this sample consisted of 85 inpatients suffering from mood and anxiety disorders who were recruited from intake wards at psychiatric hospitals the Dutch speaking region of Belgium. In this sample, 62.4% were women and the mean age was 39.92 ($SD = 12.26$). Manifestly psychotic patients and patients primarily hospitalised for substance abuse were excluded. The other part of the sample ($N = 76$; 36.8% female; mean age of 47.82, $SD = 13.42$) were medical outpatients suffering from tinnitus, a psychosomatic symptom that is described as a phantom auditory perception (Jastreboff, 1990). The tinnitus patients were recruited from the Ghent University Hospital in the Dutch speaking region of Belgium. All of these patients had an ear, nose and throat examination and an assessment by an audiologist; for none of the patients was tinnitus a manifestation of another medical condition. Each participant received information about the study and gave informed consent. The study was approved by the Ethics Review Board of the Faculty of Psychology and Educational Sciences, Ghent University.

Procedure

All participants completed a demographic information questionnaire and the TAS-20 before the TSIA was administered. The TSIA interviews were conducted by three clinician/researchers at Ghent University (two for the psychiatric sample and one for the medical sample); they were masked to the TAS-20 scores. The three interviewers were required to read a book chapter on alexithymia (Taylor et al., 1997), and were trained in the administration of the TSIA by studying a manual, which provides guidelines for the administration and scoring of the TSIA (Bagby, Taylor, Dickens, &
Parker, unpublished manual, 2009), and through discussion, based on scored interviews, of the scoring rules with the original authors. All interviews were audio-recorded. To examine inter-rater reliability, 40 audio-recordings of TSIA administration interviews were randomly selected from the psychiatric sample. Each of the two interviewers for the psychiatric sample rated the audio-recordings of the 20 TSIAs administered by the other interviewer. The inter-rater reliability was calculated on these data.

Statistical analysis

The internal consistency of the TSIA was evaluated using Cronbach’s alpha and mean inter-item correlations (MIC). The recommended standard for Cronbach’s alpha coefficient is .70 or higher, and the optimal range for MIC is .20 to .40 (Briggs & Cheek, 1986; Nunnally & Bernstein, 1994). Estimates of inter-rater reliability were calculated for the TSIA total score and for the 2 domain and 4 facet scales. Intra-class correlation coefficients (ICC) were used to assess the level of agreement between pairs of raters. ICCs are considered excellent if greater than .74, good from .60 to .74, fair from .40 to .59, and poor if less than .40 (Landis & Koch, 1997).

The factorial validity of the Dutch TSIA was tested in the combined sample ($N = 161$) using confirmatory factor analysis (CFA) of the covariance matrices with Lisrel 8.7 (Jöreskog & Sörbom, 1993). Goodness-of-fit (GOF) was assessed using the following GOF indices: the $\chi^2/df$ ratio, with values of 2 or less indicating a good fit; the comparative fit index (CFI), with values greater than .90 indicating acceptable fit; the standardized root mean square residual (SRMS), for which a cut-off value of .08 or less is recommended; and the root mean square error of approximation (RMSEA), with values less than .06 indicating acceptable fit, and higher boundary of RMSEA 90% confidence interval less than .08 (Browne & Cudeck, 1993; Hu & Bentler, 1999; Jöreskog & Sörbom, 1993).
Following the validation procedure for the original English-language TSIA (Bagby et al., 2006) and the German and Italian translations of the TSIA (Caretti et al., 2011; Grabe et al., 2009), we tested multiple models in the combined sample, including:

1. Model 1a: a 1-factor model, in which all items load on a single factor.
2. Model 2a: a 2-factor, non-hierarchical model, in which all of the items from the DIF and DDF scales load on one domain factor labelled Affect Awareness (AA), and all of the items from the EOT and IMP scales load on a second correlated domain factor labelled Operatory Thinking (OT).
3. Model 2b: a 2-factor, hierarchical model, with the two factors identified in Model 2a nested under a single, higher-order factor.
4. Model 3a: a 3-factor, non-hierarchical model, in which all of the items from the DIF and DDF scales load on a single factor and the items from the EOT and IMP scales load on separate correlated factors.
5. Model 3b: a 3-factor, hierarchical model with each of the three factors identified in Model 3a nested under a single, higher-order factor.
6. Model 4a: a 4-factor, non-hierarchical model, in which the items from DIF, DDF, EOT, and IMP each load on four separate, correlated facet factors.
7. Model 4b: a 4-factor, hierarchical model in which each of the separate facet factors are nested under a single higher-order factor.
8. Model 4c: a 4-factor, hierarchical model in which the first two facet factors (containing DIF and DDF items) are nested under one higher-order domain factor AA, and the second two facet factors (containing EOT and IMP items) are nested under a second higher-order domain factor OT.

The Akaike information criterion (AIC) was used to compare models 4a and 4c, which showed the best fit in previous studies (Bagby et al., 2006; Caretti et al., 2011; Grabe et al., 2009). The model with the lowest AIC is considered best when comparing models (Tanaka, 1993). To exclude the possibility that the factor structure would be different in the psychiatric and medical samples, and in order to determine if
the factor structure of the model with the best fit in the combined sample was applicable to both samples, we tested whether the factor-loadings of this model were the same in the medical and psychiatric samples. We used the CFI (Chueng & Rensvold, 2002) to test the metric invariance of this model. The hypothesis of invariance was accepted if the difference in CFI values between a hypothetical model (H1), in which all factor-loading parameters are equal across groups, and an unconstrained multi-group model (H0), was smaller than or equal to .01.

Concurrent validity was examined using Pearson correlations between TSIA total, domain, and facet scale scores and TAS-20 total and factor scale scores in the combined sample and separately in the medical and psychiatric samples. Cohen ds values of .10, .30, and .50 correspond to small, medium and large effects, respectively (Cohen, 1988).

RESULTS

Descriptive statistics

The mean scores and standard deviations (SD) for the TSIA and its domain and facet scales and for the TAS-20 and its factor scales are shown in Table 1 for the total sample and for the psychiatric sample and the tinnitus sample separately. For the total sample the mean TSIA total score was 20.37 and the mean TAS-20 total score 54.90. While mean scores for the TSIA in the two subsamples did not differ significantly ($t = .51$, $df = 159$, $p = .61$), the mean TAS-20 total score of the psychiatric subsample was significantly higher than the mean TAS-20 total score of the tinnitus subsample ($t = 6.30$, $df = 156$, $p < .01$).
Table 1. Descriptive statistics of TSIA and TAS-20

<table>
<thead>
<tr>
<th>Sample</th>
<th>Factors</th>
<th>TSIA</th>
<th>TAS-20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
<td>20.37</td>
<td>10.91</td>
</tr>
<tr>
<td>Sample</td>
<td>DIF</td>
<td>3.91</td>
<td>3.29</td>
</tr>
<tr>
<td></td>
<td>DDF</td>
<td>5.65</td>
<td>3.73</td>
</tr>
<tr>
<td></td>
<td>EOT</td>
<td>5.61</td>
<td>3.48</td>
</tr>
<tr>
<td></td>
<td>IMP</td>
<td>5.20</td>
<td>3.43</td>
</tr>
<tr>
<td></td>
<td>AA</td>
<td>9.56</td>
<td>6.28</td>
</tr>
<tr>
<td></td>
<td>OT</td>
<td>10.81</td>
<td>5.95</td>
</tr>
<tr>
<td>Tinnitus/</td>
<td>Total</td>
<td>19.91/20.79</td>
<td>12.37/9.47</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>DIF</td>
<td>3.71/4.08</td>
<td>3.47/3.13</td>
</tr>
<tr>
<td></td>
<td>DDF</td>
<td>5.86/5.47</td>
<td>4.16/3.30</td>
</tr>
<tr>
<td></td>
<td>EOT</td>
<td>5.84/5.41</td>
<td>3.70/3.28</td>
</tr>
<tr>
<td></td>
<td>IMP</td>
<td>4.50/5.82</td>
<td>3.96/2.74</td>
</tr>
<tr>
<td></td>
<td>AA</td>
<td>9.55/9.57</td>
<td>5.77/6.84</td>
</tr>
<tr>
<td></td>
<td>OT</td>
<td>11.24/10.34</td>
<td>5.05/6.82</td>
</tr>
</tbody>
</table>

Note. DIF: difficulty identifying feelings; DDF: difficulty describing feelings; EOT: externally oriented thinking; IMP: impaired imaginal processes. Total Sample N = 161 for TSIA; 158 for TAS-20; Psychiatric Sample N = 85 for TSIA and TAS-20; Tinnitus Sample N = 76 for TSIA and N = 73 for TAS-20.

Reliability

Chronbach’s alpha for TSIA total and facet scales are displayed in Table 2, as well as the mean inter-item correlations (MIC) and intra-class correlations (ICC). At the scale level, Cronbach alpha for the TSIA total score, as well as for the facet and domain scales exceeded the .70 criterion. The MIC of the domain and facet scales are in the .15 to .50 recommended range.
Table 2. Cronbach’s Alpha, Mean Inter-Item Correlations and Intra-Class Correlation Coefficients for Inter-Rater Reliability for TSIA-total and subscales.

<table>
<thead>
<tr>
<th></th>
<th>( \alpha )(^a)</th>
<th>MIC(^a)</th>
<th>ICC(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>.91</td>
<td>.31</td>
<td>.88</td>
</tr>
<tr>
<td>DIF</td>
<td>.85</td>
<td>.48</td>
<td>.79</td>
</tr>
<tr>
<td>DDF</td>
<td>.86</td>
<td>.51</td>
<td>.89</td>
</tr>
<tr>
<td>EOT</td>
<td>.82</td>
<td>.43</td>
<td>.90</td>
</tr>
<tr>
<td>IMP</td>
<td>.81</td>
<td>.41</td>
<td>.87</td>
</tr>
<tr>
<td>AA</td>
<td>.91</td>
<td>.42</td>
<td>.87</td>
</tr>
<tr>
<td>OT</td>
<td>.85</td>
<td>.33</td>
<td>.88</td>
</tr>
</tbody>
</table>

Note. Total: total score of the Toronto Structured Interview for Alexithymia; DIF: difficulty identifying feelings; DDF: difficulty describing feelings; EOT: externally oriented thinking; IMP: impaired imaginal processes; AA: affect awareness; OT: operative thinking.

\(^a\) \( N = 161 \); \(^b\) \( N = 40 \);

The MIC is considered a more useful index than the coefficient alpha because of the independence of the number of items (Clark, & Watson, 1995). Internal consistency of the TAS-20 in the combined sample was acceptable for the total scale (\( \alpha = .82 \); MIC = .17), and good for the DIF (\( \alpha = .86 \); MIC = .46) and DDF factor scales (\( \alpha = .77 \); MIC = .39), but was smaller for the EOT factor scale (\( \alpha = .48 \); MIC = .10). All ICCs of the current study fall in the ‘good’ or ‘excellent’ range (Landis, & Koch, 1977) which indicates that there is a good level of agreement between two raters.

Pearson Correlations between the TSIA total scores, and its domain and facet scales are displayed in Table 3. All correlations are significant at the \( p < .01 \) level. The correlation between the Affect Awareness (AA) and Operatory Thinking (OT) domain scales is .60.
Table 3. Pearson Correlations among the TSIA and its domain and facet scales in the total sample (N = 161)

<table>
<thead>
<tr>
<th></th>
<th>TOT</th>
<th>AA</th>
<th>OT</th>
<th>DIF</th>
<th>DDF</th>
<th>EOT</th>
<th>IMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOT</td>
<td>1</td>
<td>.89**</td>
<td>.90**</td>
<td>.77**</td>
<td>.84**</td>
<td>.82**</td>
<td>.71**</td>
</tr>
<tr>
<td>AA</td>
<td></td>
<td>1</td>
<td>.60**</td>
<td>.88**</td>
<td>.91**</td>
<td>.61**</td>
<td>.41**</td>
</tr>
<tr>
<td>OT</td>
<td></td>
<td></td>
<td>1</td>
<td>.48**</td>
<td>.58**</td>
<td>.86**</td>
<td>.86**</td>
</tr>
<tr>
<td>DIF</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>.60**</td>
<td>.49**</td>
<td>.32**</td>
</tr>
<tr>
<td>DDF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>.59**</td>
<td>.41**</td>
</tr>
<tr>
<td>EOT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>.48**</td>
</tr>
<tr>
<td>IMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Note: TOT: total score of the Toronto Structured Interview for Alexithymia; IMP: impaired imaginal processes; AA: affect awareness; OT: operative thinking; DIF: difficulty identifying feelings; DDF: difficulty describing feelings; EOT: externally oriented thinking;
** p < .01

Confirmatory Factor Analysis

The GOF indices for the tested models are shown in Table 4. For models 1a, 2a, and 2b none of the indices were acceptable; for models 3a and 3b only the SRMR is acceptable. For model 4b only the χ²/df and the SRMR indicate an acceptable fit. For models 4a and 4c the values of the fit indices show an adequate fit: the χ²/df ratios are less than 2; the CFI is .90 and the SRMR is .07 for both models. The RMSEA with a value of .061 just exceeds the cut-off of .060 for a good fit, but is still acceptable and a higher boundary of RMSEA 90% confidence interval of .07 indicates a good fit as well (Hu & Bentler, 1999; Jöreskog & Sörbom, 1993). There is only a slight difference in the χ²/df ratio between model 4a, the four-factor non-hierarchical model, and model 4c, the four-factor hierarchical model with the four factors nested under two higher order factors AA and OT. A comparison of the AIC values, however, indicates that model 4c is preferable to model 4a (see Table 4). Finally, we tested metric invariance of the hierarchical four-factor solution (model 4c) across the psychiatric and medical samples. We observed a difference between the two values of .01 (CFI H₀ = .849 and CFI H₁ = .839), indicating that measurement invariance can be assumed.
<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$ (df)</th>
<th>$\chi^2$/df</th>
<th>SRMR</th>
<th>RMSEA (90%CI)</th>
<th>CFI</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1a</td>
<td>1078.62 (252)</td>
<td>4.28</td>
<td>.104</td>
<td>.143 (.134-.152)</td>
<td>.65</td>
<td>1174.62</td>
</tr>
<tr>
<td>Model 2a</td>
<td>774.76 (251)</td>
<td>3.09</td>
<td>.090</td>
<td>.114 (.105-.123)</td>
<td>.75</td>
<td>872.76</td>
</tr>
<tr>
<td>Model 2b</td>
<td>774.76 (250)</td>
<td>3.10</td>
<td>.090</td>
<td>.115 (.105-.124)</td>
<td>.75</td>
<td>874.76</td>
</tr>
<tr>
<td>Model 3a</td>
<td>594.48 (249)</td>
<td>2.39</td>
<td>.078</td>
<td>.094 (.084-.103)</td>
<td>.82</td>
<td>696.48</td>
</tr>
<tr>
<td>Model 3b</td>
<td>594.47 (249)</td>
<td>2.39</td>
<td>.078</td>
<td>.093 (.084-.103)</td>
<td>.82</td>
<td>696.47</td>
</tr>
<tr>
<td>Model 4a</td>
<td>422.83 (246)</td>
<td>1.72</td>
<td>.073</td>
<td>.061 (.050-.072)</td>
<td>.90</td>
<td>502.36</td>
</tr>
<tr>
<td>Model 4b</td>
<td>409.25 (248)</td>
<td>1.65</td>
<td>.076</td>
<td>.064 (.053-.075)</td>
<td>.89</td>
<td>513.25</td>
</tr>
<tr>
<td>Model 4c</td>
<td>422.83 (247)</td>
<td>1.71</td>
<td>.073</td>
<td>.061 (.050-.072)</td>
<td>.90</td>
<td>500.34</td>
</tr>
</tbody>
</table>

**Note.** $df =$ degrees of freedom; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation; (90%CI) = 90% confidence interval of RMSEA; CFI = comparative fit index; AIC = Akaike Information Criterion.
Concurrent validity

Relations between the TSIA and the TAS-20 were examined in the total sample and in both subsamples.

Table 5. Pearson correlations between the TSIA and its domain and facet scales and the TAS-20 and its factor scales.

<table>
<thead>
<tr>
<th></th>
<th>TAS-20 TOT</th>
<th>TAS-20 DIF</th>
<th>TAS-20 DDF</th>
<th>TAS-20 EOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Sample a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSIA TOT</td>
<td>.34**</td>
<td>.16*</td>
<td>.29**</td>
<td>.40**</td>
</tr>
<tr>
<td>TSIA AA</td>
<td>.35**</td>
<td>.20*</td>
<td>.32**</td>
<td>.32**</td>
</tr>
<tr>
<td>TSIA OT</td>
<td>.26**</td>
<td>.08</td>
<td>.19*</td>
<td>.39**</td>
</tr>
<tr>
<td>TSIA DIF</td>
<td>.30**</td>
<td>.22**</td>
<td>.23**</td>
<td>.24**</td>
</tr>
<tr>
<td>TSIA DDF</td>
<td>.33**</td>
<td>.14</td>
<td>.33**</td>
<td>.33**</td>
</tr>
<tr>
<td>TSIA EOT</td>
<td>.27**</td>
<td>.08</td>
<td>.22**</td>
<td>.41**</td>
</tr>
<tr>
<td>TSIA IMP</td>
<td>.18*</td>
<td>.06</td>
<td>.12</td>
<td>.27**</td>
</tr>
<tr>
<td>Psychiatric Sample b</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSIA TOT</td>
<td>.43**</td>
<td>.24*</td>
<td>.37**</td>
<td>.35**</td>
</tr>
<tr>
<td>TSIA AA</td>
<td>.40**</td>
<td>.25*</td>
<td>.39**</td>
<td>.26*</td>
</tr>
<tr>
<td>TSIA OT</td>
<td>.34**</td>
<td>.17</td>
<td>.25*</td>
<td>.36**</td>
</tr>
<tr>
<td>TSIA DIF</td>
<td>.29**</td>
<td>.23*</td>
<td>.25*</td>
<td>.16</td>
</tr>
<tr>
<td>TSIA DDF</td>
<td>.42**</td>
<td>.22*</td>
<td>.44**</td>
<td>.30**</td>
</tr>
<tr>
<td>TSIA EOT</td>
<td>.44**</td>
<td>.29**</td>
<td>.30**</td>
<td>.38**</td>
</tr>
<tr>
<td>TSIA IMP</td>
<td>.10</td>
<td>-.03</td>
<td>.09</td>
<td>.20</td>
</tr>
<tr>
<td>Medical Sample c</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSIA TOT</td>
<td>.31**</td>
<td>.08</td>
<td>.23</td>
<td>.45**</td>
</tr>
<tr>
<td>TSIA AA</td>
<td>.37**</td>
<td>.18</td>
<td>.29*</td>
<td>.39**</td>
</tr>
<tr>
<td>TSIA OT</td>
<td>.19</td>
<td>-.04</td>
<td>.13</td>
<td>.43**</td>
</tr>
<tr>
<td>TSIA DIF</td>
<td>.31**</td>
<td>.19</td>
<td>.19</td>
<td>.32**</td>
</tr>
<tr>
<td>TSIA DDF</td>
<td>.36**</td>
<td>.14</td>
<td>.32**</td>
<td>.38**</td>
</tr>
<tr>
<td>TSIA EOT</td>
<td>.23*</td>
<td>-.05</td>
<td>.23</td>
<td>.45**</td>
</tr>
<tr>
<td>TSIA IMP</td>
<td>.11</td>
<td>-.03</td>
<td>.01</td>
<td>.33**</td>
</tr>
</tbody>
</table>

Note: a: N = 158; b: N = 85; c: N = 73. AA = affect awareness; OT = operative thinking; DIF = difficulty identifying feelings; DDF = difficulty describing feelings; EOT = externally oriented thinking; IMP = imaginal processes; *p < .05; ** p < .01
In the tinnitus sample, three patients did not complete the TAS-20 resulting in a sample size of 158 for the total sample, 85 for the psychiatric subsample and 73 for the tinnitus sample. In the total sample, most Pearson correlations between the TSIA and its domain and facet scales and the TAS-20 and its factor scales are significant (see Table 5). However, the IMP facet scale of the TSIA is not significantly correlated with TAS-20 DIF and DDF factor scales. Furthermore, the DIF factor scale of the TAS-20 is only significantly related to the TSIA total score, the AA domain and its corresponding DIF facet scale of the TSIA. Pearson correlations for the two subsamples are also shown in Table 5. Overall, the correlations in the tinnitus sample for the TAS-20 DIF and DDF factor scales show few significant correlations with the TSIA total score, domain and facet factors. We compared the correlation between TSIA total score and TAS-20 total score in the psychiatric \( r = .43 \) and the medical sample \( r = .31 \) using the Fisher r-to-z transformation and observed that these correlations did not differ significantly \( z = .86, p = .39 \).

**DISCUSSION**

In this study we demonstrated that the Dutch language translation of the TSIA has adequate internal consistency and inter-rater reliability and a factor structure consistent with the English, German and Italian version of the instrument (Bagby et al., 2006; Caretti et al., 2011; Grabe et al., 2009). In both the psychiatric and the tinnitus sample, the mean TSIA total scores are comparable to results from a mixed inpatient and outpatient German psychiatric sample (Grabe et al., 2009) and to a Canadian psychiatric outpatient sample (Bagby et al., 2006). The correlation between the Affective Awareness domain scale and the Operatory Thinking domain scale and significant correlations between the AA facet scales (DIF, DDF) and the OT facet scales (EOT, IMP) are similar to previous research findings and confirm the theoretical formulations in that alexithymia consists of two related dimensions: Affect Awareness and Operatory Thinking. As with the English version of the TSIA and the German and Italian translations, the hierarchical and non-hierarchical four-factor models provided the best fit. Although these two models differed
only slightly in fit indices, the hierarchical model composed of two-higher order factors (domain scales) and four lower-order factors (facet scales) was considered preferable as it had a lower AIC value. As stated in the studies by Bagby and colleagues (2006) and Grabe and colleagues (2009), this model also proved to be most consistent with theoretical formulations of Nemiah and Sifneos (1970).

With respect to the concurrent validity, the correlation in the total sample between TSIA and TAS-20 total scores corresponded to a moderate effect size (Cohen, 1988). This correlation is lower than the correlations reported by Grabe and colleagues (2009) in a German psychiatric patient sample, by Caretti and colleagues (2011) in a mixed clinical and nonclinical sample, and by Bagby and colleagues (2006) in a Canadian psychiatric patient sample; but is comparable to the correlation observed by Bagby and colleagues (2009) in a Canadian community student sample. Bagby and colleagues refer to the more restricted variance of the TSIA total and facet scores in explaining the lower magnitude of the correlations in the community sample, compared to those in the psychiatric sample. However, we observed that in our sample the range of the TSIA total score and facet scores was not restricted (TSIA total scores range from 0 to 46) and no outliers could be identified when checking the scatter plot of the TSIA total scores. The lower effect size of the correlation between TSIA and TAS-20 in our sample could not be explained by a restricted variance. We thus argue that an alternative explanation can be found in the difference of correlations between TSIA and TAS-20 and their mean scores in the medical and psychiatric subsample. We noticed that in the medical sample, the correlation between the TAS-20 affect awareness scales and the TSIA total, domain and facet scores were lower. The correlation between TSIA and TAS-20 total scores was also lower in the medical sample, however the difference was not significant. Next to this, we observed also that there was a significant difference in mean TAS-20 total scores with medical patients scoring lower than psychiatric patients, while TSIA scores did not differ significantly. We think these observations could be related to clinical characteristics of the two subsamples. Some authors argue that the DIF and DDF factor scales of the self-report TAS-20 possibly measure an individual’s beliefs about his or her difficulties in identifying and describing emotions, which could result in too low
scores for individuals who lack knowledge about these meta-emotional difficulties (e.g. Lundh, Johnsson, Sundqvist, & Olsson, 2002). We thus hypothesize that psychiatric patients, often suffering from emotional disorders as anxiety and depression, may focus extensively on how they feel, and may be more worried and confused about their feelings, whereas somatizing patients (e.g. suffering from tinnitus) may attribute more physically and may be less likely to present with emotional difficulties (Duddu, Isaac, & Chaturvedi, 2006). Possibly these patients lack knowledge about their feelings and receive too low scores on the self-report TAS-20 DIF and DDF factor scales, whereas the TSIA may avoid this bias to a certain degree by asking for specific examples and using probes to carefully map to what extent someone has difficulties in affect awareness. This hypothesis should be examined more thoroughly in future research to see whether differences in self-report alexithymia measures and interview or performance based measures are consistently found in medical patients suffering from somatic symptoms like tinnitus. Finally, we noted that the fantasy and imaginal thinking (IMP) aspect of alexithymia needs further revision. In our study the IMP factor scale of the TSIA does not seem to be related to scores on the DIF and DDF factor scales of the TAS-20. This is in line with previous research in which the IMP factor scale overall shows the lowest correlations with the TAS-20 DIF and DDF factor scales (Bagby et al., 2006; Grabe et al., 2009) and even a small significant negative correlation with TAS-20 DIF in the study of Caretti et al. (2011). It is not unexpected that the IMP factor of the TSIA shows the smallest correlations with the TAS-20 total score since items assessing imaginal processes were left out of the TAS-20 because they could not be measured adequately in this self-report scale. However, the EOT factor scale of the TAS-20 did correlate significantly with the IMP facet scale, supporting the view that despite the absence of TAS-20 items for assessing imaginal activity, the EOT factor scale might partly assess this facet of the alexithymia construct (Bagby, Parker et al., 1994). Nevertheless, we should expect that this IMP dimension, when measured reliably using the TSIA, is also related to the other dimensions of the multi-dimensional alexithymia construct (DIF, DDF and EOT) whether measured using the TSIA or TAS-20.

Limitations of the study are the rather small sample size. Also the inclusion of only one self-report instrument to investigate the
concurrent validity limits the conclusions and future research might include alternative alexithymia measures or emotional awareness scales. Finally, the fact that the assessment of interrater reliability was limited to one subsample limits the generalisability of the findings. However, since our interrater reliability was excellent and corresponded to previous results (Bagby et al., 2006; Caretti et al., in press; Grabe et al., 2009), corresponding results could be expected for reliability in the medical sample.

Although we need to be careful in generalizing our results because of these limitations, our study clearly confirmed previous results (Bagby et al., 2006; Caretti et al., in press; Grabe et al., 2009). We thus conclude that the Dutch version of the TSIA is a reliable and valid instrument to measure alexithymia and argue that the TSIA should be included in a multi-method approach for the measurement of alexithymia. Even though future research is needed, we hypothesize that in specific samples (for example medical patients) the use of the TSIA to examine alexithymia should be preferred over self-report instruments because patients may not be aware of certain difficulties they have in the affect awareness domain. Therefore it is important to study the reliability and validity of the TSIA in different kinds of clinical samples. With this study of the Dutch TSIA confirming the previous results of the original English language, German and Italian versions a further step is taken in the validation process of the TSIA. However, future research should examine the TSIA, as was done for the TAS-20 also, in different cultures to find out whether the same factor structure could be replicated in non-Western countries as well.
REFERENCES


THE ASSESSMENT OF THE SOCIAL COGNITION AND OBJECT RELATIONS SCALE ON TAT AND INTERVIEW DATA.

This study examines the reliability and convergent validity of two versions of the Social Cognition and Object Relations Scale (SCORS), one for use with Thematic Apperception Test narratives (SCORS-TAT; Westen, 1990) and one for use with clinical interview data (SCORS-CDI; Westen, Barends, Leigh, Mendel, & Silbert, 1990). Four SCORS dimensions were evaluated. Data were collected in a psychiatric sample (n = 74). Results show that while inter-rater reliability was good for all dimensions, internal consistency was low especially for the affective dimensions. Structural Equation Modelling in which a model with two factors (i.e. SCORS-TAT and SCORS-CDI) and four dimensions each was tested, indicated low convergence between corresponding dimensions of SCORS-TAT and SCORS-CDI. Correlational analyses suggested that this was due to a strong method factor. Regression analyses, however, revealed that the presence of a personality disorder operated as a moderator for convergence between corresponding cognitive-structural dimensions.

This chapter is based on Inslegers, R., Vanheule, S., Meganck, R., Debaere, V., Trenson, E., Desmet, M., & Roelstraete, B. (under review). The assessment of the Social Cognition and Object Relations Scale on TAT and interview data. Journal of Personality Assessment.
INTRODUCTION

Cognitive and affective characteristics of object and interpersonal relations have been explored in domains like developmental psychology and psychoanalysis (for a review: see Westen, 1991). Social cognition and object relations are thought to predict social functioning (e.g. Peters, Hilsenroth, Eudell-Simmons, Blagys, & Handler, 2006), and prove to be impaired in schizophrenia and personality disorders (Ackerman, Clemence, Weatherill, & Hilsenroth, 1999; Dimaggio, Lysaker, Carcione, Nicolò, & Semerari, 2008; Lysaker, Dimaggio, Buck, Carcione, & Nicolò, 2007; Westen, 1991).

Most object relation theorists agree that object relations can be understood as affectively coloured mental representations of self and others, which originate early in development. Their content, structure, and affective quality are proposed to mediate interpersonal functioning (Huprich & Greenberg, 2003). Social cognition researchers, on the other hand, focus on cognitive processes that are understood to influence interpersonal behaviour. In this context, schemata theory documents the influence of schemas on interpersonal functioning through social cognition and memory (Westen, 1991). Westen argued (1991) that as both approaches focus on the processes that mediate interpersonal functioning they should be integrated. He therefore developed a scoring system to assess different dimensions of object relations, known as the Social Cognition and Object Relations Scale (SCORS; Westen, 1990).

In this study, the following four dimensions of the SCORS were assessed; a) Complexity of representations of people (Complexity), which refers to the richness and differentiation of an individual’s representations of self and others, i.e., the extent to which self and others are seen as psychological beings with stable multidimensional dispositions; b) Affect-tone of relationship paradigms (Affect-tone), which refers to the affective quality of representations of people and relationships and the degree to which profound malevolence or pain are expected from others; c) Capacity for emotional investment in relationships and moral standards (Emotional Investment), which
refers to whether relationships are experienced as meaningful and committed or are used in instrumental ways; and d) *Understanding of social causality* (Social Causality), which refers to the extent to which attributions of the causes of people’s actions, thoughts, and feelings are logical, complex, and psychologically minded. These subscales are interrelated but assess distinct aspects of object relations and social cognition (Westen, 1990). *Complexity* and *Social Causality* are described as ‘cognitive-structural dimensions’ while *Affect-tone* and *Emotional Investment* are considered ‘affective dimensions.’ Furthermore, *Emotional Investment* shares variance with *Affect-tone* and to a lesser extent with *Complexity* and *Social Causality* (Hibbard, Hilsenroth, Hibbard, & Nash, 1995). Apart from *Affect-tone*, the subscales measure developmental aspects of object relations and social cognition (Westen et al., 1991).

Two versions of the SCORS have been developed to assess affective and cognitive aspects of an individual’s object relations and social cognitions; the first is scored on Thematic Apperception Test (TAT) narratives (Westen, 1990) and the second more widely on other narrative material, like interviews and psychotherapy transcripts (Westen, Barends, Leigh, Mendel, & Silbert, 1990). In this paper we test the reliability and convergent validity of four dimensions of both SCORS versions. We will refer to these two versions as SCORS-TAT and SCORS-interview.

Previous studies with the SCORS-TAT showed that the four SCORS subscales identify change in patients with severe psychopathology (Porcerelli et al., 2006); that *Affect-tone* and *Emotional Investment* are most effective for identifying different diagnostic groups (Stein, Hilsenroth, Pinskyer-Aspen, & Primavera, 2009; Westen, Lohr, Silk, Gold, & Kerber, 1990); and that these affective subscales are related to global relational functioning (Hibbard et al., 1995). The SCORS-TAT *Complexity* subscale, in its turn, proves to be related to structural personality organisation (Eurelings-Bontekoe, Luyten, & Snellen, 2009) and *Complexity* as well as *Social Causality* were observed to be improved significantly after 16 months of inpatient treatment (Fowler et al., 1994).
Regarding the SCORS-interview version, a study of Peters and colleagues (2006) found that the SCORS composite score, coded on a semi-structured interview and psychotherapy transcripts, was related to global psychiatric symptomatology as well as to impairments in relational functioning. Yet, at the subscale level, only the affective dimensions were significantly related to these impairments. Similarly, Porcerelli, Cogan and Hibbard (1998) observed that the affective dimensions of the SCORS coded on relationship episodes correlated with self-reported personality pathology. The SCORS-interview Complexity dimension, in its turn, has been found to be associated with a stronger alliance with the therapist when coded on early memory narratives (Pinsker-Aspen, Stein, & Hilsenroth, 2007). For an overview of studies which examined the relation between clinical variables and SCORS-TAT and SCORS-interview subscales, see Huprich and Greenberg (2003).

Although few studies have investigated associations between the SCORS subscales and demographic variables, a study using the SCORS-TAT found no evidence of associations between the four SCORS subscales and age and gender (Fowler et al., 2004). A study using the SCORS-interview did also not observe an association with gender (Cogan & Porcerelli, 1996). Some studies have demonstrated a link between verbal productivity (i.e. total number of words used) and the subscales Complexity coded on TAT narratives and interpersonal narratives (Leigh, Westen, Mendel & Byers, 1992) and Complexity and Social Causality when coded on early memory test narratives (Pinsker-Aspen et al., 2007). Yet, no relation was found with the affective subscales.

Several studies have evaluated the reliability and validity of the SCORS. All SCORS dimensions rated on TAT narratives have shown good to excellent inter-rater reliability and evidence for convergent and discriminant validity of the SCORS subscales is also accumulating (Ackerman, Hilsenroth, Clemence, Weatherill, & Fowler, 2001; Porcerelli et al., 2006; for a review see Huprich & Greenberg, 2003). For example a study investigating the convergent validity of the SCORS observed small to moderate effect size correlations between the structural Concept of the Object scales (COR) coded on the Rorsach and SCORS cognitive-structural dimensions (Hibbard et al.,
1995). Studies that have used the SCORS version for coding broader narrative material, such as interview data (e.g. Porcerelli et al., 1998) and therapeutic narratives (Peters et al., 2006), have demonstrated good inter-rater reliability and convergent validity as well.

However, only two studies evaluated the convergence between SCORS ratings of TAT narratives and SCORS ratings of other narrative material. These studies examined the convergence of the Complexity and Affect-tone subscales of the two SCORS versions in a student population. Significant correlations of .42 and .23 were found to support the convergent validity of these subscales (Barens, Westen, Leigh, Silbert, & Byers, 1990; Leigh et al., 1992). As stated by Cohen (1992) correlations with values of .10, .30 and .50 correspond to small, medium and large effects, respectively. Thus, the observed correlations correspond to a medium effect for Complexity and to a small effect for Affect-tone. This suggests that the subscales differ in the extent to which ratings on different narrative material converge. Barends and colleagues (1990) propose a combination of four factors that could have caused the small correlations for Affect-tone, i.e., the homogeneity of the sample (i.e. student sample); the low internal consistency of the subscale; the constraints implemented on affect-tone by explicitly asking participants to depict one pleasant and two unpleasant interactions in the interview - thus minimizing the variability of affect-tone in the episodes among participants--; and finally the inherent differences between the two types of data.

In this study we too address the issue of the convergent validity of the two SCORS versions. However, we extend previous research by examining the convergence of four dimensions scored on TAT narratives and on episodes from the Clinical Diagnostic Interview (CDI; Westen, 2006) in two ways. First we examine the convergence of TAT-based and CDI-based SCORS ratings using Structural Equation Modeling (SEM) to test a SCORS model, displayed in Figure 1. This model represents a latent structure with two method factors (TAT and CDI), each associated with four second order factors (i.e. the SCORS dimensions). In line with the studies of Barends et al. (1990) and Leigh et al. (1992) we also performed correlational analyses, which give a more direct picture of the convergence between corresponding SCORS-TAT and SCORS-CDI ratings. Because
corresponding subscales measure the same constructs, a strong convergence between the subscales of the two SCORS versions is expected. Recommendations of Barends et al. (1990) are taken into account by using a clinical sample and interview conditions without constraints on the affective dimension. In this way we avoid those factors as possible causes for a low convergence.

Figure 1. The SCORS model.

![Diagram of SCORS model](image)

NOTE. SCORS = Social Cognition and Object Relations Scale; TAT = Thematic Apperception Test; CDI = Clinical Diagnostic Interview; T-Complexity, ..., T-Social Caus = SCORS subscales coded on TAT narratives; C-complexity,...,C-Social Caus = SCORS subscales coded on CDI narratives.

Consequently, we hypothesize (a) that the SEM will yield good fit for the specified model and that significant parameter estimates will be observed for the relations between corresponding SCORS-CDI and SCORS-TAT factors and dimensions (see Figure 1), and (b) that
significant correlations will be observed between the corresponding SCORS-TAT and SCORS-CDI dimensions in the multi-trait-multi-method correlation matrix.

Furthermore, we explore whether the convergence between corresponding SCORS dimensions is moderated by the level of pathology as indicated by the presence of a personality disorder (PD). Although literature examining the convergence between a performance based measure like the Rorschach and a self-report scale like the Minnesota Multiphasic Personality Inventory (MMPI) indicates that moderator variables may differently affect two tests and account for a part of their relative independence (e.g. Meyer, 1996; Viglione, 1996), this question has never been addressed in previous research examining the convergence between SCORS versions.

Finally, we study reliability. Similarly to previous research we expect good inter-rater reliability and internal consistency for both versions of the SCORS and their subscales. Correlations between both versions of the SCORS subscales and demographic variables gender, age and education level and verbal productivity are examined in an exploratory way.

METHOD

Participants

The sample consists of 74 patients (64% female; Mean age of 39.41, SD = 12.48) from psychiatric hospitals in the Dutch speaking part of Belgium. In terms of education level, 8% attended elementary school only, 15% completed a first cycle (3 years) and 62% a second cycle (6 years) in high school, 11% obtained a non-academic degree and 4% an academic degree in higher education. All participants met DSM-IV Axis I criteria for the following diagnoses: mood disorders (70.3%), anxiety disorders (18.9%), schizo-affective disorders (2.7%), adjustment disorders (2.7%), somatoform disorders (1.4%), psychotic disorder not otherwise specified (1.4%), alcohol dependence (1.4%)
and eating disorders (1.4%). On Axis-II 31% of the patients had received one or two (10.8%) diagnoses. Diagnosis was deferred for 24.3% of the patients and 44.6% did not receive any diagnosis. Diagnosed personality disorders were avoidant PD (11.3%), obsessive compulsive PD (7.5%), borderline PD (6.3%), depressive PD (5%), passive-aggressive PD (3.7%), PD not otherwise specified (3.7%), paranoid PD (1.2%) and schizotypic PD (1.2%).

Measures

*The Thematic Apperception Test* (TAT; Murray, 1943) is a performance task. In our study six pictures are used. Cards 1, 3BM, 4 and 13MF because they are used in all studies known by us for SCORS scoring of TAT narratives (e.g. Barends et al., 1990; Eurelings-Bontekoe et al., 2009; Westen et al., 1990). Cards 6BM (elicits a parent-child situation) and 8BM (draws out a vague, non-specific interpersonal relation) were included because of their specific interpersonal characteristics. Standard clinical instructions as put forward by Murray (1943) were given to participants: “I am going to show you some pictures, one at a time, and your task will be to make up a story for each card. In your story, be sure to tell what has led up to the event shown in the picture, describe what is happening at the moment, what the characters are feeling and thinking, and then give the outcome. Tell a complete story with a beginning, middle, and end. Do you understand?”

*The Clinical Diagnostic Interview* (CDI; Westen, 2006) was developed to provide a comprehensive assessment of personality, pathology and more particularly affective experiences and interpersonal dynamics and can be used for research as well as for clinical purposes. In this approximately two-hour long interview a range of questions tap into the patient’s complaints, symptoms and life-history (e.g. *Could you tell me a little bit about yourself and what brought you here?*/ *Can you tell me about your relationship with your mother?* *What was (is) she like as a person, and what was she like as a parent?* *Now I'd like you to describe a specific encounter with your mother, something that stands out. It can be an incident that’s typical of your relationship, really meaningful, really good, really bad—whatever
comes to mind). In our study the CDI was administered and audio-recorded and afterwards transcribed verbatim.

The Social Cognition and Object Relations Scale (SCORS; Westen, 1990, Westen et al., 1990) is a multidimensional measure for the clinical assessment of object relations. For scoring the TAT narratives, we used the 7-point rating scale with lower scores (e.g., 1 or 2) indicating greater pathology and higher scores (e.g., 6 or 7) indicating greater psychological health. For coding the interpersonal episodes of the CDI, we followed the manual for coding interview data (Westen et al., 1990) by using a 5-point rating scale except for Complexity where a 7-point rating scale is used.

Procedure

Participants were recruited at intake wards of psychiatric hospitals. Manifestly psychotic patients and patients primarily hospitalised for substance abuse were excluded from this study. Each participant received oral and written information about the study and gave informed consent. Patients were interviewed three times by a clinically experienced and trained researcher. The first session included the CDI; the TAT was administered during the second session; and the Structural Diagnostic Interview for DSM-IV axis I and II disorders (SCID-I and SCID-II) was administered in the third session. Patients also filled out a demographic list.

The CDI and the TAT interviews were audiotaped and transcribed verbatim. For SCORS scoring purposes the first five episodes of the CDI discussing relationships with different significant others (i.e., partner, ex-partner, mother, father, children and/or siblings) were selected out of the transcripts of the whole CDI. So each time a patient started talking about one of these significant others, the beginning of an episode was indicated in the transcript. The end of an episode was set in the transcript when the patient began to talk about another topic. Episodes were limited to 5 minutes of speech in order to minimise bias because of verbal productivity. The TAT and the CDI narratives, previously selected, were independently scored by three researchers forming two pairs (coders
1 and 2 and coders 1 and 3) who were trained according to the procedures described in Westen’s (1990) manual for coding TAT data and Hilsenroth, Stein, and Pinsker’s (2007) training manual. The researchers met after each scored protocol to discuss discrepancies. Discrepancies of more than 1 point were resolved by consensus. Consensus scores were used in the analyses. Scores for each subscale were averaged across TAT or CDI narratives to obtain a single score for each patient on the four subscales. Of the 74 TAT narratives, 50 were randomly selected and independently scored by coder 1 and coder 2 and all 74 CDI interviews were scored by coder 1 and coder 3. Standardised scores were used in the statistical analyses because of the different Likert scales used (5-point and 7-point).

Statistical Analyses

First, Pearson correlations were calculated to explore the relation between the SCORS subscales and age, gender, education level and verbal productivity and independent sample t-tests were also used to assess gender differences.

Second, we examined the convergence of the two SCORS versions in two ways. We performed SEM using the statistical program Mplus (Muthén & Muthén, 2004) to examine the factor structure of the SCORS model with two method factors (TAT and CDI) and four dimensions each displayed in Figure 1 (see introduction) and to gain insight into the amount of shared variance versus unique variance of the two SCORS versions. Next, we calculated Pearson correlations between the SCORS-TAT subscales and the SCORS-CDI, which are displayed in the multitrait-multimethod correlation matrix. To investigate whether the presence of personality disorder operates as a moderator on the convergence between corresponding subscales of SCORS-TAT and SCORS-CDI, we conducted a regression analysis for each SCORS subscale with the SCORS-CDI subscale as dependent variable and the SCORS-TAT subscale, the presence of personality disorder (PD) and the interaction term SCORS-TAT subscale * PD as independent variables.

We examined reliability in two ways: the inter-rater reliability of the SCORS scorings of CDI narratives (N=74) and TAT narratives (N=50)
was measured by using two-way random effects model intraclass correlations (ICCs) and the internal consistency of the SCORS-TAT and SCORS-CDI was evaluated using Cronbach’s alpha and mean inter-item correlations (MIC). The recommended standard for Cronbach’s alpha coefficient is .70 or higher, and the optimal range for the mean inter-item correlation is .20 to .40 (Briggs & Cheek, 1986; Nunnally & Bernstein, 1994)

RESULTS

Descriptive Statistics

The mean scores for SCORS variables reflect a moderate range of pathology, with higher mean scores for SCORS-TAT than for SCORS-CDI (Table 1). Paired sample t-tests revealed that this difference in mean scores was significant only for the cognitive-structural subscales *Complexity* ($t = -15.04$, $df = 73$, $p < .01$) and *Social Causality* ($t = -7.26$, $df = 73$, $p < .01$).

Demographic variables, verbal productivity and personality disorder

Correlations between the subscales of the two SCORS versions and demographic variables, verbal productivity and presence of PD are displayed in Table 1. No correlations were found between the subscales of the SCORS-CDI, SCORS-TAT and age or education level. Independent sample t-tests revealed significantly higher scores for women on *Complexity* ($t = 2.04$, $df = 72$, $p < .05$), *Emotional Investment* ($t = 4.21$, $df = 72$, $p < .01$) and *Social Causality* ($t = 2.16$, $df = 72$, $p < .05$) for the SCORS-CDI. These significant relations correspond to medium effect sizes. However, we also observe in Table 1 that a medium effect size correlation was found for SCORS-TAT *Affect-tone* indicating that men have somewhat higher scores for this scale. Regarding verbal productivity, both cognitive subscales of the SCORS-TAT correlated with total words (i.e. the total number of words a patient used in the TAT narrative). A significant correlation was also observed between all subscales of the SCORS-CDI measure and total words used in the CDI interpersonal episode (see Table 1). Total words of the SCORS-TAT
narratives did not correlate significantly with total words of the SCORS-CDI ($r = .12$, $p = .30$). Also, the presence of a Personality Disorder did not correlate with total words of the SCORS-CDI ($r = .01$, $p = .91$). However, a negative trend could be observed (small effect size) for the association between presence of PD and total words of the SCORS-TAT. Furthermore, independent sample t-tests did not reveal significant differences in mean scores in the group with PD and the group without PD for any of the SCORS subscales. Also, no significant correlations are observed between presence of PD and the SCORS subscales. However, except for SCORS-TAT Affect-tone, Table 1 indicates that PD is correlated negatively (small effect size) with the SCORS-TAT subscales, whereas positive correlations (small effect size) are observed for the SCORS-CDI subscales.

Convergent Validity

Structural Equation Modelling (SEM) was used to test the model displayed in Figure 1. Goodness-of-fit (GOF) was assessed using the following GOF indices: the $\chi^2/df$ ratio, with values of 2 or less indicating a good fit; the comparative fit index (CFI), with values greater than .90 indicating acceptable fit; the standardized root mean square residual (SRMS), for which a cut-off value of .08 or less is recommended; and the root mean square error of approximation (RMSEA), with values less than .06 indicating acceptable fit, and higher boundary of RMSEA 90% confidence interval The Root Mean Square Error of Approximation (RMSEA = .12; 90% CI: .07 - .19), SRMR of .09 and the Chi-square test ($\chi^2 = 32.79$, df = 15, $\chi^2/df$= 2.19, $p=.005$), indicate poor fit of the model. However, the Comparative Fit Index (CFI = .91) indicates an acceptable fit (Browne & Cudeck, 1993; Hu & Bentler, 1999). Nevertheless, caution is warranted when interpreting individual parameters and drawing conclusions from these data because of the limited fit of the model.
Table 1. Descriptive statistics of the SCORS and correlations with verbal productivity, Personality Disorder

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>ICC</th>
<th>α</th>
<th>MIC</th>
<th>Total words</th>
<th>gender</th>
<th>age</th>
<th>Edu level</th>
<th>PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAT Com&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.62</td>
<td>.83</td>
<td>1.50</td>
<td>5.50</td>
<td>.72</td>
<td>.83</td>
<td>.46</td>
<td>.37**</td>
<td>-.09</td>
<td>.07</td>
<td>.11</td>
<td>-.17</td>
</tr>
<tr>
<td>TAT Aff&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.28</td>
<td>.49</td>
<td>1.33</td>
<td>4.20</td>
<td>.70</td>
<td>.56</td>
<td>.19</td>
<td>.04</td>
<td>.22</td>
<td>-.02</td>
<td>-.04</td>
<td>-.07</td>
</tr>
<tr>
<td>TAT Emo&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.05</td>
<td>.48</td>
<td>1.67</td>
<td>4.00</td>
<td>.72</td>
<td>.12</td>
<td>.08</td>
<td>.05</td>
<td>-.03</td>
<td>.02</td>
<td>.13</td>
<td>-.15</td>
</tr>
<tr>
<td>TAT Soc&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.84</td>
<td>.75</td>
<td>1.80</td>
<td>5.90</td>
<td>.72</td>
<td>.83</td>
<td>.45</td>
<td>.26*</td>
<td>-.11</td>
<td>.03</td>
<td>.10</td>
<td>-.21</td>
</tr>
<tr>
<td>CDI Com&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.20</td>
<td>.29</td>
<td>1.60</td>
<td>3.60</td>
<td>.74</td>
<td>.62</td>
<td>.24</td>
<td>.32**</td>
<td>-.23*</td>
<td>-.04</td>
<td>.04</td>
<td>.21</td>
</tr>
<tr>
<td>CDI Aff&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.41</td>
<td>.35</td>
<td>1.70</td>
<td>3.50</td>
<td>.84</td>
<td>.27</td>
<td>.07</td>
<td>.25*</td>
<td>.0</td>
<td>.03</td>
<td>.18</td>
<td>.15</td>
</tr>
<tr>
<td>CDI Emo&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.28</td>
<td>.29</td>
<td>1.50</td>
<td>3.10</td>
<td>.75</td>
<td>.43</td>
<td>.12</td>
<td>.32**</td>
<td>-.44**</td>
<td>.03</td>
<td>.03</td>
<td>.18</td>
</tr>
<tr>
<td>CDI Soc&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.20</td>
<td>.44</td>
<td>1.30</td>
<td>3.30</td>
<td>.76</td>
<td>.76</td>
<td>.39</td>
<td>.41**</td>
<td>-.25*</td>
<td>-.15</td>
<td>.20</td>
<td>.18</td>
</tr>
<tr>
<td>TAT words</td>
<td>116.27</td>
<td>74.96</td>
<td>20</td>
<td>523</td>
<td>.76</td>
<td>.76</td>
<td>.39</td>
<td>.41**</td>
<td>.14</td>
<td>.03</td>
<td>.04</td>
<td>-.15</td>
</tr>
<tr>
<td>CDI words</td>
<td>304.24</td>
<td>225.63</td>
<td>18</td>
<td>1166</td>
<td>.19</td>
<td>.09</td>
<td>.01</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE. Com = Complexity; Aff = Affect-tone; Emo = Emotional Investment; Soc = Social Causality; Edu Level = education level; PD = Personality Disorder; α: Cronbach alpha. Original scores are used for Mean, SD, Minimum and Maximum (7-point scale, except for CDI Aff, CDI Emo, & CDI Soc: 5-point scale). Gender (female = 0; male = 1); a: N=50 for calculation of ICC; b: N=74 for calculation of ICC. *p<.05; ** p<.01
Both unstandardised and standardised parameter estimates are shown in Figure 2. The estimate for the relation between the factors SCORS-TAT and SCORS-CDI is not significant, nor are the estimates for the relations between the four corresponding subscales (e.g. TAT Complexity and CDI Complexity). The residual variances of the affective SCORS dimensions are high compared to the standardised parameter estimates, indicating that a large proportion of variance is not explained by the model.

Figure 2. Results SEM SCORS model

NOTE. Com = Complexity of representations; Aff = affect tone; Emo = Emotional Investment; Socau = Social Causality; T-com, ..., T-soc = SCORS-TAT subscales; C-com, ...C-soc= SCORS-CDI subscales
*: significant at .05 level **: significant at .01 level 
(...): Standardised path coefficients
Correlations in the multi-trait-multi-method matrix are in line with the results obtained by the SEM. According to Campbell and Fiske (1959) the multitrait-multimethod matrix can be divided into various regions.

**Table 2. SCORS correlation matrix**

<table>
<thead>
<tr>
<th></th>
<th>TAT com</th>
<th>TAT aff</th>
<th>TAT emo</th>
<th>TAT soc</th>
<th>CDI com</th>
<th>CDI aff</th>
<th>CDI emo</th>
<th>CDI soc</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAT com</td>
<td>1</td>
<td>.10</td>
<td>.26*</td>
<td>.88**</td>
<td>.24*</td>
<td>.17</td>
<td>.07</td>
<td>.16</td>
</tr>
<tr>
<td>TAT aff</td>
<td></td>
<td>1</td>
<td>.60*</td>
<td>.14</td>
<td>.00</td>
<td>.09</td>
<td>-.21</td>
<td>-.10</td>
</tr>
<tr>
<td>TAT emo</td>
<td></td>
<td></td>
<td>1</td>
<td>.38**</td>
<td>.08</td>
<td>.12</td>
<td>-.06</td>
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<tr>
<td>TAT soc</td>
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<td></td>
<td></td>
<td>1</td>
<td>.19</td>
<td>.45**</td>
<td>.04</td>
<td>.65**</td>
</tr>
</tbody>
</table>

NOTE. Com = Complexity; Aff = Affect- tone; Emo = Emotional Investment; Socau = Social Causality *p<.05; ** p<.01

Heterotrait-monomethod blocks show correlations between different SCORS subscales within one type of data (bold correlations in Table 2). High correlations in this block are indicative of a strong method factor. The validity diagonal consists of correlations between the corresponding SCORS-TAT and SCORS-CDI subscales, with high correlations suggesting good convergent validity (underlined correlations in Table 2). In case of good convergent validity, the heterotrait-heteromethod blocks, displaying correlations between different SCORS subscales of the two SCORS versions, should show the lowest correlations. Overall, we found that correlations in the
heterotrait-monomethod blocks vary between .10 and .88 for SCORT-TAT and between .10 and .65 for SCORS-CDI, whereas correlations of the validity diagonal range between -.06 and .24 with just one significant correlation for Complexity (see Table 2). Correlations between different subscales of the two versions of the SCORS (heterotrait-heteromethod blocks) vary between -.21 and .19. In the heterotrait-monomethod blocks correlations between Complexity and Social Causality correspond to high effects (Cohen, 1992). Correlations between the affective subscales Affect-tone and Emotional Investment correspond to a medium effect for the CDI narratives and to a high effect for the TAT narratives. The cognitive subscales show no significant correlations with Affect-tone but significant correlations corresponding to small-to-medium effects are observed with Emotional Investment. Results from the regression analyses with the SCORS-CDI subscales as dependent variable and corresponding SCORS-TAT subscales, the presence of personality disorder (PD) and the interaction term SCORS-TAT*presence of PD as independent variables are displayed in Table 3. Results indicate that the regression models were not significant for the affective subscales, but were significant for the cognitive-structural variables. As Table 3 indicates, for Complexity as well as for Social Causality both presence of PD and the interaction term were significant. In this model the main effect of the SCORS-TAT subscale failed to be significant. The convergence between the subscales of the two SCORS versions is higher for the group of patients suffering from a PD.

Reliability

Inter-rater reliability was satisfactory. ICCS are considered to be excellent if greater than .74, good between .60 and .74, fair if ranging from .40 to .59, and poor if under .40 (Fleiss, 1981). All ICCs of the SCORS subscales fall in the ‘good’ or ‘excellent’ range (Table 1).
Table 3. Regression analysis predicting SCORS-CDI subscales from the SCORS-TAT subscales, presence of Personality Disorder (PD) and SCORS-TAT subscales*PD.

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Independent Variables</th>
<th>β</th>
<th>Std β</th>
<th>R²</th>
<th>df</th>
<th>F</th>
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<td>CDIcon</td>
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<td>PD</td>
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<td>.302</td>
<td></td>
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<tr>
<td></td>
<td>TATcom*PD</td>
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<td>.447</td>
<td>.25</td>
<td>3.70</td>
<td>7.622**</td>
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<tr>
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<td>TATaff</td>
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<td>-.048</td>
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<td>.161</td>
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<tr>
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<td>TATaff*PD</td>
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<td>1.609</td>
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<tr>
<td>CDIemo</td>
<td>TATemo</td>
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<td>-.076</td>
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<tr>
<td></td>
<td>PD</td>
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<td>.185</td>
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<td></td>
<td>TATemo*PD</td>
<td>.145</td>
<td>.084</td>
<td>.038</td>
<td>3.70</td>
<td>.927</td>
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<td>CDIsoc</td>
<td>TATsoc</td>
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<td>-.019</td>
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<td></td>
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<tr>
<td></td>
<td>PD</td>
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<td>.267</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>TATsoc*PD</td>
<td>.608*</td>
<td>.367</td>
<td>.153</td>
<td>3.70</td>
<td>4.202**</td>
</tr>
</tbody>
</table>

NOTE. CDI = Clinical Diagnostic Interview; PD = Personality Disorder; Com = Complexity; Aff = Affect-tone; Emo = Emotional Investment; Soc = Social Causality *p<.05; ** p<.01

The internal consistency of the TSIA was evaluated using Cronbach’s alpha and mean inter-item correlations (MIC). The recommended standard for Cronbach’s alpha coefficient is .70 or higher, and the optimal range for MIC is .20 to .40 (Briggs & Cheek, 1986; Nunnally & Bernstein, 1994). Internal consistency of the subscales was calculated by computing Cronbach alpha and MICs across the six TAT cards for each SCORS-TAT subscale and across the five interpersonal episodes for each SCORS-CDI subscale.
Table 4. Internal consistency of the SCORS dimensions in the group with Personality Disorder and the group without Personality Disorder.

<table>
<thead>
<tr>
<th></th>
<th>PD</th>
<th>No PD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>TAT Soc $^a$</td>
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<td>CDI Soc $^b$</td>
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NOTE. Com = Complexity; Aff = Affect-tone; Emo = Emotional Investment; Soc = Social Causality; $\alpha$: Cronbach alpha.

Internal Consistency varied widely, with Cronbach alpha between .12 and .83 for the SCORS-TAT subscales and between .27 and .76 for the SCORS-CDI and MICs between .08 and .46 for SCORS-TAT subscales and between .07 and .39 for SCORS-CDI subscales. Internal consistency (Chronbach $\alpha$’s and MICs) however was higher in the group of patients suffering from Personality Disorder (see Table 4). Overall, the cognitive-structural subscales show better internal consistency than the affective subscales which display Cronbach $\alpha$’s and MICs below the recommended ranges.

**DISCUSSION**

The aim of this study was to investigate the convergence of two versions of the SCORS, one scored on TAT narratives and one on interpersonal episodes from the CDI. In addition, we tested whether the presence of a personality disorder functioned as a moderator of convergence. In a next step, internal consistency and inter-rater reliability were examined. First, associations between the subscales of the SCORS-TAT and the SCORS-CDI and verbal productivity as well
as demographic variables age, gender, education level and presence of PD were explored.

Similar to previous research, we found no correlations between the subscales of SCORS-CDI and SCORS-TAT and age or education level (e.g. Fowler et al., 2004; Cogan & Porcerelli, 1996); correlations with gender should be further explored to ascertain whether women have consistently higher interview based SCORS ratings for *Complexity, Social Causality and Emotional Investment* and lower scores on the SCORS-TAT *Affect-tone* subscale. The cognitive subscales of the SCORS-CDI and SCORS-TAT correlated significantly with the number of words used in the narratives, which is in line with previous research (Leigh et al., 1992; Pinsker-Aspen et al., 2007). Cognitive-structural aspects of TAT and interpersonal narratives appear to be related to verbal productivity. This may indicate that more words are needed to give a nuanced, psychologically minded and complex picture of others and attributions of their thoughts, behaviour and feelings. An unexpected positive correlation was observed between the affective characteristics of interpersonal episodes of the CDI and verbal productivity. This possibly indicates that people use more words when talking about affectionate and emotionally significant relationships. The verbal productivity in the interpersonal episodes of the CDI was not related to the presence of a Personality Disorder which may indicate that there was no difference between patients with PD and patients without PD in the level of feeling comfortable with the interviewer. On the other hand, a negative trend was observed for verbal productivity in the SCORS-TAT narratives, indicating that patients diagnosed with a PD might feel slightly less comfortable when doing the TAT or at least are less inclined to give lengthier responses. However, since no measure of self-disclosure or feeling comfortable with the interviewer was included, no conclusion about this issue can be drawn. Furthermore, we observed that SCORS-TAT ratings were higher than SCORS-CDI ratings. This is in line with observations of Westen et al. (1990) who found higher SCORS-TAT ratings than SCORS-interview ratings in a study which assessed a non-clinical adolescent population. In this study, SCORS interview ratings appear to be more sensitive to gender and verbal productivity. Thus, further research into the relation between the SCORS subscales and other variables is recommended.
In terms of convergence between the two SCORS versions, the correlation matrix indicates a strong method factor, which is also illustrated by the parameter estimates of the SEM model (see Figure 1). These results suggest that the type of narrative on which SCORS is scored has a substantial influence. Our results differ from those obtained in two previous studies that addressed the question of convergence for the subscales Affect-tone and Complexity of the two SCORS versions. In these studies in a student population, the SCORS was applied to data obtained with the TAT and with a semi-structured interview with questions on interpersonal episodes. For Affect-tone Barends et al. (1990) stated that, as indicated by a correlation corresponding to a small effect, a small common factor of the Affect-tone concept could be manifest in both types of data. For Complexity Leigh et al. (1992) found a correlation with a medium effect. We found only one significant correlation corresponding to a small effect for Complexity, and a non-significant correlation with a small effect for Social Causality. Possibly, the overall low correlations between corresponding subscales of SCORS-TAT and SCORS-CDI indicate that TAT and interview-based versions of the SCORS measure different aspects of object relations and social cognition. The TAT may activate different aspects of a person’s social cognition and object relations than an autobiographical interview with open questions. More specifically, the CDI being a self-report semi-structured interview that explores beliefs and memories about significant others, might bring out information about the patients’ understanding of themselves and their interactions with others. While the TAT, as an instrument with standardised instructions that asks for free responses in relation to vague clues might bring out implicit dynamics and underlying templates of perception, but is constrained by task engagement and the nature of the stimulus materials. However, regarding Complexity it is also important to emphasize that there is some general tendency in psychiatric patients to describe themselves and others in a more or less complex way, irrespective whether they are telling a story in relation to a vague clue or whether they are talking about significant others in their life. In any case, our results suggest that the method factor (TAT versus interview data) should not be underestimated when using the SCORS. This is in line with the review of Meyer and colleagues (2001) which suggests that different assessment methods
provide unique information indicated by low to moderate associations for example between self-reports of personality and these characteristics measured by performance tasks or clinicians. Results from regression analyses, displaying both a main effect of presence of Personality Disorder and an interaction effect SCORS-TAT subscale*presence of PD in the prediction of the cognitive-structural subscales of SCORS-CDI, demonstrate that convergence is higher in patients suffering from PD. Although our data do not permit to draw specific conclusions about this observation, we might hypothesize that patients with a PD, as stated in the definition itself, exhibit a more pervasive pattern of “perceiving, relating to, and thinking about the environment and oneself” (p.686, 4th ed., text revision; DSM-IV-TR; American Psychiatric Association, 2000). Moreover, one of the criteria is that the traits should be evident across a broad range of situations. This assumption is in line with the observation that internal consistency was also higher for the group of patients with a PD, showing that this pervasive pattern came to the fore in different TAT narratives, as well as in interview episodes about different significant others. However, research into the convergent validity of the Rorschach suggests that differential sources might be underlying low convergence between different measures e.g. response styles or the fact that different methods tap unique levels of personality (Meyer, 1996; Viglione, 1996), so future research should definitely examine this issue more thoroughly.

Regarding reliability, we first of all observed that inter-rater reliability was very good: high ICCs were observed for all four dimensions of both SCORS versions. Concerning internal consistency, in its turn, we observed that in line with previous research alphas were somewhat lower in interpersonal episodes than in TAT narratives (Leigh et al., 1992), which could be due to differences in the affective significance of the relationships discussed. In general, internal consistency of the affective subscales is low. For the cognitive subscales Cronbach alphas and MICs are acceptable, which supports the findings of previous research (Hibbard, Mitchell, & Porcerelli, 2001). Characteristics of object relations and social cognition do not appear to be fixed traits that manifest in the same way in all situations and representations of relationships; diverging social relations are likely represented with different cognitive levels and different affective
investment or valence especially in patients who do not suffer from a PD and thus lacking a more pervasive pattern of perceiving, relating to, and thinking about the environment and oneself. Overall, we conclude that both versions of the SCORS can be scored reliably on different narrative materials. However, the convergence between the two versions of the SCORS is limited and differences in the relations between the two SCORS versions and demographic variables and verbal productivity were observed. Being the first study to investigate the convergence of four corresponding dimensions of the SCORS-TAT and SCORS-CDI, it is not entirely clear which different factors exactly contribute to the relative divergence between both versions. Yet, our results indicate that at least for the cognitive-structural subscales one of these factors could be the presence of Personality Disorder, which proves to be a moderator for convergence. We thus agree with Meyer (1996) who argues that different measurement methods are like incomplete tools that do not uniformly or completely measure a single reality. It is important to recognize the specificities of each method and take into account their sensitivity to different external and clinical realities.

Limitations of this study are the low number of TAT narratives and interpersonal episodes: research indicates that 10 vignettes would be optimal for achieving good internal consistency (Hibbard et al., 2001). Moreover, caution is required in generalising results due to the small sample size and the heterogeneous clinical population. Future research should examine the convergence in general population samples and in larger clinical samples including samples of patients with a comparable level of pathology. Furthermore, possible moderator variables such as response style should be included in future studies. Since we only used interpersonal episodes of clinical interviews, future research should focus on the convergence of the SCORS on the TAT and on narratives of early memories, dreams etc. It is also important to investigate whether the different versions of the SCORS show similar correlations to clinical variables, such as interpersonal functioning and affect regulation.
REFERENCES


In this study, associations between alexithymia, interpersonal problems and cognitive-structural aspects of internal interpersonal representations were examined. Alexithymia was measured using the Structured Interview for Alexithymia (TSIA) and the Toronto Alexithymia Scale (TAS-20). To measure interpersonal problems, dominance and affiliation dimensions scores of the Inventory of Interpersonal Problems (IIP-64) were used and cognitive-structural characteristics of interpersonal representations were measured using the Social Cognition and Object Relations Scale (SCORS). As hypothesized, alexithymia was related to cold and withdrawn, but not to dominant or submissive interpersonal functioning. In terms of the SCORS, alexithymia was negatively related to complexity of interpersonal representations indicating a link between alexithymia and mentalization. Results with social causality were mixed and require more research. Overall the TSIA provides the most consistent and stable results after controlling for negative affectivity.

INTRODUCTION

The concept of alexithymia was launched by Peter Sifneos to describe difficulties in psychically experiencing and verbalizing affects; problems he mainly encountered in psychosomatic patients (1973). Nemiah and Sifneos distinguished two main features of these patients’ psychic life. The first is “a striking incapacity of the verbal description and expression of feelings” and the second is that these patients’ associations and thoughts refer to “external events and actions rather than to internal fantasies” (Nemiah & Sifneos, 1970, p. 159). This last feature tallies with the concept pensée opératoire, developed by Marty and de M’Uzan (1963), which refers to a conscious mode of thinking that lacks noticeable fantasmatic activity and is limited to the actual and the factual. Based on Nemiah and Sifneos’ conceptualization, Taylor and colleagues formulated a definition of alexithymia that consists of four interrelated facets: (1) difficulty identifying feelings and distinguishing between feelings and the bodily sensations of emotional arousal; (2) difficulty describing feelings to other people; (3) restricted imaginal processes, as evidenced by a paucity of fantasies; and (4) a stimulus-bound, externally orientated cognitive style (Taylor, Bagby, & Parker, 1997, p. 29).

Next to these early clinical observations, several authors have noted other characteristics of alexithymic patients’ mental life, including detached and withdrawn interpersonal functioning. Alexithymic patients have been described as dull, cold, lifeless, and colorless and the therapeutic relation has been described as sterile and non-productive (Apfel & Sifneos, 1979; Nemiah & Sifneos, 1970). Marty, M’Uzan and David (1963) used the term ‘blank relationship’ to characterize the lack of psychical investment in the therapeutic relationship as well as in their interpersonal life in general.

More recently, several empirical studies have confirmed that a detached interpersonal functioning is characteristic for patients suffering from alexithymia and that their interpersonal relationships are marked by discomfort and avoidance (Vanheule, Inslegers, Meganck, Ooms, & Desmet, 2010). Alexithymia has been consistently
related to cold interpersonal functioning (Spitzer, Sieble-Jürges, Barnow, Grabe, & Freyberger, 2005; Vanheule, Desmet, Meganck, & Bogaerts, 2007; Vanheule, Vandenberghe, & Desmet, 2010; Weinryb et al., 1996). Some studies have also observed an association with non-assertive interpersonal functioning (Spitzer et al., 2005; Vanheule et al., 2007; Vanheule, Vandenberghe, et al., 2010); while one study has also found a negative association with self-sacrificing behavior (Vanheule, Vandenberghe, et al., 2010). Moreover, when controlling for general psychopathology, Spitzer and colleagues (2005) found associations with a socially avoidant, vindictive and exploitable interpersonal style. Apart from the link between alexithymia and cold interpersonal functioning, it is unclear as to whether associations with other interpersonal characteristics are robust. Furthermore, recent studies show that alexithymia is related to dissatisfaction in intimate relations and to social, family and romantic loneliness, partly mediated by interpersonal distrust (Humphreys, Wood, & Parker, 2009; Qualter, Quinton, Wagner, & Brown, 2009).

Despite the growing interest in the link between alexithymia and aspects of interpersonal functioning, few studies have investigated the relation between alexithymia and aspects of adult interpersonal functioning with non-self report measures. Any existing studies indicate that alexithymia is related to less mobile phone use, mediated by having few relationships and lacking close friends (Mattila, Luutonen, Ylilin, Salokangas, & Joukamaa, 2010) and to a lower degree of complexity of communication words (Meganck, Vanheule, Inslegers, & Desmet, 2009). This latter study investigated the link between alexithymia and interpersonal language use in natural speech and found that the interpersonal attitude of alexithymic individuals may be reflected in the quality of speech or complexity of communication words used rather than in the quantity of speech or the frequency of communication words. This study made use of both the TAS-20 and the TSIA for the measurement of alexithymia, however, consistent results were found only for the externally oriented thinking dimension in both instruments.

While several studies have investigated the relationship between alexithymia and interpersonal problems, few studies have
investigated the link with cognitive characteristics of internal interpersonal representations. Attachment theorists usually refer to such representations in terms of internal models and attachment styles (Bowlby, 1990), while social cognition researchers discuss these in terms of belief systems or schemas concerning the self and interactions with others (Westen, 1991). Object relation theorists, in their turn, consider these mental representations in terms of object relations, and propose that their content, structure, and affective quality mediate interpersonal functioning (Huprich & Greenberg, 2003). Notwithstanding the paucity of empirical research, several authors have underscored the importance of studying internal interpersonal representations, indicating that these make up a basis for affect regulation (Fonagy, Gerely, Jurist, & Target, 2002; Mitrani, 1995; Verhaeghe, Vanheule, & De Rick, 2007). Verhaeghe discusses the interplay between internal representations of self and others, affect regulation and interpersonal functioning (Vanheule, Inslegers et al., 2010; Verhaeghe et al., 2007), suggesting that only by interacting with others, especially in close attachment relationships, representations are acquired which enable an individual to master somatic arousal. In the process of acquiring such representations a set of beliefs and expectations with regard to others is created. Indeed, a previous study on child attachment found that an insecure and disorganized attachment style is associated with a developmental delay in the acquisition of mentalizing language for emotional processes (Lemche, Klann-Delius, Koch, & Joraszky, 2004). Furthermore, attachment studies found that alexithymia is related to insecure attachment styles (e.g. Meins, Harris-Waller, & Lloyd, 2008). This suggests that the manner in which one discerns, handles and verbalizes affective states in relation to one’s sense of self and others is influenced by, and in turn influences, significant interpersonal relationships (Kealy, Ogrodniczuk, & Howell-Jones, 2011). One study found that self-reported impairment in object relations was associated with three aspects of self-reported emotional processing deficits: unregulated emotions, signs of unprocessed emotions and emotion suppression after controlling for symptom distress. However, no relation was found with impoverished emotional experience, the facet which captures some aspects of the alexithymia construct (Kealy et al., 2011).
Several studies also indicate that alexithymia is related to lower levels of empathy, the cognitive capacity of perspective taking, and the affective capacity of empathic concern, but to higher levels of immature empathy as indicated by more feelings of distress and discomfort in witnessing other people’s negative experiences (Guttmann & Laporte, 2002; Moriguchi et al., 2006; Moriguchi et al., 2007). However, the relation between this last aspect of distress and the affect awareness domain of alexithymia as measured with the TAS-20 could be a side-effect of shared covariance with anxiety (Grynberg, Luminet, Corneille, Grèzes, & Berthoz, 2010). Furthermore, the study of Moriguchi and colleagues (2006) indicates that alexithymic patients perform worse on a theory of mind task, and Meins and colleagues (2008) found that persons scoring high for alexithymia are less mindful and use fewer descriptions of other people’s behavior in terms of internal states.

However, detailed research on internal interpersonal representations that are characteristically linked to alexithymia is limited (Niec & Russ, 2002). In this paper we address this issue by using the theoretical framework developed around the Social Cognition and Object Relations Scale (SCORS; Westen, 1990). The SCORS combines insights from object relations theory and social cognition research, and provides a scoring system to assess four dimensions of internal representations of self and other: two structural dimensions, named Complexity of representations and Social causality, and two affective dimensions, named Emotional investment and morals, and Affect tone. The four dimensions are interrelated but assess distinct aspects of object relations and social cognition (Westen, 1990). The structural dimensions measure the degree of differentiation, articulation and complexity of self/other representations. The more affective dimensions refer to feelings, wishes or fears as they relate to interpersonal relationships (Porcerelli et al., 2006). In this study however, we focus on the cognitive-structural dimensions as a previous study has found very low Cronbach alpha’s and Mean Interitem Correlations for the affective subscales, indicating a low internal consistency (Inslegers et al., under review). Two versions of the SCORS have been developed: the first is scored on Thematic Apperception Test (TAT) narratives (Westen, 1990) and the second on other narrative materials, like interviews and psychotherapy
transcripts (Westen, Barends, Leigh, Mendel, & Silbert, 1990). Both
versions can be scored reliably, however, research indicates that the
convergence between the two versions is limited and varies over the
dimensions (Barends, Westen, Leigh, Silbert, & Beyers, 1990;
Inslegers et al., under review; Leigh, Westen, Barends, Mendel, &
Beyers, 1992). One study, however, indicated that the convergence
might be moderated by the presence of Personality Disorder (PD).
Although no definite conclusions could be drawn, the authors suggest
that patients with a PD exhibit a more pervasive pattern of
“perceiving, relating to, and thinking about the environment and
oneself” than patients without PD. This pervasive pattern came to
the fore in different TAT narratives, as well as in the interview
episodes about different significant others which could explain the
higher convergence between the SCORS versions for these patients
(Inslegers et al., under review). Furthermore, as Meyer (1997) argues,
distinct methods might elicit different information, and may be
differently sensitive to unique sources of bias and influence. Thus, it
is important to combine information derived from multiple methods
of measurement (Meyer et al., 2001).

Several studies using the SCORS report that the SCORS dimensions
are related to various aspects of social functioning (e.g. Peters,
Hilsenroth, Eudell-Simmons, Blagys, & Handler, 2006; Stein,
Hilsenroth, Pinsker-Aspen, & Primavera, 2009). To our knowledge, no
other study has examined the relation between alexithymia and
internal interpersonal representations, as measured by SCORS.

In this paper we study interpersonal problems and cognitive-
structural characteristics of interpersonal representations in
alexithymia, using the following strategy:

First, alexithymia is assessed in a multi-method way, as
recommended by Taylor and colleagues (1997), using both an
interview (Toronto Structured Interview for Alexithymia, TSIA; Bagby,
Taylor, Parker, & Dickens, 2006) and a self-report questionnaire (20-
item Toronto Alexithymia Scale, TAS-20; TAS-20; Bagby, Parker, &
Taylor, 1994). Given the fact that there are doubts about whether
persons with alexithymia are capable of judging their own emotional
competences (Waller & Scheidt, 2004), it is advisable to use not only self-report measures, but also expert-rated measures.

Second, to measure interpersonal problems we use the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000). Whereas previous studies have made use of the eight subscales of the IIP-64, we preferred to calculate a score for two underlying dimensions: dominance (ranging from dominating and controlling behavior to yielding or relinquishing control) and affiliation (ranging from friendly or warm behavior to hostile or cold behavior). These dimensions are the first two factors that were detected when the Inventory of Interpersonal Problems was initially developed (Horowitz et al., 1997), and enable us to test the hypothesized association between alexithymia and interpersonal problems in a more subtle way. We hypothesize that alexithymia is related to cold and withdrawn interpersonal functioning, indicated by a significant correlation with the affiliation domain of the IIP-64. As alexithymia is generally not associated with dominance, we do not expect a significant correlation with the IIP-64 dominance score.

Third, to assess characteristics of internal interpersonal representations we use the SCORS coding system in performance based test material (Thematic Apperception Test, TAT; Murray, 1943) as well as in transcripts of a clinical interview (Clinical Diagnostic Interview, CDI; Westen, 2006). As discussed by Inslegers and colleagues (under review), we thereby assume that TAT and interview-based versions of the SCORS might measure different aspects of social cognition and might be sensitive to other personality characteristics. As also indicated by Meyer (2001), the TAT has standardized instructions and asks for free responses in relation to vague clues. With such a format one might activate implicit schematic representations about others and tap into a general proclivity for social cognition. Clinical interview data, on the other hand, which starts from open questions about actual events and experiences with significant others might bring out information about the patients’ understanding of themselves and their interactions with specific others (Inslegers et al., under review).
Theory of mind research on the link between alexithymia and aspects of empathy has found that alexithymia is related to lower levels of perspective taking and mind-mindedness (e.g. Grynberg et al., 2010; Meins et al., 2008). Following on from this, we hypothesize that alexithymia will be related to interpersonal representations which are less complex and are marked by a lack of social insight. This will probably be more apparent in the TAT narratives since standardized instructions are given that probe spontaneous narrative elaboration of social cues. The CDI more strongly focuses on autobiographic memories and representations and may be less indicative of the proclivity for cognitive elaboration, but might provide more information about cognitive elaboration as related to specific interpersonal contexts.

As previous studies have documented the link between self-reported alexithymia and negative affectivity (e.g. Lumley, 2000), we controlled for negative affectivity in all analyses to ensure that correlations between alexithymia and problems in the interpersonal domain cannot be explained by negative affectivity.

**METHOD**

*Participants*

The sample consists of 74 patients (64% female; Mean age of 39.41, SD = 12.48) from psychiatric hospitals in the Dutch speaking part of Belgium. In terms of education level, 8% attended elementary school only, 15% completed a first cycle (3 years) and 62% a second cycle (6 years) in high school, 11% obtained a non-academic degree and 4% an academic degree in higher education. All participants met DSM-IV Axis I criteria for the following diagnoses: mood disorders (70.3%), anxiety disorders (18.9%), schizo-affective disorders (2.7%), adjustment disorders (2.7%), somatoform disorders (1.4%), psychotic disorder not otherwise specified (1.4%), alcohol dependence (1.4%) and eating disorders (1.4%). On Axis-II 31% of the patients had received one or two (10.8%) diagnoses. Diagnosis was deferred for 24.3% of the patients and 44.6% did not receive any diagnosis.
Diagnosed personality disorders were avoidant PD (11.3%), obsessive compulsive PD (7.5%), borderline PD (6.3%), depressive PD (5%), passive-aggressive PD (3.7%), PD not otherwise specified (3.7%), paranoid PD (1.2%) and schizotypic PD (1.2%).

Instruments

The Toronto Structured Interview for Alexithymia (TSIA; Bagby et al., 2006) consists of 24 questions addressing the four core dimensions of alexithymia. Each question is scored on a three-point Likert scale ranging from 0 to 2. Higher scores indicate a higher degree of alexithymia and total scores range from 0 to 48. For each question there is a set of probes to elicit information in order to score the item accurately, which are also keyed to the thematic content of the item. The Dutch translation of the TSIA was obtained by means of a translation and back-translation procedure in consultation with R.M. Bagby, one of the original authors of the instrument (F. De Fruyt, personal communication). The reliability and factorial validity of the instrument are good (Bagby et al., 2006; Inslegers et al., under review).

The 20-item Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994) consists of three subscales: difficulty identifying feelings (DIF), difficulty describing feelings (DDF) and externally oriented thinking (EOT). Each item is rated on a five-point Likert scale. Total scores range from 20 to 100, with higher scores indicating greater alexithymia. The Dutch translation of the TAS-20 was obtained by means of a translation and back-translation procedure and the final version was established in consultation with R.M. Bagby, one of the original authors of the instrument (Kooiman, Spinhoven, & Trijsburg, 2002). Psychometric properties of the Dutch version of the TAS-20 were previously studied in a clinical and non-clinical sample and can be considered adequate (Meganck, Vanheule, & Desmet, 2008).

The Thematic Apperception Test (TAT; Murray, 1943) is a projective test. In our study six pictures are used (Cards 1, 3BM, 4, 6BM, 8BM and 13MF). Standard clinical instructions were given to participants
to tell a story about what is happening, what led to the event, how the story will end and what characters in the picture think and feel.

*The Clinical Diagnostic Interview* (CDI; Westen, 2006) was developed to provide a comprehensive assessment of personality, pathology and more particularly affective experiences and interpersonal dynamics and can be used for research as well as for clinical purposes. In this approximately two-hour long interview a range of questions tap into the patient’s complaints, symptoms and life-history. In our study the CDI was administered and audio-recorded and afterwards transcribed verbatim.

*The Social Cognition and Object Relations Scale* (SCORS; Westen, 1990, Westen et al., 1990) is a multidimensional measure for the clinical assessment of object relations. For scoring the TAT narratives, we used the 7-point rating scale with lower scores (e.g., 1 or 2) indicating greater pathology and higher scores (e.g., 6 or 7) indicating greater psychological health. For coding the interpersonal episodes of the CDI, we followed the manual for coding interview data (Westen et al., 1990) by using a 5-point rating scale for *Social Causality* and a 7-point rating scale for *Complexity*. In this study, we assess the following two dimensions of the SCORS: a) *Complexity of representations of people (Complexity)*, which refers to the richness and differentiation of an individual’s representations of self and others, i.e., the extent to which self and others are seen as psychological beings with stable multidimensional dispositions; b) *Understanding of social causality (Social Causality)*, which refers to the extent to which attributions of the causes of people’s actions, thoughts, and feelings are logical, complex, and psychologically minded.

*The Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988) was developed to briefly measure positive and negative affect. The scale consists of 10 descriptive terms for positive affect (PA) and 10 for negative affect (NA). Subjects are asked to rate each item on a 5-point Likert scale. Total scores range from 10 to 50 for PA and NA. Only NA was used in this study.
The Inventory of Interpersonal Problems (IIP; Horowitz et al., 2000; Vanheule, Desmet, & Rosseel, 2006). The 64-item version of the IIP was created by Alden and colleagues (1990) specifically to provide a circumplex measure. Their instrument contains 8 subscales that are correlated in the pattern of a circumplex. Each subscale consists of eight items that are scored on a 5-point Likert scale and measure the following aspects of interpersonal problems: (1) ‘domineering/controlling; (2) ‘vindicitive/self-centered’; (3) ‘cold/distant’; (4) ‘socially inhibited’; (5) ‘non-assertive’; (6) ‘overly accommodating’, which indicates an excess of friendly submissiveness; (7) ‘self-sacrificing’; and (8) ‘intrusive/needy’. The dimensional affiliation and dominance scores were calculated by a formula in which the sum of the product of the IIP-subscale and it’s weight based on the place on the circumplex was made. For the dimensional affiliation scores this formula was: 1* self-sacrificing + ½* intrusive + (-½)* vindictive + (-1)* cold + (-½)* socially inhibited + ½* overly accommodating. The dimensional dominance score was calculated as follows: 1* domineering + ½* vindictive + (-½)* socially inhibited + (-1)* non-assertive + (-½)* overly accommodating + ½* intrusive. Psychometric research on the instrument in English-speaking communities (e.g., Horowitz et al., 2000) as well as in Dutch-speaking populations (Vanheule et al., 2006) demonstrated the validity (stability of the circumplex structure and of correlations with convergent measures) and the reliability (good internal consistency and test-retest reliability) of the IIP-64.

Procedure

Participants were recruited at intake wards of psychiatric hospitals. Manifestly psychotic patients and patients primarily hospitalized for substance abuse were excluded from this study. Each participant received oral and written information about the study and gave informed consent. Participants were examined three times by a clinically experienced and trained researcher. The first session included the CDI; TAT and TSIA were administered during the second session; and the Structural Diagnostic Interview for DSM-IV axis I and II disorders was administered in the third session. Patients also filled out a demographic list.
The CDI and the TAT interviews were audio taped and transcribed verbatim. For the CDI, the first five episodes discussing relationships with different significant others (i.e., partner, ex-partner, mother, father, children and/or siblings) were selected in the transcribed manuscript for SCORS scoring. The end of an episode was set when the patient began to talk about another topic or if the limit of 5 minutes of speech was reached in order to minimize bias because of verbal productivity. For the TAT the six narratives were coded. Both the TAT and the CDI narratives were independently scored by three researchers forming two pairs (coders 1 and 2 and coders 1 and 3) who were trained according to the procedures described in Westen’s (1990) manual for coding TAT data and Hilsenroth and colleagues’ (2007) training manual. The researchers met after each scored protocol to discuss discrepancies. Discrepancies of more than 1 point were resolved by consensus. Consensus scores were used in the analyses. Scores for each subscale (e.g. SCORS-TAT Complexity, SCORS-CDI Complexity,...) were averaged across the six TAT narratives for the four SCORS-TAT subscales and across the five CDI narratives for the four SCORS-CDI subscales to obtain a single score for each patient on the four subscales. We thus obtained 8 scores for each patient. Of the 74 TAT narratives, 50 were randomly selected and independently scored by coder 1 and coder 2 and all 74 CDI interviews were scored by coder 1 and coder 3. Standardized scores were used in the statistical analyses because of the different Likert scales used (5-point and 7-point).

The coding of the TSIA interview was done during the course of the interview. The interviewers were trained by reading a book chapter on affect dysregulation and alexithymia (Taylor et al., 1997) and a manual which provides guidelines for the administration and scoring of the TSIA (Bagby, Taylor, Parker, & Dickens, unpublished manual, 2009), and through discussion, based on scored interviews, of the scoring rules with the original authors. All of the TSIA interviews were audio taped. To examine inter-rater reliability, 40 audio taped TSIA were randomly selected.
RESULTS

Preliminary Analyses

Descriptive statistics for the TAS-20, TSIA, IIP dominance and IIP affiliation, the SCORS subscales, verbal productivity and NA are presented in Table 1. The inter-rater reliability of the SCORS scorings of CDI narratives (N=74) and TAT narratives (N=50) and the TSIA (N=40) was measured by using two-way random effects model intraclass correlations (ICCs) and the internal consistency of the SCORS-TAT and SCORS-CDI and the TAS-20 and TSIA was evaluated using Cronbach’s alpha.

Table 1. Descriptive statistics for IIP affiliation, IIP dominance, SCORS subscales, TSIA and TAS-20, Negative Affectivity and total words use of TAT and CDI.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>ICC</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIP affiliation</td>
<td>5.48</td>
<td>14.29</td>
<td>-28.5</td>
<td>45</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>IIP dominance</td>
<td>-7.71</td>
<td>12.45</td>
<td>-35</td>
<td>31.5</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>SCORS-TAT Com⁠²</td>
<td>3.62</td>
<td>.83</td>
<td>1.50</td>
<td>5.50</td>
<td>.72</td>
<td>.83</td>
</tr>
<tr>
<td>SCORS-TAT Soc⁠²</td>
<td>3.84</td>
<td>.75</td>
<td>1.80</td>
<td>5.90</td>
<td>.73</td>
<td>.83</td>
</tr>
<tr>
<td>SCORS-CDI Com⁠³</td>
<td>2.20</td>
<td>.29</td>
<td>1.60</td>
<td>3.60</td>
<td>.74</td>
<td>.62</td>
</tr>
<tr>
<td>SCORS-CDI Soc⁠³</td>
<td>2.20</td>
<td>.44</td>
<td>1.30</td>
<td>3.30</td>
<td>.76</td>
<td>.76</td>
</tr>
<tr>
<td>TSIA total⁠⁴</td>
<td>20.85</td>
<td>9.72</td>
<td>3</td>
<td>46</td>
<td>.88</td>
<td>.91</td>
</tr>
<tr>
<td>TAS-20 total</td>
<td>59.81</td>
<td>10.98</td>
<td>34</td>
<td>84</td>
<td>/</td>
<td>.70</td>
</tr>
<tr>
<td>NA</td>
<td>31.84</td>
<td>9.08</td>
<td>13</td>
<td>50</td>
<td>/</td>
<td>.89</td>
</tr>
<tr>
<td>Tot words CDI</td>
<td>304.24</td>
<td>225.63</td>
<td>18</td>
<td>1166</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Tot words TAT</td>
<td>116.27</td>
<td>74.96</td>
<td>20</td>
<td>523</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>

Note. IIP = Inventory of Interpersonal Problems; SCORS = Social Cognition and Object Relations Scale; Com = Complexity; Soc = Social Causality; TSIA = Toronto Structured Interview for Alexithymia; TAS-20 = 20-item Toronto Alexithymia Scale; NA = Negative Affect; CDI = Clinical Diagnostic Interview; TAT = Thematic Apperception Test; α: Cronbach alpha. Original scores of the SCORS are used for Mean, SD, Minimum and Maximum (7-point scale, except for CDI Soc: 5-point scale). a: N=50, b: N=74, c: N=40 for calculation of ICC.
As can be observed, both ICCs and internal consistency were good, except for a somewhat lower internal inconsistency for SCORS-CDI Complexity. No correlations were found between age and the TAS-20, TSIA, the SCORS variables and IIP dominance, but a significant correlation was observed for IIP affiliation ($r = .31, p < .01$). Univariate analyses of variance with education level (five levels) as the independent variable showed an effect of education on IIP dominance ($F[4,45] = 2.69, p < .01$) and IIP affiliation ($F[4,45] = 2.08, p < .10$). Independent sample t-tests revealed significantly higher scores for women on Complexity ($t = 2.04, df = 72, p < .05$) and Social Causality ($t = 2.16, df = 72, p < .05$) of the SCORS-CDI. No gender differences were observed for TAS-20, TSIA, the IIP-dimensions and SCORS-TAT. Regarding verbal productivity, both subscales of the SCORS-TAT correlated with total words (i.e. the total number of words a patient used in the TAT narrative). A significant correlation was also observed between the subscales of the SCORS-CDI measure and total words used in the interpersonal episode of the CDI. NA correlated positively with the TAS-20 ($r = .42, p < .01$) and TSIA ($r = .24, p < .05$).

**Alexithymia and interpersonal problems**

Correlations between the TAS-20, TSIA, IIP-dominance and IIP-affiliation scores and the SCORS dimensions can be found in Table 2. As hypothesized, IIP-affiliation was negatively correlated to both TSIA and TAS-20. No relation was observed between both alexithymia measures and IIP-dominance. Correlations between alexithymia and the IIP dimensions, controlled for negative affect, are presented in parentheses, but the results did not differ substantially.

**Alexithymia and internal interpersonal representations**

As Table 2 indicates, significant negative correlations were only observed between the TSIA and both cognitive dimensions of the SCORS-TAT. However, a negative trend (small effect size) was also observed for the Complexity subscale of the SCORS-CDI.
Table 2. Correlations between TAS-20, TSIA and IIP dominance, IIP affiliation and SCORS dimensions, correlations between brackets are controlled for negative affect (NA).

<table>
<thead>
<tr>
<th></th>
<th>TSIA</th>
<th>TAS-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIP Dominance</td>
<td>.09</td>
<td>(-.03)</td>
</tr>
<tr>
<td>IIP Affiliation</td>
<td>-.38**</td>
<td>(-.36)**</td>
</tr>
<tr>
<td>SCORS-TAT Complexity</td>
<td>-.42**</td>
<td>(-.39)**</td>
</tr>
<tr>
<td>SCORS-TAT Social Causality</td>
<td>-.31**</td>
<td>(-.29)**</td>
</tr>
<tr>
<td>SCORS-CDI Complexity</td>
<td>-.18</td>
<td>(-.20)</td>
</tr>
<tr>
<td>SCORS-CDI Social Causality</td>
<td>-.03</td>
<td>(-.05)</td>
</tr>
</tbody>
</table>

Note. IIP = Inventory of Interpersonal Problems; SCORS = Social Cognition and Object Relations Scale; TSIA = Toronto Structured Interview for Alexithymia; TAS-20 = 20-item Toronto Alexithymia Scale; CDI = Clinical Diagnostic Interview; TAT = Thematic Apperception Test; *p < .05, ** p < .01

As stated by Cohen (1992) correlations with values of .10, .30 and .50 correspond to small, medium and large effects respectively. No significant correlations are found for the TAS-20, but correlations with the SCORS-TAT dimension are in the expected direction (small effect sizes). However, as correlations in parentheses indicate, a control for negative affect did not substantially affect the results for TSIA, but the observed correlations between the TAS-20 and the SCORS-TAT dimensions diminished.

**DISCUSSION**

This study investigated interpersonal problems and internal interpersonal representations in alexithymia. Two measures for alexithymia were used: the Toronto Structured Interview for Alexithymia (TSIA; Bagby et al., 2006) and the 20-item Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994). Interpersonal problems were measured using scores for dominance and affiliation of the Inventory of Interpersonal Problems (IIP-64; Horowitz et al., 2000). Cognitive characteristics of internal interpersonal...
representations were measured using the Social Cognition and Object Relations (SCORS; Westen, 1990; Westen et al., 1990) coding system. Correlations were controlled for negative affectivity (NA). The results clearly confirm that alexithymia is related to a cold interpersonal functioning, irrespective of the alexithymia measure used, which is in line with our first hypothesis. This relation remained stable after controlling for negative affectivity. As hypothesized no relations were observed between alexithymia and a dominant or submissive interpersonal functioning. We believe that our test of the relationship between alexithymia and interpersonal problems is particularly strong, not only because of the multi-method assessment of alexithymia, but also because of our measurement of cold interpersonal functioning via the IIP-64 affiliation score. This score assesses distant and detached interpersonal functioning more subtly than any of the subscales.

Regarding our second hypothesis the picture is more complex and our hypotheses were partly confirmed. We found a correlation between alexithymia and cognitive characteristics of interpersonal representations in TAT narratives. Therefore we conclude that the higher the level of alexithymia in patients, the less they are inclined to describe the characters in the stories in multi-facetted terms as characters with complex thoughts and feelings and the less they are inclined to demonstrate insight into the motives concerning why people feel, think and behave the way they do. This link particularly came to the fore when alexithymia was measured with the TSIA. With respect to interpersonal representations of significant others in autobiographic episodes, the results were mixed. For Complexity the results were similar, but no correlation could be observed for Social Causality. When controlling for negative affect, correlations with the TSIA remained stable. However, the results showed that negative affect accounts for a part of the relation between self-reported alexithymia as measured with the TAS-20 and characteristics of interpersonal representations measured with the SCORS method. Apart from the results for Social Causality of autobiographic interpersonal episodes, our results are in line with previous research indicating that high levels of alexithymia are related to an individual’s proclivity to use internal state terms when describing and explaining the behavior of others and the perspective taking aspect of empathy.
(Grynberg et al., 2010; Meins et al., 2008). What is novel is that we could demonstrate a clear negative relationship between alexithymia and the complexity of their internal representation of others. This indicates that alexithymia might be related to broader problems at the level of meta-cognition and mentalization (Dimaggio, Vanheule, Lysaker, Carcione, & Nicolo, 2009; Fonagy, Bateman, & Bateman, 2011). This study thus confirms that mentalization is a complex capacity with multiple components and that it is possible that patients suffering from alexithymia may show impairments in some aspects, but not necessarily in others. However, with respect to the results for Social Causality, future research should clarify whether these results are robust or rather an artifact of the data used (i.e. clinical interview interpersonal episodes with significant others which differ widely in length).

Comparing the results obtained with both alexithymia measures, it seems that the TSIA provides the most consistent results. Whereas alexithymia, as measured with the TAS-20 and after controlling for negative affectivity, is only related to the self-report affiliation dimension of the IIP-64, alexithymia measured with the TSIA proves to be related to structural aspects of internal representations. We therefore agree with Meganck and colleagues (in press) that perhaps, bearing in mind the difficulties addressed with self-report scales like the TAS-20 for the measurement of alexithymia, the TAS-20 should not be relied upon alone and should be combined with other alexithymia measures (e.g. Leising, Grande, & Faber, 2009; Meganck et al., 2008).

Some limitations should be taken into account when interpreting our results. Although we found a number of results that are consistent with clinical and empirical literature, the high number of analyses together with the limited sample size may have reduced the power of detecting real correlations. While we believe the ecological validity is enhanced by using a heterogeneous inpatient psychiatric sample, future research should also include non-clinical populations to investigate whether the same relations can be observed there. Further systematic clinical studies of the dynamics between problems in affect awareness, affect regulation, mentalization and interpersonal functioning in individual cases combining different
measure methods should also be carried out to enhance understanding of the complex interplay between these factors.

**CONCLUSION**

We conclude that our hypotheses regarding the associations between alexithymia, interpersonal problems and internal interpersonal representations are partly confirmed using both the Toronto Structured Interview for Alexithymia (TSIA) and the Toronto Alexithymia Scale (TAS-20) for the assessment of alexithymia. The results clearly confirm that alexithymia is related to a cold and withdrawn interpersonal functioning, as indicated by significant correlations with the affiliation score of the Inventory of Interpersonal Problems (IIP-64). In terms of the Social Cognition and Object Relations Scale (SCORS) our hypotheses are partly confirmed. Alexithymia, especially when measured with the TSIA, is negatively related to the complexity of interpersonal representations, but results with social causality were less clear and require more research. Overall the TSIA provides the most consistent and stable results after controlling for negative affectivity.
REFERENCES


ALEXITHYMIA AND DIFFICULTIES IN INTERACTING WITH OTHERS: A QUESTION OF COLD, DETACHED INTERPERSONAL FUNCTIONING AND IMPAIRED MENTALIZING CAPACITIES?

Literature states that cold and detached interpersonal functioning and impaired mentalizing capacities are typical of alexithymic patients. The aim of this qualitative study is to explore how these two aspects of interpersonal functioning were evidenced in clinical interviews with alexithymic patients. Ten patients with the highest scores on the Structured Interview for Alexithymia were selected from a sample of 74 psychiatric inpatients. We applied a qualitative method of inquiry using the Nvivo-9 coding program to select and label interpersonal accounts from the interview narratives. The accounts discussed patients’ relations and interactions with significant others. Whereas all ten alexithymic patients show difficulties in interpersonal functioning, only two of them displayed detached interpersonal functioning that bears witness to an inability to get emotionally in touch with others. Other patients’ interpersonal functioning might seem cold and detached, but could better be characterised by disruptive impulsion or by not feeling appreciated by others. Regarding mentalizing capacities, we observed a continuum from low levels of complexity of interpersonal representations to higher levels of complexity. Our results show that that care is warranted in generalizing the idea that cold interpersonal functioning in alexithymia would apply to all patients with alexithymia. Whereas on a group level alexithymic patients are characterized by cold interpersonal functioning and impairments in mentalization, our results show that it is undeniable that there is a variability of interpersonal functioning and of mentalization capacities in patients with high alexithymia scores.
INTRODUCTION

The concept of alexithymia was coined by Peter Sifneos to describe difficulties in psychically experiencing and verbalizing affects (1973). Nemiah and Sifneos (1970) discussed the problems they encountered in psychosomatic patients and distinguished two main features of these patients’ psychic life. The first is “a striking incapacity of the verbal description and expression of feelings”, and the second is that these patients’ associations and thoughts refer to “external events and actions rather than to internal fantasies” (Nemiah and Sifneos, 1970, p. 159). This last feature tallies with the concept pensée opératoire, developed by Marty and de M’Uzan (1963), which refers to a conscious mode of thinking that lacks noticeable fantasmatic activity and is limited to the actual and the factual. Based on Nemiah and Sifneos’ conceptualization, Taylor and colleagues more recently formulated a definition of alexithymia that consists of four interrelated facets: (1) difficulty identifying feelings and distinguishing between feelings and the bodily sensations of emotional arousal; (2) difficulty describing feelings to other people; (3) restricted imaginal processes, as evidenced by a paucity of fantasies; and (4) a stimulus-bound, externally orientated cognitive style (Taylor, Bagby, & Parker, 1997, p. 29). Since the seventies the construct of alexithymia has been subject to an expansion of research, the more than 15000 hits in the databank PubMed for the search term ‘alexithymia’ are an indication of the recent growth of interest in the disorder. It has been studied in relation to various medical and psychiatric disorders including depression (e.g. Honkalampi, Hintikka, Saarinen, Lehtonen, & Viinamäki, 2000), anxiety disorders (e.g. Hendryx, Haviland, & Shaw, 1991), and somatization disorders (e.g. De Gucht & Heiser, 2003) (for an overview of earlier literature see Taylor et al., 1997).

Next to investigations into the core facets of the alexithymia construct and their relation to various clinical disorders, two main fields of research concern the relation between alexithymia and interpersonal difficulties, and between alexithymia and broader meta-cognitive functioning. Several empirical studies have demonstrated that cold and distant interpersonal functioning is
characteristic for patients suffering from alexithymia and that their interpersonal relationships are marked by discomfort and avoidance (Humphreys, Wood, & Parker, 2009; Qualter, Quinton, Wagner, & Brown, 2009; Spitzer et al., 2005; Vanheule, Desmet, Meganck, & Bogaerts, 2007; for an overview see Vanheule, Inslegers, Meganck, Ooms, & Desmet, 2010). Furthermore, Ogrodniczuk and colleagues (in press) observed that during a group therapy program for psychiatric patients a decline in alexithymia scores is related to more adaptive interpersonal behaviour.

With respect to the association between alexithymia and meta-cognitive characteristics of interpersonal functioning, several studies indicate that alexithymia is related to impaired mentalizing capacities and a low complexity of internal interpersonal representations (Dimaggio, Vanheule, Lysaker, Carcione, & Nicolo, 2009; Inslegers, Vanheule et al., under review; Meins, Harris-Waller, & Lloyd, 2008). Studies have shown that alexithymia is associated to problems with empathy and the cognitive capacity of perspective taking (Grynberg, Luminet, Corneille, Grèzes, & Berthoz, 2010; Guttman & Laporte, 2002; Moriguchi et al., 2007). However, detailed research on internal interpersonal representations that are characteristically linked to alexithymia is limited (Niec & Russ, 2002).

Following these studies one might conclude that patients suffering from alexithymia show a cold interpersonal functioning together with impaired mentalization capacities and low levels of complexity of their interpersonal representations. However, two remarks should be made to qualify such conclusions. First, quantitative studies that are based on data collected in samples and examine trends on group level, only allow for statements to be made about statistical trends at sample level. They do not allow answering the question of how such trend is reflected at the level of individual cases. Second, these studies tell us nothing about how the lived experience of cold interpersonal functioning is organized, and what its underlying dynamics might be. Neither do studies performed at sample-level explain how cold interpersonal functioning is related to other interpersonal difficulties. Similarly, the way in which impaired mentalizing capacities come to the fore in clinical narratives of alexithymic patients is largely left unexplored.
Nevertheless, a more comprehensive picture concerning interpersonal aspects related to alexithymia can be found in early publications concerning the topic of alexithymia in psychosomatic patients. With respect to these studies Sifneos (1996) not only points at the detached and cold interpersonal style observed in many psychosomatic patients, but also mentions their abortive efforts to communicate. This last characteristic is described more concretely by Nemiah and Sifneos (1970). Their patients seem to interact only limitedly when they are interviewed. In relation to the interviewer, the patients remain detached, unconcerned and without affective involvement. Moreover this interpersonal style is not limited to the therapeutic relation. Nemiah and Sifneos (1970) describe how alexithymic patients more globally tend to minimize affect and emotional involvement in interpersonal conflicts, and how interpersonal relations might be chaotic (Sifneos, 1996). Marty and de M’Uzan (1963) use the term “relation blanche” to describe this interpersonal style and note that these patients’ object relations lack libidinal investment.

Furthermore, also the impairments in mentalizing capacities and the low level of complexity of interpersonal accounts has been mentioned in early literature, however other terms are used. Nemiah and Sifneos (1970) stated that when these patients describe interpersonal conflicts they do not explore thoughts and fantasies about the situation, but stick to factual accounts. Sifneos (1973) suggests that they use action to avoid conflicting stressful situations, but didn’t further elaborate on this. Although such clinical descriptions display a more complex picture concerning interpersonal functioning, as compared to the recent empirical studies, they remain at a mainly descriptive level.

More recently, several authors have discussed the broader topic of the relation between affect regulation and interpersonal representations, indicating that these representations make up a basis for affect regulation (Fonagy, Gergely, Jurist, & Target, 2002; Mitrani, 1995; Verhaeghe, Vanheule, & De Rick, 2007). Several authors discuss the interplay between internal representations of self and others, affect regulation and interpersonal functioning (Dimaggio et al., 2009; Vanheule et al., 2010; Vanheule, Verhaeghe, & Desmet,
2011; Verhaeghe et al., 2007), and suggested that only by interacting with others, especially in close attachment relationships, representations are acquired which enable an individual to master somatic arousal. In the process of acquiring such representations a set of beliefs and expectations with regard to others is created. Indeed, the manner in which one discerns, handles and verbalizes affective states in relation to one’s sense of self and others is influenced by, and in turn influences, significant interpersonal relationships (Kealy, Ogrodniczuk, & Howell-Jones, 2011).

However, to our knowledge only one recent study by Vanheule, Verhaeghe and Desmet (2011) paid extensive attention to the interpersonal functioning as related to alexithymia at a case level. It discusses the treatment of a patient with a mental disorder that is not psychosomatic. Whereas the early clinical descriptions mainly mentioned interpersonal difficulties as coming into play in the therapeutic relation, Vanheule and colleagues indicate that alexithymia should be seen as a marker of an underlying process in which both problems in building accounts of experiences of emotional arousal and the inability to use interpersonal relationships with others to manage distress are at stake. Instead of describing the patient’s interpersonal functioning as cold and her mentalizing capacities as impaired, they give a detailed description of the interpersonal dynamics at play and the subtleties of the woman’s interpersonal functioning. Interpersonal relationships are described as overwhelming and chaotic for this woman. She complains about her husband’s disinterest in her and seems in despair because she does not know how to deal with family demands. Rather than mentalize about and discuss actions of others that upset her, her reaction is to become infuriated and to flee from her problems, seeking shelter either in work or in alcohol. Overall, the interpersonal accounts do not seem to bear witness of a tendency to withdraw from others or a low investment in others, but rather of her inability to really inter-act with others. We think that her withdrawal away from others can be understood as an effect of her inability to give others a subjective account of what affected her, and to regulate her affects through interactions.
Interestingly, this patient’s interpersonal functioning differs clearly from early clinical descriptions of psychosomatic patients’ functioning, and also cannot be interpreted as a mere illustration of cold interpersonal functioning in alexithymic patients. This brought us to exploring interpersonal functioning and mentalization more systematically in psychiatric alexithymic patients. Whereas the standard of scientific discourse emphasizes objectivity, subject-independent reliability and quantification, patients’ subjective and intersubjective experiences are often neglected (Fuchs, 2010). However, it are these subjective and intersubjective experiences that are central in therapy. The aim of this study was to find out how interpersonal dynamics of alexithymic patients come to the fore in narrative material and if their interpersonal functioning can be best described as cold and detached. We will map the diversity in how alexithymic people bear witness of cold and blank interpersonal functioning. Second we will examine if and how difficulties in establishing complex and psychologically minded mental representations of thoughts and feelings of others are revealed in the narratives of these patients. The two questions that guided us in exploring interpersonal functioning in alexithymic patients were:
- To what extent is emotional investment in others expressed in the episodes? Is the interaction with the other, as described by the subject, positive, negative or neutral and is the subject able to take a subjective position towards others or are others overwhelming?
- How complex and psychologically minded are descriptions of others and the self? Is the subject able to build representations of the functioning of others and are these representations nuanced, complex and imbedded in a social logical narrative or are they rather uni-dimensional or characterised by contradictions?

METHOD

Participants

We selected ten subjects with the highest TSIA alexithymia scores (Toronto Structured Interview for Alexithymia; TSIA; Bagby, Taylor, Dickens, & Parker 2006) from a sample of 74 clinical research
interviews with psychiatric inpatients. We used the TSIA for the measurement of alexithymia, since a growing number of authors has questioned whether a self-report instrument like the TAS-20 is the most adequate measure for alexithymia (e.g. Meganck, Inslegers, Vanheule & Desmet, in press). These interviews were collected within a broader research project about alexithymia and interpersonal problems. All patients (64% female; mean age of 39.41, SD = 12.48) were recruited from psychiatric hospitals in the Dutch speaking part of Belgium. All participants met DSM-IV Axis I criteria for the following diagnoses: mood disorders (70.3%), anxiety disorders (18.9%), schizo-affective disorders (2.7%), adjustment disorders (2.7%), somatoform disorders (1.4%), psychotic disorder not otherwise specified (1.4%), alcohol dependence (1.4%) and eating disorders (1.4%). On Axis-II 31% of the patients had received one or two (10.8%) diagnoses. Diagnosed personality disorders were avoidant PD (11.3%), obsessive compulsive PD (7.5%), borderline PD (6.3%), depressive PD (5%), passive-aggressive PD (3.7%), PD not otherwise specified (3.7%), paranoid PD (1.2%) and schizotypic PD (1.2%). Age, sex, TSIA, TAS-20 scores and DSM-IV diagnoses of the selected subjects can be found in Table 1. The mean TSIA score is 37.8 (SD = 3.82) and the mean TAS-20 score is 70 (SD = 7.76).

Measures

The Toronto Structured Interview for Alexithymia (TSIA; Bagby et al., 2006) consists of 24 questions addressing the four core dimensions of alexithymia. Each question is scored on a three-point Likert scale. Scores range from 0 to 48 with higher scores indicating greater alexithymia. An example of an item is: “When you experience stressful situations do you find it difficult to describe how you feel?” For each question there is a set of probes to elicit information in order to score the item accurately. The Dutch translation of the TSIA was obtained by means of a translation and back-translation procedure in consultation with R.M. Bagby (F. De Fruyt, personal communication). The coding of the TSIA interview was done during the course of the interview. All of the TSIA interviews were audio taped. To examine inter-rater reliability, 40 audio taped TSIA s were randomly selected. The reliability and factorial validity of the
instrument are good (Bagby et al., 2006; Inslegers, Meganck et al., under review). The inter-rater reliability was measured by using two-way random effects model intraclass correlations (ICC) and the internal consistency of the TSIA was evaluated using Cronbach’s alpha. Both ICC (.88) and internal consistency (.91) were good.

The 20-item Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994) consists of three subscales: difficulty identifying feelings (DIF), difficulty describing feelings (DDF) and externally oriented thinking (EOT). Each item is rated on a five-point Likert scale. Total scores range from 20 to 100. In this study the Dutch version of the TAS-20 was used. Psychometric properties of the Dutch version of the TAS-20 can be considered adequate (Meganck et al., 2008).

The Clinical Diagnostic Interview (CDI; Westen, 2006) was developed to provide a comprehensive assessment of personality, pathology and more particularly affective experiences and interpersonal dynamics and can be used for research as well as for clinical purposes. In this approximately two-hour long interview a range of questions tap into the patient’s complaints, symptoms and life-history. (e.g. Could you tell me a little bit about yourself and what brought you here?/ Can you tell me about your relationship with your mother? What was (is) she like as a person, and what was she like as a parent? ... Now I’d like you to describe a specific encounter with your mother, something that stands out. It can be an incident that’s typical of your relationship, really meaningful, really good, really bad—whatever comes to mind). In our study the CDI was administered and audio-recorded and afterwards transcribed verbatim.

Procedure

Participants were recruited at intake wards of psychiatric hospitals. Manifestly psychotic patients and patients primarily hospitalized for substance abuse were excluded from this study. Each participant received oral and written information about the study and gave informed consent. Participants were examined three times by a clinically experienced and trained researcher.
<table>
<thead>
<tr>
<th>Sample</th>
<th>age</th>
<th>Sex</th>
<th>TSIA</th>
<th>TAS-20</th>
<th>DSM-IV axis I</th>
<th>DSM-IV axis II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>48</td>
<td>M</td>
<td>35</td>
<td>67</td>
<td>Depressive Disorder</td>
<td>/</td>
</tr>
<tr>
<td>Jonas</td>
<td>18</td>
<td>M</td>
<td>46</td>
<td>59</td>
<td>Some criteria of Depressive Disorder</td>
<td>/</td>
</tr>
<tr>
<td>Tim</td>
<td>49</td>
<td>M</td>
<td>34</td>
<td>65</td>
<td>Depressive Disorder, Panic Disorder</td>
<td>/</td>
</tr>
<tr>
<td>Kurt</td>
<td>32</td>
<td>M</td>
<td>36</td>
<td>81</td>
<td>Depressive Disorder, Social Fobia Alcohol Dependency (remission)</td>
<td>/</td>
</tr>
<tr>
<td>Freddy</td>
<td>40</td>
<td>M</td>
<td>39</td>
<td>68</td>
<td>Depressive Disorder, Generalised Anxiety Disorder; Alcohol Dependency (remission)</td>
<td>/</td>
</tr>
<tr>
<td>Bea</td>
<td>61</td>
<td>F</td>
<td>37</td>
<td>72</td>
<td>Schizo-Affective Disorder, PTSD, Social Fobia, Panic Disorder, Anorexia</td>
<td>Obsessive-compulsive PD</td>
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<tr>
<td>Trudy</td>
<td>20</td>
<td>F</td>
<td>39</td>
<td>84</td>
<td>Dysthymic Disorder, PTSD</td>
<td>/</td>
</tr>
<tr>
<td>Lilly</td>
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<td>F</td>
<td>34</td>
<td>68</td>
<td>Depressive Disorder, Panic Disorder</td>
<td>/</td>
</tr>
<tr>
<td>Jessy</td>
<td>36</td>
<td>F</td>
<td>36</td>
<td>73</td>
<td>Depressive Disorder, PTSD, Social Fobia</td>
<td>Passive-Agressive PD</td>
</tr>
</tbody>
</table>
The first session included the CDI; Thematic Apperception Test (TAT; Murray, 1943) and TSIA were administered during the second session; and the Structural Diagnostic Interview for DSM-IV axis I and II disorders was administered in the third session. After the first session, patients also filled out a demographic list and completed the TAS-20. The study was approved by the Ethics Review Board of the Faculty of Psychology and Educational Sciences, Ghent University.

The transcripts of the CDI’s of the ten patients with the highest scores on the TSIA were selected. Next, thematic analyses were used to identify, analyse and report patterns in the data (Braun & Clarke, 2006). More specifically, since we wanted to study interpersonal functioning, we used a ‘theoretical’ thematic analysis in order to provide a detailed analysis of this specific aspect of the data. In order to do so, the first author studied the ten transcripts of the CDI and identified all narratives of interpersonal encounters and descriptions of the self. Using the coding program Nvivo 9, the first author coded the following categories (mother, father, partner, ex-partner(s), children, brothers/sisters, other family, others). As each of the ten interviews contained accounts of mother, father, partner, ex-partner(s), we further coded these accounts using three categories: 1. description of actions, profession, physical characteristics; 2. description of feelings, thoughts, character traits; 3. description of the relationship/interactions. For each patient a narrative or case presentation presenting the data organised by the information from these categories, was written in a condensed and concise way. The ten case presentations were then compared to identify similarities and differences in the patients’ accounts. Our findings are based on these narratives embedded in the broader interviews.

RESULTS

From the ten interviews we selected a total of 660 accounts in which the subjects talk about significant others (mother, father, partners, ex-partners,) or their relationship with them. In general, most accounts of the ten alexithymic subjects reveal interpersonal difficulties e.g. Bea “And well, actually my mother did not want to have children anymore, no children anymore. My mother dreamed of
a great career as a violist... And that was possible with two children, but not with more. And I was the third and thus I was the spoilsport. Even worse, I was born one month to early. Just at the moment that my mother had to play a concert. She always blamed me for that."; Freddy “Actually I did not like to go home...My mother liked to drink. And there were a lot of fights then...We actually had to take care of ourselves...”; Lilly “ My relations with men? Not good, not good. I had a lot of blows. No matter with who. I have had four men. And I married one. Well, it comes back every time: being beaten up, again and again. So, not good.”

As discussed in the introduction, early clinical descriptions as well as recent empirical studies point to cold and detached interpersonal functioning and impaired mentalization in alexithymic patients. These hypotheses guided our discussions of the results we obtained during our research.

‘Alexithymic patients are cold and have blank relationships with little investment in others.’

Two (Mark, Jonathan) out of the ten interviewees displayed this characteristic interpersonal stance quite consistently, while the other participants seem to vary in the degree in which their interpersonal functioning can be characterized as little invested in others. In figure 1 we visualised the degree in which the interpersonal accounts of the interviews show the interpersonal detachment. However, this figure should not be interpreted as a hierarchy, but merely as an illustration of differences between patients concerning interpersonal detachment.

As can be observed, Mark is one of the participants in whose narratives the interpersonal detachment holds a prominent place. Mark presents himself with vague complaints, he feels bad and depressed and lacks the energy to do anything; he also feels restless and nervous, is tired and has problems with eating. However, when asked if these problems are related to things that might have happened to him in his life, he says that he cannot tell which events
his problems might be connected to or stem from. These periods just seem to overcome him.

**Figure 1.** Detachment and low levels of complexity

The next extract of the interview with Mark, in which the interviewer asks about memories from his childhood, shows that Mark has trouble recounting memories, and what he eventually does say, illustrates his lack of a connection and interactions with others. Whereas the other patients talked about events and their relations to other people, when Mark was asked to talk about his childhood and what he remembers of it, he responded as follows: “Well, I had a couple of pets, a cat and a dog and well, yes, what do I remember...I had a bicycle.” This detachment from others, is also illustrated in the following account where he talks about his wife and their relation.
When asked if he can easily talk to his wife about how he feels he answers: “Actually yes, but on the other hand, I do not do it myself, she has to, she asks me sometimes about it...but otherwise, I, myself, will not tell her anything.” When asked what he answers her, he tells “I will say that it is a bad day, that I don’t feel good.” Although there is clearly an inability to get emotionally into touch with others, this participant does not seem to draw back from others intentionally. This is also clear in the accounts of Jonathan in which he testifies about his relations with girlfriends. Although connected to problems with mentalization, the apparent lack of a longing or a desire to have profound contacts with others is obvious in this story. When asked to talk about past romantic relationships, he answers: “That went not so well...The first was, we were together for one week and then she split up.” If the interviewer asks if he knows why, Jonathan answers “no, and the second one lasted for three weeks and then suddenly you don’t hear anything anymore from her.” Jonathan also did not seem to have made any efforts to know why these girls left him so abrupt.

Several accounts of Mark and Jonathan displayed this detachment of others and a similar position towards the interviewer was noted, a lot of questions had to be asked which were responded in very few words and the interviewers had the feeling that they never established real contact with these patients. However, from the interpersonal accounts that were studied it seems that we should understand the cold, distant and detached interpersonal functioning as indicative of an inability to get emotionally into touch with others, rather then as deliberate and active distance taking. It is not that these patients cannot talk to others or have relationships, but rather there seems to lack real inter-action with the other. These patients seem to be perplexed and left to the mercy of others, and they generally have problems actively engaging in relationships.

However, in most other patients’ accounts, detachment from others was not predominant. The interpersonal dynamics as observed in the accounts of Freddy lie closest to those of Mark and Jonathan. Freddy’s accounts also seem to display interpersonal detachment, especially when discussing his relations with women. However, this detachment is not accompanied by a perplexity and being at the mercy of others, but rather by an instrumental position towards the
other, especially when talking about his ex-girlfriends. Nevertheless, some of his reactions show that he also seems to need them as buffer against loneliness. In contrast with accounts of Mark and Jonathan, disruptive impulsion seems to be typical of Freddy’s interpersonal functioning. Characteristic of this disruptive impulsion is that arousal or tension in interpersonal conflicts cannot be contained, but is always acted upon. In this way Freddy is similar to the patient discussed by Vanheule and colleagues (2011). Such disruptive impulsion is also evidenced in accounts of Jessy and Lilly. What is also noteworthy is that both of these women were repeatedly abused in their relationships, and that they acted impulsively: Lilly mutilates herself or stops eating when distressed; Jessy acts aggressively (e.g. when her husband was too late for dinner, she went to the café where he was sitting and threw the spaghetti over his head). Disruptive impulsion can also be observed in the account of Sabine, who used to spend large amounts of money on clothes for her children without thinking if she could afford it.

However, some patients do not seem to show the interpersonal distance taking as associated with alexithymia at all and this suggests that interpersonal detachment should not be expected in all alexithymia cases. Especially in Bea’s (see beginning of the result section) and Trudy’s accounts, we observed predominantly warm and caring feelings towards others. Trudy for example clearly expresses warm and caring feelings towards her mother. “Well, my mother also learned to know someone. And I asked her whether she was happy. She was happy. And then I told her: It is good, ok. But, I couldn’t witness her being hurt by someone. That then hurts me also in a way. Even if my mother did a lot of things wrong to me, I still love her…” Yet both patients also seem to struggle with being gentle or caring towards others, who in turn do not display a caring attitude towards them. These women, sometimes also seem to display a distrust in others especially when they have been mistreated. Bea, for example recounts that she decided not to visit her mother for some years, however after her father died she started to visit her mother again; but she says that she still gets nervous because every time she visits her mother, her mother blames her for all sort of things.
Some participants seem, at first sight, to express cold and detached interpersonal functioning but upon deeper examination actually seem to be struggling with a yearning to be appreciated by significant others. One participant, Kurt discussed his relationship with his father in detail. While Kurt often exhibits signs of detachment, his attitude towards his father shows signs of feelings of disappointed and of hate, rather than of detachment only: “If he (father) dies, it is my turn... We will bury him like a dog, I mean it. That is hard. Like he did not look for us, well we will treat him the same way then.” Here Kurt seems to react to the lack of feeling wanted and desired by his father, rather than expressing a lack of investment in the other. Another patient, Tim, also showed a similar dynamic of feeling unwanted by his father, and at the same time speaking in a denigrating way about him. These accounts reveal that patients are not always apathetic but that they often have feelings of anger and disappointment.

The accounts of the ten alexithymic subjects, testify of various interpersonal dynamics. Only for two patients, their interpersonal functioning can best be described as a detached interpersonal functioning. It should be noted that at least in this small sample, men seem to express ‘more’ detachment than women. However, it should also be mentioned that the detachment they express seem to have different underlying dynamics.

‘Alexithymic patients fail to describe significant others in complex ways and have troubles understanding thoughts, feelings and behaviour of others.’

As with the cold and detached interpersonal functioning, the interview with Jonathan and Mark also evidenced a very low level of mentalization. For both subjects it seems very hard to describe who the other is, and to build images of what others might feel and think. Descriptions of interpersonal situations were not accompanied by affects and fantasies. Things just happen to them, without them having an idea about why others might have interacted that way. The following accounts of Jonathan illustrate this best. Whereas at first sight the cause of the troubles Jonathan experiences, as well as his suicide attempt seem to be linked to the death of his elder brother
almost a year ago, he mentions that he tried to commit suicide around the age of twelve. This indicates that the problems have not developed after the death of his brother. However, when inquiring what was going wrong or why he tried to commit suicide, he can say nothing but that he was feeling bad at that time. When Jonathan is invited to describe his mother as a person and as a parent, he answers that she would do anything for him. “She actually would spend her last penny, her last penny on me in stead of keeping it for herself.” However, when asked whether they have financial difficulties, he says: “No, but that is what she always tells me.” He thus seems to use his mother’s own words literally to describe who she is. Though, when asked if he can tell something about a specific moment, something he remembers or something that is typical of how his mother interacted with him, he cannot give any example. Later in the interview, he repeats that she takes good care of him; but also mentions that she has tried to kill herself when he was about 12 years old. When invited to talk about how he reacted to that, he says: “bad.” And when asked how he felt towards his mother, he says “I don’t remember, I was not allowed to visit her.” When asked what he felt when he was not allowed to see her, he says that he probably would be scared too much.

For some patients, like Freddy and Lilly, we see an assortment of accounts with at some moments a higher level of complexity, but in most cases descriptions of others and interpersonal situations showing a lack of complexity. For example, when asked about her childhood, Lilly responds that it was hard for her mother. “She had a bar at that moment. So she had eight children. I guess it was very difficult for her. But I do not know a lot about my childhood. I left at fifteen, so.” When asked what the reason was that she left home, she answers that she doesn’t know.

With Jessy and Sabine we observe an intermediate level of complexity when examining their interpersonal accounts. Remarkable is that, although descriptions are fairly complex they also display many contradictions. For example, whereas Jessy expresses that she had a very good bond with her mother and father when she was young, she mentions somewhat later in the interview that she had arguments with her father during which the neighbours came to
ask to be a little bit quieter... “My father can shout good and I can shout well. I even shouted louder.” Sabine manages to describe interactions at a complex level, but she expresses a specific logic when talking about her and her husband’s depressions. Whereas she complains about not feeling understood by her husband, she expresses at the same time that her husband’s depression began when he started working as a driver, and thus, she believes that he has to put up with the consequences of his own choice.

Yet again, we see that for other patients, like Kurt, Tim, Bea and Trudy, giving a psychologically minded description of others and their interactions seems to go quite smoothly. We refer to the account of Bea at the beginning of the results section and also observe this with Trudy. Even though she often mentions that she finds it difficult to talk about her feelings and her fear of others, she manages to describe the relation with her ex-boyfriend in a fairly complex and mentalized way. “Well, if I saw him, if I didn’t see him then I wanted him with me. If I saw him, I preferred that he was gone. ... I told him afterwards, I cannot show love, give compliments. ... He was sweet... I never understood why he was with me. I am not a beautiful girl, he is a beautiful boy. He had some beautiful girlfriends before me. And I couldn’t understand what he liked about me. ...I wondered whether he would compare me with his exes. That probably happened, I quite understand that. But, I always lived with that thought: if he lays in my arms, would he think about someone else?... A month after we broke up, I got a message, I didn’t think it would be so quick, in which he wrote ‘I prefer that you hear it from me, than from someone else, but I have someone else’... It wasn’t difficult. I was better off without him... If I think about it afterwards; he told me on Monday that he would certainly come, but in the evening I got a message that he wouldn’t come. He always said that he was at home. But was he at home? I think he was somewhere else. But who will find out? Not me. Now it is over, it is the best.” Interpersonal difficulties for Trudy do not seem to be related to a lack of mentalization, but rather centre on the question of being desired by others. Kurt also manages to describe the relation with his father in a fairly complex way. “And I stay that little man. Every time being pushed in the corner, because all I did was not good for my father. Never something that he could say of ‘you have done that good’. Never, never.”
These accounts show that different levels of complexity in descriptions of others and interactions can be observed. Only for two patients, a very low level of mentalization is observed. For these patients it seems very hard to describe who the other is, and to build images of what others might feel and think. Things just happen, without them having an idea about why others might have interacted the way they did. For other patients, however, problems with mentalization seem to be more specific for certain situations or relations.

**DISCUSSION**

In this study, we explored whether and how cold and detached interpersonal functioning and impaired mentalization, being described as typically accompanying alexithymia, come to the fore in clinical interview material of ten alexithymic patients. Moreover, we paid attention to underlying dynamics in the context of patients’ subjective and intersubjective experiences. As this study shows, only two out of ten alexithymic patients display an interpersonal functioning that might be characterised as a lack of investment in others and a detached style, in which an inability to get emotionally into touch with others stands out as a main characteristic. Whereas all patients show difficulties in interpersonal functioning, for most patients their interpersonal style can only be characterised partly by describing it as detached. Three patients’ interpersonal functioning is rather characterised by disruptive impulsivity as we could also observe in the clinical vignette in the study of Vanheule and colleagues (2011). These patients seem to react to interpersonal difficulties by ‘fight or flight reactions’ in which they are unable to give subjective accounts of their emotional arousal. Furthermore, some interview extracts show that several dynamics can underlie an ‘overt cold interpersonal functioning’. Two patients seem to exhibit a cold interpersonal style towards some significant others, but upon further investigation one finds that these patients are concerned about being desired. A patient may be angry because of the way he/she was treated by others and then express this anger in a way that sounds and looks like cold interpersonal functioning, but the anger exhibited in these cases reflects the fact that there is no
interpersonal detachment at stake. Other patients display a rather warm and caring interpersonal style but are struggling with the question of being desired by others.

Regarding mentalization capacities, we observed a similar picture. The two patients showing a detached interpersonal style, also exhibit a more or less consistent lack of proclivity to use internal state terms when describing and explaining the behaviour of others and seem to display an impaired mentalization. But some patients seem to be able to describe others and their relationships in fairly complex ways with attention to feelings and thoughts of others and themselves. Other patients can be situated in the middle of the continuum between these extremes. It should be noted however, that compared to persons with low alexithymia scores, these patients might still show a fairly low level of complexity. A recent overview (Fonagy et al., 2011) discusses that mentalization is a complex capacity with multiple components and a recent study (Inslegers, Vanheule et al., under review) showed that it is possible that, at a group level, patients suffering from alexithymia may show impairments in some aspects, but not necessarily in others. Moreover, the interpersonal accounts show that while patients are able to report in a complex way about some situations with significant others, this might not be the case for all situations. This is in line with Fonagy and colleagues (2011) who remark that instruments will only yield an indication of a potential for mentalization. Depending on the interpersonal situation and context, this potential might or might not be fulfilled. Although there is a tendency to speak and write in a more nuanced and differentiated way about mentalization (e.g. Dimaggio et al., 2009; Fonagy et al., 2011; Lecours & Bouchard; 2011), this is not (yet) reflected in many studies.

Whereas alexithymic patients on a group level are characterized by cold interpersonal functioning (as measured almost exclusively with the self-report IIP-64) and impairments in meta-cognitive functioning (mostly measured through lab tasks or self-report measures), our results show that the variability of interpersonal functioning may not be denied. In a quantitative study using a multi-method approach to investigate the association between alexithymia and indicators of interpersonal functioning, correlations are observed of .38 for self-
reported interpersonal problems and between .18 and .42 for the complexity of descriptions of self and others in interview narratives (Inslegers, Vanheule et al., under review). Although these correlations might seem low, they can be situated in the middle range of correlations between two independently measured variables found in empirical research (Meyer et al., 2001). In this middle range, for example the correlation between gender and weight \( r = .26 \) can be found. Correlations in the high end are for instance the relation between gender and arm strength \( r = .55 \) or gender and height \( r = .67 \). Meyer and colleagues (2001) discuss that it is not surprising that correlations between complex aspects of the human psyche when measured with independent variables, are only moderate. However, this means that constructs only account for a limited amount of variance in each other. Nonetheless, this variance which is left unexplained is often not discussed in quantitative research. The observation that alexithymia scores account only partly for the variance in interpersonal functioning is also made in this study. However, using a qualitative approach, we were able to map the underlying complexity and dynamics in interpersonal functioning.

Some limitations of this study should be noted. The first limitation is inherent to the sample of the study: most patients are suffering from a depressive disorder, so it cannot be excluded that our observations regarding interpersonal problems are contaminated by that. However, DSM-IV diagnoses of the ten alexithymic patients did not seem to differ from these of the psychiatric sample in which they were selected. On the other hand, we cannot rule out that the interpersonal problems are typical for people needing psychiatric hospitalization because of mood disorders, in stead of being specific for alexithymic patients. Nonetheless, we believe that excluding patients with specific diagnoses would have reduced ecological validity. Future studies should include patients with low scores for alexithymia in order to examine whether similar interpersonal problems and mentalization problems come to the fore.

Second, the selection of subjects for this study was only based on their TSIA scores for which no norm or cut-off scores are available yet. We thus choose to select the ten highest scoring patients, but as mean TSIA and TAS-20 scores are high compared to general
psychiatric samples (e.g. Bagby et al., 2006; Grabe et al., 2009) and all ten TAS-20 scores were in the clinical or sub-clinical range (Bagby, Taylor, Parker, 1994), we are quite convinced that this selection was appropriate. Despite this, we must remark that contrary to our expectation, only two patients’ interpersonal patterns as observed in our sample of ten alexithymic patients, correspond to early clinical descriptions of alexithymic patients suffering from psychosomatic disorders. Our study took place in a psychiatric sample with most patients suffering from a depressive episode. We concluded in our study that a more differentiated and complex picture of interpersonal functioning in alexithymic patients was observed than described both in early literature and empirical studies. However, an alternative hypothesis can be made. The first results of studies into the reliability and validity of the TSIA have promising results (Bagby et al., 2006; Grabe et al., 2009; Inslegers, Meganck et al., under review), but since very few studies examined its predictive and concurrent validity, we cannot guarantee that the measurement of alexithymia by the TSIA is valid. During the last decades the alexithymia construct has been applied to many disorders. As discussed by Meganck (2009) it might be problematic to use the alexithymia construct (as originally developed to describe problems in affect regulation in psychosomatic patients) to describe problems in affective functioning in a range of disorders. So, we cannot rule out the possibility that in our sample the TSIA tapped other problems in affect regulation than originally described as alexithymia. To this purpose it would be interesting to examine in a qualitative way problems in affect regulation and verbalisation psychosomatic and psychiatric patients show.

Next to these problems, the interviewers of this study also noted that some patients seemed to be bored during the administration of the TSIA and complained about the resemblance of several questions. Some patients also showed difficulties to directly give examples about situations in which they experienced emotions, whereas during the clinical interview they talked at length about those situations. We thus cannot exclude that these factors influenced TSIA scores and thus the selection of our sample.
Notwithstanding these limitations we think our study has some important implications for research, clinical practice and the interaction between both domains. Our results show that that care is warranted in generalizing the idea that cold interpersonal functioning in alexithymia would apply to all patients with alexithymia. In the field of research on mentalization, interesting contributions are made (e.g. Dimaggio et al., 2009; Lecours & Bouchard, 2011), however these methods still adhere to a quantitative approach. We think qualitative studies examining constructs such as alexithymia and mentalization might be able to include an assessment of the subjective and intersubjective dimensions of these constructs, which could allow bridging the gap between empirical research and clinical work (see also Fuchs, 2010). We can conclude that this study shows that a patient scoring high for alexithymia (as measured with the TSIA) does not necessarily exhibit a detached interpersonal functioning and low levels of complexity.
REFERENCES


CONCLUSION AND GENERAL DISCUSSION

The aim of this dissertation was to investigate the relation between alexithymia and interpersonal functioning. However, since research into the validity of two central measures in our study was limited, we aimed at investigating the validity of these measures first. Next to that, we investigated the relation between alexithymia and two central aspects of interpersonal functioning in a quantitative, multi-method and in a qualitative design. In this final chapter we summarized our findings and drew conclusions regarding theoretical, methodological and clinical issues. We argued that results from our study combined with theoretical frameworks about affect regulation show a complex interplay between affect regulation, interpersonal functioning and mentalization. As a consequence, in a clinical context a combined assessment of these aspects should always be preferred and needs to be undertaken in a broader narrative context, which allows integrating findings and examining underlying dynamics in these related fields of mental functioning. Finally, limitations of the dissertation and suggestions for future research are discussed.
OVERVIEW OF THE MAIN FINDINGS

The aim of this dissertation was to investigate whether alexithymia is related to a specific style of interpersonal functioning. In early clinical observations the interpersonal functioning of psychosomatic patients, as related to alexithymia was touched on. Yet only in the last decade, studies have started to examine the relation between alexithymia and interpersonal functioning more systematically. In these studies, two research domains can be discerned. Whereas the first domain focuses on the link between alexithymia and interpersonal difficulties, the second one examines the link between alexithymia and mentalization. However, the majority of these studies are based on research with self-report questionnaires. In this dissertation, we addressed the limitations of recent empirical studies by using both a multi-method, quantitative and a qualitative design. Furthermore, we observed that both early clinical observations and recent empirical studies lack a conceptual framework from which the interplay between affect regulation, meta-cognitive functioning and interpersonal functioning can be understood.

In Chapter 1 we discussed the development of the alexithymia construct and investigated how Freud’s conceptualization of mental problems can lead us to recent theories about affect regulation and interpersonal functioning. We then summarized more recent theoretical developments about the association between affect regulation and interpersonal functioning. We concluded this general introduction by indicating the shortcomings of recent empirical research into this subject and discussed how the research questions, design and measures used in this study address these issues.

In Chapter 2 we discussed the original clinical insights on the subject of interpersonal problems in alexithymia and provided an overview of the empirical literature on the topic. Additionally, theoretical frameworks were presented in order to show why we expect a relation between alexithymia and specific interpersonal problems. Both clinical and quantitative studies demonstrated that a detached interpersonal style is typical for alexithymia. At a conceptual level it
was argued that the work of Bucci and Verhaeghe can offer a theoretical framework which enables us to understand the interplay between alexithymia and interpersonal difficulties and their association with problems in mentalization.

From the overviews in Chapters 1 and 2, it became clear that recent empirical studies into the association between alexithymia and interpersonal functioning focus almost exclusively on self-report measures. We also discussed in Chapter 1 that the dominance of this approach has important limitations. For instance, we cannot exclude the possibility that results from these studies are biased by shared method variance (Meyer et al., 2001). While these self-report measures have been subject to many validation studies, alternative measures such as the Toronto Structured Interview for Alexithymia (TSIA; Bagby, Taylor, Parker, & Dickens, 2006) and the Social Cognition and Object Relations Scale (SCORS; Westen, 1990; Westen, Barends, Leigh, Mendel, & Silbert, 1990) are hardly validated. Therefore, Chapter 3 and 4 focused on the validity of these two central measures used in this study.

In Chapter 3 the reliability, factor structure and convergent validity of the Toronto Structured Interview (TSIA; Bagby et al., 2006) were examined. Good levels of internal consistency and inter-rater reliability were obtained. The results of a confirmatory factor analysis replicated the hierarchical, four-factor structure obtained in previous studies with the original English language version and the German and Italian versions of the TSIA. This structure with four lower-order factors [difficulty identifying feelings (DIF), difficulty describing feelings (DDF), externally oriented thinking (EOT) and imaginal processes (IMP)] nested within two higher-order latent factors [affect awareness (AA) containing DIF and DDF, and operative thinking (OT) containing EOT and IMP], is consistent with the underlying theoretical model of the alexithymia construct. Concurrent validity was confirmed by significant correlations between the TSIA and the 20-item self-report Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994). However, correlations correspond to small to moderate effect sizes, especially in the tinnitus sample. It is recommended to apply the TSIA next to the self-report TAS-20, especially in clinical populations in which alexithymia
can be considered a substantial problem and patients might not be aware of difficulties they have in affect awareness.

In Chapter 4 the Social Cognition and Object Relations Scale (SCORS) was investigated. The SCORS assesses social cognition and object relations, which are both processes understood to mediate interpersonal functioning. We examined the reliability and convergent validity of two versions of the SCORS, one for use with Thematic Apperception Test narratives (SCORS-TAT; Westen, 1990) and one for use with clinical interview data (SCORS-CDI; Westen et al., 1990). Four SCORS dimensions were evaluated. The results show that while inter-rater reliability was good for all dimensions, internal consistency was low, especially for the two affective dimensions. Structural Equation Modelling in which a model with two factors (i.e. SCORS-TAT and SCORS-CDI) and four dimensions each was tested, indicated low convergence between corresponding dimensions of SCORS-TAT and SCORS-CDI. Results from the Structural Equation Modelling combined with results displayed in a multi-trait-multi-method correlation matrix suggested that this was due to a strong method factor. Regression analyses, however, revealed that the presence of a personality disorder operated as a moderator for convergence between corresponding cognitive-structural dimensions. In other words, the convergence is higher in patients suffering from a personality disorder. Since this was the first study examining the presence of a personality disorder as a moderator between two SCORS versions, future research is warranted to investigate whether this observation is robust.

Chapter 5 includes a quantitative study of the relation between alexithymia and interpersonal problems. This study examined this relation at two levels: both self-reported interpersonal problems and cognitive-structural aspects of internal interpersonal representations in narratives were examined. Alexithymia was measured using the TSIA and the TAS-20. To measure interpersonal problems, dimensional dominance and affiliation scores of the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000) were used. Since the results in Chapter 4 indicated very low levels of internal consistency for the affective dimensions of the Social Cognition and Object Relations Scale (SCORS), we decided to
only include cognitive-structural characteristics of interpersonal representations. These were scored both on TAT-narratives and on CDI-narratives. As hypothesized, alexithymia was related to cold, but not to dominant or submissive interpersonal functioning. In terms of the SCORS, alexithymia was negatively related to complexity of interpersonal representations indicating a link between alexithymia and this facet of mentalization. The results for social causality were also in the expected direction when scored on TAT narratives, but no association with alexithymia was observed when social causality was scored on the CDI interview narratives. As previous studies have documented the link between self-reported alexithymia and negative affectivity (e.g. Lumley, 2000), we controlled for negative affectivity in all analyses to ensure that correlations between alexithymia and problems in the interpersonal domain could not be explained by negative affectivity. Overall, after controlling for negative affectivity the TSIA provided the most consistent and stable results.

In Chapter 6 we explored whether and how cold and detached interpersonal functioning and impaired mentalizing capacities, as being typical of alexithymic patients, were evidenced in interpersonal accounts retrieved in clinical interviews with alexithymic patients. We applied a qualitative method of inquiry using the Nvivo-9 coding program to select and label interpersonal accounts from Clinical Diagnostic Interview (CDI) narratives. Ten patients with the highest scores on the TSIA were selected from a broader sample of 74 psychiatric inpatients. Results from empirical studies show that on a group level alexithymic patients are characterized by cold interpersonal functioning and impairments in mentalization (see Vanheule, Inslegers, Meganck, Ooms, & Desmet, 2010). However, the magnitude of the associations found, shows that alexithymia scores account only partly of the variance in interpersonal functioning and thus a large part of variance is left unexplained. In this study a qualitative approach was used to map the underlying complexity and dynamics in interpersonal functioning. Our results confirm findings from empirical studies that only part of the variance in interpersonal functioning could be explained by the variance in alexithymia, and show that care is warranted in generalizing the idea that cold interpersonal functioning in alexithymia would apply to all patients with alexithymia. The variability of interpersonal functioning and
mentalization capacities in alexithymic patients should not be denied. Only two out of ten alexithymic patients displayed interpersonal functioning that might be characterized as a lack of investment in others and a cold and detached style, in which an inability to get into touch with others stands to the fore. Whereas all patients show difficulties in interpersonal functioning, for most patients their interpersonal style can only be characterized partly by describing it as cold and detached.

CONCLUSION AND CRITICAL DISCUSSION

Reliability and convergent validity of the instruments

A growing number of authors have argued that non-self-report measures should be included in research on the topic of alexithymia (e.g. Lundh, Johnsson, Sundqvist, & Olsson, 2002; Waller & Scheidt, 2004). Moreover, some authors (e.g. Meganck, Inslegers, Vanheule & Desmet, in press) argue that expert ratings (researcher, clinician) on the core alexithymia dimensions are likely the closest one can get to a golden standard for alexithymia measurement. In our study, promising results concerning the reliability and validity of the TSIA were obtained. The Dutch version of the TSIA proved to be a reliable method of measuring alexithymia and, in line with previous studies, its internal structure proved to be consistent with the theoretical formulations introduced by the founders of the alexithymia construct (Nemiah & Sifneos, 1970). The IMP (fantasy) dimension showed the lowest correlations with the other alexithymia dimensions. However, no problems were observed concerning the reliability of this dimension. This differs from the results obtained with the TAS-20 for which the authors decided to remove the IMP dimension from the original version of the scale because of its low reliability (Taylor, Bagby, & Parker, 1992).

In terms of the convergence of the TSIA and self-report TAS-20 scores, interesting results emerged. Although the difference was not significant, the correlation between the TSIA and the TAS-20 scores was lower in the tinnitus sample than in the psychiatric sample. Next
to this, a significant difference was observed in mean TAS-20 total scores with medical patients scoring lower than psychiatric patients, while TSIA scores did not differ significantly. Some authors argue that the DIF and DDF factor scales of the self-report TAS-20 primarily measure an individual’s beliefs about his or her difficulties in identifying and describing emotions. This could result in very low scores for individuals who lack knowledge about these meta-emotional difficulties (Lundh et al., 2002). Our results indicated that indeed scores on these subscales are lower in patients affected by psychosomatic illness (suffering from tinnitus). Their attribution style may focus more on physical factors and these patients may be less likely to present with emotional difficulties (Duddu, Isaac, & Chaturvedi, 2006). Consequently, we can hypothesize that the observed difference in mean scores indicates that these patients are not aware having difficulties in affect regulation and thus receive too low scores on the self-report TAS-20 DIF and DDF factor scales. The TSIA may avoid this bias to a certain degree, as it asks individuals to give specific examples of situations in which they were (not) aware of specific feelings and uses probes to carefully map to which extent someone has difficulties in affect awareness. We thus conclude, with caution, that for the measurement of alexithymia, the TSIA should be considered a good alternative for self-report questionnaires. However, in order to consider an instrument as valuable from a clinical point of view, apart from reliability, factorial validity and construct validity, the instruments should exhibit good predictive validity and theoretically consistent relations with other constructs. In our opinion, future alexithymia research should focus on the construct validity and clinical validity of the TSIA.

Regarding the reliability of the SCORS, inter-rater reliability was good for all dimensions, while internal consistency was low, especially for the two affective dimensions (Affect-tone and Emotional Investment) in the group of patients not suffering from a personality disorder. Overall, internal consistency was higher for patients suffering from a personality disorder. In other words, the convergence is higher in patients suffering from a personality disorder. Although our data do not permit us to draw specific conclusions about this observation, we
could hypothesize that patients with a personality disorder, as stated in the definition itself, exhibit a more pervasive pattern of “perceiving, relating to, and thinking about the environment and oneself” (DSM-IV-TR, p.686; American Psychiatric Association, 2000). Moreover, one of the criteria of the definition of a personality disorder is that the traits should be evident across a broad range of situations. Apparently, patients suffering from a personality disorder exhibit a more pervasive pattern of perceiving, relating to, and thinking about the environment and oneself, resulting in a higher convergence between SCORS ratings on narratives from different TAT plates and SCORS ratings on CDI narratives about different significant others. From a clinical point of view, the level of internal consistency of the affective dimensions might be interesting as it provides information about the degree to which problems in mentalization and relating to others are generalized to different contexts or are specific for certain situations. Nonetheless, the low internal consistency poses problems concerning the use of the affective dimensions in quantitative studies, since no underlying construct could be identified and the scores for the affective dimensions scored on one narrative do not seem to be related to scores on other narratives. For this reason, we opted to not include these dimensions in further investigations. As evidenced from the study into the convergent validity of the SCORS, the material on which the SCORS is scored seems to play an important role. In our sample we could speak of a strong method factor influencing SCORS ratings. A significant correlation between ratings on TAT narratives and ratings on CDI narratives was obtained only for the subscale Complexity. This indicates that there is a general tendency to give more complex and nuanced descriptions of the self and others, regardless of whether the patient is telling a story in response to a vague cue or talking about significant others in his/her life. Our results are in line with previous research showing that characteristics of object relations and social cognition do not appear to be fixed traits that manifest in the same way in all situations or representations of relationships; different social relations are likely to be represented with different levels of cognitive and affective investment or valence (Barends, Westen, Leigh, Silbert, & Byers, 1990). Future research should investigate how different instruments that assess different aspects of mentalization converge or diverge. Next to the SCORS, other instruments or rating systems such as those
proposed by Lecours and Bouchard (1997; 2011) should be subject to research into issues like tests of construct validity and clinical validity. However, it must always be borne in mind that instruments will only yield an indication of a potential for mentalization, which may or may not be fulfilled depending on the context.

**Alexithymia and interpersonal functioning: measurement implications**

The small correlations we observed between different methods measuring the same construct would be less problematic if these measures could at least show consistent associations with theoretically related variables (Meganck et al., in press). One variable that alexithymia is assumed to be related to is interpersonal functioning. The association between alexithymia and a detached interpersonal functioning has been put forward in early clinical accounts of alexithymia in patients affected by psychosomatic illness and in recent empirical studies. Moreover, on a conceptual level both ‘old’ theories (e.g. Freud, 1926/1936) as well as more recent ones (e.g. Mc Dougall, 1980; Mc Dougall & Coen, 2000; Mitrani, 1995; Vanheule, Verhaeghe, & Desmet, 2011; Verhaeghe, 2002; Verhaeghe, Vanheule, & De Rick, 2007) explicitly link affect regulation with interpersonal functioning. They describe the inextricable interplay between affect regulation, mentalization and interpersonal functioning. Representations and mentalizing capacities which enable individuals to master somatic arousal and thus enable the subject to regulate his/her affects in a symbolic way are obtained by interacting with others, especially in close relationships with significant others. In the process of acquiring such representations a set of beliefs and expectations with regard to others is created, which form the basis for interpersonal functioning (see also Vanheule et al., 2011; Verhaeghe et al., 2007). We thus expected that scores on instruments measuring alexithymia would be related to scores on instruments measuring aspects of interpersonal functioning.

Regarding the TAS-20 we see that the association with the affiliation dimension (cold interpersonal functioning) of the IIP-64 is confirmed, even when controlling for negative affect. However, since both
alexithymia and interpersonal problems were measured by means of self-report questionnaires, we cannot exclude the possibility that this result is biased by shared method variance (see Meyer et al., 2001). Regarding the association with mentalizing capacities, a different picture emerges. No significant correlations were observed between alexithymia measured with the TAS-20 and the levels of complexity and social causality scored on interpersonal narratives, irrespective of whether they were selected from the Thematic Apperception Test (TAT) or from the Clinical Diagnostic Interview (CDI). Although a negative trend could be observed for the relation between alexithymia and the levels of complexity and social causality scored on TAT narratives, this correlation diminished after controlling for negative affectivity. Given these results, one cannot offer a positive conclusion on the TAS-20. In Chapter 3, a correlation of .34 between the TAS-20 and the TSIA was observed in a combined medical and psychiatric sample. But since relations with theoretically related variables differ for the TAS-20 and the TSIA, it is not clear what the shared variance represents.

For the TSIA, theoretically consistent associations were also observed with the affiliation dimension of the IIP-64 and with the complexity of interpersonal representations, however for the complexity dimension, only the association with the complexity of representations in the TAT narratives was significant. For the other aspect of meta-cognition, namely social causality, no significant correlations were observed. Only for the social causality scored on TAT narratives, a negative trend in the expected direction was found. Therefore, our results do not permit to draw firm conclusions concerning the association between alexithymia and mentalization or meta-cognitive functioning. In our study, the relations between alexithymia and the complexity of interpersonal representations are most clear in narratives from the TAT. As evidenced from the study into the convergent validity of the SCORS, the material on which the SCORS is scored seems to play an important role. Perhaps it is important to distinguish between different aspects of mentalization. A differentiation between the ability (potential level) and the tendency or proclivity (habitual level) to make and use mental representations of one’s own and other people’s emotional states, give nuanced and rich descriptions of thoughts, feelings and behaviour, and explain this
behaviour in terms of social causality might help us explain the diverging results.

We can hypothesize that patients with high alexithymia scores show impairments in some aspects of mentalization, but not necessarily in others. Different instruments (e.g. an autobiographical interview with open questions versus an instrument, with standardized instructions, that asks for free responses in relation to vague cues) might elicit different aspects of mentalization. The results also show that our SCORS interview ratings appeared to be more sensitive to gender and verbal productivity than ratings on the TAT narratives. This shows that both ratings are sensitive to other variables. Although our data do not permit us to draw conclusions on this issue, we could hypothesize that the difference in SCORS ratings between the TAT and the CDI is related to the type of the instrument. During the administration of the TAT, patients are explicitly asked to tell a story about what led up to an event shown in a picture, what is happening at that moment, what the characters are feeling and thinking, and to offer a prediction of the outcome. On the one hand, one could say that by giving these instructions, the participant is prompted to use mentalization capacities and thus that the TAT can be used to measure the potential level of mentalization. On the other hand, the ratings on the TAT might be constrained by task engagement (patients are forced to use their imagination to create stories) and the nature of the stimulus materials. The CDI might obtain more information about the proclivity to use mental representations when describing interpersonal situations with significant others. However, in allowing patients discuss autobiographical memories and at the same time discuss what they experienced in these situations, patients are also stimulated to use their mentalization capacity. We can conclude that the difference between the TAT and the CDI is possibly not reducible to a difference between the potential level and the habitual level of mentalization.

Alexithymia might thus be related to specific aspects of mentalization and not to others. This hypothesis is in line with recent literature in which authors state that mentalization is a complex capacity with multiple components (Dimaggio, Vanheule, Lysaker, Carcione, & Nicolo, 2009; Fonagy, Bateman, & Bateman, 2011). These authors
argue that mentalization should not be conceived of as a static or unitary skill and that instruments can only yield an indication of a potential for mentalization. However, additional research is needed. Furthermore, we cannot exclude the possibility that the alexithymia measures used in our study measure broader problems in affective functioning. The TAS-20 might not be able to differentiate between problems in affective functioning related to trauma, in which affects are overwhelming, but the externally oriented cognitive style and the lack of fantasy are less present, and cases with psychosomatic symptom profiles in which both facets are present (for a discussion of this topic see Meganck, 2009). By including the IMP (fantasy) dimension, the TSIA might partly address this issue. However, a debate on this matter should discuss whether ‘alexithymia’ must refer to a certain minimum level of problems in the four dimensions or rather to a high total score, irrespective of the separate scores on the different facets. Furthermore, like the TAS-20, the TSIA asks for one’s beliefs about his/her own meta-emotional functioning, particularly in the DIF and DDF subscales. This demands an abstract level of reflection about one’s capacity to identify and describe feelings. However, the TSIA contains specific probes for the patient to give examples about situations in which they experienced and identified specific emotions. These probes are developed to help the interviewer in rating the patient’s ability to identify and describe feelings, rather than the patient’s beliefs about this ability. Yet, from our experience of administrating the TSIA, it is notable that some patients showed difficulties in providing direct examples of situations in which they experienced and identified specific emotions, whereas during the clinical interview they spontaneously talked at length about such situations.

Finally, the results of our study into the SCORS combined with clinical observations during the interviews prompt us to put forward a third option. The SCORS measure we used to assess characteristics of interpersonal representations (i.e. mentalizing capacities) in the CDI narratives might be influenced by our means of selecting narratives. Since we selected five interpersonal accounts about different others from the beginning of the interview onwards, for one person all accounts might be selected from the first half hour of the interview, while for another person these accounts might be spread over the
total interview. Differences in scores might thus reflect aspects other than the level of mentalization.

*Alexithymia and interpersonal functioning: theoretical implications*

Taking into account the results from the qualitative study on the association between alexithymia and interpersonal functioning, no definite conclusions can be drawn about the issues discussed above. As with the association between alexithymia and cognitive-structural characteristics of interpersonal representations, the results of this study indicate a much more complex picture than recent empirical studies suggest (Qualter, Quinton, Wagner, & Brown, 2009; Spitzer, Sieble-Jürges, Barnow, Grabe, & Freyberger, 2005; Vanheule, Desmet, Meganck, & Bogaerts, 2007). In patients scoring high on the TSIA, we expected to observe a typical interpersonal pattern characterized by a detached interpersonal style (i.e., one that bears witness to an inability to get emotionally in touch with others), and a low level of mentalizing capacities. However, this was generally not the case. Indeed, this specific pattern only came to the fore for two patients in their interpersonal narratives about significant others. Our detailed study of these two domains of interpersonal functioning in interpersonal accounts showed that, whereas all patients discussed difficulties in interpersonal functioning, a variety of dynamics seemed to underlie these problems. In stead of displaying a detached interpersonal style, some patients’ interpersonal functioning was characterized by disruptive impulsivity, i.e., that being their only possible means of reacting to interpersonal conflict. From the conceptual framework of Freud (e.g. Freud, 1926/1936), one could understand that at these moments, these patients do not succeed in binding excitation to representations and integrating them into a symbolic associative network. However, these patients’ accounts are not limited to factual descriptions of these situations, nor do they indicate detachment from others. Other patients seemed to struggle with the question of being desired, which does not seem to point at difficulties in binding excitation by linking it to representations, but to difficulties or conflicts within representations of the self and others. Whereas Freud already noted that that the actualneuroses and the psychoneuroses make up two ends of a continuum and symptoms can appear mixed, we discern a tendency nowadays to
underestimate the complexity of the domain of mental functioning. Freud describes the process of binding excitation by linking it to representations as paramount for every subject (Freud, 1926/1936), yet also remarks that this process may fail at a certain moment for every subject. It is possible that empirical research using concepts such as alexithymia for denoting problems in all areas of affective functioning reflects a lack of appreciation for its underlying complexity. Ignoring this complexity simply broadens the gap between empirical research on isolated phenomena and clinical practice, where the complex interplay between affect regulation and interpersonal relations is constantly at play.

*Implications for clinical practice.*

Given the observations from therapy research that the quality of the therapeutic relation is a powerful predictor of therapeutic success (Blatt & Zuroff, 2005; Roth & Fonagy, 2006) and that patients’ interpersonal problems interfere with the development of a therapeutic relation (Saunder, 2001), we believe that a systematic study of the interpersonal functioning that is linked to alexithymia is important for clinical practice. As we combined a quantitative investigation at group level with a qualitative study in which individual interviews were studied, we believe that our results can put some of the issues previously discussed into perspective.

Whereas the relation between alexithymia, as measured with the TAS-20, and cold interpersonal functioning, as measured by means of the IIP-64, has been confirmed in different samples and languages, it should be noted that these results reflect the coherence between people’s beliefs about their meta-emotional functioning and their estimation of their interpersonal problems. Self-report questionnaires provide information about conscious representations of people on their own mental functioning. However, with these instruments nothing can be said about the underlying dynamics of the problems they report nor can any information be obtained about how individuals interpret these items. The next example illustrates this clearly. The following two patients have similar TAS-20 total
scores, but very different problems in both affect regulation and verbalization seem to underlie these scores. The TAS-20 scores range from 20 to 100, with higher scores indicating greater alexithymia. Items are scored on a Likert scale ranging from 1 to 5.

<table>
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<tr>
<th>TAS-20 total score: 59</th>
<th>TAS-20 total score: 57</th>
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<td>(DIF:13; DDF:23; EOT:23)</td>
<td>(DIF:23; DDF15; EOT:19)</td>
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**Man -18 years old**

*Complains by admission:* Suicide-attempt, feeling bad, feeling rushed (headache).

**CDI interview** “I have a good relation with my mother, she does everything for me, she always said that to me.”

However, no memories could be told or no description of the person she was, could be given.

Later in the interview appears that she tried to kill herself when the patient was about 12. He does not remember how he felt or what could have been the reason for her suicide-attempt.

**Woman -32 years old**

*Complains by admission:* ‘Things were too much’, obsessions, anxiety, problems with sleeping.

**CDI interview** “I was maltreated by my mother, she was an alcoholic and my father escaped the situation.”

When asked for situations that the patient remembers about her mother, she tells about a scene when she was 17 and attacked her mother. Her father had to intervene by shaking her. She said she would have killed her mother if her father would not have intervened. Now her mother is terminally ill, but she has never spoken about the maltreatment in her childhood. She feels now like she lost her chance to ask for explanation because she waited for too long.

A high level of emotion reverberated in the speech of patient 2. This was in contrast with patient 1 who first seemed to have no memories of his mother at all, but later in the interview commented that his mother attempted to commit suicide when he was a child. However, he could not remember anything more than that he felt ‘bad’ and
that he was not allowed to visit her. The reasons for this suicide attempt appear to be enigmatic for him. These short clinical notes show that very different experiences can underlie equal scores on self-report questionnaires. Thus, it seems crucial that these scores are not interpreted without their clinical and narrative context.

Although it might be easier for people to estimate the interpersonal problems they experience, here the problem remains that without a broader context, one cannot know how these items are interpreted by the participants. Whereas this IIP-64 item ‘It is hard for me to show affection’ refers to the cluster cold interpersonal functioning, it is easy to see that this item has a different meaning when interpreted in the sense of ‘it is hard for me to show affection because I simply do not feel connected to other people’ or rather ‘it is hard for me to show affection because I am scared to be hurt again.’

We thus conclude that self-report questionnaires can only be useful to a certain extent, and within a clinical setting only when integrated in a broader narrative context. As no-one doubts that a self-report questionnaire for intelligence would merely assess one’s beliefs about one’s own intellectual capacities, rather than the intellectual capacity as such, we believe this difference should always be borne in mind when using self-report questionnaires. For instance, some people might be inclined to underestimate their abilities, whereas others might overestimate them. In a clinical context, questionnaires might be useful to gain information about how people see themselves and to examine their conscious representations on their own mental functioning.

Regarding the use of the TSIA for the measurement of alexithymia in a clinical context, some comments can be made. First, the original selection of items in the interview was based on responses of community participants and psychiatric outpatients. However, since the construct of alexithymia was developed to denote the difficulties psychosomatic patients displayed in psychically experiencing and verbalizing affects, we believe that item characteristics should also be examined in a sample of patients with psychosomatic illness.
Moreover, as discussed above, the TSIA and especially the affect awareness dimension demands an abstract level of reflecting on one’s capacity to identify and describe feelings. People have to be able to give examples of the problems they do or do not experience. Consequently, as with the TAS-20, their answers will not only depend on their capacity for affect awareness, but also on their ability to retrieve this information from their memory. When interpreting scores on the TSIA, this issue should be taken into account. Moreover, as noted by the interviewers of this study, some patients seemed to be bored and irritated during the administration of the TSIA and complained about the similarity of several questions. In addition, during the administration of the TSIA the interviewer is not allowed to use information obtained in answers on previous items and thus has to ask patients for information they have already provided. This makes it even harder to establish a context in which patients feel that the interviewer or therapist is there to listen to them, particularly in a clinical population. As a consequence, patients may be less motivated to give detailed examples of problems they experience in identifying and verbalizing affects.

We therefore recommend that in the assessment of problems in affect regulation and verbalization, broader narrative material in which people are invited to discuss interpersonal relations and the broader context of these relations should be used. When discussing these relations, the interviewer or therapist could invite the patient to explore (vague) feelings or sensations in specific situations into detail. As described by Vanheule and colleagues (2011), in therapy both the ability to develop accounts of one’s own experiences of arousal, and the failure to make use of interpersonal relationships to regulate this arousal should be addressed. Therefore, we argue that in clinical practice the assessment of problems in affect regulation must primarily start from clinical interviews with the patient, and should always be accompanied by an assessment of interpersonal difficulties.

Regarding the assessment of interpersonal functioning in clinical practice, two issues should be noted. As stated above, it is necessary
to distinguish between interpersonal functioning, assessed by self-report questionnaires like the IIP-64, and ratings of narratives by means of coding systems, like the SCORS. Whereas self-report questionnaires provide information about people’s conscious representations and beliefs concerning their own interpersonal functioning; coding systems, like the SCORS, try to tap into underlying mechanisms and structural aspects of interpersonal functioning. However, our results showed that the type of narrative on which the SCORS is scored has a substantial influence and thus should be taken into account. Comparable to our view on the assessment of alexithymia, we believe that such instruments should always be used in the context of clinical interviews. It therefore seems that particularly for the cognitive-structural characteristics of interpersonal representations, the SCORS rated on TAT narratives could make a valuable contribution to clinicians’ understanding of patients’ interpersonal functioning.

LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FUTURE RESEARCH

Limitations

Next to the limitations inherent to the instruments used in our study, other limitations of this study are mentioned here. An important limitation of this study concerns the sample used. Both the limited sample size as well as the specificity of our sample curtails the generalizability of our findings. We chose to investigate the relation between alexithymia and interpersonal functioning in a psychiatric sample since the existing literature points to the association between alexithymia and psychiatric disorders (e.g. Hendryx, Haviland, & Shaw, 1991; Honkalampi, Hintikka, Saarinen, Lehtonen, & Viinamäki, 2000). We thus expected a broad range of alexithymia scores in our sample. Although the choice of a clinical sample enhances ecological validity, we cannot exclude the possibility that our results are biased by the heterogeneity of our sample. Whereas early clinical studies about alexithymia largely focused on psychosomatic patients (e.g. Nemiah & Sifneos, 1970), in recent years alexithymia has been related to
various other medical and psychiatric disorders. However, as these recent studies have mainly used the TAS-20 self-report measure, it’s possible that other problems related to affect-regulation were measured instead of alexithymia as it was originally conceptualized. Therefore, it is possible that in samples comprised of psychosomatic patients more cases of the ‘typical’ alexithymic patient would be observed compared with our sample in which only two patients were found to show a more prototypical picture of alexithymia and interpersonal functioning as described in clinical literature.

A second limitation of our study is that all interviews with one patient were done by the same researcher. As a consequence, we cannot rule out that the information from one interview (e.g. CDI and TSIA) influenced other interviews. However, for all ratings inter-rater reliability with a second researcher (who was blind to information from other interviews) was investigated and proved to be good. Nevertheless, because relations can be influenced by shared method variance (Meyer et al., 2001) we cannot guarantee that our results solely reflect real relationships between two constructs. Future quantitative studies should thus make use of independent raters for each instrument.

**Suggestions for future research**

An interesting direction for future studies is the investigation of alexithymia and interpersonal functioning in naturalistic settings, such as individual or group therapy programs. In a recent study, Ogrodniczuk, Sochting, Piper, and Joyce (in press) observed that during a group therapy program for psychiatric patients a decline in alexithymia scores was related to more adaptive interpersonal behaviour. Although this observation, suggesting that alexithymia and interpersonal functioning are intertwined, is of great interest, an important limitation of that study is the use of self-report measures for both alexithymia and interpersonal problems. It is possible that a confounding factor like general well-being, which is expected to get better during therapy, was underlying the changes in scores on both questionnaires. Therefore, we believe that especially qualitative
studies or studies using a mixed approach in which both alexithymia and interpersonal functioning are examined during a therapy process can enhance our understanding of the relation between these two aspects of human functioning. Since the concept of alexithymia was conceived from clinical practice with patients with psychosomatic illness, this should comprise the primary group for investigating these issues. Furthermore, future research should use interviews, rating scales and performance based measures next to self-assessment based on questionnaires to assess alexithymia. As discussed above, information from self-report questionnaires is limited to conscious representations of the problems patients experience, and thus, scores from self-report questionnaires are only valid to the extent that patients, irrespective of their level of alexithymia, are aware of the difficulties they experience (see also Lundh et al., 2002). Research should also aim to clarify which aspects of meta-emotional functioning are investigated by different methods. For instance, very little information is available about the extent to which performance on tests assessing emotional awareness (e.g. Levels of Emotional Awareness Scale; LEAS; Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990) adequately reflect a person’s meta-emotional competence, as distinct from the effects of situational contexts or cognitive, emotional, and motivational states. Furthermore, in interviews like the TSIA which use many similar questions, scores could also be influenced by a lack of motivation to talk about feelings. Given this, we believe that the best way to assess complex processes of affective functioning is in narratives about interpersonal situations or interpersonal difficulties obtained in naturalistic settings. For instance, by using narratives from a set of consecutive therapeutic sessions, the question of the association between alexithymia and interpersonal functioning can be investigated in addition to the process of change in these two aspects of mental functioning. Moreover, in this kind of research, effects of emotional and motivational states on patients’ narratives of interpersonal relations and their awareness and regulation of affects can be taken into account.
Finally, the lack of conceptual grounds underlying quantitative research is a problem that should not be repeated in qualitative research. We argue that theory-driven qualitative research is the most progressive way to investigate the process of affect regulation and its relation with interpersonal functioning. As discussed in Chapters 1 and 2, one interesting framework that considers affect regulation from an ‘interpersonal perspective’ is Verhaeghe and colleagues’ (2007) elaboration of Freud’s theory of the actual neuroses, which combines Freudian theory with contemporary attachment theory. The authors argue that only by interacting with others, starting from the mirroring process of the early infant-caregiver relationship, representations can be acquired, thus enabling an individual to master somatic arousal. In this process, a set of beliefs and expectations with regard to others is simultaneously created (see also Vanheule & Verhaeghe, 2009; Vanheule et al., 2011; Verhaeghe et al., 2007). Consequently, narratives in which people discuss their representations of others and themselves should form the primary source of information for qualitative investigations. Theoretical frameworks can help us detect the central dynamics in affect regulation and interpersonal functioning and help us to see how a combined assessment of these two aspects of mental functioning might help us understand problems in both domains. This is in line with suggestions of Thomas Fuchs (2010), who argues that nowadays the consideration of the subjective experience of patients in the assessment of mental illness is almost inexistent. The scientific discourse today emphasizes quantification, objectivity and subject-independent reliability; consequently the patients’ subjective and intersubjective experiences are often neglected. However, as noted above, interpersonal functioning is pivotal for psychotherapy. Therapy is mostly started when there is a psychosocial crisis for a human being as a result of a situation perceived and reacted to in a particular, subjective and idiosyncratic way. Thus, beyond the question of the association between alexithymia and interpersonal functioning, we could state that every diagnostic phase or assessment of mental illness should not be restricted to the assessment of symptoms, but also aim to detect the patient’s particular way of relating to others.
REFERENCES


ALEXITHYMIE EN INTERPERSOONLIJK FUNCTIONEREN BIJ PSYCHIATRISCHE PATIENTEN: EEN EMPIRISCHE STUDIE.

OVERZICHT VAN DE BEVINDINGEN


Centraal in deze doctoraatsverhandeling staat de vraag naar het verband tussen alexithymia en specifieke kenmerken van
interpersoonlijk functioneren. Om deze vraag te beantwoorden, bespraken we in hoofdstuk 1 de ontwikkeling van het alexithymie construct en onderzochten we hoe Freud’s conceptualisatie van mentale problemen aan de basis ligt van verscheidene recente theorieën over affectregulatie en interpersoonlijk functioneren. Zo bleek dat deze recente theorieën voornamelijk teruggaan op twee concepten in het werk van Freud: de aktuaalneurosen (Freud, 1895/1924, 1914/1925, 1926/1936) en het concept van binding (Freud, 1895/1924, 1895/1954, 1926/1936). Freud gaf aan dat de aanwezigheid van interpersoonlijke interactie in de babytijd en vroege kindertijd van cruciaal belang is voor de ontwikkeling van de capaciteit tot binding of psychische elaboratie bij het kind. Het is immers via de ander dat het kind in staat is om de spanning (bv. honger, dorst,...) die zowel van binnenuit als van buitenuit opgebouwd wordt, te bemeesteren. Het kind maakt de ander attent op zijn/haar innerlijke toestand (bv. door te wenen), waardoor die ander het kind kan helpen de spanningstoestand op te heffen. Hierdoor vindt een koppeling plaats tussen deze specifieke weg van spanningsafvoer en communicatie. De psychische elaboratie of binding zal het op latere leeftijd mogelijk maken affecten op een verbale of symbolische manier te reguleren (Freud, 1895/1954, 1926/1936). Interessante recente theorieën betreffende de link tussen affectregulatie en interpersoonlijke aspecten vertrekkken van Freud’s theorie over mentaal functioneren maar combineren deze bijvoorbeeld met bevindingen uit de hechtingstheorie, Lacaniaanse concepten of andere theoretische kaders (Mitraní, 1995; Vanheule, Verhaeghe, & Desmet, 2011; Verhaeghe, 2002; Verhaeghe, Vanheule, & De Rick, 2007). Niettegenstaande deze conceptuele ontwikkelingen, ontbreekt het hedendaags empirisch onderzoek rond alexithymia en interpersoonlijk functioneren een theoretisch kader. In dit empirisch onderzoek kunnen twee grote stromingenonderscheiden worden: enerzijds wordt in verschillende studies nagegaan of er een verband is tussen alexithymie en interpersoonlijk problemen; anderzijds is er een toenemende interesse voor de link tussen alexithymie en mentalisatie.
Naast het ontbreken van een theoretisch kader, zorgen ook tekortkomingen van het onderzoek op methodologisch vlak ervoor dat voorzichtigheid geboden is bij het interpreteren van deze resultaten. Een van de belangrijkste tekortkomingen is de mono-methode benadering, waarbij zowel alexithymie als kenmerken van het interpersoonlijk functioneren gemeten worden met vragenlijsten. Dit heeft tot gevolg dat men niet kan uitgesloten dat de gevonden correlaties verhoogd zijn door methode-effecten (zie Meyer et al., 2001). Daarnaast werd het gebruik van zelfrapportage voor de meting van alexithymie bekritiseerd omdat ze mensen vraagt een capaciteit bij zichzelf te beoordelen die hen misschien ontbreekt. Het gebruik van vragenlijsten gaat ervan uit dat mensen zich bewust zijn van moeilijkheden die ze hebben. Met betrekking tot complexe processen zoals affectherkenning en affectregulatie die grotendeels onbewust verlopen, is het echter niet vanzelfsprekend dat deze aspecten via zelfrapportage op een adequate manier gemeten kunnen worden (Westen, Muderrisogly, Fowler, Shedler, & Koren, 1997). Daarenboven werden ook enkele methodologische beperkingen van de meest gebruikte vragenlijst voor alexithymie: de 20-item Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994) onder de aandacht gebracht. Meer specifiek betreffende de werden ook. Vooral aspecten zoals het ontbreken van de fantasiedimensie en de gevoeligheid van antwoordtendensen zoals negatieve affectiviteit werden in de literatuur besproken (e.g. Meganck, Inslegers, Vanheule, & Desmet, in press; Meganck, Vanheule, & Desmet, 2008). Een van de alternatieve methoden voor de meting van alexithymie, die tegemoet komt aan deze problemen, is het Toronto Structured Interview for Alexithymia (TSIA; Bagby, Taylor, Parker, & Dickens, 2006). Tot op heden werd echter slechts in beperkte mate valideringsonderzoek verricht naar dit instrument. Ook naar het instrument dat in deze studie gebruikt wordt voor de meting van affectieve en cognitief-structurele kenmerken van interpersoonlijke representaties werd slechts in beperkte mate valideringsonderzoek verricht. Tenslotte dient opgemerkt te worden dat er nog geen systematisch kwalitatief onderzoek gebeurde naar de relatie tussen alexithymie en interpersoonlijk functioneren. In kwantitatief onderzoek werd deze
relatie bestudeerd als statistische trend op groepsniveau. Echter,
dergelijke studies verstrekken geen informatie over hoe dit
interpersoonlijk functioneren georganiseerd is op individueel niveau
of over welke onderliggende dynamieken aan de basis liggen van het
typisch interpersoonlijk functioneren. Met onze studie hebben we
getracht een alternatief te bieden voor de tekortkomingen in het
huidig empirisch onderzoek aangaande het verband tussen
alexithymie en interpersoonlijk functioneren. Op basis van deze
tekortkomingen van het huidig empirisch onderzoek, werden vier
onderzoeksvragen geformuleerd.

– Kan de Nederlandstalige versie van de TSIA gebruikt worden als
een valide en betrouwbaar alternatief voor de meting van
alexithymie?
– Kunnen affectieve en cognitief-structurele kenmerken van
interpersoonlijke representaties betrouwbaar gescoord worden
in narratieve van de Thematic Apperception Test (TAT) en in
narratieve van een klinisch diagnostisch interview (Clinical
Diagnostic Interview; CDI)? In welke mate zijn de scores op basis
van deze twee soorten narratieve convergent?
– Is alexithymie, zoals gemeten met de TSIA en de TAS-20,
gerelateerd aan koud en teruggetrokken interpersoonlijk
functioneren zoals gemeten met de Inventory of Interpersonal
Problems (IIP-64)? Is er een verband tussen alexithymie en lage
niveaus van complexiteit en sociale causaliteit in interpersoonlijke
representaties? Of in andere woorden, is alexithymie gerelateerd
an deze aspecten van mentalisatie?
– Op welke manier komen het koud en onthecht interpersoonlijk
functioneren en de problemen met mentalisatie, zoals
beschreven als typisch gerelateerd aan alexithymie, tot uiting in
klinisch interview materiaal van psychiatrische patiënten die hoog
scores op de TSIA?

Deze onderzoeksvragen (met uitzondering van de eerste
onderzoeksvraag) werden onderzocht in een steekproef die bestond
uit patiënten van verscheidene psychiatrische instellingen in
Vlaanderen. Bijna alle patiënten leden aan angst- of stemmingsstoornissen.

In hoofdstuk 2 gaven we een uitgebreider overzicht van de oorspronkelijke klinische inzichten betreffende de link tussen interpersoonlijke problemen en alexithymie. Daarnaast werd recent empirisch onderzoek besproken en verstreken we een overzicht van interessante theorieën van waaruit we de relatie tussen alexithymie en specifieke kenmerken van interpersoonlijk functioneren kunnen begrijpen. Zowel klinische als kwantitatieve studies demonstreerden dat een onthechte interpersoonlijke stijl typisch is voor alexithymie. Met betrekking tot het conceptueel niveau, argumenteerden we dat specifiek de theorieën van Bucci (1997) en Verhaeghe (2002; Verhaeghe et al., 2007) ons handvaten kunnen bieden om de link tussen alexithymie en interpersoonlijke moeilijkheden te begrijpen en inzicht te verwerven in hoe beide aspecten gerelateerd zijn aan mentalisatie.

Uit hoofdstukken 1 en 2 bleek dat recente empirische studies die de associatie tussen alexithymie en interpersoonlijk functioneren onderzochten, bijna exclusief gebruik maakten van zelf-rapportage vragenlijsten. In hoofdstuk 1 werd besproken dat dit belangrijke beperkingen met zich meebrengt. Niettegenstaande deze beperkingen, werden alternatieve methoden zoals het Toronto Structured Interview for Alexithymia (TSIA; Bagby, Taylor, Parker, & Dickens, 2006) en de Social Cognition and Object Relations Scale (SCORS; Westen, 1990; Westen, Barends, Leigh, Mendel, & Silbert, 1990) die kenmerken van interpersoonlijke representaties meet, nauwelijks onderworpen aan valideringsstudies. Daarom wordt in hoofdstuk 3 en 4 gefocust op de validiteit van deze twee methoden die centraal staan in ons onderzoek.

In hoofdstuk 3 werden de betrouwbaarheid, factor structuur en de convergente validiteit van de TSIA (Bagby et al., 2006) onderzocht. Zowel de interbeoordelaars betrouwbaarheid als de interne consistentie van het instrument bleken goed te zijn. Een hiërarchisch vier-factor model dat ook in eerdere studies werd gevonden,
vertoonde de beste fit. Deze structuur met vier lagere-orde factoren [moeilijkheden in het identificeren van gevoelens, moeilijkheden in het beschrijven van gevoelens, extern georiënteerd denken en verbeeldingsprocessen] met twee overkoppelende factoren [‘affect awareness’ dat de twee eerste factoren bevatten] en [‘operative thinking’ dat de laatste twee factoren bevatten] is tevens consistent met het onderliggende theoretisch model van het alexithymie construct (Nemiah & Sifneos, 1970). Deze structuur bleek bovendien invariant voor de psychiatrische en de tinnitus steekproef. Niettegenstaande de concurrente validiteit bevestigd werd door significante correlaties met de zelf-rapportage vragenlijst TAS-20, waren de waarden vooral in de tinnitus steekproef laag. We besloten de studie met de observatie dat de gemiddelde TSIA scores in de twee steekproeven niet significant verschillen van elkaar, daar waar dit wel het geval was voor de TAS-20 scores. De TAS-20 scores waren lager in de tinnitus steekproef dan in de psychiatrische steekproef. De hypothese werd gesteld dat dit te maken kon hebben met verschillende attributiestijlen. In medische populaties is de attributiestijl eerder gefocust op lichamelijke aspecten en hebben patiënten minder aandacht voor emotionele aspecten (Dudlu, Isaac, & Chaturvedi, 2006). Bijgevolg stellen we dat voor de meting van alexithymie het gebruik van het interview verkozen dient te worden boven het gebruik van de vragenlijst, met name in klinische populaties waarin patiënten zich mogelijk niet bewust zijn van moeilijkheden die ze hebben in het identificeren en beschrijven van gevoelens. Zoals hierboven vermeld, kan dit bijvoorbeeld het geval zijn in medische populaties waarbij de attributiestijl eerder gefocust is op lichamelijke aspecten.

In het vierde hoofdstuk werd de Social Cognition and Object Relations Scale (SCORS) onder de loep genomen. Dit instrument meet kenmerken van sociale cognitie en object relaties, twee processen die interpersoonlijk functioneren mediëren. De betrouwbaarheid en convergente validiteit van twee versies van de SCORS werden onderzocht. De eerste versie wordt gebruikt voor het scoren van Thematic Apperception Test narratieve (SCORS-TAT; Westen, 1990) en de tweede wordt toegepast op klinisch interview materiaal (SCORS-CDI; Westen et al., 1990). We evalueerden vier dimensies: twee affectieve en twee cognitief-structurele dimensies. De
interbeoordelaarsbetrouwbaarheid was goed voor alle dimensies, maar de interne consistentie was laag vooral voor de affectieve dimensies. Structural Equation Modelling (SEM) waarin een model met twee factoren (SCORS-TAT en SCORS-CDI) en elk vier dimensies, getest werd, toonde dat er sprake was van een lage convergentie tussen corresponderende dimensies van de SCORS-TAT en SCORS-CDI. Resultaten van deze analyses werden gecombineerd met resultaten in de multi-trait-multi-method matrix en hieruit bleek dat een sterke methode-factor aan de basis lag van de lage convergentie. Echter, uit de regressie analyses bleek dat de aanwezigheid van een persoonlijkheidsstoornis als moderator fungeerde voor de convergentie tussen corresponderende cognitief-structurele dimensies. In andere woorden kunnen we stellen dat de convergentie hoger is bij patiënten met een persoonlijkheidsstoornis. Aangezien dit de eerste studie was die onderzocht of de aanwezigheid van een persoonlijkheidsstoornis fungeert als een moderator tussen twee SCORS versies, is verder onderzoek noodzakelijk om na te gaan of deze bevinding gerepliceerd kan worden.

In hoofdstuk 5 en 6 onderzochten we de relatie tussen alexithymie en interpersoonlijk functioneren. In hoofdstuk 5 vertrokken we van een kwantitatief opzet waarbij we de relatie tussen alexithymie en interpersoonlijke problemen op twee niveaus bestudeerden. Zowel het verband met zelf-gerapporteerde interpersoonlijke problemen als met cognitief-structurele aspecten van interne interpersoonlijke representaties werd onderzocht. Alexithymie werd zowel gemeten met de TSIA als met de TAS-20. Voor de meting van interpersoonlijke problemen gebruikten we de dimensionele dominantie en affiliatie scores van de Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000). Daar de resultaten van hoofdstuk vier wezen op een lage interne consistentie van de affectieve dimensies van de SCORS, besloten we om enkel de cognitief-structurele dimensies te betrekken in dit onderzoek. Deze werden zowel gescroond in TAT-narratieve als in de CDI interview narratieve. De hypothese dat alexithymie gerelateerd is aan koud, maar niet aan dominant of onderwerpend interpersoonlijk functioneren werd bevestigd. Met betrekking tot de SCORS, bleek alexithymie
gerelateerd aan lagere scores voor de complexiteit van interpersoonlijke representaties. Dit duidt op een link tussen alexithymie en dit specifieke aspect van mentalisatie. De geobserveerde correlatie tussen alexithymie en sociale causaliteit gescoord in TAT narratieve, bleek niet significant te zijn. Er kon echter een trend geobserveerd worden in de richting zoals vooropgesteld in de hypothese. Daarentegen werd er geen verband gevonden tussen alexithymie en sociale causaliteit gescoord op CDI interview narratieve. Aangezien literatuur aangeeft dat er een verband is alexithymie, gemeten met zelfrapportage, en negatieve affectiviteit (Lumley, 2000), controleerden we in alle analyses voor negatieve affectiviteit. Op die manier wouden we de mogelijkheid uitsluiten dat de correlaties tussen alexithymie en problemen in het domein van interpersoonlijk functioneren verklaard konden worden door negatieve affectiviteit. Globaal gezien toonde de TSIA, na controle voor negatieve affectiviteit, de meest consistente en stabiele resultaten.

In hoofdstuk zes exploreerden we of en hoe koud en onthecht interpersoonlijk functioneren en problemen met mentalisatie, zoals beschreven als typisch gepaard gaande met alexithymie, tot uiting kwamen in interpersoonlijke fragmenten uit klinische interviews met patiënten die hoog scoorden op de TSIA. We pasten een kwalitatieve methode toe en gebruikten het Nvivo-9 codeerprogramma om interpersoonlijke fragmenten uit klinische interviewfragmenten te selecteren en te labelen. Tien patiënten met de hoogste scores op de TSIA werden geselecteerd uit een steekproef bestaande uit 74 residentiële psychiatrische patiënten. Resultaten uit empirisch onderzoek tonen aan dat patiënten met hoge scores voor alexithymie op groepsniveau gekarakteriseerd worden door koud interpersoonlijk functioneren en problemen in mentalisatie (zie Vanheule, Inslegers, Meganck, Ooms, & Desmet, 2010). Echter, de grootte van de geobserveerde associaties toont aan dat alexithymie scores slechts een deel van de variantie in interpersoonlijk functioneren kunnen verklaren, en dat bijgevolg een groot deel onverklaarde variantie rest. In deze studie werd een kwalitatieve benadering gebruikt om de onderliggende complexiteit en dynamieken in interpersoonlijk functioneren weer te geven. Onze resultaten bevestigden de
bevindingen uit kwantitatief onderzoek waaruit bleek dat slechts een deel van de variantie in interpersoonlijk functioneren verklaard kan worden door de variantie in alexithymie. Daarnaast toonden onze resultaten dat men voorzichtig dient te zijn in het veralgemenen van het idee dat koud interpersoonlijk functioneren typisch is voor patiënten met alexithymie. De variabiliteit van interpersoonlijk functioneren en de mentalisatie capaciteiten in patiënten die hoog scoren op de TSIA mag niet ontkend worden. In deze studie werd immers slechts bij twee van de tien patiënten die hoog scoorden voor alexithymie, een interpersoonlijk functioneren geobserveerd dat gekarakteriseerd kan worden door een gebrek aan emotionele investering in anderen en een koude en onthechte stijl waarin de onmogelijkheid om emotioneel in contact te komen met anderen op de voorgrond staat. Daar waar alle patiënten moeilijkheden op interpersoonlijk vlak vertoonden, kon het interpersoonlijk functioneren van het grootste deel van deze tien patiënten slechts deels beschreven worden als koud en onthecht. Op basis van het hierboven beschreven onderzoek, formuleren we een aantal besluiten die zich situeren op het gebied van methodologie, theorie en kliniek.

**CONCLUSIES EN IMPLICATIES VAN HET ONDERZOEK**

Met betrekking tot het niveau van de meting van de twee centrale concepten in onze studie, namelijk alexithymie en interpersoonlijk functioneren, kunnen we het volgende besluiten. Een groeiend aantal auteurs pleit voor het opnemen van niet-zelfrapportage instrumenten in onderzoek naar alexithymie. Desalniettemin is valideringsonderzoek naar deze instrumenten schaars. In onze studie werden veelbelovende resultaten gevonden met betrekking tot de betrouwbaarheid en convergente validiteit van de TSIA. Naast betrouwbaarheid en convergente validiteit, dient een (klinisch) bruikbaar instrument echter ook theoretisch consistentte correlaties te vertonen met externe variabelen. Met betrekking tot de zelf-rapportage vragenlijst (TAS-20) en het interview voor alexithymie (TSIA), kunnen we uit hoofdstuk 5 besluiten dat de TSIA de meest consistente en stabiele verbanden vertoonden met aspecten van interpersoonlijk functioneren die theoretisch verondersteld
worden gerelateerd te zijn met alexithymie. Met betrekking tot het verband tussen alexithymie en facetten van mentalisatie waren de resultaten niet helemaal eenduidig. Verder onderzoek dient uitsluitend te geven of de resultaten inderdaad begrepen kunnen worden vanuit het feit dat alexithymie gerelateerd is aan bepaalde aspecten van mentalisatie zoals de complexiteit van interpersoonlijke representaties en niet aan andere zoals sociale causaliteit. Uit ons onderzoek bleek tevens dat er een effect is van het materiaal waarop deze aspecten van mentalisatie gescoord werden. Globaal gezien werden de meest consistenten verbanden geobserveerd wanneer de kenmerken van de interne representaties gescoord werden in TAT narratieven. Een mogelijke verklaring zou kunnen zijn dat het verschil tussen de TAT en de CDI te maken heeft met het feit dat de specifieke, gestandaardiseerde instructies van de TAT eerder gericht zijn op het potentieel niveau van mentalisatie, terwijl de CDI meer gericht is op het exploreren van mentalisatie met betrekking tot autobiografische herinneringen rond interpersoonlijke relaties en dus eerder het habitueel niveau meet. We zijn echter van mening dat het verschil tussen de SCORS coderingen van TAT narratieven en van CDI narratieven niet louter terug te brengen is tot dit onderscheid. We geloven dat recente literatuur waarin mentalisatie besproken wordt als een complexe capaciteit met verscheidene gedeeltelijk gerelateerde componenten een interessant perspectief op deze materie biedt (Dimaggio, Vanheule, Lysaker, Carcione, & Nicolo, 2009; Fonagy, Bateman, & Bateman, 2011). Mentalisatie dient niet beschouwd te worden als een statische of unitaire vaardigheid en instrumenten die mentalisatie meten, geven enkel een indicatie van een potentieel voor mentalisatie. Vanwege een aantal methodologische beperkingen, laten onze data echter niet toe hierover sluitende conclusies te trekken. Verder onderzoek met betrekking tot de verschillende componenten van mentalisatie en hun verband met alexithymie is bijgevolg sterk aan te bevelen.

Uit hoofdstuk 6 leerden we echter dat kwantitatief onderzoek naar het verband tussen alexithymie en interpersoonlijk functioneren een belangrijke beperking heeft. Dit soort onderzoek kan ons iets kan leren over een statistische trend op groepsniveau, maar kan ons geen informatie geven over onderliggende processen en de variabiliteit van interpersoonlijk functioneren bij patiënten met hoge alexithymie.
scores. Bijgevolg beschouwen we theorie-gedreven kwalitatief onderzoek als het meest interessante perspectief om het proces van affectregulatie en verbalisatie en de link met aspecten van interpersoonlijk functioneren en mentalisatie te onderzoeken. Theorieën zoals deze van Vanheule, Verhaeghe en collega’s (zie Vanheule & Verhaeghe, 2009; Vanheule et al., 2011; Verhaeghe et al., 2007) kunnen ons helpen om de centrale dynamieken in affectregulatie en interpersoonlijk functioneren te situeren. Idealiter vindt dit toekomstig onderzoek plaats in naturalistische settings zoals individuele of gروepstherapie programma’s. Op die manier kan niet enkel de link tussen aspecten van affectregulatie en interpersoonlijk functioneren onderzocht worden, maar eveneens de wederzijdse beïnvloeding die beide aspecten op elkaar hebben. Aangezien het alexithymie concept ontwikkeld werd om mentale problemen met betrekking tot de identificatie en verbalisatie van affecten bij patienten met psychosomatische aandoeningen aan te duiden, zijn we van mening dat toekomstig onderzoek zich primair op deze groep dient te richten.

Tot slot dienen we op te merken dat concepten zoals alexithymie in empirisch onderzoek gebruikt worden om problemen aan te duiden in alle gebieden van affectief functioneren en dat de onderliggende complexiteit van affectregulatie processen uit het oog dreigt verloren te worden. Ons inzicht slaagt de TAS-20 als vragenlijst er niet in het concept alexithymie zoals oorspronkelijk vorm gegeven, te vatten. We merkten immers op dat bij twee patiënten die beiden gelijkaardige scores op de TAS-20 hadden, zeer verschillende problemen in affectregulatie en verbalisatie aan de grondslag lagen. Waarbij de ene patiënt eerder overspoeld werd door affect, maar worstelde met het feit dat ze niet over kon spreken over de woede die ze ervoer ten opzichte van haar terminaal zieke moeder; stonden bij de andere patiënt een afwezigheid van gesymboliseerd affect en een gebrek aan uitgebreide narratieve over relaties met belangrijke anderen centraal. We zijn van mening dat het ontkennen van een complexiteit onderliggend aan scores op vragenlijsten, de kloof vergroot tussen empirisch onderzoek dat zich toespitst op geïsoleerde fenomenen en de klinische praktijk waarbij het complexe samenspel tussen affectregulatie en interpersoonlijke relaties ten volle speelt.
Met betrekking tot het klinisch gebruik van de centrale instrumenten uit onze studie kunnen we het volgende besluiten. Betreffende de vragenlijst voor alexithymie, de TAS-20, verwijzen naar de bovenstaande illustratie. Een algemene opmerking met betrekking tot het gebruik van vragenlijsten in een klinische setting kan echter geformuleerd worden. Een vragenlijst die peilt naar mentaal functioneren, kan informatie verschaffen over hoe mensen zichzelf zien en welke bewuste representaties ze hebben over hun eigen mentaal functioneren. Vragenlijsten gaan er echter vanuit dat deze informatie steeds adequaat is en dat elk individu deze informatie ter beschikking heeft. Onderzoek toont echter aan dat dit niet vanzelfsprekend is voor complexe processen zoals affectherkenning en -regulatie (Westen et al., 1997). Ons inzien, dient informatie uit vragenlijsten altijd vanuit deze optiek bekeken te worden en binnen een klinische setting steeds geïntegreerd te worden in een bredere narratieve context. Met betrekking tot het interview voor alexithymie, de TSIA, merkten we op dat vooral de ‘affect awareness’ dimensie een abstract niveau van redeneren vergt over de eigen capaciteiten om gevoelens te identificeren en te beschrijven. Daarnaast zorgt ook het repetitieve karakter van de vragen ervoor dat patiënten verveeld of geïrriteerd geraken, wat voor een verlaging in motivatie kan zorgen om uitgebreide voorbeelden te geven bij de vragen. Deze twee zaken dienen in rekening gebracht te worden bij het interpreteren van de scores op dit instrument. Zowel met betrekking tot het gebruik in een klinische context als met gebruik in empirisch onderzoek, concluderen we dat de diagnostiek van problemen in affectregulatie en –verbalisatie best start van een bredere narratieve context, waarbij patiënten uitgenodigd worden om interpersoonlijke relaties en de context van deze relaties in detail te bespreken. Het klinisch diagnostiek interview (CDI) kan hierin een zinvolle bijdrage leveren.

Op het gebied van het meten van interpersoonlijk functioneren, is het van belang net zoals bij het meten van affectregulatie, een onderscheid te maken tussen informatie verkregen via zelfrapportage vragenlijsten zoals de IIP-64 en informatie verkregen via coderingen van narratief materiaal zoals de SCORS. Ons onderzoek toonde echter
aan dat ook het type narratief waarop de SCORS gescoord wordt, een grote invloed heeft. Verder onderzoek dient uit te wijzen wat deze verschillen veroorzaakt. Net zoals bij het meten van alexithymie, pleiten we ervoor dat klinische interviews steeds de context vormen voor het gebruik van dergelijke instrumenten. Dit in acht nemende en gezien de resultaten van ons onderzoek, denken we dat vooral de SCORS codering van TAT narrativen een waardevolle bijdrage kan leveren tot het klinisch begrijpen van het interpersoonlijk functioneren van patiënten gebaseerd op de therapeutische gesprekken zelf.

**BEPERKINGEN VAN HET ONDERZOEK**

Enkele beperkingen van dit onderzoek dienen echter in acht genomen te worden. Naast de beperkingen van de instrumenten die gebruikt werden, zorgt ook de specifieke steekproef ervoor dat onze resultaten niet zomaar geeneraliseerd kunnen worden. We kunnen niet uitsluiten dat onze resultaten beïnvloed werden door de heterogeniteit van onze psychiatrische steekproef. Aangezien het concept alexithymie ontstaan is vanuit observaties bij psychosomatische patiënten, pleiten we ervoor dat toekomstig onderzoek vooral bij patiënten met psychosomatische aandoeningen plaats vindt. Daarnaast dient ook opgemerkt te worden dat de verschillende interviews bij een patiënt uitgevoerd werden door de zelfde onderzoeker. Bijgevolg kunnen we niet uitsluiten dat resultaten beïnvloed zijn door gedeelde methode variantie (zie Meyer et al., 2001). Voor coderingen op elk interview werd echter de interbeoordelaarsbetrouwbaarheid met een tweede onafhankelijke onderzoeker die blind was voor de alle informatie uit de andere interviews berekend, deze resultaten bleken goed te zijn. Tot slot bevelen we voor toekomstig kwantitatief onderzoek aan dat de verschillende interviews door onafhankelijke onderzoekers afgenomen worden, zodat beïnvloeding vermeden wordt.
REFERENTIES


APPENDIX

Running Head: Reliability and validity of the TSIA

Reliability and factorial validity of the Toronto Structured Interview for Alexithymia in a Dutch-speaking patient sample

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Abstract
Psychometric properties of the Dutch Toronto Structured Interview for Alexithymia (TSIA) were evaluated in a sample of psychiatric and medical patients. Internal and inter-rater reliability were good. Confirmatory factor analysis replicated a hierarchical four-factor structure with four lower-order factors nested within two higher-order latent factors, obtained in previous studies.

Alexithymia; TSIA; factorial validity
Introduction

The alexithymia construct was defined by Sifneos (1973) as difficulties in expressing emotions, absence of fantasy life, and a utilitarian type of thinking. Nowadays alexithymia has been conceptualized as consisting of four interrelated facets: difficulty identifying feelings and distinguishing between feelings and bodily sensations of emotional arousal (DIF); difficulty describing feelings to other people (DDF); restricted imaginal processes (IMP); and a stimulus-bound, externally-oriented cognitive style (EOT) (Taylor, Bagby, & Parker, 1997).

Research has shown that alexithymia, measured with the self-report 20-item Toronto Alexithymia Scale (TAS-20), is associated with several medical and psychiatric disorders (Taylor et al., 1997). However, Taylor and Bagby (2004) recommended a multi-method approach to the measurement of alexithymia, and developed the Toronto Structured Interview for Alexithymia (TSIA; Bagby, Taylor, Parker, & Dickens, 2006). The TSIA consists of 24 questions addressing four facets of the alexithymia construct. Each question is scored on a Likert-scale (0-1-2). Total scores range from 0 to 48. Higher scores indicate a greater degree of alexithymia. For each question there is a set of probes to elicit information to enhance accurate scoring. The questions and probes were translated into Dutch by means of a translation and back-translation procedure in consultation with the original authors.

Results from the validation process demonstrated that both the original English TSIA (Bagby et al., 2006) and German and Italian translations (Caretta et al., 2011; Grabe et al., 2009) had acceptable inter-rater, internal, and retest reliability and concurrent validity in community and psychiatric samples. Furthermore, confirmatory factor analysis (CFA) supported a hierarchical, four-factor structure with four lower-order factors nested within two higher-order latent factors [affect awareness (AA) containing DIF and DDF, and operative thinking (OT) containing EOT and IMP].

In this study we investigate the factorial validity and reliability of a Dutch translation of the TSIA.
Method

2.1. Participants

The combined sample was composed of 161 patients (50% women) with a mean age of 43.65 (SD=13.38), from the Dutch-speaking region of Belgium. 85 were psychiatric inpatients with a mood and/or anxiety disorder recruited from admission wards at psychiatric hospitals. 76 were medical outpatients suffering from tinnitus, recruited from the Ear, Nose and Throat Department of the Ghent University Hospital. Each participant received information about the study and gave informed consent.5

2.2. Procedure

The TSIA interviews were conducted by two clinician/researchers for the psychiatric and one for the medical sample. The interviewers were trained by studying a manual with guidelines for administration and scoring (Bagby, Taylor, Dickens, & Parker, 2009), and through discussion, based on scored interviews, of the scoring rules with the original authors. All TSIAas were audio-recorded. To examine inter-rater reliability, 40 TSIAas were randomly selected from the psychiatric sample. Each of the two interviewers for the psychiatric sample rated the audio-recordings of 20 TSIAas administered by the other interviewer.

2.3. Statistical analysis

Internal consistency was evaluated using Cronbach’s alpha and mean inter-item-correlations (MIC). To assess inter-rater reliability intra-class correlation coefficients (ICC) were calculated. The factorial validity was tested using CFA of the covariance matrices with Lisrel 8.7 (Jöreskog & Sörbom, 1993). Goodness-of-fit (GOF) was assessed using the following indices: $\chi^2/df$ ratio, comparative fit index

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5 The study was approved by the Ethics Review Board of the Faculty of Psychology and Educational Sciences, Ghent University.
(CFI), standardized root mean square residual (SRMS), root mean square error of approximation (RMSEA). The following criteria were used as standards of acceptable fit: $\chi^2/df$ ratio $\leq 2$; CFI $>.90$; SRMS $<.08$; RMSEA $<.06$; higher boundary of RMSEA 90% confidence interval $<.08$ (Browne & Cudeck, 1993; Hu & Bentler, 1999). Following the validation procedure for the original TSIA (Bagby et al., 2006) and the Italian translation (Caretti et al., 2011), we tested 8 models (see Table1).

The models showing the best fit were compared using the Akaike information criterion (AIC). The model with the lowest AIC is considered best (Tanaka, 1993).

To determine if the factor-loadings of the model with the best fit in the combined sample were the same in the medical and psychiatric samples, we used the CFI (Chueng & Rensvold, 2002). The hypothesis of metric invariance was accepted if the difference in CFI between a hypothetical model ($H_1$), in which all factor-loading parameters are equal across groups, and an unconstrained multi-group model ($H_0$), was $\leq .01$.

**Results**

3.1. **Descriptive statistics**

The mean total TSIA score is 20.37 ($SD=10.91$). Pearson correlations between the TSIA total score and its domain and facet scores are all significant, $p < .01$.  

3.2. **Reliability**

Cronbach’s alpha for the TSIA total score, domain and facet scales $.70$. MIsC of the domain and facet scales range between $.31$ and $.51$; a range of $.10$ to $.50$ is considered acceptable for multifactor scales (Briggs & Cheek, 1986). All ICCs $>.74$, indicating excellent inter-rater agreement (Landis & Koch, 1997).

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6 Descriptive statistics of all domain and facet scales in the two samples are available from Ruth Inslegers on request.
3.4. Confirmatory Factor Analysis

The GOF indices for the tested models are shown in Table1. Only models 4a and 4c show adequate fit (Hu & Bentler, 1999; Jöreskog & Sörbom, 1993). There is only a slight difference in the $\chi^2/df$ ratio between the four-factor non-hierarchical model (4a), and the four-factor hierarchical model (4c). A comparison of the AIC values, however, indicates that model 4c is preferable to model 4a (see Table1). Finally, we tested metric invariance of model 4c across the psychiatric and medical samples. We observed a difference between the two values of .01 (CFI $H_0 = .849$; CFI $H_1 = .839$), indicating that measurement invariance can be assumed.
### Table 1. Goodness-of-fit indices for the tested models in the combined sample (N = 161).

<table>
<thead>
<tr>
<th>Model</th>
<th>Goodness of fit indices</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>$\chi^2$ (df)</td>
</tr>
<tr>
<td><strong>Model 1a</strong>: 1-factor model, in which all items load on a single factor.</td>
<td>1078.62 (252)</td>
</tr>
<tr>
<td><strong>Model 2a</strong>: 2-factor, non-hierarchical model, in which all DIF and DDF items load on one domain factor Affect Awareness (AA), and all EOT and IMP items load on a 2nd domain factor Operatory Thinking (OT).</td>
<td>774.76 (251)</td>
</tr>
<tr>
<td><strong>Model 2b</strong>: 2-factor, hierarchical model, with the two factors identified in Model 2a nested under one higher-order factor.</td>
<td>774.76 (250)</td>
</tr>
<tr>
<td><strong>Model 3a</strong>: 3-factor, non-hierarchical model, in which all of the items from the DIF and DDF scales load on one factor and the items from the EOT and IMP scales load on separate correlated factors.</td>
<td>594.48 (249)</td>
</tr>
<tr>
<td><strong>Model 3b</strong>: 3-factor, hierarchical model with each of the three factors identified in Model 3a nested under one higher-order factor.</td>
<td>594.47 (249)</td>
</tr>
<tr>
<td><strong>Model 4a</strong>: 4-factor, non-hierarchical model, in which the items from DIF, DDF, EOT and IMP each load on 4 correlated facet factors.</td>
<td>422.83 (246)</td>
</tr>
<tr>
<td><strong>Model 4b</strong>: 4-factor, non-hierarchical model, in which the items from DIF, DDF, EOT and IMP each load on four separate, correlated facet factors.</td>
<td>409.25 (248)</td>
</tr>
<tr>
<td><strong>Model 4c</strong>: 4-factor, hierarchical model in which the first two facet factors (DIF and DDF items) are nested under one higher-order domain factor AA, and the second two facet factors (EOT and IMP items) are nested under a second higher-order domain factor OT.</td>
<td>422.83 (247)</td>
</tr>
</tbody>
</table>

**Note.** df = degrees of freedom; SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation; (90%CI) = 90% confidence interval of RMSEA; CFI = comparative fit index; AIC = Akaike Information Criterion.
Discussion

In this study, we demonstrated that the Dutch TSIA, like the English, German and Italian versions, has adequate internal and inter-rater reliability. Concerning the factorial validity, the four-factor models provided the best fit. Although these two models differed only slightly in fit, the hierarchical model with two higher-order factors and four lower-order factors was considered preferable, which is in line with previous results (Bagby et al., 2006, Caretti et al., 2011, Grabe et al., 2009).

Limitations of the study are the small sample size and the use of a tinnitus sample. Also, the assessment of inter-rater reliability in only the psychiatric sample likely compromises the generalizability of our results. Nonetheless, since we obtained an excellent level of inter-rater reliability, comparable to those reported in other studies (e.g. Bagby et al., 2006; Caretti et al., 2011), a similar level of inter-rater reliability could be expected for other Dutch-speaking samples.

Given the replication of the hierarchical four-factor structure and good inter-rater and internal reliability of the Dutch TSIA, we agree with Meganack and colleagues (in press) who studied the convergence of five alexithymia measures, that the TSIA as expert-rating might be one of the most suitable measures of alexithymia. However, future studies should use larger and more heterogeneous samples and examine the predictive validity of the TSIA.
References


